Undergraduate Programs

McGill

UNIVERSITY CALENDAR

2009-2010

Errata Sheet

For the document titled: Undergraduate Programs 2009-2010 University Calendar

Errata posted March 20, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	24	The following date was omitted: Apr. 15, 2009, Wed. **REG** → Registration via Minerva in Summer term Continuing Education courses begins for all faculties except Dentistry, Law, Management (day programs), Medicine, Nursing and Physical and Occupational Therapy.
1	Important Dates 2009-10	37	The following date is incorrect: Jan. 4, 2010, Mon. LEC CE Lectures begin in non-credit General Studies courses at Continuing Education. It should read: Jan. 11, 2010, Mon. LEC CE Lectures begin in non-credit General Studies courses at Continuing Education.
1	Important Dates 2009-10	37	The following date is incorrect: Jan. 11, 2010, Mon. LEC CE Lectures begin in Special Intensive English and French at Continuing Education. It should read: Jan. 18, 2010, Mon. LEC CE Lectures begin in Special Intensive English and French at Continuing Education.
1	Important Dates 2009-10	42	The following date was omitted: Apr. 15, 2010, Thurs. **REG** → Registration via Minerva in Summer term Continuing Education courses begins for all faculties except Dentistry, Law, Management (day programs), Medicine, Nursing and Physical and Occupational Therapy.
1	Important Dates 2009-10	46	The following date was omitted: Aug. 15, 2010, Sun. **REG** → Registration via Minerva in Fall term Continuing Education courses begins for all faculties except Dentistry, Law, Management (day programs), Medicine, Nursing and Physical and Occupational Therapy.
9.5.5	Department of Mechanical Engineering	292	For the "AERONAUTICAL ENGINEERING CONCENTRATION", there is an error under the list of complementary courses. The following course is incorrect: MECH 435 (3) Turbomachinery and Propulsion It should read: MECH 535 (3) Turbomachinery and Propulsion
14.13.25	Neuroscience	446	For the "MAJOR IN NEUROSCIENCE (67 - 68 credits)", an alternative course was omitted under the list "B. Neurophysiology/Neural Computation Stream (15 credits)". Instead of: BIOL 306 (3) Neural Basis of Behaviour It should read: BIOL 306 (3) Neural Basis of Behaviour or PHGY 314 (3) Integrative Neuroscience

Errata posted March 25, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
9.6.10	Minor Programs in Finance, Management, Marketing, and Operations Management	300	The first paragraph under "Prerequisite:" is incorrect. It should read: **Prerequisite: None**

Errata posted March 27, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
8.7.1.1	Bachelor of Education Physical and Health Education	268	Under the list "Required Courses (94 credits)", the following courses were omitted: EDKP 342 (3) Physical Education Methods EDKP 442 (3) Physical Education Pedagogy EDKP 494 (3) Physical Education Curriculum Development

Errata posted April 6, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
8.7.2	B.SC. (KINESIOLOGY) – HONOURS IN KINESIOLOGY	270	Under the list "Required Courses (49 credits)", the following course should be deleted: EDKP 393 (3) Skill Learning and Expertise and the following course should be added: EDKP 447 (3) Motor Control

Errata posted April 14, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
3.10.1	Language Requirements for Professions	71	The paragraph immediately preceding the "Note" must be modified. Instead of: If you are already strong in French and want to maintain or improve your proficiency, you may consider taking courses in the Department of French Language and Literature, Faculty of Arts. It should read: If you are already strong in French and want to maintain or improve your proficiency, you may consider taking courses in the Department of French Language and Literature, Faculty of Arts or the Centre for Continuing Education.
	COURSE INFORMATION, REGULATIONS AND DESCRIPTIONS	C-183	The bullet symbol should NOT appear next to the following course: BIOC 396 Undergraduate Research Project.

Errata posted April 17, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	27	The item re: June 9, 2009, Tues. to Sept. 1, 2009, Tues.; Activity Code "**REG**" must be modified. Instead of: Registration for Fall 2009 and Winter 2010 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs: It should read: Registration for Fall 2009 and Winter 2010 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas:
1	Important Dates 2009-10	28	The item re: July 28, 2009, Tues. to Sept. 1, 2009, Tues.; Activity Code "NOTE" must be modified. Instead of: **Note:** Students admitted from Quebec CEGEPs have access to registration as of **June 9**. It should read: **Note:** Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 9**.

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	28	The item re: July 29, 2009, Wed. to Sept. 1, 2009, Tues.; Activity Code "NOTE" must be modified. Instead of: Students admitted from Quebec CEGEPs have access to registration as of **June 9** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**. It should read: Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 9** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**.
1	Important Dates 2009-10	28	The item re: July 30, 2009, Thurs. to Sept. 1, 2009, Tues.; Activity Code "NOTE" must be modified. Instead of: Students admitted from Quebec CEGEPs have access to registration as of **June 9**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 29**. It should read: Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 9**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 29**.
1	Important Dates 2009-10	44	The item re: June 8, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative); Activity Code "**REG**" must be modified. Instead of: Registration for Fall 2010 and Winter 2011 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs: It should read: Registration for Fall 2010 and Winter 2011 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas:
1	Important Dates 2009-10	45	The item re: July 27, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative); Activity Code "NOTE" must be modified. Instead of: **Note:** Students admitted from Quebec CEGEPs have access to registration as of **June 8**. It should read: **Note:** Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 8**.

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	45	The item re: July 28, 2010, Wed. to Sept. 1, 2010, Wed. (Tentative); Activity Code "NOTE" must be modified. Instead of: Students admitted from Quebec CEGEPs have access to registration as of **June 8** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**. It should read: Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 8** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**.
1	Important Dates 2009-10	45	The item re: July 29, 2010, Thurs. to Sept. 1, 2010, Wed. (Tentative); Activity Code "NOTE" must be modified. Instead of: Students admitted from Quebec CEGEPs have access to registration as of **June 8**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 28**. It should read: Students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas have access to registration as of **June 8**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 28**.
3.3.1	Registration Periods	56	Under "Newly Admitted Students Entering in September 2009", a modification is required. Instead of: **Tuesday, June 9**, registration opens for students admitted from Quebec CEGEPs. It should read: **Tuesday, June 9**, registration opens for students admitted from Quebec CEGEPs as well as French Baccalaureate students from Collège Marie de France and Collège Stanislas.

Errata posted April 27, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	41	The following date is incorrect: Apr. 9, 2010, Fri. STAGE BSW/MSW Last day of Field Practice for B.S.W. students and for M.S.W. students. It should read: Apr. 16, 2010, Fri. STAGE BSW/MSW Last day of Field Practice for B.S.W. students and for M.S.W. students.
3.5.5	Incomplete Courses	65	The last sentence in Note 6 in incorrect. Instead of: For more information, see the note regarding J grade above. It should read: For more information regarding the J grade, see section 3.5.4, " Unexcused Absences" above.

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
7.11.6.2	Complementary Integrative Course	239	The following courses must be removed from the list: ENGC 200, ENGC 210 MATH 330 The following courses must be added AND a credit weight of "3" must be assigned to each course in the complete list: ANTH 208, ANTH 302, ANTH 311, ANTH 411, ANTH 418, ANTH 423, ANTH 443, ANTH 511 BIOL 210, BIOL 307 ECON 225, ECON 310, ECON 326, ECON 405, ECON 440, ECON 546 GEOG 221, GEOG 303 HIST 249, HIST 292, HIST 319, HIST 330, HIST 348, HIST 350, HIST 356, HIST 424 SOCI 390, SOCI 508
1112.1	Honours in Economics for Management Students	343	Under "**Notes:**", Note 1 contains an error whereby the last sentence must be removed. Instead of: 3 of the 6 credits for Introduction to Economic Theory exempt MGCR 293 in Core. A minimum grade of B is required in this course to continue in this program. It should read: 3 of the 6 credits for Introduction to Economic Theory exempt MGCR 293 in Core.
1112.1	Honours in Economics for Management Students	343	Text was omitted under "Complementary Courses (15 credits)". The following should be added: 3 credits from the following:
Course Information, Regulations and Descriptions	Desautels Faculty of Management	C-153	The note "(Summer)" must be removed from the following courses: ACCT 351, ACCT 354, ACCT 361 BUSA 364, BUSA 391, BUSA 434 FINE 342, FINE 441, FINE 448, FINE 482 MGCR 271, MGCR 341 MGSC 402, MGSC 415, MGSC 431 ORGB 380

Errata posted May 1, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
5.5.15	Degree Requirements	92	The CGPA stated at the end of the last sentence is incorrect and the section should be modified. Instead of: To be eligible for a B.Eng.(Bioresource), B.Sc.(Ag.Env.Sc.), B.Sc.(F.Sc.), B.Sc.(Nutr.Sc.) or Concurrent B.Sc.(F.Sc.) and B.Sc.(Nutr.Sc.) degree, students must have passed, or achieved exemption, with a minimum C grade in all required and complementary courses of the program. They must have a CGPA of at least 2.00. Students must have completed all Faculty and program requirements; see section 5.5.1 "Minimum Credit Requirement". A student must complete a minimum residency requirement of 60 credits at McGill in order to qualify for a McGill degree. Students in the B.Sc.(Ag.Env.Sc.) must take a minimum of 2/3 of their course credits within the Faculty of Agricultural and Environmental Sciences. In addition, students in the Dietetics program must have completed the Stages of professional formation requiring a CGPA of 2.5. It should read: To be eligible for a B.Eng.(Bioresource), B.Sc.(Ag.Env.Sc.), B.Sc.(F.Sc.), or Concurrent B.Sc.(F.Sc.) and B.Sc.(Nutr.Sc.) degree, students must have passed, or achieved exemption, with a minimum C grade in all required and complementary courses of the program. They must have a CGPA of at least 2.00. To be eligible for a B.Sc.(Nutr.Sc.), students must have passed, or achieved exemption, with a minimum C grade in all required and complementary courses of the program. They must have a CGPA of at least 2.00. In addition, students in the Dietetics program must have completed the Stages of professional formation requiring a CGPA of 3.00. Students must have completed all Faculty and program requirements; see section 5.5.1 "Minimum Credit Requirement". A student must complete a minimum residency requirement of 60 credits at McGill in order to qualify for a McGill degree. Students in the B.Sc.(Ag.Env.Sc.) must take a minimum of 2/3 of their course credits within the Faculty of Agricultural and Environmental Sciences.
5.6.1.1	Specializations	98	For the "SPECIALIZATION: APPLIED ECOSYSTEM SCIENCES", the paragraph containing the description of the specialization is incorrect. Instead of: This specialization will be of interest to students who wish to study the improved efficiency of livestock production at the national and international levels. Students are exposed to animal nutrition, physiology and breeding in a context that respects environmental concerns and animal-welfare issues. When taken in conjunction with the Major in Agro-Environmental Sciences and the Specialization in Professional Agriculture, it conforms with the eligibility requirements of the Ordre des agronomes du Québec. It should read: The goal of this specialization is to provide students with an opportunity to further develop their understanding of the ecosystem processes, ecology, and systems thinking necessary to understand, design and manage our interaction with the environment.

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
6.3.6.2	Course Overlap	120	MGCR 273 was omitted from the first and third bullets. For the **first bullet**, instead of: • Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, PSYC 204, SOCI 350. It should read: • Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, MGCR 273, PSYC 204, SOCI 350. For the **third bullet**, instead of: • Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, PSYC 204, PSYC 305, SOCI 350. It should read: • Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, MGCR 273, PSYC 204, PSYC 305, SOCI 350.
14.3.6.1	Course Overlap	395	MGCR 273 was omitted from the first and third bullets. For the **first bullet**, instead of: • Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, PSYC 204, SOCI 350. It should read: • Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, MGCR 273, PSYC 204, SOCI 350. For the **third bullet**, instead of: • Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, PSYC 204, PSYC 305, SOCI 350. It should read: • Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, MGCR 273, PSYC 204, PSYC 305, SOCI 350.

Errata posted May 12, 2009

SECTION NO.	SECTION TITLE	PAGE	ERRATUM
1	Important Dates 2009-10	31	The item re: Aug. 31, 2009, Mon.; Activity Code "THES" contains an incorrect website address. Instead of: www.mcgill.ca/gps/current/dates It should read: www.mcgill.ca/gps/students/dates
1	Important Dates 2009-10	32	The item re: Sept. 1, 2009, Tues.; Activity Code "AWRD" contains an incorrect website address. Instead of: www.mcgill.ca/gps/fellowships It should read: www.mcgill.ca/gps
3.5.5	Incomplete Courses	65	The last word "above" in the last sentence of Note 6 should be deleted. Instead of: For more information regarding the J grade, see section 3.5.4, " Unexcused Absences" above. It should read: For more information regarding the J grade, see section 3.5.4, " Unexcused Absences".
5.6.1.1	Specializations	102	For the "SPECIALIZATION: PROFESSIONAL AGROLOGY", under "Required Courses:", the number of credits ("3") listed for courses AGRI 330 and AGRI 430 is incorrect. AGRI 330 *Agricultural Legislation* should be 1 credit AGRI 430 *Professional Practice in Agrology* should be 2 credits

NOTE: Always check the online version of the Calendar at www.mcgill.ca/courses for the most up-to-date information.

UNDERGRADUATE PROGRAMS 2009-2010
UNIVERSITY CALENDAR

Published by
Enrolment Services
McGill University
845 Sherbrooke Street West
Montreal, Quebec, H3A 2T5
Canada

Published March 2009

McGill University reserves the right to make changes to the information contained in this publication – including correcting errors, altering fees, schedules of admission and credit requirements, and revising or cancelling particular courses or programs – without prior notification. The online Calendar is the most current version of McGill's Undergraduate Programs Calendar 2009-2010.

Not all courses are offered every year and changes can be made after this Calendar is published. Always check the Class Schedule link at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered. Please check "Course Information, Regulations and Descriptions" for an explanation of bullets and other symbols.

Editor
Lai Yard Lee
Enrolment Services

Cover Design
Content and Collaboration Solutions

Published in Canada

All contents copyright © 2009 by McGill University. All rights reserved, including the right to reproduce this publication, or portions thereof, in any form.

Legal deposit 2009, National Library of Canada and Bibliothèque nationale du Québec.
ISSN 1718-3820

How to Read This Calendar

The McGill Undergraduate Calendar is the official guide for program and degree information, and contains University-wide and faculty-specific rules and regulations for an academic career at McGill for newly-admitted or current students. Throughout the text, "you" refers to students newly admitted, readmitted or returning to McGill.

For prospective students, counsellors, and academic advisers, this Calendar highlights the myriad of programs and courses offered at McGill.

This Calendar applies to undergraduate programs in the following faculties: Agricultural and Environmental Sciences, Arts, Education, Engineering, Desautels Faculty of Management, Religious Studies, Schulich School of Music, and Science.

For Medicine (including Nursing, and Physical and Occupational Therapy) as well as for Dentistry, please consult the Health Sciences Calendar.

This Calendar contains the following sections:

- **Important Dates:** Official University key dates, such as registration, start of lectures, exam periods and various other deadlines.
- **General University Information and Regulations:** University regulations and policies applicable to all students.
- **Advising and Support:** Information about advising, student services, residential facilities, athletics, information technology resources, and resources for study and research.
- **Program Information:** Generally organized by faculty, and by departments within each faculty, these sections contain faculty-specific regulations, as well as program and degree requirements.
- **Field Studies and Study Abroad:** Information about various opportunities for studying outside of McGill, while registered at McGill.
- **Course Information:** Organized alphabetically within each faculty and containing course numbers, titles, credit weights, descriptions, prerequisites and additional course information. This information will only be in the PDF version of this Calendar. If you are using the online version, you can search courses at www.mcgill.ca/courses.

YOUR ACADEMIC CAREER AT MCGILL

University-wide Regulations

This Calendar contains the regulations about your undergraduate academic career at McGill. For regulations concerning when to register, when to add, drop or withdraw from courses, the consequences of missing deadlines, how grading appears on your transcript, and other important information, see section 3 “General University Information and Regulations”.

Faculty-specific Regulations

McGill has 11 faculties, and every student belongs to one of them. When you are admitted to McGill, your offer letter indicates the faculty, degree and program to which you have been accepted, and the number of credits you need to complete for your degree.

You should consult the appropriate faculty section in this Calendar for information pertinent to your degree and program, and for faculty-specific regulations. For some degrees, such as the *Bachelor of Arts and Science* (B.A. & Sc.), you belong to two faculties and will need to consult the section on the Bachelor of Arts and Science as well as the sections on each faculty.

Your Academic Program

You are registered in a **degree**, but for many degrees there are associated programs (a major, minor, major concentration, etc.). For some degrees, such as *Bachelor of Engineering*, you will typically follow one program (such as Computer Engineering). For others, such as *Bachelor of Arts*, you will typically follow more than one program (such as a major concentration in English, with a minor concentration in History).

A typical undergraduate degree at McGill is 120-140 credits (four years of full-time study).

- Quebec CEGEP students typically receive 30 credits of advanced standing, so they will usually only have a further 90-110 credits (three years of full-time study) to complete. This varies by faculty, so consult your faculty section. In your first year, you will be placed in **U1** (undergraduate year 1).
- Most other students typically have 120-140 credits to complete. This varies by faculty, so consult your faculty section. In your first year, you will be placed in **U0** (undergraduate year 0), which is often referred to in this Calendar and elsewhere, as your **freshman** year.
- Many students at McGill come with other forms of advanced standing (International Baccalaureate, French Baccalaureate, advanced placement exams, or students admitted from other universities as transfer students). If this is your case, you will receive information during the admissions process.

You will find **program requirements** in your faculty section or in departmental sections within a faculty. In some cases, you may pursue one of your programs in a department outside your faculty. For example, if you are enrolled in a *Bachelor of Commerce*, but are pursuing a minor concentration in Italian Civilization, you would consult the Desautels Faculty of Management section for the BCom requirements and the Italian Studies department section, under the Faculty of Arts, for the Italian Civilization program requirements.

Important things to know about your academic program:

- The number of credits needed to complete your degree. Typically, three credits correspond to a one-term course, but there are many variations.
- **Required courses:** Courses that you must complete to fulfil the requirements of a major, minor, etc., unless you receive exemptions. You have no choices among required courses.
- **Complementary courses:** Alternative courses that you can take to fulfil the requirements of a major, minor, etc. You choose a specified number of these courses.
- **Elective courses:** Courses that do not count toward the fulfilment of the requirements of your major, minor, etc. Students often select these courses from outside their program of study. Some restrictions may apply, but you have the most choice in selecting elective courses. Some faculties also permit you to take elective courses using the Satisfactory/Unsatisfactory option (see section 3.3.6). You should consult your faculty section concerning elective courses.
- Often, your department will also provide you with a **recommended list** of courses (or streams), so that you know the typical term-by-term course pattern.

For more assistance in understanding program requirements, and for a list of advisers on both downtown and Macdonald campuses, please see Undergraduate Advising, section 4.1.5 “Contact Information for Advising”.

How to Read This Calendar, page 3
Index of Undergraduate Programs, page 15
Important Dates 2009-10, page 21
The University, page 47
General University Information and Regulations, page 51
Advising and Support, page 73
Faculty of Agricultural and Environmental Sciences, including School of Dietetics and Human Nutrition, page 85
Faculty of Arts, including School of Social Work, page 117
Bachelor of Arts and Science, page 229
Faculty of Education, page 245
Faculty of Engineering, including Schools of Architecture and Urban Planning, page 271
McGill School of Environment, page 303
Desautels Faculty of Management, page 325
Schulich School of Music, page 347
Faculty of Religious Studies, page 385
Faculty of Science, including School of Computer Science, page 391
Field Studies and Study Abroad, page 465
Course Information, Regulations and Descriptions, page C-1
2009-2010 Campus Maps, page M-1

TABLE OF CONTENTS

How to Read This Calendar, page 3

Index of Undergraduate Programs, page 15

1 Important Dates 2009-10, page 21

2 The University, page 47

2.1 History, page 47
2.2 Incorporated and Affiliated Colleges, page 47
2.3 University Government, page 47
2.4 Recognition of Degrees, page 48
2.5 Governance, page 48
- 2.5.1 Visitor, page 48
- 2.5.2 Board of Governors, page 48
- 2.5.3 Members of Senate, page 48

2.6 Administration, page 48
- 2.6.1 Deans, Directors of Schools and Libraries, page 49

2.7 Student Governance, page 49

3 General University Information and Regulations, page 51

3.1 General Policies and Information, page 51
- 3.1.1 Authorization, Acknowledgement and Consent, page 51
- 3.1.2 Student Rights and Responsibilities, page 51
- 3.1.3 Language Policy, page 52
- 3.1.4 Policy Concerning Access to Records, page 52
- 3.1.5 Email Communication, page 52
- 3.1.6 Academic Integrity, page 52
- 3.1.7 Proper Use of Computing Facilities, page 52
- 3.1.8 Non-smoking Policy, page 52
- 3.1.9 Health Professions – Immunization Requirement, page 52
- 3.1.10 Health Insurance – International Students, page 53
- 3.1.11 Health Insurance – Canadian Residents, page 53
- 3.1.12 Special Medical Needs, page 53
- 3.1.13 Minerva, page 53
- 3.1.14 *my*McGill, page 53

3.2 Personal Information, page 53
- 3.2.1 Updating Personal Information, page 53
- 3.2.2 Legal Documents, page 53
- 3.2.3 Identification (ID) Cards, page 55
- 3.2.4 Name, page 56
- 3.2.5 Verification of Name, page 56

3.3 Registration, page 56
- 3.3.1 Registration Periods, page 56
- 3.3.2 Class Schedule, page 57
- 3.3.3 Course Load, page 57
- 3.3.4 Changing Programs within Selected Faculties, page 57
- 3.3.5 Quebec Inter-University Transfer Agreement (IUT), page 57
- 3.3.6 Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option, page 58
- 3.3.7 Course Change Period, page 58
- 3.3.8 Regulations Concerning Course Withdrawal, page 59
- 3.3.9 Regulations Concerning University Withdrawal, page 59
- 3.3.10 Deferred Admission, page 59
- 3.3.11 Summer Term/Summer Studies, page 60
- 3.3.12 Inter-Faculty Transfer, page 60
- 3.3.13 Readmission, page 60
- 3.3.14 Auditing of Courses, page 60

3.4 Fees, page 61
- 3.4.1 Fee Information Booklet (electronic), page 61
- 3.4.2 Access to Fee Information, page 61
- 3.4.3 Tuition Fees, page 61
- 3.4.4 Compulsory Fees, page 61
- 3.4.5 Administrative Charges, page 61
- 3.4.6 Other Fees, page 62
- 3.4.7 Billings and Due Dates, page 62
- 3.4.8 Fees and Withdrawal from the University, page 62
- 3.4.9 Other Policies Related to Fees, page 63
- 3.4.10 Deferred Fee Payment, page 63
- 3.4.11 Other information, page 64
- 3.4.12 Yearly Fees and Charges by Faculty, page 64

3.5 Student Records, page 64
- 3.5.1 Academic Standing, page 64
- 3.5.2 Credit System, page 64
- 3.5.3 Grading and Grade Point Averages (GPA), page 64
- 3.5.4 Unexcused Absences, page 65
- 3.5.5 Incomplete Courses, page 65
- 3.5.6 Transfer Credits, page 65
- 3.5.7 Verification of Student Record, page 66
- 3.5.8 Changes to Student Records after Normal Deadlines, page 66
- 3.5.9 Transcript of Academic Record, page 66

3.6 Examinations, page 67
- 3.6.1 Examinations – General Information, page 67
- 3.6.2 Final Examinations, page 67
- 3.6.3 Invigilation (Exams from Other Universities), page 68

3.7 Internships, Exchanges and Co-op Programs, page 68
- 3.7.1 Internships and Co-op Programs, page 68
- 3.7.2 Exchange Programs, page 69
- 3.7.3 Field Studies, page 69
- 3.7.4 Quebec Government Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents, page 69
- 3.7.5 Study Abroad Opportunities, page 69

3.8 Scholarships and Student Aid, page 69
- 3.8.1 Entrance Awards for McGill Students, page 69
- 3.8.2 In-Course Awards for McGill Students, page 69
- 3.8.3 Work Study Program, page 70

3.9 Graduation, page 70
- 3.9.1 Graduation Honours, page 70
- 3.9.2 Apply to Graduate, page 70
- 3.9.3 Graduation Approval Query, page 70
- 3.9.4 Replacement Diploma, page 71

3.10 Admission to Professional and Graduate Studies, page 71
- 3.10.1 Language Requirements for Professions, page 71
- 3.10.2 Graduate Studies, page 71

4 Advising and Support, page 73

4.1 Undergraduate Advising, page 73
- 4.1.1 Advising and the University Mission, page 73
- 4.1.2 The Role of the Student in Advising, page 73
- 4.1.3 Types of Advising and Advisers, page 73
- 4.1.4 Student-For-A-Day Program, page 74
- 4.1.5 Contact Information for Advising, page 74

4.2 Support for Students, page 77
- 4.2.1 Office of the Dean of Students, page 77

4.3 Student Services, page 77
- 4.3.1 Office of the Executive Director, Services for Students, page 77
- 4.3.2 Student Services – Downtown Campus, page 78

4.3.3 Student Services – Macdonald Campus, page 78
4.3.4 Ombudsperson for Students, page 79
4.3.5 Extra-Curricular Activities, page 79
4.3.6 Bookstore, page 79
4.3.7 Computer Store, page 79
4.3.8 Day Care, page 79
4.4 Residential Facilities, page 79
4.4.1 University Residences – Downtown, page 79
4.4.2 University Residences – Macdonald Campus, page 80
4.5 Athletics & Recreation, page 81
4.6 For your Information Technology (IT) needs, page 81
4.6.1 Logging In, page 81
4.6.2 *my*McGill (the University portal), page 81
4.6.3 *my*Courses, page 81
4.6.4 Email, page 81
4.6.5 Online Student Directory, page 82
4.6.6 Getting Connected, page 82
4.6.7 Safe Computing, page 82
4.6.8 Set up your security questions in *my*McGill, page 82
4.6.9 Need Help?, page 82
4.7 Resources for Study and Research, page 82
4.7.1 Libraries, page 82
4.7.2 University Archives, page 83
4.7.3 Museums, page 83

5 Faculty of Agricultural and Environmental Sciences, including School of Dietetics and Human Nutrition, page 85

5.1 The Faculty, page 86
5.1.1 Location, page 86
5.1.2 Administrative Officers, page 86
5.1.3 Programs, page 86
5.1.4 Macdonald Campus Facilities, page 86
5.1.5 The Student Affairs Office, page 87
5.2 Summary of Academic Programs, page 87
5.2.1 Outline of Academic Programs, page 87
5.2.2 Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.), page 87
5.2.3 Bachelor of Engineering in Bioresource Engineering - B.Eng.(Bioresource), page 88
5.2.4 Bachelor of Science in Food Science - B.Sc.(F.Sc.), page 88
5.2.5 Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.), page 88
5.2.6 Concurrent Bachelor of Science in Food Science - B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.), page 88
5.2.7 Honours Program, page 88
5.2.8 Minor Programs, page 88
5.2.9 Certificate Programs, page 88
5.2.10 Diploma Program, page 88
5.2.11 Diploma in Collegial Studies, page 88
5.2.12 Environmental Sciences Programs, page 88
5.3 Faculty Admission Requirements, page 88
5.4 Student Information, page 89
5.4.1 Student Services, page 89
5.4.2 Athletic Services, page 89
5.4.3 Macdonald Campus Residences, page 89
5.4.4 Extracurricular Activities, page 89
5.4.5 Student Rights and Responsibilities, page 89
5.4.6 Fees, page 89
5.4.7 Scholarships and Bursaries, page 89
5.4.8 Immunization for Dietetics Majors, page 89
5.4.9 Language Requirement for Professions, page 89
5.5 Faculty Information and Regulations, page 89
5.5.1 Minimum Credit Requirement, page 90
5.5.2 Minimum Grade Requirement, page 90
5.5.3 Freshman Major, page 90
5.5.4 Academic Advisers, page 91
5.5.5 Categories of Students, page 91
5.5.6 Academic Standing, page 91
5.5.7 Credit System, page 91
5.5.8 Academic Credit Transfer, page 91
5.5.9 Regulations Regarding Second Academic Majors, page 91
5.5.10 Course Change Information, page 92
5.5.11 Graduate Courses Available to Undergraduates, page 92
5.5.12 Attendance and Conduct in Class, page 92
5.5.13 Incomplete Grades, page 92
5.5.14 Examinations, page 92
5.5.15 Degree Requirements, page 92
5.5.16 Dean's Honour List, page 93
5.5.17 Distinction, page 93
5.5.18 Honours and First Class Honours, page 93
5.5.19 Medals and Prizes, page 93
5.6 Academic Programs, page 93
5.6.1 Bachelor of Science (Agricultural and Environmental Sciences) – B.Sc.(Ag.Env.Sc.), page 93
5.6.2 Bachelor of Engineering (Bioresource) - B.Eng.(Bioresource), page 103
5.6.3 Bachelor of Science (Nutritional Sciences) - B.Sc.(Nutr.Sc.), page 105
5.6.4 Bachelor of Science (Food Science) - B.Sc.(F.Sc.), page 107
5.6.5 Minor Programs, page 108
5.6.6 Certificate Programs, page 110
5.6.7 Field Studies, page 111
5.7 Graduate Programs, page 111
5.8 Farm Management and Technology Program, page 111
5.8.1 Program – FMT, page 111
5.8.2 Entrance Requirements – FMT, page 111
5.8.3 Registration – FMT, page 111
5.8.4 Program Outline, page 111
5.8.5 Academic Rules and Regulations – FMT, page 112
5.8.6 Fees and Expenses – FMT, page 113
5.8.7 Residence Accommodation – FMT, page 113
5.9 Instructional Staff, page 113

6 Faculty of Arts, including School of Social Work, page 117

6.1 The Faculty, page 118
6.1.1 Location, page 118
6.1.2 Administrative Officers, page 118
6.1.3 Programs and Teaching in Arts, page 118
6.1.4 Arts Office of Advising and Student Information Services (OASIS), page 118
6.2 Faculty Admission Requirements, page 118
6.3 Faculty Degree Requirements, page 118
6.3.1 Minimum Credit Requirement, page 118
6.3.2 Residency, page 119
6.3.3 Cumulative Grade Point Average (CGPA), page 119
6.3.4 Time and Credit Limit for Completion of the Degree, page 119
6.3.5 Program Requirements, page 119
6.3.6 Course Requirements, page 120
6.4 Advising, page 122
6.5 Registration, page 122
6.5.1 Program Registration, page 122
6.5.2 Course Registration, page 122
6.5.3 Apply to Graduate, page 122
6.6 Grading and Credit, page 123
6.6.1 Incomplete Grades, page 123

6.7 Examinations, page 123
6.8 Supplemental Assessments, page 123
6.8.1 Supplemental Examinations, page 123
6.8.2 Reassessments and Rereads, page 123
6.9 Academic Standing, page 124
6.10 Awards and Honorary Designations, page 125
6.10.1 Honours and First-Class Honours, page 125
6.10.2 Dean's Honour List, page 125
6.10.3 Distinction, page 125
6.10.4 Medals and Prizes, page 125
6.11 Programs in the Faculty, page 125
6.11.1 Major Concentrations, page 125
6.11.2 Faculty Programs, page 125
6.11.3 Honours Programs, page 125
6.11.4 Joint Honours Programs, page 126
6.11.5 Minor Concentrations, page 126
6.12 Academic Programs, page 127
6.12.1 First-Year Seminars, page 127
6.12.2 Faculty of Arts Internship Program, page 127
6.12.3 Field Studies and Study Abroad Programs, page 127
6.12.4 African Studies Program (AFRI), page 127
6.12.5 Anthropology (ANTH), page 128
6.12.6 Art History and Communication Studies (ARTH and COMS), page 131
6.12.7 Canadian Ethnic and Racial Studies Minor Concentration, page 134
6.12.8 Canadian Studies Program (CANS), page 134
6.12.9 Catholic Studies Program (CATH), page 137
6.12.10 Classics Program (CLAS), page 138
6.12.11 Minor in Cognitive Science, page 140
6.12.12 Computer Science (COMP), page 140
6.12.13 East Asian Studies (EAST), page 141
6.12.14 Economics (ECON), page 146
6.12.15 Education for ArtsStudents Minor Concentration, page 149
6.12.16 Educational Psychology Minor Concentration, page 149
6.12.17 English (ENGL), page 150
6.12.18 English as a Second Language (ESLN), page 153
6.12.19 English for Academic Purposes (EAPR), page 154
6.12.20 Environment, page 154
6.12.21 French as a Second Language (FRSL), page 154
6.12.22 French Language and Literature (FREN), page 154
6.12.23 Geography (GEOG), page 160
6.12.24 German Studies (GERM), page 164
6.12.25 Hispanic Studies (HISP), page 167
6.12.26 History (HIST), page 169
6.12.27 History and Philosophy of Science (HPSC), page 171
6.12.28 Humanistic Studies (HMST), page 172
6.12.29 Industrial Relations Faculty Program, page 172
6.12.30 International Development Studies (INTD), page 173
6.12.31 Islamic Studies (ISLA), page 175
6.12.32 Italian Studies (ITAL), page 176
6.12.33 Jewish Studies (JWST), page 177
6.12.34 Latin-American and Caribbean Studies (LACS), page 181
6.12.35 Linguistics (LING), page 183
6.12.36 Mathematics and Statistics (MATH), page 184
6.12.37 Middle East Studies Program (MEST), page 187
6.12.38 Music (MUAR), page 189
6.12.39 North American Studies Program (NAST), page 190
6.12.40 Philosophy (PHIL), page 192
6.12.41 Philosophy and Western Religions (PHWR), page 194
6.12.42 Political Science (POLI), page 197
6.12.43 Psychology (PSYC), page 202
6.12.44 Quebec Studies/Études sur le Québec (QCST), page 205
6.12.45 Religious Studies (RELG), page 207
6.12.46 Russian and Slavic Studies (RUSS), page 212
6.12.47 Science for Arts Students, page 214
6.12.48 Sexual Diversity Studies Program, page 217
6.12.49 Social Studies of Medicine (SSMD), page 217
6.12.50 Social Work (SWRK), page 218
6.12.51 Sociology (SOCI), page 220
6.12.52 Women's Studies (WMST), page 222

7 Bachelor of Arts and Science, page 229

7.1 The Faculties, page 229
7.1.1 Location, page 229
7.1.2 Administrative Officers, page 229
7.1.3 Programs and Teaching in Arts and in Science, page 230
7.1.4 Science Office for Undergraduate Student Advising (SOUSA), page 230
7.2 Degree Admission Requirements, page 230
7.3 Degree Requirements, page 230
7.3.1 Minimum Credit Requirement, page 230
7.3.2 Residency, page 230
7.3.3 Cumulative Grade Point Average (CGPA), page 230
7.3.4 Time and Credit Limit for Completion of the Degree, page 230
7.3.5 Program Requirements, page 231
7.3.6 Course Requirements, page 232
7.4 Advising, page 233
7.4.1 Choosing a B.A. & Sc. Program, page 233
7.4.2 Preparation for Graduate School, page 234
7.5 Registration, page 234
7.5.1 Program Registration, page 234
7.5.2 Course Registration, page 234
7.5.3 Apply to Graduate, page 235
7.6 Grading and Credit, page 235
7.6.1 Incomplete Grades, page 235
7.7 Examinations, page 235
7.8 Supplemental Assessments, page 235
7.8.1 Supplemental Examinations, page 235
7.8.2 Additional Work, page 235
7.8.3 Reassessments and Rereads, page 236
7.9 Academic Standing, page 236
7.9.1 Interim Satisfactory/Satisfactory Standing, page 236
7.9.2 Interim Probationary/Probationary Standing, page 236
7.9.3 Unsatisfactory Readmitted Standing, page 236
7.9.4 Interim Unsatisfactory/Unsatisfactory Standing, page 236
7.9.5 Incomplete Standings, page 237
7.10 Awards and Honorary Designations, page 237
7.10.1 Honours and First-Class Honours, page 237
7.10.2 Distinction, page 237
7.10.3 Dean's Honour List, page 237
7.10.4 Medals and Prizes, page 237
7.11 Programs in the B.A. & Sc., page 237
7.11.1 Major Concentrations, page 237
7.11.2 Interfaculty Programs, page 238
7.11.3 Honours Programs, page 238
7.11.4 Joint Honours Programs, page 238
7.11.5 Minor Concentrations or Minors, page 238
7.11.6 Integrative Courses, page 239
7.12 Academic Programs, page 239

7.12.1 Required Integrative Course for B.A. & Sc., page 239
7.12.2 Programs in Arts or in Science, page 239
7.12.3 Biology (BIOL), page 239
7.12.4 Biomedical Sciences, page 240
7.12.5 Chemistry (CHEM), page 241
7.12.6 Cognitive Science, page 241
7.12.7 Computer Science, page 242
7.12.8 Earth, Atmosphere and Ocean Sciences, page 243
7.12.9 Environment, page 243
7.12.10 Geography (GEOG), page 243
7.12.11 Mathematics, page 244
7.12.12 Physics (PHYS), page 244
7.12.13 Psychology, page 244

8 Faculty of Education, page 245

8.1 The Faculty, page 245
8.1.1 Location, page 245
8.1.2 Administrative Officers, page 245
8.1.3 The Faculty Then and Now, page 246
8.1.4 Faculty Facilities, page 246
8.2 Faculty Programs, page 248
8.2.1 Undergraduate Education Programs, page 248
8.2.2 Programs of Professional Development, page 249
8.2.3 Programs for First Nations and Inuit, page 250
8.3 Faculty Regulations for Undergraduate Programs, page 250
8.3.1 Code of Professional Conduct, page 250
8.3.2 English Language Requirement, page 250
8.3.3 Additional Requirements for Students admitted to B.Ed. TFSL program, page 250
8.3.4 Judicial Record Verification for Students in the Bachelor of Education Programs, page 250
8.3.5 Course and Program Regulations, page 251
8.3.6 Registration, page 251
8.3.7 Attendance, page 252
8.3.8 Grading, page 252
8.3.9 Incomplete Grades, page 252
8.3.10 Examinations, page 252
8.3.11 Academic Standing, page 252
8.3.12 Graduation Requirements, page 254
8.3.13 Undergraduate Program Awards, page 254
8.4 Student Teaching/Field Experience, page 254
8.4.1 Code of Professional Conduct, page 255
8.5 Department of Educational and Counselling Psychology, page 256
8.6 Department of Integrated Studies in Education, page 257
8.6.1 Bachelor of Education Programs, page 258
8.6.2 Programs for First Nations and Inuit, page 263
8.7 Department of Kinesiology and Physical Education, page 267
8.7.1 Bachelor of Education Programs, page 268
8.7.2 Bachelor of Science (Kinesiology), page 268
8.8 School of Information Studies, page 270

9 Faculty of Engineering, including Schools of Architecture and Urban Planning, page 271

9.1 The Faculty, page 272
9.1.1 Location, page 272
9.1.2 Administrative Officers, page 272
9.1.3 Historical Note, page 272
9.1.4 The Faculty Today, page 272
9.1.5 Special Facilities and Related Programs, page 272
9.1.6 Library Facilities, page 273
9.2 General Information, page 273
9.2.1 Admission Requirements, page 273
9.2.2 Exchange Programs, page 273
9.2.3 Transfer Credits for University-level Courses, page 273
9.2.4 Registration, page 273
9.2.5 Advising, page 274
9.2.6 Student Activities, page 274
9.2.7 Scholarships and Bursaries, page 274
9.2.8 Graduation Honours, page 274
9.2.9 EIP: Engineering Internship Program and IP: Industrial Practicum, page 274
9.2.10 Calculators in Faculty Tests and Examinations, page 274
9.3 Academic Requirements, page 274
9.3.1 Degree Requirements, page 274
9.3.2 Degrees and Requirements for Professional Registration, page 275
9.3.3 Prerequisites and/or Corequisites, page 276
9.3.4 Complementary Studies, page 276
9.3.5 Student Progress, page 276
9.4 Degrees and Programs Offered, page 279
9.4.1 CO-OP Programs, page 279
9.4.2 Major Programs, page 279
9.4.3 Honours Programs, page 279
9.4.4 Minors, page 279
9.5 Academic Programs, page 279
9.5.1 School of Architecture, page 279
9.5.2 Department of Chemical Engineering, page 281
9.5.3 Department of Civil Engineering and Applied Mechanics, page 283
9.5.4 Department of Electrical and Computer Engineering, page 285
9.5.5 Department of Mechanical Engineering, page 289
9.5.6 Department of Mining andMaterials Engineering, page 293
9.5.7 School of Urban Planning, page 295
9.6 Minor Programs, page 296
9.6.1 Arts Minor, page 296
9.6.2 Biomedical Engineering Minor, page 296
9.6.3 Biotechnology Minor, page 297
9.6.4 Chemistry Minor, page 298
9.6.5 Computer Science Courses and Minor Program, page 298
9.6.6 Construction Engineering and Management Minor, page 298
9.6.7 Economics Minor, page 299
9.6.8 Environmental Engineering Minor, page 299
9.6.9 Minor in Environment, page 300
9.6.10 Minor Programs in Finance, Management, Marketing, and Operations Management, page 300
9.6.11 Materials Engineering Minor, page 301
9.6.12 Mathematics Minor, page 301
9.6.13 Mining Engineering Minor, page 301
9.6.14 Physics Minor, page 301
9.6.15 Technological Entrepreneurship Minor, page 302
9.6.16 Software Engineering Minor, page 302

10 McGill School of Environment, page 303

10.1 The School, page 303
10.1.1 Location, page 303
10.1.2 Administrative Officers, page 303
10.1.3 Academic Staff, page 303
10.1.4 Creation of the School, page 304
10.1.5 Mission of the School, page 304
10.2 Admission, Registration and Regulations, page 304
10.2.1 Admission, page 304
10.2.2 Degree Requirements, page 304
10.2.3 Advising in the MSE, page 304
10.2.4 Important Information about Program Selection, page 304

10.2.5 Course Numbering System at McGill, page 305
10.2.6 Examination Regulations, page 305
10.2.7 Courses Outside the Student's Faculty, page 305
10.3 Programs Offered, page 305
10.4 Suggested Courses for Freshmen Students, page 305
10.5 Minor in Environment, page 305
10.5.1 Minor Concentration in Environment, page 306
10.5.2 Minor in Environment, page 306
10.6 B.A. Faculty Program in Environment, page 306
10.6.1 Ecological Determinants of Health in Society Domain, page 307
10.6.2 Economicsand the Earth's Environment Domain, page 308
10.6.3 Environment and Development Domain, page 309
10.7 B.A.&Sc. Interfaculty Program in Environment, page 310
10.8 Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc., page 311
10.8.1 Biodiversity and Conservation Domain, page 312
10.8.2 Ecological Determinants of Health Domain, page 313
10.8.3 Environmetrics Domain, page 315
10.8.4 Food Production and Environment Domain, page 316
10.8.5 Land Surface Processes and Environmental Change Domain, page 317
10.8.6 Renewable Resource Management Domain, page 318
10.8.7 Water Environments and Ecosystems Domain, page 319
10.9 Major in Environment – B.Sc., page 321
10.9.1 Atmospheric Environment and Air Quality Domain, page 321
10.9.2 Earth Sciences and Economics Domain, page 322
10.10 Honours Program in Environment, page 323
10.11 Diploma in Environment, page 323
10.12 Field Studies, page 324

11 Desautels Faculty of Management, page 325

11.1 Desautels Faculty of Management, page 325
11.1.1 Location, page 325
11.1.2 Administrative Officers, page 325
11.1.3 The Bachelor of Commerce Program, page 326
11.1.4 BCom Student Affairs Office, page 326
11.1.5 Summer Studies, page 326
11.1.6 International Student Exchange Program, page 326
11.1.7 Transfer Credit and Advanced Standing, page 326
11.2 BCom Degree Admission Requirements, page 327
11.3 BCom Degree Requirements, page 327
11.3.1 Academic Requirements for Graduation, page 327
11.3.2 Cumulative Grade Point Average (CGPA), page 327
11.3.3 Course Requirements, page 327
11.3.4 Academic Advising, page 327
11.3.5 Registration, page 327
11.3.6 Course Overlap, page 328
11.3.7 Electives, page 328
11.3.8 Course Taken Under the Satisfactory/Unsatisfactory Option, page 329
11.3.9 Academic Standing, page 329
11.3.10 Time and Credit Limit for Completion of the BCom Degree, page 330
11.4 Grading and Credit, page 330
11.4.1 Examinations, page 330
11.4.2 Verification of Grades and Rereads, page 330
11.4.3 Awards and Honorary Designations, page 331
11.5 BCom Program Credit Structure, page 331
11.5.1 General Management Program (Concentrations), page 331
11.5.2 Major or Honours Programs, page 332
11.6 120-credit Program, Freshman Course Distribution, page 333
11.7 Management Core, page 333
11.7.1 Core Course Distribution, page 333
11.8 Concentrations (General Management Major), page 334
11.8.1 Accounting Concentration, page 334
11.8.2 Entrepreneurship Concentration, page 334
11.8.3 Finance Concentration, page 334
11.8.4 Information Systems Concentration, page 335
11.8.5 International Business Concentration, page 335
11.8.6 Labour-Management Relations Concentration, page 335
11.8.7 Management Science Concentration, page 335
11.8.8 Marketing Concentration, page 335
11.8.9 Operations Management Concentration, page 335
11.8.10 Organizational Behaviour Concentration, page 336
11.8.11 Strategic Management Concentration, page 336
11.9 Minors for Management Students, page 336
11.9.1 Minor in Mathematics, page 337
11.9.2 Minor in Statistics, page 337
11.10 Minors for Non-Management Students, page 337
11.10.1 Minor in Finance, page 337
11.10.2 Minor in Management, page 337
11.10.3 Minor in Management for Economics Students, page 338
11.10.4 Minor in Management for Engineering Students, page 338
11.10.5 Minor in Management for Science Students, page 338
11.10.6 Minor in Marketing, page 338
11.10.7 Minor in Operations Management, page 338
11.10.8 Minor in Technological Entrepreneurship for Engineering Students, page 339
11.10.9 Minor in Technological Entrepreneurship for Science Students, page 339
11.11 Majors, page 339
11.11.1 Major in Accounting, page 339
11.11.2 Major in Economics for Management Students, page 339
11.11.3 Major in Finance, page 339
11.11.4 Major in Information Systems, page 339
11.11.5 Major in International Management, page 340
11.11.6 Major in Labour-Management Relations, page 341
11.11.7 Major in Marketing, page 341
11.11.8 Major in Mathematics for Management Students, page 342
11.11.9 Major Concentration in Mathematics for Management Students, page 342
11.11.10 Major in Psychology for Management Students, page 342
11.11.11 Major Concentration in Statistics for Management Students, page 342
11.12 Honours, page 343
11.12.1 Honours in Economics for Management Students, page 343
11.12.2 Honours in Investment Management, page 343
11.12.3 Joint Honours in Economics and Accounting, page 344
11.12.4 Joint Honours in Economics and Finance, page 344
11.13 Academic Staff, page 345

12 Schulich School of Music, page 347

12.1 The Faculty, page 348
- 12.1.1 Location, page 348
- 12.1.2 The Faculty Then and Now, page 348

12.2 Faculty Administrative Officers, page 348
- 12.2.1 Dean's Office, page 348
- 12.2.2 Associate Deans' Office, page 348
- 12.2.3 Graduate Studies, page 348
- 12.2.4 Academic Affairs, page 349
- 12.2.5 Student Affairs, page 349
- 12.2.6 Building Management, page 349
- 12.2.7 Administrative Units, page 349

12.3 General Information, page 350
- 12.3.1 Degrees and Diplomas Offered, page 350
- 12.3.2 Orchestral Training, page 351
- 12.3.3 Scholarships and Financial Aid, page 351
- 12.3.4 Summer Studies, page 351
- 12.3.5 Music Credit Options for Students in Other Faculties, page 351
- 12.3.6 Conservatory of Music, page 351

12.4 Admission, page 352
- 12.4.1 Application Procedure, page 352
- 12.4.2 Music Entrance Requirements, page 352
- 12.4.3 Academic Entrance Requirements, page 352
- 12.4.4 Diploma Programs, page 353
- 12.4.5 Music Placement Examinations, page 353
- 12.4.6 Keyboard Proficiency Test (MUSP 170), page 353
- 12.4.7 Readmission, page 353
- 12.4.8 Tuition Fees, page 353

12.5 Academic Information, page 354
- 12.5.1 Ensemble Policy and Regulations, page 354
- 12.5.2 Accompanying, page 356
- 12.5.3 Academic Category, page 356
- 12.5.4 Auditing, page 357
- 12.5.5 Music/Free Electives, page 357
- 12.5.6 Non-Music Electives, page 357
- 12.5.7 Distance Education (online) Courses, page 357
- 12.5.8 Course Changes, page 357
- 12.5.9 Withdrawal from Course(s), page 357
- 12.5.10 Incompletes, page 357
- 12.5.11 Deferrals, page 357
- 12.5.12 Supplementals, page 358
- 12.5.13 Rereading of Examinations, page 358
- 12.5.14 Academic Standing, page 358
- 12.5.15 Graduation Requirements, page 359
- 12.5.16 Graduation Honours, page 359

12.6 Programs of Study, page 359
- 12.6.1 Four-Year Program (Prerequisite Courses), page 359
- 12.6.2 Department of Music Research: Composition; Music History; Theory; Faculty Program, page 359
- 12.6.3 Department of Performance, page 365
- 12.6.4 Designated Major Program, page 375
- 12.6.5 B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program, page 376
- 12.6.6 Management Minor Programs, page 377

12.7 Practical Subjects, page 377
- 12.7.1 Practical Assignments and Lessons, page 377
- 12.7.2 Examinations and Goals in Practical Subjects, page 377
- 12.7.3 Practical Examinations, page 380

12.8 Academic Staff, page 380

13 Faculty of Religious Studies, page 385

13.1 The Faculty, page 385
- 13.1.1 Location, page 385
- 13.1.2 Administrative Officers, page 385
- 13.1.3 History, page 385
- 13.1.4 Facilities, page 385
- 13.1.5 Birks Lectures, page 385
- 13.1.6 Numata Visiting Professor in Buddhist Studies, page 385

13.2 Degrees Offered by the Faculty, page 385

13.3 Bachelor of Arts (B.A.) in Religious Studies, page 385

13.4 Master of Divinity (M.Div.), page 386

13.5 Bachelor of Theology (B.Th.), page 386
- 13.5.1 ATS Accreditation, page 386
- 13.5.2 Admission Requirements, page 386
- 13.5.3 Competence in English, page 386
- 13.5.4 Applying to the B.Th. Program, page 387
- 13.5.5 Application Deadlines, page 387
- 13.5.6 Tuition Fees and Funding, page 387
- 13.5.7 Admissions Review Procedures, page 387
- 13.5.8 Registration Procedures, page 387
- 13.5.9 Withdrawal Procedures, page 387
- 13.5.10 Graduation Requirements, page 387
- 13.5.11 Course Selection, page 387
- 13.5.12 Academic Standing and Course Loads, page 388
- 13.5.13 Academic Achievement, page 388
- 13.5.14 Evaluation, page 388
- 13.5.15 Bachelor of Theology Program Requirements, page 388
- 13.5.16 B.Th. Honours, page 389

13.6 Academic Staff, page 389

14 Faculty of Science, including School of Computer Science, page 391

14.1 The Faculty, page 392
- 14.1.1 Location, page 392
- 14.1.2 Faculty Administrative Officers, page 392
- 14.1.3 Programs and Teaching in Science, page 392
- 14.1.4 Science Office for Undergraduate Student Advising (SOUSA), page 392

14.2 Faculty Admission Requirements, page 392

14.3 Faculty Degree Requirements, page 393
- 14.3.1 Minimum Credit Requirement, page 393
- 14.3.2 Residency, page 393
- 14.3.3 Cumulative Grade Point Average (CGPA), page 393
- 14.3.4 Time and Credit Limit for the Completion of the Degree, page 393
- 14.3.5 Program Requirements, page 393
- 14.3.6 Course Requirements, page 394

14.4 Advising, page 396

14.5 Registration, page 396
- 14.5.1 Program Registration, page 396
- 14.5.2 Course Registration, page 396
- 14.5.3 Apply to Graduate, page 397

14.6 Grading and Credit, page 397
- 14.6.1 Incomplete Grades, page 397

14.7 Examinations, page 397

14.8 Supplemental Assessments, page 397
- 14.8.1 Supplemental Examinations, page 397
- 14.8.2 Additional Work, page 398
- 14.8.3 Reassessments and Rereads, page 398

14.9 Academic Standing, page 398

14.10 Awards and Honorary Designations, page 399
- 14.10.1 Honours and First-Class Honours, page 399
- 14.10.2 Distinction, page 399
- 14.10.3 Dean's Honour List, page 399
- 14.10.4 Dean's Multidisciplinary Undergraduate Research List, page 399
- 14.10.5 Medals and Prizes, page 399

14.11 Lists of Programs Offered, page 400
- 14.11.1 Science program groups, page 400

14.11.2 Liberal Program - Core Science Components, page 400
14.11.3 Major Programs, page 400
14.11.4 Joint Major Programs, page 400
14.11.5 Honours Programs, page 400
14.11.6 Joint Honours Programs, page 401
14.11.7 Minor Programs, page 401
14.11.8 Concurrent B.Sc. and B.Ed. Program (Science or Mathematics for Teachers), page 401
14.11.9 Bachelor of Arts and Science, page 401
14.11.10 Internship Programs – Industrial Practicum (IP) and Internship Year in Science (IYS), page 401
14.11.11 Faculty of Arts Major and Minor Concentration Programs Available to Science Students, page 401
14.12 Undergraduate Research Opportunities, page 402
14.12.1 Department Research Projects, page 402
14.12.2 NSERC Undergraduate Student Research Awards, page 403
14.12.3 Undergraduate Research Conference, page 403
14.12.4 Industrial Practicum (IP) and Internship Year in Science (IYS), page 403
14.12.5 Field study and study abroad, page 403
14.12.6 Other opportunities, page 403
14.13 Academic Programs, page 403
14.13.1 Science Freshman Program, page 403
14.13.2 Anatomy and Cell Biology (ANAT), page 404
14.13.3 Atmospheric and Oceanic Sciences (ATOC), page 406
14.13.4 Biochemistry (BIOC), page 409
14.13.5 Biology (BIOL), page 411
14.13.6 Biotechnology (BIOT), page 416
14.13.7 Chemistry (CHEM), page 417
14.13.8 Cognitive Science, page 421
14.13.9 Computer Science (COMP), page 422
14.13.10 Earth and Planetary Sciences (EPSC), page 427
14.13.11 Earth System Science Interdepartmental Major (ESYS), page 429
14.13.12 Environment, page 430
14.13.13 Experimental Medicine (EXMD), page 430
14.13.14 Field Study, page 430
14.13.15 General Science, page 431
14.13.16 Geography (GEOG), page 431
14.13.17 Immunology Interdepartmental Honours, page 434
14.13.18 Interdisciplinary Life Sciences, page 435
14.13.19 Kinesiology for Science Students, page 436
14.13.20 Management Minor Programs, page 436
14.13.21 Mathematics and Statistics (MATH), page 436
14.13.22 Microbiology and Immunology (MIMM), page 442
14.13.23 Music, page 445
14.13.24 Neurology and Neurosurgery (NEUR), page 445
14.13.25 Neuroscience, page 445
14.13.26 Nutrition (NUTR), page 447
14.13.27 Pathology (PATH), page 447
14.13.28 Pharmacology and Therapeutics (PHAR), page 447
14.13.29 Physics (PHYS), page 449
14.13.30 Physiology (PHGY), page 454
14.13.31 Psychiatry (PSYT), page 456
14.13.32 Psychology (PSYC), page 457
14.13.33 Redpath Museum (REDM), page 460
14.13.34 Science or Mathematics for Teachers, page 460
14.13.35 Technological Entrepreneurship for Science Students, page 463

15 Field Studies and Study Abroad, page 465

15.1 Opportunities for Field Study and Study Abroad, page 465
15.2 Study Abroad Options, page 465
15.2.1 Bilateral Student Exchanges, page 465
15.2.2 CRÉPUQ Exchanges, page 465
15.2.3 Field Study Semesters and Off-Campus Courses, page 465
15.2.4 Study Away On Your Own, page 465
15.3 Field Studies, page 466
15.3.1 African Field Study Semester, page 466
15.3.2 Barbados Field Study Semester, page 466
15.3.3 Barbados Interdisciplinary Tropical Studies Field Semester, page 467
15.3.4 Panama Field Study Semester, page 467
15.3.5 Field Study Minor, page 467
15.4 Exchange Programs, page 468
15.4.1 Eligibility, page 468
15.4.2 Applying for an Exchange, page 468
15.4.3 Awards and Financial Assistance, page 468
15.5 Financial Assistance, page 468
15.5.1 Transfer of Credits from Host Institution, page 468
15.5.2 Universitas 21, page 468
15.5.3 The Killam Fellowships Program, page 468
15.5.4 Further Information and the Student Exchanges and Study Abroad (SESA) Service Desk, page 468
15.6 Internships and Co-op Programs, page 469
15.7 Off-Campus Summer Programs, page 469
15.7.1 Peking University Summer Chinese Program, page 469
15.7.2 McGill Summer Courses in Italy, page 469
15.7.3 Desautels Faculty of Management, page 469
15.8 Off-Campus Courses, page 469
15.8.1 Architecture, page 469
15.8.2 Art History & Communication Studies, page 469
15.8.3 Biology, page 469
15.8.4 Classics, page 469
15.8.5 Earth & Planetary Sciences, page 470
15.8.6 East Asian Studies, page 470
15.8.7 Geography, page 470
15.8.8 Italian Studies, page 470
15.8.9 Music, page 470
15.8.10 Political Science, page 470

Course Information, Regulations and Descriptions, page C-1

2009-2010 Campus Maps, page M-1

INDEX OF UNDERGRADUATE PROGRAMS

A

Aboriginal Education for Certified Teachers (Certificate in Education) 266
Aboriginal Literacy Education (Certificate in Education) 265
Accounting - Major (B.Com.) 339
African Studies
Major Concentration in African Studies (B.A.) 127
Minor Concentration in African Studies (B.A.) 127
Agricultural Economics - Major (B.Sc.(Ag.Env.Sc.)) 93
Agricultural Economics - Specialization (B.Sc.(Ag.Env.Sc.)) . . 96
Agricultural Production - Minor 108
Agriculture and Food Systems (Multidisciplinary) - Specialization (B.Sc.(Ag.Env.Sc.)) 97
Agro-Environmental Sciences - Major (B.Sc.(Ag.Env.Sc.)) . . . 94
Anatomy and Cell Biology
Honours in Anatomy and Cell Biology (B.Sc.) 406
Liberal Program - Core Science Component in Anatomy and Cell Biology (B.Sc.) 405
Major in Anatomy and Cell Biology (B.Sc.) 405
Animal Biology - Specialization (B.Sc.(Ag.Env.Sc.)) 97
Animal Health and Disease - Specialization (B.Sc.(Ag.Env.Sc.)) 97
Animal Production - Specialization (B.Sc.(Ag.Env.Sc.)) 98
Anthropology
Honours in Anthropology (B.A.) 129
Joint Honours - Anthropology Component (B.A.) 130
Major Concentration in Anthropology (B.A.) 129
Minor Concentration in Anthropology 129
Applied Ecosystem Sciences - Specialization (B.Sc.(Ag.Env.Sc.)) 98
Architecture
Architecture (B.Sc.(Arch.)) 280
Art History
Honours in Art History (B.A.) 132
Joint Honours - Art History Component (B.A.) 132
Major Concentration in Art History (B.A.) 132
Minor Concentration in Art History 132
Atmospheric and Oceanic Sciences
Diploma in Meteorology 409
Honours in Atmospheric Science (B.Sc.) 408
Honours Program in Atmospheric Science - Atmospheric Chemistry Option (B.Sc.) 408
Joint Major in Atmospheric Science and Physics (B.Sc.) 408
Liberal Program - Core Science Component in Atmospheric and Oceanic Sciences (B.Sc.) . . 407
Major in Atmospheric and Oceanic Science (B.Sc.) 407
Major in Atmospheric Science - Atmospheric Chemistry Option (B.Sc.) 407
Minor in Atmospheric Science (B.Sc.) 407

B

Biochemistry
Honours in Biochemistry (B.Sc.) 411
Liberal Program - Core Science Component in Biochemistry (B.Sc.) 410
Major in Biochemistry (B.Sc.) 410
Biology
Honours in Biology (B.Sc.) 416
Liberal Program - Core Science Component in Biology (B.Sc.) 413
Major Concentration in Biology - Cell/Molecular Option (B.A. & Sc.) 239
Major Concentration in Biology - Organismal Option (B.A. & Sc.) 240
Major in Biology (B.Sc.) 413
Minor Concentration in Biology - Cell/Molecular Option (B.A. & Sc.) 240
Minor Concentration in Biology - Organismal Option (B.A. & Sc.) 240
Minor in Biology (B.Sc.) 413
Biomedical Sciences
Major Concentration in Biomedical Sciences (B.A. & Sc.) 241
Bioresource Engineering - Major (B.Eng.(Bioresource)) 103
Biotechnology Minor (B.Sc.) 417

C

Canadian Ethnic and Racial Studies Minor Concentration . . 134
Canadian Studies
Honours in Canadian Studies (B.A.) 135
Joint Honours - Canadian Studies Component (B.A.) . . 135
Major Concentration in Canadian Studies (B.A.) 135
Minor Concentration in Canadian Studies 135
Catholic Studies Minor Concentration 137
Chemical Engineering
Chemical Engineering (B.Eng.) 282
Chemistry
Honours in Chemistry - Atmosphere and Environment Option (B.Sc.) 419
Honours in Chemistry - Materials Option (B.Sc.) 420
Honours in Chemistry (B.Sc.) 419
Honours with Bio-Organic Option (B.Sc.) 419
Liberal Program - Core Science Component in Chemistry - Biological Option (B.Sc.) 420
Liberal Program - Core Science Component in Chemistry - General Option (B.Sc.) 421
Liberal Program - Core Science Component in Chemistry - Physical Option (B.Sc.) 421
Major Concentration in Chemistry (B.A. & Sc.) 241
Major in Chemistry - Atmosphere and Environment Option (B.Sc.) 420
Major in Chemistry - Bio-Organic Option (B.Sc.) 420
Major in Chemistry - Materials Option (B.Sc.) 420
Major in Chemistry (B.Sc.) 420
Minor in Chemical Engineering (B.Sc.) 421
Minor in Chemistry (B.Sc.) 421
Civil Engineering and Applied Mechanics
Civil Engineering (B.Eng.) 284
Classics
Honours in Classics (B.A.) 139
Joint Honours - Classics Component (B.A.) 139
Major Concentration in Classics (B.A.) 138
Minor Concentration in Classics 138
Cognitive Science
Honours Program in Cognitive Science (B.A. & Sc.) . . . 242
Interfaculty Program in Cognitive Science (B.A. & Sc.) . 241
Cognitive Science Minor (B.Sc.) 421
Communication Studies Minor Concentration 133
Computer Science
Honours in Computer Science (B.Sc.) 426
Joint Major in Computer Science and Biology (B.Sc.) . . 426
Liberal Program - Core Science Component in Computer Science (B.Sc.) 425
Liberal Program - Core Science Component in Software Engineering (B.Sc.) 425

Major Concentration in Computer Science (B.A.) 140
Major Concentration in Software Engineering (B.A. & Sc.) 242
Major Concentration in Software Engineering (B.A.). . . . 140
Major in Computer Science - Computer Games Option (B.Sc.) 424
Major in Computer Science (B.Sc.) 424
Major in Software Engineering (B.Sc.) 424
Minor Concentration in Computer Science (B.A.) 140
Minor in Computational Molecular Biology (B.Sc.) 424
Minor in Computer Science (B.Sc.) 423
Supplementary Minor Concentration in Computer Science (B.A.) 140

D

Dietetics - Major (B.Sc.(Nutr.Sc.)) 105

E

Earth and Planetary Sciences
Honours in Earth Sciences (B.Sc.) 428
Honours in Planetary Sciences (B.Sc.) 429
Liberal Program - Core Science Component in Earth and Planetary Sciences (B.Sc.) 428
Major in Earth and Planetary Sciences (B.Sc.) 428
Minor in Geochemistry (B.Sc.). 427
Earth System Science Major (B.Sc.) 430
Earth, Atmosphere and Ocean Sciences
Major Concentration in Earth, Atmosphere and Ocean Sciences (B.A. & Sc.) 243
East Asian Studies
Honours in East Asian Studies (B.A.) 144
Joint Honours - East Asian Studies Component (B.A.) . . 145
Major Concentration in East Asian Studies (B.A.). 143
Minor Concentration in Advanced East Asian Studies . . 143
Minor Concentration in East Asian Cultural Studies 142
Minor Concentration in East Asian Language and Literature 141
Ecological Agriculture - Certificate. 110
Ecological Agriculture - Minor 109
Ecological Agriculture - Specialization (B.Sc.(Ag.Env.Sc.)) . . . 98
Economics
Honours in Economics (B.A.) 147
Honours in Economics (B.Com.) 343
Joint Honours - Economics Component (B.A.) 148
Major Concentration in Economics (B.A.) 147
Major in Economics (B.Com.) 339
Minor Concentration in Economics - Stream I (B.A.). . . . 146
Minor Concentration in Economics - Stream II 147
Minor Concentration in Economics - Stream III (B.Com.) 147
Minor Concentration in Economics - Stream IV (B.A., Economics - Major) 147
Economics and Accounting - Joint Honours (B.Com.) 344
Economics and Finance - Joint Honours (B.Com.) 344
Education
Concurrent (B.Ed./B.Mus.) 259
Concurrent (B.Sc./B.Ed.). 259
Concurrent B.Sc. and B.Ed. 461
Kindergarten and Elementary (B.Ed.) 261
Kindergarten and Elementary (B.Ed.) - Jewish Studies Option 262
Minor in Education for Science Students (B.Sc.). 461
Physical and Health (B.Ed.) 268
Secondary (B.Ed.) 258
Teaching English as a Second Language (B.Ed.). 263
Teaching French as a Second Language (B.Ed.) 262
Education for Arts Students Minor Concentration (B.A.) 149
Educational Psychology Minor Concentration (B.A.) 149
Electrical and Computer Engineering
Electrical Engineering - Honours (B.Eng.) 286
Electrical Engineering - Regular (B.Eng.). 286
Software Engineering (B.S.E.) 288
Engineering (Minors)
Arts 296
Biomedical Engineering 296
Biotechnology 297
Chemistry 298
Computer Science 298
Construction Engineering and Management 298
Economics 299
Environmental Engineering. 299
Materials Engineering 301
Mathematics 301
Mining Engineering 301
Physics 301
Software Engineering 302
Technological Entrepreneurship 302
English
Honours in English (Cultural Studies) (B.A.). 152
Honours in English (Drama and Theatre) (B.A.). 152
Honours in English (Literature) (B.A.). 152
Joint Honours in English (Cultural Studies) (B.A.) 153
Joint Honours in English (Drama and Theatre) (B.A.) . . 153
Joint Honours in English (Literature) (B.A.) 153
Major Concentration in English - Cultural Studies (B.A.) 151
Major Concentration in English - Drama and Theatre (B.A.) 151
Major Concentration in English - Literature (B.A.) 151
Minor Concentration in English - Cultural Studies 151
Minor Concentration in English - Drama and Theatre . . 150
Minor Concentration in English - Literature 150
Entomology - Specialization (B.Sc.(Ag.Env.Sc.)) 99
Environment
Faculty Program in Environment (B.A.) 306
Environment - Diploma 323
Environment - Faculty Program (B.A.)
Ecological Determinants of Health in Society 307
Economics and the Earth's Environment 308
Environment and Development 309
Environment - Honours Program 323
B.A., B.Sc., B.A.&Sc. 323
B.Sc.(Ag.Env.Sc.). 323
Environment - Interfaculty Program (B.A.&Sc.) 310
Environment - Major (B.Sc.(Ag.Env.Sc.) and B.Sc.). 311
Biodiversity and Conservation 312
Ecological Determinants of Health 313
Ecological Determinants of Health - Cellular 313
Ecological Determinants of Health - Population 314
Environmetrics 315
Food Production and Environment 316
Land Surface Processes and Environmental Change . . 317
Renewable Resource Management 318
Water Environments and Ecosystems 319
Water Environments and Ecosystems - Biological 319
Water Environments and Ecosystems - Physical 320
Environment - Major (B.Sc.) 321
Atmospheric Environment and Air Quality 321
Earth Sciences and Economics 322
Environment - Minor 306
Environment - Minor Concentration 306
Environmental Biology - Major (B.Sc.(Ag.Env.Sc.)) 94
Environmental Biology (Multidisciplinary) - Specialization (B.Sc.(Ag.Env.Sc.)) 99

F

Farm Management and Technology - Program 111
Field Study Minor 467
Finance - Major (B.Com.) 339
First Nations and Inuit (Certificate in Education) 263
First Nations and Inuit Educational Leadership (Certificate in Education) 266
First Nations and Inuit Elementary Education for Certified Teachers (B.Ed.) 266
Food Science - Certificate 110
Food Science - Major (B.Sc.(F.Sc.)) 107
Food Science / Nutritional Science - Major Concurrent (B.Sc.(F.Sc.)) and (B.Sc.(Nutr.Sc.)) 107
French Language and Literature
- Concentration majeure langue et littérature françaises - lettres (B.A.) 156
- Concentration majeure langue et littérature françaises - lettres et traduction (B.A.) 157
- Concentration majeure langue et littérature françaises - linguistique du français (B.A.) . . . 157
- Concentration mineure langue et littérature françaises - langue et traduction 155
- Concentration mineure langue et littérature françaises - langue française 155
- Concentration mineure langue et littérature françaises - lettres 155
- Concentration mineure langue et littérature françaises - lettres et traduction 156
- Concentration mineure langue et littérature françaises - théorie et critique littéraires 156
- Double spécialisation, option lettres (B.A.) 159
- Double spécialisation, option lettres et traduction (B.A.) 159
- Programme de spécialisation, option lettres (B.A.) 158
- Programme de spécialisation, option lettres et traduction (B.A.) 158

G

General Science Minor (B.Sc.) 431
Geography
- Honours in Geography (B.A.) 162
- Honours in Geography (B.Sc.) 433
- Honours in Urban Systems (B.A.) 162
- Joint Honours - Geography Component (B.A.) 163
- Liberal Program - Core Science Component in Geography (B.Sc.) 432
- Major Concentration in Geography (B.A.) 161
- Major Concentration in Geography (Urban Systems) (B.A.) 161
- Major Concentration Physical Geography Option (B.A. & Sc.) 243
- Major in Geography (B.Sc.) 432
- Minor Concentration in Geographic Information Systems 160
- Minor Concentration in Geography 160
- Minor Concentration in Geography (Urban Systems) . . . 161
- Minor in Geographical Information Systems (B.Sc.) 432
- Minor in Geography (B.Sc.) 432

German Studies
- Honours in German Studies (B.A.) 166
- Joint Honours - German Studies Component (B.A.) 166
- Major Concentration in Contemporary German Studies (B.A.) 165
- Major Concentration in German Language and Literature (B.A.) 165
- Major Concentration in German Literature and Culture (B.A.) 166
- Minor Concentration in German Language 164
- Minor Concentration in German Literature 164
- Minor Concentration in German Literature and Culture in Translation 164

H

Health and Nutrition - Specialization (B.Sc.(Ag.Env.Sc.)) 99
Hispanic Studies
- Honours in Hispanic Studies (B.A.) 168
- Joint Honours - Hispanic Studies Component (B.A.) . . . 169
- Major Concentration in Hispanic Languages (B.A.) 168
- Major Concentration in Hispanic Literature and Culture (B.A.) 168
- Minor Concentration in Hispanic Languages 167
- Minor Concentration in Hispanic Literature and Culture 168

History
- Honours in History (B.A.) 170
- Joint Honours - History Component (B.A.) 170
- Major Concentration in History (B.A.) 170
- Minor Concentration in History 170

History and Philosophy of Science Minor Concentration 171
Human Nutrition - Minor 109
Humanistic Studies
- Major Concentration in Humanistic Studies (B.A.) 172
- Minor Concentration in Humanistic Studies 172

I

Immunology Interdepartmental Honours (B.Sc.) 434
Industrial Relations Faculty Program (B.A.) 173
Information Systems - Major (B.Com.) 339
Interdisciplinary Life Sciences Minor (B.Sc.) 435
International Agriculture - Specialization (B.Sc.(Ag.Env.Sc.)) . 99
International Agriculture and Food Systems - Major (B.Sc.(Ag.Env.Sc.)) 95
International Development Studies
- Honours in International Development Studies (B.A.) . . 173
- Joint Honours - International Development Studies Component (B.A.) 174
- Major Concentration in International Development Studies (B.A.) 173
- Minor Concentration in International Development Studies 173

International Management - Major (B.Com.) 340
Investment Management - Honours (B.Com.) 343
Islamic Studies Minor Concentration 175
Italian Studies
- Honours in Italian Studies (B.A.) 176
- Joint Honours - Italian Studies Component (B.A.) 176
- Major Concentration in Italian Civilization (B.A.) 176
- Major Concentration in Italian Language and Literature (B.A.) 176
- Minor Concentration in Italian Civilization 176
- Minor Concentration in Italian Language and Literature 176

J

Jewish Studies
- Honours in Jewish Studies (B.A.) 178
- Joint Honours - Jewish Studies Component (B.A.) 179
- Major Concentration in Jewish Studies (B.A.) 178
- Minor Concentration in Jewish Law 178
- Minor Concentration in Jewish Studies 178

K

Kinesiology (B.Sc.(Kinesiology)) 268
Kinesiology for Science Students Minor (B.Sc.) 436

L

Labour-Management Relations - Major (B.Com.) 341
Latin-American and Caribbean Studies
Honours in Latin-American and Caribbean Studies - Area Option (B.A.) 182
Honours in Latin-American and Caribbean Studies - Thematic Option (B.A.) 182
Major Concentration in Latin-American Studies (B.A.) . . 181
Licentiate in Music (L.Mus.)
All Instruments except Piano, Voice and Jazz. 373
Jazz 374
Piano 372
Voice 373
Life Sciences (Biological and Agricultural) - Major (B.Sc.(Ag.Env.Sc.)) 96
Life Sciences (Multidisciplinary) - Specialization (B.Sc.(Ag.Env.Sc.)) 100
Linguistics
Honours in Linguistics (B.A.) 184
Joint Honours - Linguistics Component (B.A.). 184
Major Concentration in Linguistics (B.A.) 183
Minor Concentration in Linguistics. 183

M

Management (Minors) for Management Students 336
Mathematics 337
Statistics 337
Management (Minors) for Non-Management Students 337
Finance 337
Management 337
Marketing. 338
Operations Management 338
Management General - Major (B.Com.) 334
Accounting - Concentration 334
Entrepreneurship - Concentration 334
Finance - Concentration 334
Information Systems - Concentration 335
International Business - Concentration 335
Labour-Management Relations - Concentration 335
Marketing - Concentration 335
Operations Management - Concentration 335
Organizational Behaviour - Concentration. 336
Strategic Management - Concentration. 336
Marketing - Major (B.Com.) 341
Mathematics
Joint Honours - Mathematics Component (B.A.). 186
Major Concentration in Mathematics (B.A.). 186
Minor Concentration in Mathematics. 185
Minor Concentration in Statistics 186
Supplementary Minor Concentration in Mathematics (B.A.) 185
Mathematics - Major Concentration (B.Com.) 342
Mathematics and Statistics
Honours in Applied Mathematics (B.Sc.). 441
Honours in Mathematics (B.Sc.) 440
Honours in Probability and Statistics (B.Sc.). 441
Joint Honours in Mathematics and Computer Science (B.Sc.) 442
Joint Honours in Statistics and Computer Science (B.Sc.) 442
Joint Major in Mathematics and Computer Science (B.Sc.) 439
Joint Major in Statistics and Computer Science (B.Sc.) . 440
Liberal Program - Core Science Component in Mathematics (B.Sc.) 438
Liberal Program - Core Science Component in Statistics (B.Sc.) 438
Minor in Mathematics (B.Sc.) 437
Minor in Statistics (B.Sc.) 438
Mechanical Engineering
Mechanical Engineering - Honours (B.Eng.) 291
Mechanical Engineering - Regular (B.Eng.) 290
Microbiology - Specialization (B.Sc.(Ag.Env.Sc.)) 100
Microbiology and Immunology
Honours in Microbiology and Immunology (B.Sc.) 444
Liberal Program - Core Science Component in Microbiology and Immunology (B.Sc.) 443
Major in Microbiology and Immunology (B.Sc.) 444
Middle East Studies
Honours in Middle East Studies (B.A.) 187
Joint Honours - Middle East Studies Component (B.A.). 187
Major Concentration in Middle East Studies (B.A.). 187
Minor Concentration in Middle East Languages 187
Minor Concentration in Middle East Studies. 187
Middle School Education in Aboriginal Communities (Certificate in Education) 265
Mining and Materials Engineering
Materials Engineering - Co-Op (B.Eng.) 294
Mining Engineering - Co-Op (B.Eng.) 294
Molecular Biotechnology - Specialization (B.Sc.(Ag.Env.Sc.)) 101
Music
Artist Diploma (All Instruments) 374
Artist Diploma (Voice) 374
Designated Major (B.Mus.) 375
Major Concentration in Music (B.A.) 189
Minor Concentration in Music 189
Minor Concentration in Music Technology 189
Music - Faculty Program (B.Mus.) 363
Music Composition - Honours (B.Mus.) 360
Music Composition - Major (B.Mus.). 360
Music Education (Concurrent B.Mus./B.Ed.) 376
Music History - Honours (B.Mus.). 361
Music History - Major (B.Mus.) 361
Music Minors
Music History for Performers 364
Musical Applications of Technology 365
Musical Science and Technology 365
Music Performance - Honours (B.Mus.)
All Instruments except Piano and Voice 369
Early Music Performance 371
Piano. 369
Voice 368
Music Performance - Major (B.Mus.)
Church Music 370
Early Music Performance 370
Jazz Performance. 372
Keyboard Studies - Organ, Harpsichord. 367
Keyboard Studies - Piano 366
Orchestral Instruments 367
Organ, Harpsichord, Guitar, Baroque Instruments 366
Piano. 365
Music Performance - Major (B.Mus.)(Voice). 367
Music Technology Science Minor (B.Sc.). 445
Music Theory - Honours (B.Mus.). 363
Music Theory - Major (B.Mus.) 362

N

Neuroscience
Major in Neuroscience (B.Sc.) 445
Minor in Neuroscience (B.Sc.) 446

North American Studies
Major Concentration in North American Studies (B.A.) . 191
Minor Concentration in North American Studies. 190
Nutrition - Major (B.Sc.(Nutr.Sc.)). 106

P

Pharmacology
Honours in Pharmacology (B.Sc.) 449
Major in Pharmacology (B.Sc.). 448
Minor in Pharmacology (B.Sc.). 448
Philosophy
Honours in Philosophy (B.A.) 193
Joint Honours - Philosophy Component (B.A.). 194
Major Concentration in Philosophy (B.A.). 193
Minor Concentration in Philosophy 192
Philosophy and Western Religions
Honours in Philosophy and Western Religions (B.A.) . . 196
Joint Honours - Philosophy and Western Religions Component (B.A.). 196
Major Concentration in Philosophy and Western Religions (B.A.). 195
Minor Concentration in Philosophy and Western Religions 195
Physics
Honours in Physics (B.Sc.). 452
Joint Honours in Mathematics and Physics (B.Sc.) 452
Joint Honours in Physics and Chemistry (B.Sc.) 453
Joint Major in Physics and Computer Science (B.Sc.) . . 452
Joint Major in Physics and Geophysics (B.Sc.) 451
Liberal Program - Core Science Component in Physics (B.Sc.) 451
Major Concentration in Physics (B.A. & Sc.) 244
Major in Physics (B.Sc.) 451
Minor in Electrical Engineering (B.Sc.) 454
Minor in Physics (B.Sc.) 451
Physiology
Honours in Physiology (B.Sc.) 456
Joint Major in Physiology and Mathematics (B.Sc.) 455
Joint Major in Physiology and Physics (B.Sc.) 456
Liberal Program - Core Science Component in Physiology (B.Sc.) 455
Major in Physiology (B.Sc.). 455
Plant Biology - Specialization (B.Sc.(Ag.Env.Sc.)) 101
Plant Protection - Specialization (B.Sc.(Ag.Env.Sc.)). 102
Political Science
Honours in Political Science (B.A.). 201
Joint Honours - Political Science Component (B.A.) . . . 202
Major Concentration in Political Science (B.A.) 201
Minor Concentration in Comparative Politics 200
Minor Concentration in International Relations. 200
Minor Concentration in Political Economy 201
Minor Concentration in Political Science 198
Minor Concentration in Political Science - Canada/Quebec 199
Minor Concentration in Political Theory 200
Minor Concentration in Politics, Law and Society. 201
Minor Concentration in South Asia 201
Professional Agrology - Specialization (B.Sc.(Ag.Env.Sc.)) . . 102
Psychology
Honours in Psychology (B.A.). 204
Honours in Psychology (B.Sc.). 459
Joint Honours - Psychology Component (B.A.) 204
Liberal Program - Core Science Component in Psychology (B.Sc.) 459
Major Concentration in Psychology (B.A.) 203
Major in Psychology (B.Sc.) 459
Minor Concentration in Behavioural Science (B.A.). . . . 203
Minor Concentration in Psychology 203
Minor in Psychology (B.Sc.). 458
Psychology - Major (B.Com.). 342

Q

Quebec Studies
Major Concentration in Quebec Studies (B.A.) 206
Minor Concentration in Quebec Studies 205

R

Religious Studies
B.Th. Honours 389
Bachelor of Theology (B.Th.). 388
Honours in Religious Studies (B.A.). 210
Joint Honours - Religious Studies Component (B.A.) . . 211
Major Concentration in Scriptures and Interpretations (B.A.) 209
Major Concentration in World Religions. 209
Minor Concentration in Scriptural Languages 208
Minor Concentration in World Religions. 207
Russian and Slavic Studies
Honours in Russian (B.A.) 213
Joint Honours - Russian Component (B.A.). 214
Major Concentration in Russian (B.A.). 213
Minor Concentration in Russian. 212
Minor Concentration in Russian Culture 213

S

Science for Arts Students Minor Concentration (B.A.). 214
Sexual Diversity Studies Minor Concentration. 217
Social Studies of Medicine Minor Concentration 218
Social Work
Three-Year Program (B.S.W.) 219
Two-Year Program (B.S.W.) 219
Sociology
Honours in Sociology (B.A.). 221
Joint Honours - Sociology Component (B.A.) 222
Major Concentration in Sociology (B.A.) 221
Minor Concentration in Sociology 221
Soil and Water Resources - Specialization (B.Sc.(Ag.Env.Sc.)). 102
Statistics - Major Concentration (B.Com.) 342

T

Technological Entrepreneurship for Science Students Minor (B.Sc.). 463

W

Wildlife Biology - Specialization (B.Sc.(Ag.Env.Sc.)). 103
Women's Studies
Honours in Women's Studies (B.A.) 225
Joint Honours in Women's Studies (B.A.) 226
Major Concentration in Women's Studies (B.A.) 223
Minor Concentration in Women's Studies 222

1 Important Dates 2009-10

The following Important Dates (formerly known as the *Calendar of Dates*) are accurate as of February 1, 2009. The information is subject to change and you are advised to verify the Important Dates website at www.mcgill.ca/importantdates (available mid-April). Key dates for the faculties and schools included in this Calendar are given below. The dates for schools are the same as the dates for faculties unless otherwise indicated.

- Agricultural and Environmental Sciences, including School of Dietetics and Human Nutrition and McGill School of Environment students registered in A&ES
- Arts, including School of Social Work, and McGill School of Environment students registered in Arts
- Centre for Continuing Education
- Dentistry
- Education
- Engineering, including School of Architecture
- Desautels Faculty of Management
- Graduate and Postdoctoral Studies
- Medicine, including the School of Nursing and the School of Physical and Occupational Therapy
- Religious Studies
- Schulich School of Music
- Science, including School of Computer Science and McGill School of Environment students registered in Science

FACULTY / SCHOOL LEGENDS			
A&ES	Agricultural and Environmental Sciences	MSW	Master in Social Work
ARCH	Architecture	MUS	Schulich School of Music
ART	Arts	NURS	Nursing
BSW	Bachelor of Social Work	P&OT	Physical and Occupational Therapy
CE	Continuing Education	PHD	Doctor of Philosophy
DENT	Dentistry	POSTDOC	Postdoctoral Scholars
D & HN	Dietetics and Human Nutrition	REL	Religious Studies
EDUC	Education	SCI	Science
ENG	Engineering	ALL	All students
FMT	Farm Management Technology	NEW	New students
GRAD	Graduate Studies	RET	Returning students
LAW	Law	SPECIAL	Special Students (Summer Term only)
MED	Medicine	VISITING	Visiting Students (Summer Term only)
MGMT	Desautels Faculty of Management	⟶	Read Activity column for details

ACTIVITY CODE LEGENDS			
ADV	Academic Advising	INFO	Information
APP	Application	LEC	Lecture
APPGRAD	Apply to graduate on Minerva	MTG	Meeting
AUD	Audition	NOTE	Note to students
AWRD	Awards (including scholarships)	ORIENT	Orientation
CONV	Convocation	PLEXAM	Placement exam—application and examination
DEF	Deferred—application and examination	PREXAM	Practical exam—application and examination
DEFADM	Deferral of Admission	READ	Readmission
EXAMS	Examinations	REG	Registration
EXCH	Exchange and Study Abroad Deadlines	STAGE	Field practice, etc.
EVENT	Event—reunion, carnival, presentation, etc.	SUPP	Supplemental—application and examination
FORM	Forms	THES	Thesis
HOLIDAY	Holiday	VERIF	Verification Period
IDCARD	ID Card	W	Course withdrawal
IFT	Inter-faculty transfer	W--	University withdrawal

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
March 2009			
Mar. 1, 2009, Sun.	APP	ALL	Application deadline for all applicants studying, or who last studied, in a CEGEP in Quebec (except applicants to Music).
Mar. 1, 2009, Sun.	APP	GRAD	Application deadline for September admission to most departments for Graduate Studies. (Many departments have earlier deadlines. Please verify this date with the individual department or on the web at www.mcgill.ca/gradapplicants/apply.)
Mar. 1, 2009, Sun.	APP	LAW	Application deadline for admission to Law for students applying from a Quebec CEGEP, from a French Baccalaureate Diploma completed in the province of Quebec and for Law Visiting Applicants.
Mar. 1, 2009, Sun.	APP	MED	Application deadline for admission to the Med-P program for Quebec residents.
Mar. 1, 2009, Sun.	APP	DENT	Application deadline for admission to the Dent-P program for all CEGEP applicants.
Mar. 1, 2009, Sun.	APP	REL	Application deadline for Summer admission to Faculty of Religious Studies, BTh Program.
Mar. 1, 2009, Sun.	EXCH	GRAD	Deadline for incoming exchange applications at the graduate level Fall term (September) start and Winter term (January) start. (Many departments have earlier deadlines. Please verify with individual department or at www.mcgill.ca/gradapplicants/apply.)
Mar. 1, 2009, Sun.	SUPP	→	Application deadline for supplemental examinations in Fall term courses and N1/N2 courses from the Fall 2008 term for Arts (including School of Social Work), Education, Law, Nursing, Physical and Occupational Therapy, Religious Studies, and Science (not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses).
Mar. 4, 2009, Wed.	APPGRAD	→	Deadline to apply to graduate on Minerva for all Undergraduate students and Graduate students in all non-thesis programs (certificates, diplomas, Master's non-thesis) who expect to complete their program requirements at the end of the **Winter 2009 term (Spring 2009 convocation)**.
	NOTE	→	Last day for those students able to change program information via curriculum change on Minerva for **Winter term**.
Mar. 5, 2009, Thurs.	**REG**	→	Summer Term registration opens for Undergraduate students in their U3/U4 year and Continuing Education returning students.
	NOTE	MGMT	Access to Management courses is restricted to McGill U3 and U4 students in B.Com.; Minors in Management, Technical Entrepreneurship, Construction Engineering and Management; B.A. Joint Honours Economics and Finance, B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies and Major in Agricultural Economics. Certain courses are restricted to B.Com. students only.
Mar. 5, 2009, Thurs.	**REG**	LAW	Summer Term registration opens for Law Undergraduate students.
Mar. 10, 2009, Tues.	**REG**	→	Summer Term registration opens for all Undergraduate students and Continuing Education newly-admitted and Special Students.
	NOTE	MGMT	Access to Management courses is restricted to McGill students in B.Com.; Minors in Management, Technical Entrepreneurship, Construction Engineering and Management; B.A. Joint Honours Economics and Finance, B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies and Major in Agricultural Economics. Certain courses are restricted to B.Com. students only.
Mar. 12, 2009, Thurs.	**REG**	→	Summer Undergraduate Management courses open to all McGill students and Special and Visiting Students.
Mar. 13, 2009, Fri.	EXAMS	A&ES	Deadline to report all exam conflicts to the Student Affairs Office (Laird Hall, Room 106) for Winter term exams.
Mar. 15, 2009, Sun.	**REG**	NURS	Registration deadline for Summer NUR1 clinical courses to guarantee placement.
Mar. 17, 2009, Tues.	**REG**	→	Summer registration opens for Graduate students. Students should confirm dates with individual departments.
Mar. 17, 2009, Tues.	NOTE	→	Class schedule on Minerva is available for Fall 2009 and Winter 2010 registration.
Mar. 19, 2009, Thurs. to Apr. 14, 2009, Tues.	INFO	→	Online course evaluation period for Winter term: Evaluations available for completion on Mercury through Minerva.
Mar. 23, 2009, Mon.	ADV	ART/SCI	Departmental academic advising begins for returning students in B.A., B.A. & Sc., B.Sc. and B.S.W.
Mar. 23, 2009, Mon.	ADV	A&ES/FMT	Academic advising begins for all returning undergraduate and Farm Management and Technology students in the Faculty of Agricultural and Environmental Sciences.
Mar. 23, 2009, Mon. to Mar. 27, 2009, Fri.	ADV	MGMT	Distribution of all registration information for returning Management students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Mar. 23, 2009, Mon. to Apr. 2, 2009, Thurs.	ADV	EDUC	Academic advising and distribution of material for returning students in Education. Please consult the Student Affairs website at www.mcgill.ca/edu-sao for details.
Mar. 24, 2009, Tues. to Mar. 26, 2009, Thurs.	ADV	MUS	Distribution of registration information for returning students in the lobby of the Strathcona Music Building.
TBA	ADV	P&OT	Registration counselling in Physical and Occupational Therapy for returning students.
TBA	ADV	NURS	Academic advising for U2 Bachelor of Science (Nursing) students entering U3. Academic advising for BNUR-INT students entering U3.
Mar. 27, 2009, Fri.	LEC	DENT	Last day of lectures for Winter term for 4th year Dentistry students.
Mar. 30, 2009, Mon. to Apr. 16, 2009, Thurs.	ADV	MUS	Academic advising for returning students in Music. Appointments to be arranged by individual departments.
Mar. 30, 2009, Mon.	APPGRAD	→	Deadline for all Undergraduate students and Graduate students in all non-thesis programs (certificates, diplomas, Master's non-thesis) who expect to complete their program requirements at the end of the **Summer 2009 term (Fall 2009 convocation)** to apply to graduate on Minerva.
Mar. 31, 2009, Tues.	**REG**	→	Registration for Fall 2009 and Winter 2010 using Minerva begins for all students entering the graduating (U3/U4) year of their program (excluding Law and courses offered by the Desautels Faculty of Management, except as noted below), and all students in Graduate degree programs, except for Continuing Education.
	NOTE	EDUC	B.Ed. students doing 3rd Field Experience in the Fall 2009 term must be registered for their EDFE course no later than April 19. Students must refer to the www.mcgill.ca/ost website for detailed information.
Mar. 31, 2009, Tues.	**REG**	MGMT	Registration for Fall 2009 and Winter 2010 in Management courses begins for undergraduate students entering their graduating (U3) year: B.Com.; Minor in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.
Mar. 31, 2009, Tues.	**REG**	CE	Registration for Fall 2009 and Winter 2010 using Minerva begins for all returning Continuing Education-***Faculty of Education*** students only.
Mar. 31, 2009, Tues.	**DEF**	→	Deferred examination application opens on Minerva for Winter term and multi-term courses ending in the Winter 2009 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering (see section 9.3.5.10 "Deferred Examinations"), Law, Management, Physical and Occupational Therapy, and Science. (Closes May 15, 2009)
Mar. 31, 2009, Tues. to May 22, 2009, Fri.	EXAMS	DENT	Examination period for 4th year Dentistry students.
April 2009			
Apr. 2, 2009, Thurs.	**REG**	→	Registration for Fall 2009 and Winter 2010 using Minerva begins for students in all programs entering their penultimate (U2) year of study (excluding Law and courses offered by the Desautels Faculty of Management except as noted below), except for Continuing Education.
Apr. 2, 2009, Thurs.	**REG**	MGMT	Registration for Fall 2009 and Winter 2010 in Management courses begins for undergraduate students entering their penultimate (U2) year of study:B.Com.; Minor in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.
Apr. 7, 2009, Tues.	**REG**	→	Registration for Fall 2009 and Winter 2010 using Minerva begins for all returning students (excluding Law and courses offered by the Desautels Faculty of Management except as noted below), except for Continuing Education.
Apr. 7, 2009, Tues.	**REG**	MGMT	Registration for Fall 2009 and Winter 2010 in Management courses begins for returning undergraduate students entering the first (U1) year of study: B.Com.; Minors in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Faculty Program or Major in Industrial Relations; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Apr. 9, 2009, Thurs.	**REG**	MGMT	Registration for Fall 2009 and Winter 2010 in courses offered by the Desautels Faculty of Management opens for all returning students.
Apr. 9, 2009, Thurs. to Apr. 15, 2009, Wed.	NOTE	MED/DENT	**STUDY BREAK.** (Classes cancelled for **1st year** Medicine and Dentistry students only.)
Apr. 9, 2009, Thurs.	STAGE	BSW/MSW	Last day of Field Practice for B.S.W. students & for M.S.W. students.
Apr. 10, 2009, Fri. to Apr. 13, 2009, Mon.	HOLIDAY	→	**EASTER.** No classes or exams. Administrative offices closed. Library hours to be announced.
Apr. 14, 2009, Tues.	NOTE	→	The normal Tuesday schedule of course activities is cancelled for April 14, 2009. In its place, all lectures, labs, conferences and other course-related activities that are normally held on **Fridays** will be held on **Tuesday, April 14, 2009** as well. This change in schedule is to make up for activities that were cancelled on Friday, April 10, 2009 due to the Easter holiday.
Apr. 14, 2009, Tues.	INFO	→	Last day for the Winter 2009 term for students to request fee exemptions and to submit legal documents for proof of Canadian citizenship and proof of Quebec residency to the Enrolment Services Office. Students in Continuing Education should submit their documents directly to the Centre for Continuing Education. Documents received after this date will be updated for the following term only.
Apr. 14, 2009, Tues.	LEC	→	Last day of lectures for Winter term in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work (B.S.W./M.S.W.), and Science.
Apr. 15, 2009, Wed. to Apr. 30, 2009, Thurs.	EXAMS	→	Examination period for Winter term and multi-term courses given by Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science, and Social Work. *Exams begin earlier for Dentistry students. Contact Faculty for specific dates.*
Apr. 17, 2009, Fri.	STAGE	D & HN	Last day for NUTR 409, Stage in Dietetics Level 3.
Apr. 19, 2009, Sun.	**REG**	EDUC	Deadline for B.Ed. students to register for Fall 2009 3rd Field Experience.
Apr. 20, 2009, Mon.	STAGE	EDUC	1st & 2nd Field Experiences begin for most B.Ed. programs. Refer to www.mcgill.ca/ost for details.
Apr. 21, 2009, Tues.	LEC	FMT	Last day of lectures in the Farm Management and Technology program.
Apr. 22, 2009, Wed. to Apr. 30, 2009, Thurs.	EXAMS	FMT	Winter term examination period for Farm Management and Technology program.
Apr. 27, 2009, Mon. to May 11, 2009, Mon.	EXAMS	MED	Examination period for 4th year Medical students. (Medical Council of Canada Qualifying Exam Part 1)
Apr. 30, 2009, Thurs.	**REG**	MUS	Deadline for returning students to submit practical lesson assignment card without a late fee.
May 2009			
May 1, 2009, Fri.	IFT	ARCH	Deadline for inter/intra-faculty transfer applications to School of Architecture for the **Fall 2009 term**.
May 1, 2009, Fri.	IFT	BSW	Deadline for inter-faculty transfer applications to BSW Program for the **Fall 2009 term**.
May 1, 2009, Fri.	APP	→	Application deadline for admission to Agricultural and Environmental Sciences, Architecture, Arts, B.A. & Sc., Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from Canadian citizens or permanent residents studying or who last studied in a Canadian university.
May 1, 2009, Fri.	APP	→	Application deadline for Mature student admission to Agricultural and Environmental Sciences, Architecture, Arts, B.A. & Sc., Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work (Canadian citizens and permanent residents only).
May 1, 2009, Fri.	APP	→	Application deadline for Special and Visiting Student admission to Agricultural and Environmental Sciences, Architecture, Arts, Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from applicants (Canadians who last studied at college or university outside Canada and non-Canadians who last studied at college or university inside or outside Canada).
May 1, 2009, Fri.	APP	→	Application deadline for admission to the evening Part-time B.Com. Program.
May 1, 2009, Fri.	APP	LAW	Application deadline for Law Transfer and Quebec Bar applicants.
May 1, 2009, Fri.	APP	REL	Application deadline for Fall admission of international students to Faculty of Religious Studies, BTh Program.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
May 1, 2009, Fri.	EXCH	→	Deadline for incoming undergraduate exchange applications from bilateral partners with a Fall term (September) start. Please note that the Schulich School of Music has an earlier deadline.
May 1, 2009, Fri.	EXCH	LAW	Deadline for incoming undergraduate exchange applications to the Faculty of Law from bilateral partners with a Fall term (September) and Winter term (January) start.
May 1, 2009, Fri.	EXCH	→	Deadline for incoming undergraduate exchange applications under the CREPUQ student exchange program with a Fall term (September) start and Winter term (January) start. Please note that the Schulich School of Music has an earlier deadline.
May 1, 2009, Fri.	NOTE	NEW	Some new students, once they have confirmed their offer of admission but before registration begins, are permitted to change their **major** programs via Minerva. See "Welcome to McGill" booklet, page 7 for details.
May 1, 2009, Fri.	LEC	→	First day of classes and last day to register without penalty in May section Summer courses (for Management courses and other exceptions, please see Summer Studies Calendar).
May 1, 2009, Fri.	LEC/STAGE	NURS	Classes reconvene and clinical courses commence for U1, U2, and U3 Nursing students.
May 1, 2009, Fri. & May 4, 2009, Mon.	EXAMS	→	Deferred and supplemental examinations for Fall term courses in Arts, Education, Management (Deferred Examinations only), Nursing, Physical and Occupational Therapy, Religious Studies, Science, Social Work and Engineering (see section 9.3.5.10 "Deferred Examinations").
May 5, 2009, Tues to May 8, 2009, Fri.	**REG**	CE	Summer Term late registration for all Continuing Education students.
May 4, 2009, Mon. & May 5, 2009, Tues.	DEF	A&ES	Deferred examination in the Faculty of Agricultural and Environmental Sciences for courses ending in the Fall term.
May 4, 2009, Mon.	STAGE	D & HN	Orientation for NUTR 311, Stage in Dietetics 2B; placements begin on Tuesday, May 5.
May 5, 2009, Tues.	**REG**	LAW	Registration (credits restricted) for Fall 2009 and Winter 2010 begins for returning U4 students in Faculty of Law.
May 7, 2009, Thurs.	**REG**	LAW	Registration (credits restricted) for Fall 2009 and Winter 2010 begins for returning U3 students in Faculty of Law.
May 12, 2009, Tues.	**REG**	LAW	Registration (credits restricted) for Fall 2009 and Winter 2010 begins for returning U2 students in Faculty of Law.
May 12, 2009, Tues.	NOTE	→	Grades of K will convert to KF for Fall 2008 term for all faculties except Dentistry, Medicine and Graduate Studies.
May 14, 2009, Thurs.	**REG**	LAW	Registration (with credit limit raised) for Fall 2009 and Winter 2010 begins for all returning students in Faculty of Law.
May 15, 2009, Fri.	DEF	→	Application deadline for deferred examinations for Winter term and multi-term courses ending in the Winter 2009 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering (see section 9.3.5.10 "Deferred Examinations"), Law, Management, Physical and Occupational Therapy and Science.
May 15, 2009, Fri.	**W** NOTE	→ →	Deadline for web withdrawing (grade of "W") from multi-term courses (D1/D2, N1/N2) that started in the Winter 2009 term and end in the Summer or Fall 2009 term **(with fee refund for Summer term)** for students in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science (No withdrawals from Education Intensive courses). Students in multi-term courses with course numbers ending in N1 and N2 only (started in the Winter, skip the Summer, are completed in the subsequent Fall term) may withdraw on Minerva until May 15 and following May 15 until the end of the Fall term course change period on September 15 (with full fee refund for the Fall term) by contacting their faculty Student Affairs Office.
May 15, 2009, Fri.	**W--**	GRAD	Deadline for newly-admitted students beginning their graduate thesis program in a Summer Term of Residence to withdraw from the University, with fee refund (less deposit or $100 minimum charge).
May 18, 2009, Mon.	HOLIDAY	→	**VICTORIA DAY.** (Classes cancelled). Administrative offices closed.
May 20, 2009, Wed. (Tentative)	EVENT	→	**Senate Steering Meeting to approve degrees granted at Spring 2009 Convocations.**
May 22, 2009, Fri.	CONV NOTE	→ →	14:30 Faculty of Agricultural and Environmental Sciences For additional information regarding Convocation, please consult www.mcgill.ca/convocations.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
May 25, 2009, Mon. (Tentative)	SUPP	→	Supplemental examination application opens, on Minerva, for courses ending in the **Winter 2009 term** (including multi-term courses ending in Winter term) for Arts (including School of Social Work), Education, Law, Nursing, Physical and Occupational Therapy, Religious Studies, and Science (supplemental exams not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses). (Closes July 15, 2009)
May 25, 2009, Mon.	CONV	→	10:00 Faculty of Science "A" 14:00 Faculty of Science "B" and students with a degree in Arts & Science 18:00 Centre for Continuing Education
May 26, 2009, Tues.	CONV	→	10:00 Faculty of Engineering 14:00 HealthSciences (Faculties of Medicine and Dentistry as well as the School of Nursing and the School of Physical and Occupational Therapy)
May 27, 2009, Wed.	CONV	→	10:00 Faculty of Education 14:00 Desautels Faculty of Management
May 28, 2009, Thurs.	CONV	→	10:00 Faculty of Arts "A" and Faculty of Religious Studies 14:00 Faculty of Arts "B"
May 29, 2009, Fri.	CONV	→	10:00 Faculty of Law 14:00 Schulich School of Music
June 2009			
TBA	ORIENT	→	CSI: McGill (Cegep Students Information) Session - Coordinated by the First-Year Office, this information session is intended for Cegep students who have confirmed their acceptance to McGill University. Useful information will be provided to help you understand the course calendar as well as tips and advice about Minerva registration. Watch for further information on McGill in Mind regarding the scheduling of this event.
June 1, 2009, Mon. to Aug. 31, 2009, Mon.	ADV	ART/SCI	Online academic advising for students newly-admitted to the U0 four-year program (97-120 credits) and departmental academic advising for all other newly-admitted Arts, B.A. & Sc., and Science students. Refer to the "Welcome to McGill" booklet for details. Students should also refer to Departmental websites for advising dates. B.A. students can refer to the following website www.mcgill.ca/oasis for additional information. B.Sc. and B.A. & Sc. students can refer to the SOUSA website www.mcgill.ca/science/sousa.
June 1, 2009, Mon.	PREXAM	MUS	Application deadline for September practical examinations in Music. (Summer graduands only.)
June 1, 2009, Mon.	APP	CE	Application deadline for Fall admission to Continuing Education Programs.
June 1, 2009, Mon.	IFT	P&OT	Deadline for inter-faculty transfer application to the School of Physical and Occupational Therapy for the **Fall 2009 term**.
June 1, 2009, Mon.	IFT	→	Deadline for inter-faculty transfer applications to faculties of Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering (except Architecture), Management, and Science for **Fall 2009 term**. This deadline also applies to Continuing Education students wishing to transfer into Management.
June 1, 2009, Mon.	IFT	REL	Deadline for inter-faculty transfer applications to the Faculty of Religious Studies for the **Fall 2009 term**.
June 1, 2009, Mon.	READ	REL	Deadline for application for readmission to Faculty of Religious Studies for the **Fall 2009 term**.
June 1, 2009, Mon.	READ	ENG	Deadline for application for readmission to the Faculty of Engineering (including Architecture) for the **Fall 2009 term**.
June 1, 2009, Mon.	READ	MUS	Deadline for application for readmission to Schulich School of Music for students not required to re-audition for the **Fall 2009 term**.
June 1, 2009, Mon.	THES	GRAD	Deadline to submit Doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Fall 2009. Meeting this deadline does not guarantee a Fall graduation.
TBA	ADV	NURS	Academic advising and orientation for students entering the Bachelor of Nursing (Integrated) Program (B.N.I.). Time to be determined. Will follow the CSI: McGill (Cegep Students Information) Session in June - Watch for further information on McGill in Mind regarding the scheduling of this event.
June 4, 2009, Thurs.	LEC	→	First day of classes and last day to register without penalty in June section Summer courses (for Management courses and other exceptions, please see Summer Studies Calendar).
June 5, 2009, Fri.	LEC/EXAM/ STAGE	NURS	Last day of lectures, Clinical Placement (including examinations) for U2 and U3 Bachelor of Science (Nursing) students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
June 9, 2009, Tues. to Sept. 1, 2009, Tues.	**REG**	→	Registration for Fall 2009 and Winter 2010 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs: Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering including Architecture, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science (including Medical Prep. and Dental Prep. students), and Social Work.
June 9, 2009, Tues. to Aug. 18, 2009, Tues.	IDCARD	→	Once students from Quebec CEGEPs have registered, they can avoid line-ups and get their ID cards early at Enrolment Services, James Administration Building, Room 205. Office hours are Monday to Thursday 9:00 a.m. to 5:00 p.m. and Fridays 10:00 a.m. to 5:00 p.m. excluding Wednesday, June 24th and Wednesday, July 1st as these are statutory holidays.
June 9, 2009, Tues. to Aug. 21, 2009, Fri.	IDCARD	A&ES	Agricultural and Environmental Science students admitted from Quebec CEGEPs can get their ID cards in the Student Affairs Office, Laird Hall, Room 106, from 9:00 a.m. to 3:30 p.m., Monday through Thursday and 9:00 a.m. to 12:00 p.m. on Friday throughout the Summer. Please note that the Student Affairs Office will be closed on Wednesday, June 24th and Wednesday, July 1st as these are statutory holidays.
June 12, 2009, Fri.	LEC/EXAM/ STAGE	NURS	Last day of lectures, Clinical Placement (including examinations) for U1 Bachelor of Science (Nursing) students.
June 12, 2009, Fri.	STAGE	NURS	Last day of clinical for Bachelor of Nursing Integrated Program students in Summer Session NUR1 331.
June 15, 2009, Mon.	APP	REL	Application deadline for Fall admission to Faculty of Religious Studies, BTh Program.
June 15, 2009, Mon.	**REG**	NURS	Registration deadline for Fall NUR1 clinical courses to guarantee placement.
June 15, 2009, Mon.	READ	NURS	Deadline for application for readmission to School of Nursing for the **Fall 2009 term** via Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
June 15, 2009, Mon.	THES	GRAD	Deadline to submit Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Fall 2009. Meeting this deadline does not guarantee a Fall graduation.
June 19, 2009, Fri.	LEC	MED	Last day of lectures for 2nd year Medicine students.
June 19, 2009, Fri.	STAGE	D & HN	Last day for NUTR 311, Stage in Dietetics 2B.
June 19, 2009, Fri.	LEC	DENT	Last day of lectures for 2nd year Dentistry students.
June 24, 2009, Wed.	HOLIDAY	→	**LA FÊTE NATIONALE DU QUÉBEC.** (Classes cancelled). Administrative offices closed. Libraries closed.
June 25, 2009, Thurs.	LEC/EXAM	DENT/MED	Last day of lectures (including examinations) for 1st & 3rd year Dentistry students and 1st year Medicine students.
June 29, 2009, Mon.	STAGE	D & HN	Placements begin for NUTR 209, Professional Practice Stage 1B (Dietetics).
July 2009			
July 1, 2009, Wed.	HOLIDAY	→	**CANADA DAY.** (Classes cancelled). Administrative offices closed. Libraries closed.
July 1, 2009, Wed.	APP	→	Application deadline for Special and Visiting Student admission to Agricultural and Environmental Sciences, Architecture, Arts, Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from applicants (Canadians) who last studied at college or university inside Canada.
July 1, 2009, Wed.	READ	EDUC	Deadline for application for readmission to Faculty of Education for the **Fall 2009 term**.
July 2, 2009, Thurs.	LEC/EXAM	DENT	Last day of lectures (including examinations) for 2nd year Dentistry students.
July 2, 2009, Thurs.	**REG**	CE	Registration using Minerva begins for returning students in Continuing Education for Fall courses and programs.
July 7, 2009, Tues.	**REG**	CE	Registration using Minerva begins for newly-admitted students in Continuing Education for Fall courses and programs.
July 8, 2009, Wed.	LEC	→	First day of classes and last day to register without penalty in July section Summer courses (for Management courses and other exceptions, please see Summer Studies Calendar).
July 14, 2009, Tues. to Sept. 1, 2009, Tues.	**REG**	NEW LAW	Registration for Fall 2009 and Winter 2010 using Minerva begins for all newly-admitted students in Law.
July 14, 2009, Tues. to Sept. 1, 2009, Tues.	**REG**	NEW GRAD	Registration using Minerva for all newly-admitted students in Graduate Studies.
July 14, 2009, Tues.	**REG**	CE	Registration using Minerva begins for returning Continuing Education Special students for Fall courses and programs.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
July 15, 2009, Wed.	SUPP	⟶	Application deadline for supplemental examinations for courses ending in the **Winter 2009 term** (including multi-term courses ending in Winter term) for Arts (including School of Social Work), Education, Law, Nursing (including courses ending in the Summer Term), Physical and Occupational Therapy, Religious Studies, and Science (supplemental exams not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses).
July 15, 2009, Wed.	READ	ART/SCI	Deadline for application for readmission to Faculties of Arts and of Science for the **Fall 2009 term**.
July 20, 2009, Mon.	LEC	MED	Lectures begin for 3rd year Medicine students (Intro. to Clerkships).
July 24, 2009, Fri.	EXAMS	MED	Exam for Intro. to Clerkships 3rd year Medicine students.
July 24, 2009, Fri.	STAGE	D & HN	Last day for NUTR 209, Professional Practice Stage 1B (Dietetics).
July 27, 2009, Mon.	LEC	MED	Lectures and Rotations begin for 3rd & 4th year Medicine students. (Clerkships)
July 27, 2009, Mon.	**REG**	RET	Last day for returning students in all faculties (except Continuing Education) to register without a late registration fee.
July 28, 2009, Tues. to Sept. 1, 2009, Tues.	**REG**	RET	Late registration and course change on Minerva for returning students in all faculties (except Continuing Education) with a $50 late registration fee ($20 for Special students and Graduate part-time students).
July 28, 2009, Tues. to Sept. 1, 2009, Tues.	**REG** NOTE	NEW ⟶	Registration for Fall 2009 and Winter 2010 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university: Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering including Architecture, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science and Social Work. **Note:** Students admitted from Quebec CEGEPs have access to registration as of **June 9**.
July 28, 2009, Tues. to Aug. 18, 2009, Tues.	IDCARD	⟶	Canadian students can avoid line-ups and get their ID cards early once they have registered. Visit Enrolment Services, James Administration Building, Room 205, from July 28 to August 18. Office hours are Monday to Thursday 9:00 a.m. to 5:00 p.m. and Fridays 10:00 a.m. to 5:00 p.m.
July 28, 2009, Tues. to Aug. 21, 2009, Fri.	IDCARD	A&ES	New students can avoid line-ups and get their ID cards once they have registered by going to Laird Hall, Room 106, from Monday to Thursday 9:00 a.m. to 3:30 p.m., and Friday from 9:00 a.m. to 12:00 p.m. Alternatively, they can sign up to get their ID Card during Orientation Week at www.mcgill.ca/macdonald/orientation.
July 29, 2009, Wed. to Sept. 1, 2009, Tues.	**REG** NOTE	NEW ⟶	Registration for Fall 2009 and Winter 2010 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is high school: Arts, B.A. & Sc., Education, Management, Music, Religious Studies and Social Work. Students admitted from Quebec CEGEPs have access to registration as of **June 9** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**.
July 30, 2009, Thurs. to Sept. 1, 2009, Tues.	**REG** NOTE	NEW ⟶	Registration for Fall 2009 and Winter 2010 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is high school: Agricultural and Environmental Sciences, Engineering including Architecture, Nursing, Physical and Occupational Therapy, and Science. Students admitted from Quebec CEGEPs have access to registration as of **June 9**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 28**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 29**.
August 2009			
Aug. 1, 2009, Sat.	APP	LAW	Application deadline for Law Special applicants for the Fall 2009 term.
Aug. 3, 2009, Mon. to Aug. 28, 2009, Fri.	ADV	A&ES	Academic advising for new students in Agricultural and Environmental Sciences and School of Dietetics and Human Nutrition. Advising available during Orientation Week as well. See www.mcgill.ca/macdonald/orientation for more details.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Aug. 4, 2009, Tues. to Aug. 18, 2009, Tues.	**REG**	MED/DENT	Registration using Minerva for 1st year Medicine and Dentistry students.
Aug. 10, 2009, Mon. to Aug. 13, 2009, Thurs.	EXAMS	MED/DENT	Deferred and supplemental examinations for 1st and 2nd year Medicine & Dentistry students. (See *Medicine Health Calendar*, section 6.4.4., Evaluation System.)
Aug. 10, 2009, Mon. to Aug. 20, 2009, Thurs.	EXAMS	LAW	Deferred and supplemental examinations in Law.
Aug. 15, 2009, Sat.	INFO	→	Last day for students to request fee exemptions and to submit legal documents for proof of Canadian citizenship and proof of Quebec residency to the Enrolment Services Office for the Summer 2009 term Students in Continuing Education should submit their documents directly to the Centre for Continuing Education. Documents received after this date will be updated for the following term only.
Aug. 15, 2009, Sat.	IFT	NURS	Deadline for inter-faculty transfer applications to Bachelor of Science (Nursing) for the **Fall 2009 term**.
Aug. 15, 2009, Sat.	READ	MGMT	Deadline for application for readmission to Desautels Faculty of Management for the **Fall 2009 term**.
Aug. 15, 2009, Sat.	NOTE	→	Grades of K will convert to KF for the Winter 2009 term for all faculties except Dentistry, Medicine and Graduate Studies.
Aug. 15, 2009, Sat.	READ	A&ES	Deadline for application for readmission to Agricultural and Environmental Sciences for the **Fall 2009 term**.
Aug. 15, 2009, Sat.	PLEXAM	NEW	Application deadline for newly-admitted students for McGill Placement Examinations in basic science courses in biology, chemistry, physics and math including MATH 122 and MATH 123 for newly-admitted Management students. See www.mcgill.ca/student-records/exam/placement for more details.
Aug. 15, 2009, Sat.	**REG**	→	Registration via Minerva in Fall term Continuing Education courses begins for all faculties except Dentistry, Law, Management (day programs), Medicine, Nursing and Physical and Occupational Therapy.
Aug. 16, 2009, Sun. to Aug. 28, 2009, Fri.	LEC	SCI	Field course BIOL 331 begins and runs for 12 consecutive days. Students must contact the instructor well in advance for registration approval and instructions on getting to the field site.
Aug. 17, 2009, Mon. to Aug. 28, 2009, Fri.	ADV	EDUC	Academic advising for new students in Education. (Please consult the Student Affairs website at www.mcgill.ca/edu-sao for exact schedule.)
Aug. 18, 2009, Tues. & Aug. 19, 2009, Wed.	EXAMS	A&ES	Deferred examinations in the Faculty of Agricultural and Environmental Sciences for Winter 2009 courses.
Aug. 18, 2009, Tues. to Aug. 20, 2009, Thurs.	**REG**	MED/DENT	Must confirm registration by attending mandatory in-faculty confirmation of registration and orientation for 1st year Medicine and Dentistry students (3 days).
Aug. 19, 2009, Wed. to Aug. 28, 2009, Fri.	ADV	ART/SCI	Information sessions on a drop-in basis for all newly-admitted Arts students. Refer to the following website www.mcgill.ca/oasis for details. B.A. & Sc., and Science students refer to the SOUSA website at www.mcgill.ca/science/sousa for details.
Aug. 19, 2009, Wed. to Aug. 28, 2009, Fri.	IDCARD	→	IDs at the Trottier Building Cafeteria from 9:00 a.m. to 5:00 p.m. including Saturday, August 22 and Sunday, August 23.
Aug. 19, 2009, Wed. & Aug. 20, 2009, Thurs.	EXAMS	→	Deferred and supplemental examinations for courses ending in the Winter 2009 term (including multi-term courses ending in the Winter term) for Arts, Education, Management (Deferred Examinations only), Nursing (including courses ending in the Summer term), Physical and Occupational Therapy, Religious Studies, Science, Social Work and Engineering (see section 9.3.5.10 "Deferred Examinations").
Aug. 19, 2009, Wed.	**REG**	MED	Orientation for Med-P students.
Aug. 24, 2009, Mon.	LEC	DENT/MED	Lectures begin in the Faculty of Dentistry for 1st year students and in the Faculty of Medicine for 1st year students.
Aug. 24, 2009, Mon.	**REG**	DENT	In-faculty confirmation of registration for 3rd and 4th year Dentistry students.
Aug. 24, 2009, Mon.	STAGE	EDUC	3rd Field Experience begins for most B.Ed. programs. Refer to www.mcgill.ca/ost for details.
Aug. 24, 2009, Mon.	LEC	DENT	Lectures begin in the Faculty of Dentistry for 3rd and 4th year students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Aug. 24, 2009, Mon. to Aug. 28, 2009, Fri.	ORIENT	ART/SCI	Arts and Science Departmental Orientation sessions for Arts, B.A. & Sc., and Science newly-admitted students in U1 three-year programs (96 or fewer credits), Special, Visiting, Exchange and Diploma students. B.A. students can refer to the following website www.mcgill.ca/oasis for details. Science and B.A. & Sc. students refer to the SOUSA website at www.mcgill.ca/science/sousa.
Aug. 24, 2009, Mon.	ADV	ENG	Transfer credit session for new students entering Year 0. Frank Dawson Adams Building, Room 5, 11:00 a.m.
Aug. 24, 2009, Mon.	LEC	A&ES	Students registering for PLNT 358 report for field excursion at 9:00 a.m. in R2-046 Raymond Building, Macdonald Campus. Field excursions continue on Aug. 25, 27, and 28.
Aug. 24, 2009, Mon. & Aug. 26, 2009, Wed.	PLEXAM	MUS	Undergraduate Placement Examinations in Music History, Theory, Musicianship and Keyboard Proficiency.
Aug. 24, 2009, Mon. to Aug. 28, 2009, Fri.	LEC	A&ES	Students registering for WILD 401 report for class at 9:00 a.m. Field session lasts from Monday to Friday inclusive.
Aug. 24, 2009, Mon. to Aug. 28, 2009, Fri.	IDCARD	A&ES	IDs at Laird Hall during “Discover Mac” week. Refer to Orientation schedule and website www.mcgill.ca/macdonald for more details.
Aug. 24, 2009, Mon. to Aug. 28, 2009, Fri.	ORIENT	ALL	Orientation Week
Aug. 24, 2009, Mon. to Aug. 28, 2009, Fri.	ORIENT	A&ES	**“Discover Mac”** – Faculty Orientation for all new students in the Faculty of Agricultural and Environmental Sciences. Refer to orientation schedule and website www.mcgill.ca/macdonald/orientation for details.
Aug. 24, 2009, Mon. to Sept. 11, 2009, Fri.	ORIENT	ALL	Orientation Resource Centre operates daily (9:00 a.m. to 5:00 p.m.), Brown Student Services Building, 2nd floor, 3600 McTavish Street (closed weekends and Labour Day).
Aug. 24, 2009, Mon. to Sept. 15, 2009, Tues.	ORIENT	NEW	First-Year Resource Room operates daily (9:00 a.m. to 5:00 p.m.), Brown Student Services Building, Room 2100, 3600 McTavish Street (closed weekends and Labour Day). Computers and telephones are available for course registration.
Aug. 25, 2009, Tues.	ORIENT	NEW	**"Discover McGill"** – University and Faculty orientation for all new undergraduate students. Refer to "Welcome to McGill" booklet AND to the First-Year Office website at: http://firstyear.mcgill.ca/discover for schedules and details.
Aug. 26, 2009, Wed.	ORIENT	NEW	Discover McGill's Academic Expectations Day. Helpful academic preparedness workshops will be offered to help new students have a strong start to their academic careers at McGill. Watch for further information on McGill in Mind and on the First-Year Office website at: www.mcgill.ca/firstyear/academic.
Aug. 26, 2009, Wed. to Aug. 28, 2009, Fri.	PLEXAM	NEW	McGill Placement Examinations for newly-admitted students in basic science courses in biology, chemistry, physics and math, including MATH 122 and MATH 123 for newly-admitted Management students. See www.mcgill.ca/student-records/exam/placement for more details.
Aug. 26, 2009, Wed. to Sept. 11, 2009, Fri.	ADV	ENG	Compulsory academic advising and course approval required for ALL returning Engineering students including Architecture (first two weeks of classes).
Aug. 26, 2009, Wed.	ADV	MGMT	Advising (compulsory) for new degree students in Management. See "Welcome to McGill" booklet for specific details.
Aug. 27, 2009, Thurs.	ADV	NURS	Academic advising and orientation for students entering the Bachelor of Science (Nursing) Program as U0 and mature students from 10:30 a.m. to 12:00 noon. Academic advising and transfer credits/course exemptions assessment for students transferring from other universities into the Bachelor of Science (Nursing) Program, from 1:00 p.m. to 4:00 p.m. (Details in the "Welcome to McGill" booklet).
Aug. 27, 2009, Thurs.	INFO	BSW	B.S.W. Field Practice Welcome Day (all day).
Aug. 27, 2009, Thurs.	INFO	MSW	M.S.W. information session (afternoon).
Aug. 27, 2009, Thurs. & Aug. 28, 2009, Fri.	ADV	ENG	Advising (compulsory) for new students in Engineering including Architecture. Refer to "Welcome to McGill" booklet and website www.mcgill.ca/engineering/newstudents for specific dates.
Aug. 28, 2009, Fri.	**REG**	ALL	Deadline for cancellation of registration for the Fall term except Continuing Education. (Deposit is non-refundable for new students.)
Aug. 28, 2009, Fri.	ADV	MGMT	Advising (compulsory) for Special, Visiting & Exchange Students in Management.
Aug. 28, 2009, Fri.	ADV	MUS	Advising of new undergraduate students in Music at 10:00 a.m. Please consult the Music Student Affairs website at www.mcgill.ca/music/student/undergraduate/newstudent/advising for specific details.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Aug. 28, 2009, Fri.	ORIENT	A&ES	"**Discover Mac**'s" Academic Expectations Day. Helpful academic preparedness workshops will be offered to help new students have a strong start to their academic careers at McGill. Watch for further information on McGill in Mind and on the First-Year Office website at: www.mcgill.ca/firstyear.
Aug. 28, 2009, Fri.	ORIENT	LAW	Faculty Orientation and in-faculty confirmation of registration for 1st year, Special and Visiting Students in Law, Chancellor Day Hall.
Aug. 31, 2009, Mon.	LEC	FMT	First day of lectures in Farm Management and Technology Program (all years).
Aug. 31, 2009, Mon.	ORIENT	D & HN	Orientation for NUTR 510, Professional Practice-Stage 4 (Dietetics). Placements commence on September 1.
Aug. 31, 2009, Mon.	DEFADM	ALL	Deadline to request deferral of Fall term admission to McGill for all undergraduate faculties, excluding Medicine, Dentistry, Law and Music. Further information about Medicine deferrals is available through *Medicine Health Calendar* - see section 6.4.4 Evaluation System at www.medicine.mcgill.ca/admissions.
Aug. 31, 2009, Mon.	THES NOTE	GRAD GRAD	Registered students in 2008-2009 who have completed the residency in a thesis program and who submit their theses to GPSO (Thesis Office) on or before this date are not required to register for the 2009-2010 academic year. Students who have already registered for the year must ask the Graduate and Postdoctoral Studies Office, in writing, to delete their registration at the time of their thesis submission, by completing the "Request to Cancel Graduating Program Registration" form on the web at www.mcgill.ca/gps/current/dates. Students should not expect to graduate in Fall 2009, but **must** graduate by Fall 2010 (at the latest), otherwise, they must be reinstated and will be charged retroactive registration fees for all unregistered sessions up to and including the term in which they graduate.
Aug. 31, 2009, Mon.	ORIENT	GRAD	University Orientation, an important information session for new graduate students in Thomson House, 3650 McTavish Street, at either 11:00-12:00 OR 17:00-18:00. Choose to attend either one of these sessions or any of the other sessions available on Tuesday Sept. 1, Wednesday Sept. 9 or Thursday Sept. 10. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
September 2009			
Sept. 1, 2009, Tues.	APP	LAW/MED/ DENT	Online application opens for undergraduate Law program, undergraduate Medical program and undergraduate Dental program as well as the Dental Residency program.
Sept. 1, 2009, Tues.	ORIENT	GRAD	University Orientation, an important information session for new graduate students in Thomson House, 3650 McTavish Street, at either 11:00-12:00 OR 17:00-18:00. Choose to attend either one of these sessions or any of the other sessions available on Monday Aug. 31, Wednesday Sept. 9 or Thursday Sept. 10. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Sept. 1, 2009, Tues.	STAGE	BSW	B.S.W. Field Practice commences.
Sept. 1, 2009, Tues.	LEC	DENT/MED	Lectures begin in the Faculties of Dentistry and Medicine for 2nd year students.
Sept. 1, 2009, Tues.	LEC	MSW	M.S.W. lectures begin.
Sept. 1, 2009, Tues.	**REG**	CE	Deadline for students to register for Continuing Education courses without a late registration fee.
Sept. 1, 2009, Tues.	**REG**	ALL	Deadline for new students to register without a late registration fee for all faculties and for returning students to register with a $50 late fee ($20 for Special Students and Graduate part-time students).
Sept. 1, 2009, Tues.	ORIENT	P&OT	Orientation for 2nd and 3rd year Physical and Occupational Therapy students.
Sept. 1, 2009, Tues.	LEC NOTE NOTE	→ → EDUC	Lectures begin in programs in Agricultural and Environmental Sciences, Arts, all credit courses and non-credit language courses at Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, and Science. The normal Thursday schedule of course activities will be cancelled for December 3, 2009. In its place, all lectures, labs, conferences and other course-related activities that are normally held on **Monday** will be held on **Thursday, December 3, 2009** as well. This change in schedule is to make up for activities that will be cancelled on Monday, October 12 due to Thanksgiving Day. Education students should consult the appropriate Faculty of Education Advising material for details regarding Field Experience courses. Please be aware that a number of placements end later than the last day of lectures in the Fall term. Deadline for newly admitted B.Ed. students to register for Fall term EDFE course.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Sept. 1, 2009, Tues.	AWRD	GRAD	Start of external and internal graduate fellowship competitions for 2010-2011 funding. Graduate and final-year undergraduate students should enquire in their department and on the fellowships website at www.mcgill.ca/gps/fellowships regarding information session schedules and application procedures and deadlines.
Sept. 1, 2009, Tues. to Sept. 4, 2009, Fri.	AUD	MUS	Auditions for students wishing to take Music Ensemble courses.
Sept. 2, 2009, Wed.	LEC	BSW	Lectures begin for B.S.W. students.
Sept. 2, 2009, Wed.	STAGE	MSW	M.S.W. Field Practice commences.
Sept. 2, 2009, Wed.	ORIENT	P&OT	Orientation for 1st year Physical and Occupational Therapy students.
Sept. 2, 2009, Wed. & Sept. 3, 2009, Thurs.	PLEXAM	NEW	McGill Placement Examinations for newly-admitted students in basic science courses in biology, chemistry, physics and math, including MATH 122 and MATH 123 for newly-admitted Management students. See www.mcgill.ca/student-records/exam/placement for more details.
Sept. 2, 2009, Wed. to Sept. 15, 2009, Tues.	**REG**	ALL	Late registration period with $100 late registration fee for all faculties; $40 for Special Students and Graduate part-time students ($25 late registration fee for Continuing Education students).
Sept. 3, 2009, Thurs.	ORIENT	POSTDOC	University Orientation, an important information session for new postdoctoral scholars in Thomson House, 3650 McTavish Street, from 17:00-18:00. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Sept. 7, 2009, Mon.	HOLIDAY	→	**LABOUR DAY.** (Classes cancelled). Administrative offices closed.
Sept. 8, 2009, Tues. to Sept. 11, 2009, Fri.	PREXAM	MUS	Practical Examinations for Summer graduands in Music.
Sept. 9, 2009, Wed.	ORIENT	GRAD	University Orientation, an important information session for new graduate students in Thomson House, 3650 McTavish Street, at either 11:00-12:00 OR 17:00-18:00. Choose to attend either one of these sessions or any of the other sessions available on: Monday Aug. 31, Tuesday Sept. 1 or Thursday Sept. 10. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Sept. 10, 2009, Thurs.	ORIENT	GRAD	University Orientation, an important information session for new graduate students in Thomson House, 3650 McTavish Street, at either 11:00-12:00 OR 17:00-18:00. Choose to attend either one of these sessions or any of the other sessions available on: Monday Aug. 31, Tuesday Sept. 1 or Wednesday Sept. 9. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Sept. 11, 2009, Fri.	**REG**	MUS	Deadline for dropping practical instruction in Music for the Fall term. (Submit course change form to Performance Department. No withdrawals from practical lessons after this period.)
Sept. 11, 2009, Fri.	LEC	NURS	Mandatory Professionalism Seminar for U1 Bachelor of Science (Nursing) and U2 newly-admitted Bachelor of Nursing (Integrated) students.
Sept. 14, 2009, Mon.	LEC	CE	Lectures begin in Special Intensive English, Special Intensive French and General Studies non-credit courses at Continuing Education.
Sept. 15, 2009, Tues.	EXCH	→	Deadline for incoming undergraduate exchange applications from bilateral partners with a Winter term (January) start. Please note that the Schulich School of Music and the Faculty of Law have earlier deadlines.
Sept. 15, 2009, Tues.	**W** NOTE	→ →	Deadline for web withdrawing (grade of "W") from multi-term courses (D1/D2, N1/N2) that started in Summer 2009 (**with fee refund for the Fall 2009 term**) for students in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Physical and Occupational Therapy, Religious Studies, Social Work, and Science (no withdrawals from Education Intensive courses). Please note that students in multi-term courses with course numbers ending in N1 and N2 only (started in the Winter, skip the Summer, are completed in the subsequent Fall term) may withdraw on Minerva until May 15 and following May 15 until the end of the Fall term course change period on **September 15** (with full fee refund for the Fall term) by contacting their faculty Student Affairs Office.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Sept. 15, 2009, Tues.	**REG**	→	Course Change (drop/add) deadline for Fall term and first part of multi-term courses starting in September 2009 for Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music (except practical lessons), Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science. (No withdrawals from Music Ensembles after this date.)
	NOTE	→	Last day to select the **S/U** grade mode on Fall term electives or the first half of multi-term electives that start in September 2009. Select the S/U option through Minerva or your faculty Student Affairs Office. Rules on the S/U option can be found at www.mcgill.ca/student-records/register/s-u-option.
Sept. 16, 2009, Wed.	ORIENT	NURS	Compulsory orientation and verification of immunization status to continue in NUR1 220 for U1 Bachelor of Science (Nursing) students, 10:30 - 12:00, Room TBA at www.mcgill.ca/nursing.
Sept. 18, 2009, Fri.	AWRD	GRAD	Returning Master's and Doctoral level students should enquire of their departments or the GPSO (Graduate Fellowships and Awards) regarding precise deadlines for internal and external fellowship competitions; important deadlines normally fall during the months of October and November.
Sept. 20, 2009, Sun.	**W**	CE	Deadline to web withdraw (grade of "W") with fee refund from Continuing Education *credit* courses (less $20 fee).
Sept. 20, 2009, Sun.	**W/W--**	ALL	Deadline to Web withdraw (grade of "W") or University Withdrawal (grade of "W--") with full fee refund (less $100 minimum charge for readmitted students; less deposit or $100 minimum charge for new students, in case of complete withdrawal from the University).
Sept. 21, 2009, Mon. to Dec. 1, 2009, Tues.	READ	NURS	Applications open for readmission to School of Nursing for the **Winter 2010 term** via Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
Sept. 25, 2009, Fri.	EVENT	MED	Faculty of Medicine White Coat Ceremony (2nd year students).
Sept. 28, 2009, Mon. to Oct. 2, 2009, Fri.	VERIF	→	Verification period via Minerva for all students in all faculties. It is especially critical that graduating students verify their records. Faculty of Law students must pick up their examination number during Verification from their Faculty Student Affairs Office.
Sept. 29, 2009, Tues.	ORIENT	NURS	Compulsory orientation and verification of immunization status for new B.N. Integrated students, 11:30 a.m. - 1:00 p.m.
Sept. 30, 2009, Wed.	APP	DENT	Application deadline for the Oral and Maxillofacial Residency Program and the MDT Residency Program.
Sept. 30, 2009, Wed.	NOTE	NURS	Deadline for Quebec address to be entered on Minerva for OIIQ Immatriculation purposes; deadline for U1 Bachelor of Science (Nursing) students to complete required immunizations.
October 2009			
TBA	EVENT	→	**Senate Steering Meeting to approve degrees granted at Fall 2009 Convocations.**
Oct. 1, 2009, Thurs.	APP	LAW	Application deadline for Law Quebec Bar applicants for the Winter 2010 term.
Oct. 1, 2009, Thurs.	APP	CE	Application deadline for Winter admission to Continuing Education Programs.
Oct. 1, 2009, Thurs. to Dec. 15, 2009, Tues.	IFT	NURS	Application opens for **Winter 2010 term** inter-faculty transfers for students wishing to transfer to the Bachelor of Science Nursing Program through Minerva. See website: www.mcgill.ca/nursing/prospective (Excluded U0 students).
Oct. 5, 2009, Mon.	THES	GRAD	Deadline for submission of doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to graduate in February 2010. Meeting this deadline does not guarantee a Winter graduation.
Oct. 5, 2009, Mon. to Oct. 10, 2009, Sat.	STAGE	FMT	Farm Practice 1 in Farm Management and Technology Program.
Oct. 7, 2009, Wed.	EXCH	→	McGill Study Abroad Fair. Time and location to be determined.
Oct. 7, 2009, Wed. & Oct. 9, 2009, Fri. (Tentative)	NOTE	NURS	**Mask fitting session for all new UG students in the School of Nursing from 10:35 to 13:25 - Wilson Hall - Wendy Patrick Room**
Oct. 8, 2009, Thurs. (Tentative)	NOTE	NURS	**Mask fitting session for all new UG students in the School of Nursing from 14:00 to 16:00 - Wilson Hall - Wendy Patrick Room**

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Oct. 12, 2009, Mon.	HOLIDAY	→	**THANKSGIVING DAY.** (Classes cancelled). Administrative offices closed. Continuing Education evening classes will be re-scheduled.
	NOTE	→	Activities cancelled on Monday, October 12, 2009: Lectures, labs, conferences and other course-related activities held on December 3, 2009 will be cancelled. In its place, all lectures, labs, conferences and other course-related activities that are normally held on **Monday** will be held on **Thursday, December 3, 2009**. This change in schedule is to make up for activities that are cancelled on Monday, October 12 due to Thanksgiving Day.
Oct. 15, 2009, Thurs.	NOTE	MED	Last day for U1 Medical students to register with the CMQ (Collège des Médecins du Québec) for Immatriculation. (www.cmq.org)
Oct. 15, 2009, Thurs. to Oct. 18, 2009, Sun.	EVENT	ALL	Homecoming 2009.
Oct. 17, 2009, Sat.	EVENT	A&ES	Macdonald Campus Homecoming.
Oct. 18, 2009, Sun.	**W/W--**	→	Deadline for web withdrawing (grade of "W") or University Withdrawal (grade of "W--") from Fall 2009 term courses and Continuing Education Fall term courses (**with no fee refund**) for students in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science. (No withdrawals from Education Intensive or from ensembles or practical lessons in Music.)
Oct. 19, 2009, Mon.	THES	GRAD	Deadline for submission of Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to graduate in February 2010. Meeting this deadline does not guarantee a Winter graduation.
Oct. 20, 2009, Tues.	AWRD	A&ES	Scholastic Awards Reception and Presentation, Faculty of Agricultural and Environmental Sciences (4:00 p.m. to 6:00 p.m.), Ceilidh, Centennial Centre.
Oct. 29, 2009, Thurs.	**REG**	CE	Registration using Minerva for Winter courses and programs for returning students in Continuing Education.
November 2009			
TBA	CONV	ALL	10:00 Fall Convocation - AM Ceremony 14:00 Fall Convocation - PM Ceremony
Nov. 1, 2009, Sun.	APP	REL	Application deadline for Winter admission to Faculty of Religious Studies, BTh Program.
Nov. 1, 2009, Sun.	APP	→	Application deadline for Winter admission to undergraduate programs. Verify which programs are open before applying. See www.mcgill.ca/applying/undergrad for details.
Nov. 1, 2009, Sun.	IFT	→	Deadline for inter-faculty transfer applications to faculties of B.A. & Sc., Engineering (excluding Architecture), Religious Studies and Science for **Winter 2010 term**. For Engineering programs open see website: www.mcgill.ca/engineering/student/sao/current/faculty_transfer_readmission.
	NOTE	→	The faculties of Arts, Education, and Management, and certain programs in Engineering do not accept Winter term inter-faculty transfers. Also, please contact the Schulich School of Music to determine which of their programs accept Winter term inter-faculty transfers.
Nov. 1, 2009, Sun.	READ	ENG	Deadline for application for readmission to Faculty of Engineering (including Architecture) for the **Winter 2010 term**.
Nov. 1, 2009, Sun.	READ	REL	Deadline for application for readmission to Faculty of Religious Studies for the **Winter 2010 term**.
Nov. 1, 2009, Sun.	**REG**	EDUC	Deadline for B.Ed. students to register for Winter term EDFE course and to submit Placement Forms (www.mcgill.ca/ost).
Nov. 3, 2009, Tues.	**REG**	CE	Registration using Minerva for Winter courses and programs for newly-admitted students in Continuing Education.
Nov. 6, 2009, Fri.	EXCH	LAW	Deadline for students in the Faculty of Law to apply for faculty approval to participate in an exchange program during the 2010-2011 academic year.
Nov. 9, 2009, Mon. to Dec. 2, 2009, Wed.	INFO	→	Online course evaluation period for Fall term: Evaluations available for completion on Mercury through Minerva.
Nov. 10, 2009, Tues.	**REG**	CE	Registration using Minerva for Winter courses and programs for returning Continuing Education **Special** Students.
Nov. 15, 2009, Sun.	**REG**	NURS	Registration deadline for Winter NUR1 clinical courses to guarantee placement.
Nov. 15, 2009, Sun.	APP	DENT	Application deadline for admission to Dentistry for all out-of-province and international students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Nov. 15, 2009, Sun.	READ	→	Deadline for application for readmission to faculties of Agricultural and Environmental Sciences, Arts, B.A. & Sc., Management, Science, Social Work and Schulich School of Music for the **Winter 2010 term**.
Nov. 15, 2009, Sun.	APP	MED	Application deadline for admission to M.D.,C.M. for all international and out-of-province of Quebec students; deadline for M.D., M.B.A. and M.D., Ph.D. applications.
Nov. 24, 2009, Tues. (Tentative)	DEF	→	Deferred examination application opens on Minerva for Fall term courses ending in the Fall 2009 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering (see section 9.3.5.10 "Deferred Examinations"), Law, Management, Nursing, Physical and Occupational Therapy, and Science. (Closes January 15, 2010)
Nov. 25, 2009, Wed. (Tentative)	NOTE	NURS	**Flu vaccine session for all students in the School of Nursing from 11:30 to 14:00 - Wilson Hall - Wendy Patrick Room.**
Nov. 26, 2009, Thurs. & Nov. 27, 2009, Fri. (Tentative)	NOTE	NURS	**Flu vaccine session for all students in the School of Nursing from 14:00 to 16:30 - Wilson Hall - Wendy Patrick Room.**
Nov. 27, 2009, Fri.	**REG**	MBA	Winter term registration period for all new M.B.A. part-time students.
Nov. 30, 2009, Mon.	APP	LAW	Application deadline for University and Mature (non-CEGEP) Law applicants into first year.
December 2009			
Dec. 1, 2009, Tues.	IFT	A&ES	Deadline for inter-faculty transfer applications to Faculty of Agricultural and Environmental Sciences for the **Winter 2010 term**.
Dec. 1, 2009, Tues.	APP	LAW	Application deadline for Law Special applicants for the Winter 2010 term.
Dec. 1, 2009, Tues.	APP	NURS	Application deadline for NUR1 530 Clinical Internship proposals for Bachelor of Science (Nursing) students and eligible Bachelor of Nursing Integrated students.
Dec. 1, 2009, Tues.	READ	NURS	Deadline for application for readmission to School of Nursing for the **Winter 2010 term** via Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
Dec. 1, 2009, Tues.	NOTE	→	Grades of K will convert to KF for Summer 2009 term for all faculties except Dentistry, Medicine and Graduate Studies.
Dec. 2, 2009, Wed.	APPGRAD NOTE	→ →	Deadline to apply to graduate on Minerva for all Undergraduate students and Graduate students in all **non-thesis** programs (certificates, diplomas [excluding Continuing Education] or Master's non-thesis) who expect to complete theirprogram requirements at the end of the **Fall 2009 term** (February 2010 graduation). Last day for those students able to change program information via curriculum change on Minerva for **Fall term**.
Dec. 3, 2009, Thurs.	INFO	→	Last day for the Fall 2009 term for students to request fee exemptions and to submit legal documents for proof of Canadian citizenship and proof of Quebec residency to the Enrolment Services Office. Students in Continuing Education should submit their documents directly to the Centre for Continuing Education. Documents received after this date will be updated for the following term only.
Dec. 3, 2009, Thurs.	LEC	→	Last day of lectures for courses in Agricultural and Environmental Sciences, Arts, Continuing Education, Education (except for 1st year students in Kind. & Elem. & Sec. programs), Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science and Social Work (B.S.W. and M.S.W.).
Dec. 3, 2009, Thurs.	NOTE	→	The normal Thursday schedule of course activities is cancelled for December 3, 2009. In its place, all lectures, labs, conferences and other course-related activities that are normally held on **Monday** will be held on **Thursday, December 3, 2009** as well. This change in schedule is to make up for activities that were cancelled on Monday, October 12 due to Thanksgiving Day.
Dec. 3, 2009, Thurs. to Jan. 4, 2010, Mon.	**REG**	→	Winter term registration period for new students in Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering including Architecture, Graduate Studies, Management, Music, Nursing, Religious Studies, Science, and Social Work. Individual faculties and departments set their own dates within this period.
Dec. 3, 2009, Thurs.	IDCARD	**NEW**	New students can obtain their ID cards once they have registered by going to Enrolment Services, James Admin Building, Room 205. Starting on this date, office hours are Monday to Thursday 9:00 a.m. to 5:00 p.m. and Fridays 10:00 a.m. to 5:00 p.m.
Dec. 4, 2009, Fri.	INFO	→	Study Day.
Dec. 4, 2009, Fri.	STAGE	BSW/MSW	Last day of B.S.W. and M.S.W. Field Practice.
Dec. 4, 2009, Fri.	LEC	DENT/MED	Last day of Fall term lectures for 2nd year students in Dentistry and Medicine.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Dec. 7, 2009, Mon. to Dec. 22, 2009, Tues.	EXAMS	→	Examination period for Fall term courses, and multi-term courses given by Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science, and Social Work (B.S.W.).
Dec. 9, 2009, Wed. (Tentative)	EXAMS	DENT/MED	Fall term examination for 2nd year students in Dentistry and Medicine.
Dec. 11, 2009, Fri.	LEC	DENT	Last day of Fall term for 3rd and 4th year students in Dentistry.
Dec. 14, 2009, Mon.	LEC	DENT/MED	Last day of Fall term lectures for 1st year students in Dentistry and Medicine.
Dec. 15, 2009, Tues.	LEC	FMT	Last day of lectures for Fall term, Farm Management and Technology program.
Dec. 15, 2009, Tues.	READ	A&ES	Deadline for application for readmission to the Faculty of Agricultural and Environmental Sciences for **Winter 2010**.
Dec. 15, 2009, Tues.	APP	MUS	Application deadline for admission to the Schulich School of Music for all graduate programs.
Dec. 15, 2009, Tues.	**REG**	→	Registration via Minerva in Winter term Continuing Education courses begins for all faculties except Dentistry, Law, Management (day programs), Medicine and Physical and Occupational Therapy.
Dec. 15, 2009, Tues.	IFT	NURS	Deadline for inter-faculty transfer applications to Bachelor of Science (Nursing) program for the **Winter 2010 term** via Minerva. (Excluded U0 students). See Nursing website: www.mcgill.ca/nursing/prospective.
Dec. 15, 2009, Tues.	NOTE	NURS	Last day for U1 Bachelor of Science (Nursing) students to register with the OIIQ for Immatriculation.
Dec. 16, 2009, Wed. to Dec. 23, 2009, Wed.	EXAMS	FMT	Fall term examination period for Farm Management and Technology program.
Dec. 16, 2009, Wed. (Tentative)	EXAMS	DENT/MED	Fall term examination for 1st year students in Dentistry and Medicine.
Dec. 18, 2009, Fri.	STAGE	D & HN	Last day for NUTR 510, Professional Practice-Stage 4 (Dietetics).
Dec. 24, 2009, Thurs. to Jan. 1, 2010, Fri.	HOLIDAY	→	**CHRISTMAS AND NEW YEAR'S.** Administrative offices will be closed between December 24 and January 1 inclusive. Library hours available at Reference Desks.
Dec. 24, 2009, Thurs. to Jan. 1, 2010, Fri.	NOTE	ALL	Interruption of nightly Grade Roll for Fall 2009 term courses for all faculties. December 24 - Last day for grades to display on the unofficial transcript before the holiday break. January 5 - First day for grades to display on the unofficial transcript after the holiday break.
Dec. 31, 2009, Thurs.	**REG**	ALL	Deadline for cancellation of registration for the Winter term except Continuing Education. (Deposit is non-refundable for new students.)
Dec. 31, 2009, Thurs.	DEFADM	ALL	Deadline to request deferral of Winter term admission to McGill for all undergraduate faculties (excluding Medicine, Dentistry, Law and Music).
January 2010			
Jan. 1, 2010, Fri.	HOLIDAY	→	**NEW YEAR'S.** Administrative offices will be closed. Library hours available at Reference Desks.
Jan. 4, 2010, Mon.	NOTE	→	Administrative offices reopen on Monday, January 4.
Jan. 4, 2010, Mon.	LEC NOTE	→ EDUC	Winter term lectures begin in Agricultural and Environmental Sciences (including Farm Management and Technology program), Arts, all credit courses and non-credit language courses at Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science, Dentistry (all programs) and Medicine students (1st and 2nd year students). Education students should consult the appropriate faculty advising material for details regarding Field Experiences courses. Please be aware that some placements end later than the last day of lectures in the Winter term.
Jan. 4, 2010, Mon.	ORIENT	ART/SCI	All newly-admitted Arts, B.A. & Sc., and Science students should attend the Faculty Orientation Session at 4:00 p.m. Refer to the "Welcome to McGill" booklet for location.
Jan. 4, 2010, Mon.	ADV	→	Academic advising for new students in Arts, B.A. & Sc., Science, and Management. Please refer to the "Welcome to McGill" booklet for details.
Jan. 4, 2010, Mon.	ORIENT/ ADV	ENG	Orientation and academic advising for new students in Engineering. (See "Welcome to McGill" booklet and website www.mcgill.ca/engineering/newstudents for details).
Jan. 4, 2010, Mon.	ADV	A&ES	Academic advising for new students in the Faculty of Agricultural and Environmental Sciences. (See "The Essential Guide for New Students" booklet and website www.mcgill.ca/macdonald for details.)

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Jan. 4, 2010, Mon.	ORIENT	NURS	Orientation for new students in Nursing. See website: www.mcgill.ca/nursing for details.
Jan. 4, 2010, Mon.	**REG**	ALL	Deadline for new students to register for Winter term without a late registration fee for all faculties.
Jan. 4, 2010, Mon.	**REG**	CE	Deadline for students to register for Continuing Education courses without a late registration fee.
Jan. 4, 2010, Mon.	LEC	BSW	Lectures begin for B.S.W. students.
Jan. 4, 2010, Mon.	STAGE	MSW	Field Practice resumes for M.S.W. students.
Jan. 4, 2010, Mon.	ORIENT	NEW	University Orientation for new undergraduate students (5:00 p.m. to 6:00 p.m., in Moyse Hall).
Jan. 4, 2010, Mon.to Jan. 13, 2010, Wed.	ADV	ENG	Compulsory academic advising and course approval required for ALL returning Engineering students including Architecture. (First two weeks of classes.)
Jan. 4, 2010, Mon.to Jan. 19, 2010, Tues.	ORIENT	NEW	First-Year Resource Room opens daily (9:00 a.m. to 5:00 p.m.), Brown Student Services Building, Room 2100, 3600 McTavish Street.
Jan. 4, 2010, Mon.	ORIENT	A&ES	Faculty Orientation for new undergraduate and graduate students in the Faculty of Agricultural and Environmental Sciences (5:30 p.m. to 7:00 p.m.) Ceilidh, Centennial Centre.
Jan. 4, 2010, Mon.	LEC	CE	Lectures begin in non-credit General Studies courses at Continuing Education.
Jan. 5, 2010, Tues.	NOTE	ALL	First day for grades for the Fall 2009 term courses to display on the unofficial transcript after the holiday break (nightly Grade Roll resumes on January 4).
Jan. 5, 2010, Tues.	LEC	MSW	Lectures begin for M.S.W. students.
Jan. 5, 2010, Tues.	LEC	BSW	Field Practice resumes for B.S.W. students.
Jan. 5, 2010, Tues.	ORIENT	GRAD	University Orientation, an important information session for new graduate students in Thomson House, 3650 McTavish Street. Choose to attend a session either at 11:00 - 12:00 or 17:00 - 18:00. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Jan. 5, 2010, Tues. to Jan. 7, 2010, Thurs.	PLEXAM	NEW	McGill Placement Examinations for newly-admitted students in basic science courses in biology, chemistry, physics and math, including MATH 122 and MATH 123 for newly-admitted Management students. See www.mcgill.ca/student-records/exam/placement for more details.
Jan. 5, 2010, Tues. to Jan. 19, 2010, Tues.	**REG**	NEW	Late registration for new students with $100 late registration fee for all faculties; $40 for Special Students and Graduate part-time students. ($25 late registration fee for Continuing Education students.)
Jan. 7, 2010, Thurs.	ORIENT	POSTDOC	University Orientation, an important information session for new postdoctoral scholars in Thomson House, 3650 McTavish Street, at 17:00-18:00. Visit these websites for more information: www.mcgill.ca/firstyear/orientation; www.mcgill.ca/gradapplicants/events.
Jan. 8, 2010, Fri.	**REG**	EDUC	Deadline to register for condensed (6-7 week) Education courses.
Jan. 11, 2010, Mon.	LEC	CE	Lectures begin in Special Intensive English and French at Continuing Education.
Jan. 11, 2010, Mon to Jan. 31, 2010, Sun.	EXCH	→	Deadline for McGill students to obtain approval from their faculty to participate in a student exchange in Fall 2010 and/or Winter 2011 term. Students must verify specific faculty deadlines with their faculty Student Affairs Office.
Jan. 11, 2010, Mon.	EXCH	MGMT	Deadline for students in the Desautels Faculty of Management to apply for faculty approval to participate in an exchange program during the 2010-2011 academic year.
Jan. 15, 2010, Fri.	READ	MGMT	Deadline for application for readmission to Desautels Faculty of Management for the **Winter 2010 term**.
Jan. 15, 2010, Fri.	IFT	MUS	Deadline for inter-faculty transfer applications to Schulich School of Music for **Fall 2010 term**.
Jan. 15, 2010, Fri.	DEF	→	Application deadline for deferred examinations for courses from the Fall 2009 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering, Law, Management, Nursing, Physical and Occupational Therapy, and Science.
Jan. 15, 2010, Fri.	APP	ALL	Application deadline for admission to Agricultural and Environmental Sciences, Architecture, Arts, Concurrent B.A. & Sc., Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from applicants studying or who last studied in an overseas or U.S. high school, college or university.
Jan. 15, 2010, Fri.	APP	MUS	Application deadline for admission to the Schulich School of Music for all undergraduate applicants.
Jan. 15, 2010, Fri.	APP	DENT	Application deadline for admission to Dentistry for all in-province applicants.
Jan. 15, 2010, Fri.	APP	MED	Application deadline for admission to M.D.,C.M. 4-year program for Quebec applicants.
Jan. 15, 2010, Fri.	APP	LAW	Application deadline for Law Advanced Standing applicants.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Jan. 15, 2010, Fri.	APP	PHD	Application deadline for Fall 2010 admission into the Ph.D. program in Social Work.
Jan. 15, 2010, Fri.	**REG**	MUS	Deadline for dropping practical instruction in Music for the Winter term. (Submit course change form to Performance Department. No withdrawals from practical lessons after this date.)
Jan. 15, 2010, Fri. to Feb. 14, 2010, Sun.	AUD	MUS	Entrance auditions for all M.Mus. (Performance) and D.Mus. (Performance) applicants. Refer to the Schulich School of Music Admissions site (www.mcgill.ca/music/prospective/graduate) for information about specific instrument dates.
Jan. 18, 2010, Mon.	EXCH	→	Deadline for students to apply for faculty approval to participate in an exchange program during the 2010-2011 academic year. Please note that the Faculty of Law and the Desautels Faculty of Management have earlier deadlines.
Jan. 18, 2010, Mon.	EXCH	→	Deadline for graduate students to apply for approval from the Graduate and Postgraduate Studies Office to participate in an exchange program during the 2010-2011 academic year.
Jan. 19, 2010, Tues.	**REG**	GRAD	Final Course Add/Drop deadline for Winter term courses and N1/N2 courses in Graduate Studies. After this date students receive a mark of "W" (withdrawn).
Jan. 19, 2010, Tues.	**REG** NOTE	ALL →	Course Change (drop/add) deadline for Winter term courses and Continuing Education Winter term courses for Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Law, Management, Music (except practical lessons), Nursing, Physical and Occupational Therapy, Religious Studies, Science and Social Work. (No withdrawals from Music ensembles after this date.) Last day to select the **S/U** grade mode on Winter term electives. Select the S/U option through Minerva or your faculty Student Affairs Office. Rules on the S/U option can be found at www.mcgill.ca/student-records/register/s-u-option.
Jan. 19, 2010, Tues.	**W**	→	Deadline for web withdrawing (grade of "W") from multi-term courses that started in September 2009 (**with fee refund for Winter term**) for students in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science. (No withdrawals from Education Intensive courses.)
Jan. 24, 2010, Sun.	**W/W--**	→	Deadline to web withdraw (grade of "W") or University Withdrawal (grade of "W--") from Winter 2010 term courses with full fee refund. **Readmitted students** - less $100 minimum charge in the case of complete withdrawal for students not registered in the Fall. **New students** - less deposit or $100 minimum charge in case of complete withdrawal. (No withdrawals from Education Intensive courses, or Music ensembles and practical lessons.)
Jan. 24, 2010, Sun.	**W**	CE	Deadline to web withdraw (grade of "W") with fee refund from Continuing Education *credit* courses ($20 fee).
Jan. 25, 2010, Mon. to Jan. 29, 2010, Fri.	VERIF	→	Verification period via Minerva for all students in all faculties. It is especially critical that graduating students verify their records. Faculty of Law students pick up examination numbers during Verification from their Faculty Student Affairs Office.
Jan. 29, 2010, Fri.	APP	MGMT	Application deadline for Non-Management students applying to the Minor in Finance (authorized for students in the Faculties of Arts and Science), Minor in Management (authorized for students in the Faculties of Arts, Engineering, Science, Agricultural and Environmental Sciences, Music and Religious Studies), Minor in Marketing (authorized for students in the Faculties of Arts, Science and Music), Minor in Operations Management (authorized for students in the Faculties of Arts, Science and Agricultural and Environmental Sciences), and Technological Entrepreneurship (authorized for students in the Faculties of Engineering and Science). Applications can be obtained on the web at www.mcgill.ca/bcom/minors/forms. All applications must be submitted to the BCom Student Affairs Office.
Jan. 29, 2010, Fri.	ORIENT	D & HN	Orientation day on campus for NUTR 409.
February 2010			
TBA	EVENT	→	**Senate Steering Meeting to approve degrees granted at the end of Fall 2009 term (Spring 2010 Convocations)**.
Feb. 1, 2010, Mon.	APP	ALL	Application deadline for admission to Agricultural and Environmental Sciences, Architecture, Arts, B.A. & Sc., Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from applicants studying or who last studied in a Canadian high school.
Feb. 1, 2010, Mon.	APP	CE	Application deadline for Spring admission to Continuing Education Programs.
Feb. 1, 2010, Mon.	APP	MSW	Application deadline for Fall 2010 admission to the MSW program.
Feb. 1, 2010, Mon.	EXCH	→	Deadline for McGill students to submit supporting documentation for a student exchange application for the Fall 2010 and/or Winter 2011 term to Student Exchanges and Study Abroad Office.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Feb. 1, 2010, Mon. (Tentative)	SUPP	→	Supplemental examination application opens on Minerva for Fall term courses and N1/N2 courses ending in the Fall 2009 term in Arts (including School of Social Work), Education, Law, Nursing, Physical and Occupational Therapy, Religious Studies, and Science (not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses). (Closes March 1, 2010)
Feb. 1, 2010, Mon.	THES	GRAD	Deadline to submit doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Spring 2010. Meeting this deadline does not guarantee a Spring graduation.
Feb. 1, 2010, Mon. to Feb. 7, 2010, Sun.	BREAK	D & HN	Study break for NUTR 409, Stage in Dietetics Level 3.
Feb. 4, 2010, Thurs.	**REG**	EDUC	Registration for Summer Field Experience courses for B.Ed. students begins.
Feb. 8, 2010, Mon.	STAGE	D & HN	NUTR 409, Stage in Dietetics Level 3 begins. Site orientation or begin rotation.
Feb. 11, 2010, Thurs.	EVENT	A&ES	Macdonald College Founder's Day. (Sir William C. Macdonald born Feb. 10, 1831; died June 9, 1917.) Classes cancelled 10:00 a.m. to 1:00 p.m.
Feb. 14, 2010, Sun.	**W/W--**	→	Deadline for web withdrawing (**with no fee refund**) (grade of "W") or University Withdrawal (grade of "W--") from Winter 2010 courses for Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science (No withdrawals from ensembles or practical lessons in Music).
Feb. 15, 2010, Mon. to Aug. 15, 2010, Sun.	IFT	NURS	Application opens for **Fall 2010 term** inter-faculty transfers for students wishing to transfer to the Bachelor of Science Nursing Program through Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
Feb. 15, 2010, Mon. to June 15, 2010, Tues.	READ	NURS	Application opens for readmission to the School of Nursing for **Fall 2010 term** through Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
Feb. 15, 2010, Mon.	THES	GRAD	Deadline to submit Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Spring 2010. Meeting this deadline does not guarantee a Spring graduation.
Feb. 15, 2010, Mon.	STAGE	EDUC	4th Field Experience begins for most B.Ed. programs. Refer to www.mcgill.ca/ost for details.
Feb. 20, 2010, Sat. to Feb. 28, 2010, Sun.	AUD	MUS	Entrance Auditions for all undergraduate applicants.
Feb. 21, 2010, Sun. to Feb. 27, 2010, Sat.	BREAK NOTE	→ EDUC	**STUDY BREAK.** (Classes cancelled for all faculties except Dentistry, Medicine, Continuing Education non-credit courses and English & French credit courses, Stage in Dietetics Level 3.) Student Teaching is not interrupted for Education students.
Feb. 22, 2010, Mon. to Feb. 27, 2010, Sat.	STAGE	FMT	Farm Practice/Stage for Farm Management and Technology Program, years 1 and 2.
March 2010			
Mar. 1, 2010, Mon.	APP	ALL	Application deadline for all applicants studying, or who last studied, in a CEGEP in Quebec (except applicants to Music).
Mar. 1, 2010, Mon.	APP	GRAD	Application deadline for September admission to most departments for Graduate Studies. (Many departments have earlier deadlines. Please verify this date with the individual department or on the web at www.mcgill.ca/gradapplicants/apply.)
Mar. 1, 2010, Mon.	APP	LAW	Application deadline for admission to Law for students applying from a Quebec CEGEP, from a French Baccalaureate Diploma completed in the province of Quebec and for Law Visiting applicants.
Mar. 1, 2010, Mon.	APP	MED	Application deadline for admission to Med-P program for Quebec residents.
Mar. 1, 2010, Mon.	APP	DENT	Application deadline for admission to Dentistry for all CEGEP applicants (Dental Prep).
Mar. 1, 2010, Mon.	APP	REL	Application deadline for Summer admission to Faculty of Religious Studies, BTh Program.
Mar. 1, 2010, Mon.	READ	MUS	Deadline for application for readmission to Schulich School of Music for students requiring to re-audition for the **Fall 2010 term**.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Mar. 1, 2010, Mon.	SUPP	→	Application deadline for supplemental examinations in Fall term courses and N1/N2 courses from the Fall 2009 term for Arts (including School of Social Work), Education, Law, Nursing, Physical and Occupational Therapy, Religious Studies, and Science (not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses).
Mar. 3, 2010, Wed. (Tentative)	APPGRAD	→	Deadline to apply to graduate on Minerva for all Undergraduate students and Graduate students in all non-thesis programs (certificates, diplomas, Master's non-thesis) who expect to complete their program requirements at the end of the **Winter 2010 term** (**Spring 2010 convocation**).
	NOTE	→	Last day for those students able to change program information via curriculum change on Minerva for **Winter term**.
Mar. 4, 2010, Thurs. (Tentative)	**REG**	→	Summer Term registration opens for Undergraduate students in their U3/U4 year and Continuing Education returning students.
	NOTE	MGMT	Access to Management courses is restricted to McGill U3 and U4 students in B.Com.; Minors in Management, Technical Entrepreneurship, Construction Engineering and Management; B.A. Joint Honours Economics and Finance, B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies and Major in Agricultural Economics. Certain courses are restricted to B.Com. students only.
Mar. 4, 2010, Thurs. (Tentative)	**REG**	LAW	Summer Term registration opens for Law Undergraduate students.
Mar. 9, 2010, Tues. (Tentative)	**REG**	→	Summer Term registration opens for all Undergraduate students and Continuing Education newly-admitted and Special Students.
	NOTE	MGMT	Access to Management courses is restricted to McGill students in B.Com.; Minors in Management, Technical Entrepreneurship, Construction Engineering and Management; B.A. Joint Honours Economics and Finance, B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies and Major in Agricultural Economics. Certain courses are restricted to B.Com. students only.
Mar. 11, 2010, Thurs. (Tentative)	**REG**	→	Summer Undergraduate Management courses open to all McGill students and Special and Visiting Students.
Mar. 12, 2010, Fri.	EXAMS	A&ES	Deadline to report all exam conflicts to the Student Affairs Office (Laird Hall, Room 106) for Winter term exams.
Mar. 15, 2010, Mon.	**REG**	NURS	Registration deadline for Summer NUR1 clinical courses to guarantee placement.
Mar. 16, 2010, Tues. (Tentative)	**REG**	→	Summer registration opens for Graduate students. Students should confirm dates with individual departments.
Mar. 22, 2010, Mon. to Apr. 13, 2010, Tues.	INFO	→	Online course evaluation period for Winter term: Evaluations available for completion on Mercury through Minerva.
Mar. 22, 2010, Mon. (Tentative)	ADV	ART/SCI	Departmental academic advising begins for returning students in B.A., B.A. & Sc., B.Sc. and B.S.W.
Mar. 22, 2010, Mon. (Tentative)	ADV	A&ES/FMT	Academic advising begins for all returning undergraduate and Farm Management and Technology students in the Faculty of Agricultural and Environmental Sciences.
Mar. 22, 2010, Mon. to Mar. 26, 2010, Fri. (Tentative)	ADV	MGMT	Distribution of all registration information for returning Management students.
Mar. 22, 2010, Mon. to Apr. 1, 2010, Thurs. (Tentative)	ADV	EDUC	Academic advising and distribution of material for returning students in Education. Please consult the Student Affairs website at www.mcgill.ca/edu-sao for details.
Mar. 23, 2010, Tues. to Mar. 25, 2010, Thurs. (Tentative)	ADV	MUS	Distribution of registration information for returning students in the lobby of the Strathcona Music Building.
TBA	ADV	P&OT	Registration counselling in Physical and Occupational Therapy for returning students.
TBA	ADV	NURS	Academic advising for U2 Bachelor of Science (Nursing) students entering U3. Academic advising for BNUR-INT students entering their second year.
Mar. 26, 2010, Fri.	LEC	DENT	Last day of lectures for Winter term for 4th year Dentistry students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Mar. 29, 2010, Mon. to Apr. 15, 2010, Thurs. (Tentative)	ADV	MUS	Academic advising for returning students in Music. Appointments to be arranged by individual departments.
Mar. 29, 2010, Mon. to Apr. 16, 2010, Fri.	EXAMS	DENT	Examination period for 4th year Dentistry students.
Mar. 29, 2010, Mon. (Tentative)	APPGRAD	→	Deadline for all Undergraduate students and Graduate students in all non-thesis programs (certificates, diplomas, Master's non-thesis) who expect to complete their program requirements at the end of the **Summer 2010 term** (**Fall 2010 convocation**) to apply to graduate on Minerva.
Mar. 30, 2010, Tues. (Tentative)	**REG** NOTE	→ EDUC	Registration for Fall 2010 and Winter 2011 using Minerva begins for all students entering the graduating (U3/U4) year of their program (excluding Law and courses offered by the Desautels Faculty of Management, except as noted below), and all students in Graduate degree programs, except for Continuing Education. B.Ed. students doing 3rd Field Experience in the Fall 2010 term must be registered for their EDFE course no later than April 18. Students must refer to the www.mcgill.ca/ost website for detailed information.
Mar. 30, 2010, Tues. (Tentative)	**REG**	MGMT	Registration for Fall 2010 and Winter 2011 in Management courses begins for undergraduate students entering their graduating (U3) year: B.Com.; Minor in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.
Mar. 30, 2010, Tues. (Tentative)	**REG**	CE	Registration for Fall 2010 and Winter 2011 using Minerva begins for all returning Continuing Education-***Faculty of Education*** students only.
Mar. 31, 2010, Wed. (Tentative)	**DEF**	→	Deferred examination application opens on Minerva for Winter term and multi-term courses ending in the Winter 2010 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering (see section 9.3.5.10 "Deferred Examinations"), Law, Management, Physical and Occupational Therapy, and Science. (Closes May 15, 2010)
April 2010			
Apr. 1, 2010, Thurs. (Tentative)	**REG**	→	Registration for Fall 2010 and Winter 2011 using Minerva begins for students in all programs entering their penultimate (U2) year of study (excluding Law and courses offered by the Desautels Faculty of Management except as noted below), except for Continuing Education.
Apr. 1, 2010, Thurs. (Tentative)	**REG**	MGMT	Registration for Fall 2010 and Winter 2011 in Management courses begins for undergraduate students entering their penultimate (U2) year of study:B.Com.; Minor in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Faculty Program or Major in Industrial Relations; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.
Apr. 2, 2010, Fri. to Apr. 5, 2010, Mon.	HOLIDAY	→	**EASTER.** No classes or exams. Administrative offices closed. Library hours to be announced.
Apr. 2, 2010, Fri. to Apr. 7, 2010, Fri. (Tentative)	NOTE	MED/DENT	**STUDY BREAK.** (Classes cancelled for **1st year** Medicine and Dentistry students only.)
Apr. 6, 2010, Tues. (Tentative)	**REG**	→	Registration for Fall 2010 and Winter 2011 using Minerva begins for all returning students (excluding Law and courses offered by the Desautels Faculty of Management except as noted below), except for Continuing Education.
Apr. 6, 2010, Tues. (Tentative)	**REG**	MGMT	Registration for Fall 2010 and Winter 2011 in Management courses begins for returning undergraduate students entering the first (U1) year of study: B.Com.; Minors in Management, Technological Entrepreneurship, Minor in Finance, Minor in Marketing, Minor in Operations Management, Construction Engineering and Management; B.A. Faculty Program or Major in Industrial Relations; B.A. Joint Honours Economics and Accounting; B.A. Joint Honours Economics and Finance; B.A. Major Concentration in Contemporary German Studies; and Major in Agricultural Economics.
Apr. 8, 2010, Thurs. (Tentative)	**REG**	MGMT	Registration for Fall 2010 and Winter 2011 in courses offered by the Desautels Faculty of Management opens for all returning students.
Apr. 9, 2010, Fri.	STAGE	BSW/MSW	Last day of Field Practice for B.S.W. students and for M.S.W. students.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Apr. 14, 2010, Wed.	INFO	⟶	Last day for the Winter 2010 term for students to request fee exemptions and to submit legal documents for proof of Canadian citizenship and proof of Quebec residency to the Enrolment Services Office. Students in Continuing Education should submit their documents directly to the Centre for Continuing Education. Documents received after this date will be updated for the following term only.
Apr. 14, 2010, Wed.	LEC	⟶	Last day of lectures for Winter term in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work (B.S.W./M.S.W.), and Science.
Apr. 15, 2010, Thurs. to Apr. 30, 2010, Fri.	EXAMS	⟶	Examination period for Winter term and multi-term courses given by Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science, and Social Work. *Exams begin earlier for Dentistry students. Contact Faculty for specific dates*.
Apr. 16, 2010, Fri.	STAGE	D & HN	Last day for NUTR 409, Stage in Dietetics Level 3.
Apr. 19, 2010, Mon.	STAGE	EDUC	1st & 2nd Field Experiences begin for most B.Ed. programs. Refer to www.mcgill.ca/ost for details.
Apr. 20, 2010, Tues.	LEC	FMT	Last day of lectures in the Farm Management and Technology program.
Apr. 21, 2010, Wed. to Apr. 29, 2010, Thurs.	EXAMS	FMT	Winter term examination period for Farm Management and Technology program.
Apr. 26, 2010, Mon. to May 10, 2010, Mon.	EXAMS	MED	Examination period for 4th year Medical students. (Medical Council of Canada Qualifying Exam Part 1)
Apr. 30, 2010, Fri.	**REG**	MUS	Deadline for returning students to submit practical lesson assignment card without a late fee.
May 2010			
May 1, 2010, Sat.	IFT	ARCH	Deadline for inter/intra-faculty transfer applications to School of Architecture for the **Fall 2010 term**.
May 1, 2010, Sat.	IFT	BSW	Deadline for inter-faculty transfer applications to BSW Program for the **Fall 2010 term**.
May 1, 2010, Sat.	APP	⟶	Application deadline for admission to Agricultural and Environmental Sciences, Architecture, Arts, B.A. & Sc., Education, Engineering, Management, Nursing, Occupational Therapy, Physical Therapy, Science or Social Work from Canadian citizens or permanent residents studying or who last studied in a Canadian university.
May 1, 2010, Sat.	APP	⟶	Application deadline for Mature student admission to Agricultural and Environmental Sciences, Architecture, Arts, B.A. & Sc., Education, Engineering, Management, Nursing, Occupational Therapy, Physical Therapy, Science or Social Work. (Canadian citizens and permanent residents only).
May 1, 2010, Sat.	APP	⟶	Application deadline for Special and Visiting Student admission to Agricultural and Environmental Sciences, Architecture, Arts, Education, Engineering, Management, Nursing, Occupational Therapy, Physical Therapy, Science or Social Work from applicants. (Canadians who last studied at college or university outside Canada and non-Canadians who last studied at college or university inside or outside Canada).
May 1, 2010, Sat.	APP	⟶	Application deadline for admission to evening Part-time B.Com. Program.
May 1, 2010, Sat.	APP	LAW	Application deadline for Law Transfer and Quebec Bar applicants.
May 1, 2010, Sat.	APP	REL	Application deadline for Fall admission of international students to Faculty of Religious Studies, BTh Program.
May 1, 2010, Sat.	EXCH	⟶	Deadline for incoming undergraduate exchange applications from bilateral partners with a Fall term (September) start. Please note that the Schulich School of Music has an earlier deadline.
May 1, 2010, Sat.	EXCH	LAW	Deadline for incoming undergraduate exchange applications to the Faculty of Law from bilateral partners with a Fall term (September) and Winter term (January) start.
May 1, 2010, Sat.	EXCH	⟶	Deadline for incoming undergraduate exchange applications under the CREPUQ student exchange program with a Fall term (September) start and Winter term (January) start. Please note that the Schulich School of Music has an earlier deadline.
May 3, 2010, Mon.	LEC/STAGE	NURS	Classes reconvene and clinical courses commence for U1, U2, and U3 Nursing students.
May 3, 2010, Mon.	STAGE	D & HN	Orientation for NUTR 311, Stage in Dietetics 2B; placements begin on Tuesday, May 4.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
May 3, 2010, Mon. & May 4, 2010, Tues.	EXAMS	→	Deferred and supplemental examinations for Fall term courses in Arts, Education, Management (Deferred Exams only), Nursing, Physical and Occupational Therapy, Religious Studies, Science, Social Work and Engineering (see section 9.3.5.10 "Deferred Examinations").
May 4, 2010, Tues. & May 5, 2010, Wed.	DEF	A&ES	Deferred examinations in the Faculty of Agricultural and Environmental Sciences for courses ending in the Fall term.
May 4, 2010, Tues to May 7, 2010, Fri. (Tentative)	**REG**	CE	Summer Term late registration for all Continuing Education Students.
May 4, 2010, Tues. (Tentative)	**REG**	LAW	Registration (credits restricted) for Fall 2010 and Winter 2011 begins for returning U4 students in Faculty of Law.
May 6, 2010, Thurs. (Tentative)	**REG**	LAW	Registration (credits restricted) for Fall 2010 and Winter 2011 begins for returning U3 students in Faculty of Law.
May 11, 2010, Tues. (Tentative)	**REG**	LAW	Registration (credits restricted) for Fall 2010 and Winter 2011 begins for returning U2 students in Faculty of Law.
May 11, 2010, Tues.	NOTE	→	Grades of K will convert to KF for the Fall 2009 term for all faculties except Dentistry, Medicine and Graduate Studies.
May 13, 2010, Thurs. (Tentative)	**REG**	LAW	Registration (with credit limit raised) for Fall 2010 and Winter 2011 begins for all returning students in Faculty of Law.
May 15, 2010, Sat.	DEF	→	Application deadline for deferred examinations for Winter term and multi-term courses ending in the Winter 2010 term in Agricultural and Environmental Sciences, Arts (including School of Social Work), Continuing Education, Education, Engineering (see section 9.3.5.10 "Deferred Examinations"), Law, Management, Physical and Occupational Therapy, and Science.
May 15, 2010, Sat.	**W**	→	Deadline for web withdrawing (grade of "W") from multi-term courses (D1/D2, N1/N2) that started in the Winter 2010 term and end in the Summer 2010 term or in the Fall 2010 term (**with fee refund for the Summer 2010 term**) for students in Agricultural and Environmental Sciences, Arts, Continuing Education, Education, Engineering including Architecture, Graduate Studies, Law, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Social Work, and Science. (No withdrawals from Education Intensive courses.)
May 15, 2010, Sat.	**W--**	GRAD	Deadline for newly-admitted students beginning their graduate thesis program in a Summer Term of Residence to withdraw from the University, with fee refund (less deposit or $100 minimum charge).
May 24, 2010, Mon.	HOLIDAY	→	**VICTORIA DAY.** (Classes cancelled). Administrative offices closed.
May 25, 2010, Tues. (Tentative)	SUPP	→	Supplemental examination application opens, on Minerva, for courses ending in the Winter 2010 term (including multi-term courses ending in Winter term) for Arts (including School of Social Work), Education, Law, Nursing, Physical and Occupational Therapy, Religious Studies, and Science (supplemental exams not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses). (Closes July 15, 2010)
TBA	EVENT	→	**Senate Steering Meeting to approve degrees granted at Spring 2010 Convocations**.
TBA	CONV	→	Spring 2010 Convocation
June 2010			
June 1, 2010, Tues. to Sept. 3, 2010, Fri. (Tentative)	ADV	ART/SCI	Online academic advising for students newly-admitted to the U0 four-year program (97-120 credits) and departmental academic advising for all other newly-admitted Arts, B.A. & Sc., and Science students. Refer to the "Welcome to McGill" booklet for details. Students should also refer to departmental websites for advising dates. B.A. students can refer to the Arts website www.mcgill.ca/oasis for additional advising information. B.Sc. and B.A. & Sc. students can refer to the SOUSA website www.mcgill.ca/science/sousa.
June 1, 2010, Tues.	APP	CE	Application deadline for Fall admission to Continuing Education Programs.
TBA	ADV	NURS	Academic advising and orientation for students entering the Bachelor of Nursing (Integrated) Program (B.N.I.). Time to be determined. Will follow the CSI: McGill (Cegep Students Information) Session in June - Watch for further information on McGill in Mind regarding the scheduling of this event.
June 1, 2010, Tues.	IFT	P&OT	Deadline for inter-faculty transfer applications to School of Physical and Occupational Therapy for the **Fall 2010 term**.
June 1, 2010, Tues.	IFT	→	Deadline for inter-faculty transfer applications to faculties of Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering (except Architecture), Management and Science for the **Fall 2010 term**. This deadline also applies to Continuing Education students wishing to transfer into Management.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
June 1, 2010, Tues.	IFT	REL	Deadline for inter-faculty transfer applications to Faculty of Religious Studies for the **Fall 2010 term**.
June 1, 2010, Tues.	PREXAM	MUS	Application deadline for September practical examinations in Music. (Summer graduands only.)
June 1, 2010, Tues.	READ	ENG	Deadline for application for readmission to Faculty of Engineering (including Architecture) for the **Fall 2010 term**.
June 1, 2010, Tues.	READ	MUS	Deadline for application for readmission to Schulich School of Music for students not required to re-audition for the **Fall 2010 term**.
June 1, 2010, Tues.	READ	REL	Deadline for application for readmission to Faculty of Religious Studies for the **Fall 2010 term**.
June 4, 2010, Fri.	LEC/EXAM/ STAGE	NURS	Last day of lectures, Clinical Placement (including examinations) for U2 and U3 Bachelor of Science (Nursing) students.
June 8, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative)	**REG**	⟶	Registration for Fall 2010 and Winter 2011 using Minerva begins for all newly-admitted undergraduate students in the following faculties who have been admitted from Quebec CEGEPs: Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering including Architecture, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science (including Medical Prep. and Dental Prep. students), and Social Work.
June 11, 2010, Fri.	LEC/EXAM/ STAGE	NURS	Last day of lectures, Clinical Placement (including examinations) for U1 Bachelor of Science (Nursing) students.
June 11, 2010, Fri.	STAGE	NURS	Last day of clinical for Bachelor of Nursing Integrated Program students in NUR1 331.
June 15, 2010, Tues.	APP	REL	Application deadline for Fall admission to Faculty of Religious Studies, BTh Program.
June 15, 2010, Tues.	**REG**	NURS	Registration deadline for Fall NUR1 clinical courses to guarantee placement.
June 15, 2010, Tues.	READ	NURS	Deadline for application for readmission to School of Nursing for the **Fall 2010 term** via Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
June 18, 2010, Fri.	LEC	DENT	Last day of lectures for 2nd year Dentistry students.
June 18, 2010, Fri.	LEC	MED	Last day of lectures for 2nd year Medicine students.
June 23, 2010, Wed.	STAGE	D & HN	Last day for NUTR 311, Stage in Dietetics 2B.
June 24, 2010, Thurs.	HOLIDAY	⟶	**LA FÊTE NATIONALE DU QUÉBEC.** (Classes cancelled). Administrative offices closed. Libraries closed.
June 25, 2010, Fri.	LEC/EXAM	DENT/MED	Last day of lectures (including examinations) for 1st & 3rd year Dentistry students and 1st year Medicine students.
June 28, 2010, Mon.	STAGE	D & HN	Placements begin for NUTR 209, Professional Practice Stage 1B (Dietetics).
July 2010			
July 1, 2010, Thurs.	HOLIDAY	⟶	**CANADA DAY.** (Classes cancelled). Administrative offices closed. Libraries closed.
July 1, 2010, Thurs.	APP	⟶	Application deadline for Special and Visiting Student admission to Agricultural and Environmental Sciences, Architecture, Arts, Education, Engineering, Management, Science, Nursing, Occupational Therapy, Physical Therapy or Social Work from applicants (Canadians) who last studied at college or university inside Canada.
July 1, 2010, Thurs.	READ	EDUC	Deadline for application for readmission to Faculty of Education for the **Fall 2010 term**.
July 2, 2010, Fri.	LEC/EXAM	DENT	Last day of lectures (including examinations) for 2nd year Dentistry students.
July 6, 2010, Tues. (Tentative)	**REG**	CE	Registration using Minerva begins for returning students in Continuing Education for Fall courses and programs.
July 8, 2010, Thurs. (Tentative)	**REG**	CE	Registration using Minerva begins for newly-admitted students in Continuing Education for Fall courses and programs.
July 13, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative)	**REG**	NEW LAW	Registration for Fall 2010 and Winter 2011 using Minerva for all newly-admitted students in Law.
July 13, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative)	**REG**	NEW GRAD	Registration using Minerva for all newly-admitted students in Graduate Studies.
July 13, 2010, Tues. (Tentative)	**REG**	CE	Registration using Minerva begins for returning Continuing Education Special students for Fall courses and programs.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
July 15, 2010, Thurs.	SUPP	→	Application deadline for supplemental examinations for courses ending in the Winter 2010 term (including multi-term courses ending in Winter term) for Arts (including School of Social Work), Education, Law, Nursing (including courses ending in the Summer Term), Physical and Occupational Therapy, Religious Studies, and Science (supplemental exams not available for Agricultural and Environmental Sciences, Engineering (see section 9.3.5.10 "Deferred Examinations") or Management courses).
July 15, 2010, Thurs.	READ	→	Deadline for application for readmission to the Faculties of Arts, B.A. & Sc., and Science for the **Fall 2010 term**.
July 19, 2010, Mon.	LEC	MED	Lectures begin for 3rd year Medicine students. (Intro. to Clerkships)
July 23, 2010, Fri.	EXAMS	MED	Exam for Intro. to Clerkships 3rd year Medicine students.
July 23, 2010, Fri.	STAGE	D & HN	Last day for NUTR 209, Professional Practice Stage 1B (Dietetics).
July 26, 2010, Mon.	LEC	MED	Lectures and Rotations begin for 3rd & 4th year Medicine students. (Clerkships)
July 26, 2010, Mon. (Tentative)	**REG**	RET	Last day for returning students in all faculties (except Continuing Education) to register without a late registration fee.
July 27, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative)	**REG**	RET	Late registration and course change on Minerva for returning students in all faculties (except Continuing Education) with a $50 late registration fee ($20 for Special students and Graduate part-time students).
July 27, 2010, Tues. to Sept. 1, 2010, Wed. (Tentative)	**REG** NOTE	NEW →	Registration for Fall 2010 and Winter 2011 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university: Agricultural and Environmental Sciences, Arts, B.A. & Sc., Education, Engineering including Architecture, Management, Music, Nursing, Physical and Occupational Therapy, Religious Studies, Science and Social Work. **Note:** Students admitted from Quebec CEGEPs have access to registration as of **June 8**.
July 28, 2010, Wed. to Sept. 1, 2010, Wed. (Tentative)	**REG** NOTE	NEW →	Registration for Fall 2010 and Winter 2011 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is high school: Arts, B.A. & Sc., Education, Management, Music, Religious Studies and Social Work. Students admitted from Quebec CEGEPs have access to registration as of **June 8** and those whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**.
July 29, 2010, Thurs. to Sept. 1, 2010, Wed. (Tentative)	**REG** NOTE	NEW →	Registration for Fall 2010 and Winter 2011 using Minerva for all newly-admitted undergraduate students in the following faculties whose highest level of education prior to registering at McGill is high school: Agricultural and Environmental Sciences, Engineering including Architecture, Nursing, Physical and Occupational Therapy, and Science. Students admitted from Quebec CEGEPs have access to registration as of **June 8**; students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university have access to registration as of **July 27**; and students whose highest level of education prior to registering at McGill is high school and going into Arts, B.A. & Sc., Education, Management, Music, Religious Studies, and Social Work have access to registration as of **July 28**.
August 2010			
Aug. 1, 2010, Sun.	APP	LAW	Application deadline for Law Special applicants for the Fall 2010 term.
Aug. 3, 2010, Tues. to Aug. 17, 2010, Tues. (Tentative)	**REG**	MED/DENT	Registration using Minerva for 1st year Medicine and Dentistry students.
Aug. 9, 2010, Mon. to Aug. 12, 2010, Thurs.	EXAMS	MED/DENT	Deferred and supplemental examinations in Medicine/Dentistry for year 1 and year 2 students. (see *Medicine Health Calendar* section 6.4.4 "Evaluation System")
Aug. 9, 2010, Mon. to Aug. 19, 2010, Thurs.	EXAMS	LAW	Deferred and supplemental examinations in Law.

DATE	ACTIVITY CODE	FACULTY/ SCHOOL	ACTIVITY
Aug. 15, 2010, Sun.	INFO	⟶	Last day for students to request fee exemptions and to submit legal documents for proof of Canadian citizenship and proof of Quebec residency to the Enrolment Services Office for the Summer 2010 term. Students in Continuing Education should submit their documents directly to the Centre for Continuing Education. Documents received after this date will be updated for the following term only.
Aug. 15, 2010, Sun.	IFT	NURS	Deadline for inter-faculty transfer applications to Bachelor of Science (Nursing) for the **Fall 2010 term** via Minerva. See Nursing website: www.mcgill.ca/nursing/prospective.
Aug. 15, 2010, Sun.	READ	MGMT	Deadline for application for readmission to Desautels Faculty of Management for the **Fall 2010 term**.
Aug. 15, 2010, Sun.	READ	A&ES	Deadline for application for readmission to Agricultural and Environmental Sciences for the **Fall 2010 term**.
Aug. 17, 2010, Tues. to Aug. 19, 2010, Thurs. (Tentative)	**REG**	MED/DENT	Must confirm registration by attending mandatory in-faculty confirmation of registration and orientation for 1st year Medicine and Dentistry students (3 days).
Aug. 17, 2010, Tues. & Aug. 18, 2010, Wed.	EXAMS	A&ES	Deferred examinations in the Faculty of Agricultural and Environmental Sciences for Winter 2010 courses.
Aug. 18, 2010, Wed. & Aug. 19, 2010, Thurs.	EXAMS	⟶	Deferred and supplemental examinations for courses ending in the Winter 2010 term (including multi-term courses ending in the Winter term) for Arts, Education, Management (Deferred Exams only), Nursing (including courses ending in the Summer term), Physical and Occupational Therapy, Religious Studies, Science, Social Work and Engineering (see section 9.3.5.10 "Deferred Examinations").
Aug. 18, 2010, Wed. (Tentative)	**REG**	MED	Orientation for Med-P students.
Aug. 23, 2010, Mon. (Tentative)	LEC	DENT/MED	Lectures begin in the Faculty of Dentistry for 1st year students and in the Faculty of Medicine for 1st year students.

2 The University

Table of Contents

2.1 History, page 47
2.2 Incorporated and Affiliated Colleges, page 47
2.3 University Government, page 47
2.4 Recognition of Degrees, page 48
2.5 Governance, page 48
2.5.1 Visitor, page 48
2.5.2 Board of Governors, page 48
2.5.3 Members of Senate, page 48
2.6 Administration, page 48
2.6.1 Deans, Directors of Schools and Libraries, page 49
2.7 Student Governance, page 49

2.1 History

The Hon. James McGill, a leading merchant and prominent citizen of Montreal, who died in 1813, bequeathed an estate of 46 acres called Burnside Place together with £10,000 to the "Royal Institution for the Advancement of Learning" upon condition that the latter erect "upon the said tract or parcel of land, an University or College, for the purpose of education and the advancement of learning in this Province"; and further upon condition that "one of the Colleges to be comprised in the said University shall be named and perpetually be known and distinguished by the appellation of 'McGill College'."

At the time of James McGill's death, the Royal Institution, although authorized by law in 1801, had not been created, but was duly instituted in 1819. In 1821 it obtained a Royal Charter for a university to be called McGill College. Further delay was occasioned by litigation, and the Burnside estate was not acquired until March 1829. The Montreal Medical Institution, which had begun medical lectures at the Montreal General Hospital in 1822, was accepted by the College as its Faculty of Medicine in June 1829. After further litigation, the College received the financial endowment in 1835 and the Arts Building and Dawson Hall were erected. The Faculty of Arts opened its doors in 1843.

Progress, however, was slow until the 1821 Charter was amended in 1852 to constitute the members of the Royal Institution as the Governors of McGill College. Since that time the two bodies have been one. It was first called "The University of McGill College" but in 1885 the Governors adopted the name "McGill University." Even after the amended charter was granted, little advance was made until 1855 when William Dawson was appointed Principal. When he retired 38 years later, McGill had over 1,000 students and Molson Hall (at the west end of the Arts Building), the Redpath Museum, the Redpath Library, the Macdonald Buildings for Engineering and Physics, and a fine suite of medical buildings had been erected.

Since then the University has continued to grow vigorously. In 1884 the first women students were admitted and in 1899 the Royal Victoria College was opened, a gift of Lord Strathcona, to provide separate teaching and residential facilities for women students. Gradually, however, classes for men and women were merged.

In 1905 Sir William Macdonald established Macdonald College at Sainte-Anne-de-Bellevue, as a residential college for Agriculture, Household Science, and the School for Teachers. Those components have since become the Faculty of Agricultural and Environmental Sciences, which includes the School of Dietetics and Human Nutrition, on the Macdonald Campus, and the Faculty of Education, located on the downtown campus. The University's general development has been greatly facilitated by the generosity of many benefactors, and particularly by the support of its graduates, as regular public funding for general and capital expenditures did not become available until the early 1950s. Since that time government grants have become a major factor in the University's financial operations, but it still relies on private support and private donors in its pursuit of excellence in teaching and research.

The University now comprises 11 faculties and 10 schools. At present over 32,000 students are taking credit courses; one in four is registered in Graduate Studies.

The University is also active in providing courses and programs to the community through the Centre for Continuing Education.

2.2 Incorporated and Affiliated Colleges

INCORPORATED COLLEGE

Royal Victoria College
3425 University Street, Montreal, QC H3A 2A8

The Royal Victoria College, a non-teaching college of McGill University, provides residential accommodation for women students.

AFFILIATED THEOLOGICAL COLLEGES

Montreal Diocesan Theological College
3473 University Street, Montreal, QC H3A 2A8
Principal: J. M. Simons; B.A.(Bishop's), S.T.B. (Trinity, Toronto), Ph.D.(Georgetown)

Presbyterian College of Montreal
3495 University Street, Montreal, QC H3A 2A8
Principal: J. Vissers; B.A.(Tor.), M.Div.(Knox, Toronto), Th.M.(Princeton), Th.D.(Knox, Toronto)

United Theological College of Montreal
3521 University Street, Montreal, QC H3A 2A9
Principal: P. Joudrey; B.A., M.Div.(Acadia), D.Min.(Andover Newton)

The above three colleges train students for the ministry and grant certificates for ordination but they have remitted their degree-granting powers, except with respect to the M.Div. and honorary doctorates, to the University.

2.3 University Government

McGill University is a corporation created by a Royal Charter granted by the Crown of the United Kingdom, a general supervisory power being retained by the Crown and exercised through the Governor General as Visitor.

The Governors of the University constitute the Royal Institution for the Advancement of Learning, a corporation existing under the laws of the Province of Quebec. In them is vested the management of finances, the appointment of professors, and other duties. Twelve of the governors are elected by the Board from amongst those nominated by its membership committee; three are elected by the Alumni Association; two are elected by Senate from amongst its members; two elected by the full-time administrative and support staff from amongst its members; two elected by the full-time academic staff; and two elected by students from amongst the student body. The Board elects the Chancellor of the University and also, from amongst its members, a chair to preside at its meetings, who may also be the Chancellor. The Chancellor and the Principal are ex officio members.

The Chancellor is presiding officer of Convocation and of joint sessions of the Board of Governors and the Senate.

The Chair of the Board of Governors is President of the Royal Institution for the Advancement of Learning.

The Principal and Vice-Chancellor is the chief executive officer of the University, appointed by the Board of Governors after consultation with a Statutory Committee to Nominate a Principal. The Principal is, ex officio, Chair of Senate.

The Senate is the highest academic authority of the University and has control over admission, courses of study, discipline, and degrees. The regulations of Senate are executed

by the various faculties and schools, which also carry primary responsibility for the educational work of the University.

2.4 Recognition of Degrees

The Royal Institution for the Advancement of Learning (McGill University) is a publicly funded institution and holds a Royal Charter dated 1821 (amended in 1852) as well as being incorporated under the laws of the Province of Quebec.

McGill University was a founding member of the organization which evolved into the current Association of Universities and Colleges of Canada (A.U.C.C.) in which it remains very active. In addition, McGill University is a member of the American Association of Universities (A.A.U.). It is also a member of the Association of Commonwealth Universities and the International Association of Universities. Its undergraduate, professional and graduate degrees, including doctorates in a full range of disciplines, have been recognized by educational, government and private organizations worldwide for decades.

All of McGill's degree programs are approved by the Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) and the Conférence des recteurs et des principaux des universités du Québec (CREPUQ).

2.5 Governance

(As of January 2009)

2.5.1 Visitor

The Governor General of Canada
Her Excellency The Right Honourable Michaëlle Jean

2.5.2 Board of Governors

BOARD OF GOVERNORS

Robert Rabinovitch; B.Com.(McG.), M.A., Ph.D.(Penn.) **Chair**

Richard W. Pound; O.C., O.Q., Q.C., C.A., B.Com.(McG.), B.A.(Sir G.Wms.), B.C.L.(McG.) **Chancellor**

Heather Munroe-Blum; O.C., B.A., B.S.W.(McM.), M.S.W.(W. Laur.), Ph.D.(N. Carolina)
Principal and Vice-Chancellor

Members
Roshi Chadha
Stuart (Kip) Cobbett; B.A., B.C.L.(McG.)
Lili de Grandpré; B.A.(Western), M.B.A.(McG.)
Darren Entwistle; B.Econ.(C'dia), M.B.A.(McG.)
Kathy Fazel; B.Com. (McG.)
Morna Flood Consedine; B.A.(C'dia), M.Ed., D.Ed.(McG.)
Trevor Garland; B.Sc.(McG.)
Kohur GowriSankaran; B.A., M.A.(Madr.), Ph.D.(Bombay)
Daniel Guitton; Dipl. IVK(U. Libre de Brux.), B.Eng., M.Eng., Ph.D.Eng., Ph.D.Physiol.(McG.)
David N. Harpp; A.B.(Middlebury), M.A.(Wesl.), Ph.D.(N. Carolina)
Eric Maldoff; B.A., B.C.L., LL.B.(McG.)
Michael Meighen; B.A.(McG.)
Jan Peeters; B.Eng.(McG.)
Gary Pekeles; B.Sc.(McG.), M.Sc.(McG.), MDCM(Baylor)
Michael Richards; B.A., B.C.L.(McG.)
Gerald Sheff; B.Arch.(McG.), M.B.A.(Harv.)
Ann Vroom; B.A.(McG.)
Thierry Vandal; B.Eng., M.B.A.(Montr.)
Allan Youster

Student Representatives
Students' Society of McGill (1)
Post-Graduate Students' Society of McGill (1)
Observers
McGill Association of Continuing Education Students (1)
Macdonald Campus Students' Society (1)

2.5.3 Members of Senate

Ex-officio
The Chancellor
The Chair of the Board of Governors
The Principal and Vice-Chancellor
The Provost, Deputy Provost, and the vice-principals
The deans of faculties
The Dean of Continuing Education
The Dean of Graduate and Postdoctoral Studies
The Dean of Students
The Director of Libraries

Elected Members
63 members elected by the faculties, the University Libraries, the Board of Governors, and administrative and support staff.
Medical Residents or Postdoctoral Scholars Group (1)
Student Members (19)

2.6 Administration

Heather Munroe-Blum; O.C., B.A., B.S.W.(McM.), M.S.W.(W. Laur.), Ph.D.(N. Carolina)
Principal and Vice-Chancellor

Anthony C. Masi; A.B.(Colgate), Ph.D.(Brown) **Provost**

Morton J. Mendelson; B.Sc.(McG.), Ph.D.(Harv.)
Deputy Provost (Student Life and Learning)

Kathleen Massey; B.A.(York)
University Registrar and Executive Director of Enrolment Services

Jana Luker; B.A.(Guelph), B.Ed., M.Ed.(Tor.)
Executive Director of Services for Students

William F. Foster; LL.B.(Auck.), LL.M.(Br.Col.)
Associate Provost (Policies and Procedures)

Jan Jorgensen; B.A., M.A.(N. Carolina), Ph.D.(McG.)
Associate Provost (Academic Staff and Faculty Affairs)

Martin Kreiswirth; B.A.(Hamilton), M.A.(Chic.), Ph.D.(Tor.)
Associate Provost (Graduate Education) and Dean (Graduate and Postdoctoral Studies)

Chandra Madramootoo; B.Sc., M.Sc., Ph.D.(McG.)
Associate Vice-Principal (Macdonald Campus) and Dean (Faculty of Agricultural and Environmental Sciences)

Sylvia Franke; LL.B., B.Sc.(Tor.) **Chief Information Officer**

Johanne Pelletier; B.A., M.A.(McG.) **Secretary-General**

François R. Roy; B.A., M.B.A.(Tor.)
Vice-Principal (Administration and Finance)

Lynne B. Gervais; B.A.(C'dia)
Associate Vice-Principal (Human Resources)

Jim Nicell; B.A.Sc., M.A.Sc., Ph.D.(Windsor), P.Eng.
Associate Vice-Principal (University Services)

Marc Weinstein; B.A., B.C.L., LL.B.(McG.)
Assistant Vice-Principal (Development and Alumni Relations) and Director (University Campaigns)

Richard I. Levin; B.S.(Yale), M.D.(NYU)
Vice-Principal (Health Affairs) and Dean(Faculty of Medicine)

Sam Benaroya; B.Sc., M.D., C.M.(McG.)
Associate Vice-Principal (Inter-Hospital Affairs)

Denis Thérien; B.Sc.(Montr.), M.Sc., Ph.D.(Wat.)
Vice-Principal (Research and International Relations)

Rima Rozen; B.Sc., Ph.D.(McG.)
Associate Vice-Principal (Research and International Relations)

Alain Dudoit; B.A.(Académie de Caen), B.A., B.Sc., LL.L., M.Sc.(Montr.)
Associate Vice-Principal (Strategic Innovation Partnerships)

Vaughan Dowie **Executive Head of Public Affairs**

2.6.1 Deans, Directors of Schools and Libraries

Deans

Chandra Madramootoo; B.Sc., M.Sc., Ph.D.(McG.)
Agricultural and Environmental Sciences

Christopher Manfredi; B.A., M.A.(Calg.), M.A., Ph.D.(Claremont)
Arts

Judith Potter; B.Sc.(Tor.), M.Ad.Ed.(St. FX), Ed.D.(Tor.)
Continuing Education

Paul J. Allison; B.D.S., F.D.S.R.C.S., M.Sc.(Lond.), Ph.D.(McG.)
Dentistry

Hélène Perrault; B.Sc.(C'dia), M.Sc., Ph.D.(Montr.) **Education**

Christophe Pierre; M.Sc.(Prin.), Ph.D.(Duke) **Engineering**

Martin Kreiswirth; B.A.(Hamilton), M.A.(Chic.), Ph.D.(Tor.)
Graduate and Postdoctoral Studies

Nicholas Kasirer; B.A.(Tor.), B.C.L., LL.B.(McG.), D.E.A.(Paris)
Law

Peter Todd; B.Com.(McG.), Ph.D.(Br.Col.) **Management**

Richard I. Levin; B.Sc.(Yale), M.D.(NYU) **Medicine**

Donald McLean; Mus.Bac., M.A., Ph.D.(Tor.) **Music**

Ellen Aitken; A.B.(Harv.), M.Div.(U. of the South), Th.D.(Harv.)
Religious Studies

Martin Grant; B.Sc.(PEI), M.Sc., Ph.D.(Tor.) **Science**

Jane Everett; M.A.(Car.), Ph.D.(McG.) **Dean of Students**

Directors of Schools and Libraries

Michael Jemtrud; B.Sc., B.Arch., B.A.(Penn. St.), M.Arch.(McG.)
Architecture

Shari R. Baum; B.A.(C'nell), M.S.(Vt.), M.A., Ph.D.(Brown)
Communication Sciences and Disorders

Gregory Dudek; B.Sc.(Qu.), M.Sc., Ph.D.(Tor.)
Computer Science

Kristine G. Koski; B.Sc., M.Sc.(Wash.), Ph.D.(Calif.)
Dietetics and Human Nutrition

Marilyn Scott; B.Sc.(New Br.), Ph.D.(McG.) **Environment**

France Bouthillier; B.Ed.(Que.), M.S.Bl.(Montr.), Ph.D.(Tor.)
Information Studies

Hélène Ezer; B.Sc., M.Sc.(McG.), Ph.D.(Montr.) **Nursing**

Maureen J. Simmonds; B.Sc., M.Sc.(P.T.), Ph.D.(Alta.)
Physical and Occupational Therapy

Wendy Thomson; B.S.W., M.S.W.(McG.), Ph.D.(Brist.)
Social Work

David Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheffield)
Urban Planning

Janine Schmidt; B.A.(Qld.), M.Lib.(N.S.W.) **Libraries**

2.7 Student Governance

All students registered in an undergraduate program on the downtown (McGill) campus are registered members of the accredited Students' Society of McGill University, affectionately known as SSMU (Sm OOO). SSMU acts as your representation on key issues inside and outside of the campus. There are six elected executives of the SSMU who represent all 18,000 plus students on the downtown campus. There is a legislative council which meets twice a month that is comprised of a councillor from all faculty associations. This council of thirty-five members meets to discuss SSMU business.

The SSMU runs over 150 clubs and fourteen services and provides a great deal of extra curricular opportunities for students to balance a life of study with a life of play and also an opportunity to meet other students. The organization also provides event programming like freshman orientation (Frosh) and a winter open air pub (SnowAP). Each faculty and each department also have organizations dedicated to providing extra curricular involvement for their students.

Situated on the downtown campus, the SSMU operates a five-floor building including an international lounge, cafeteria, reading room, club office space and a campus multipurpose venue.

The SSMU offices are located at 3600 McTavish Street, suite 1200 and operate between the hours of 9:00 a.m. to 5:00 p.m. during the year and 10:00 a.m. to 4:00 p.m. in the summer.

For more information regarding student government at McGill you can contact:

President: **pres@ssmu.mcgill.ca**

Vice President Clubs and Services: **cs@ssmu.mcgill.ca**

Vice President Internal Affairs: **internal@ssmu.mcgill.ca**

Vice President External Affairs: **external@ssmu.mcgill.ca**

Vice President Finance and Operations: **operations@ssmu.mcgill.ca**

Vice President University Affairs: **ua@ssmu.mcgill.ca**

Or visit the website at www.ssmu.ca.

Welcome to McGill and we look forward to representing your interests.

3 General University Information and Regulations

Table of Contents

3.1 General Policies and Information, page 51
- 3.1.1 Authorization, Acknowledgement and Consent, page 51
- 3.1.2 Student Rights and Responsibilities, page 51
- 3.1.3 Language Policy, page 52
- 3.1.4 Policy Concerning Access to Records, page 52
- 3.1.5 Email Communication, page 52
- 3.1.6 Academic Integrity, page 52
- 3.1.7 Proper Use of Computing Facilities, page 52
- 3.1.8 Non-smoking Policy, page 52
- 3.1.9 Health Professions – Immunization Requirement, page 52
- 3.1.10 Health Insurance – International Students, page 53
- 3.1.11 Health Insurance – Canadian Residents, page 53
- 3.1.12 Special Medical Needs, page 53
- 3.1.13 Minerva, page 53
- 3.1.14 *my*McGill, page 53

3.2 Personal Information, page 53
- 3.2.1 Updating Personal Information, page 53
- 3.2.2 Legal Documents, page 53
- 3.2.3 Identification (ID) Cards, page 55
- 3.2.4 Name, page 56
- 3.2.5 Verification of Name, page 56

3.3 Registration, page 56
- 3.3.1 Registration Periods, page 56
- 3.3.2 Class Schedule, page 57
- 3.3.3 Course Load, page 57
- 3.3.4 Changing Programs within Selected Faculties, page 57
- 3.3.5 Quebec Inter-University Transfer Agreement (IUT), page 57
- 3.3.6 Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option, page 58
- 3.3.7 Course Change Period, page 58
- 3.3.8 Regulations Concerning Course Withdrawal, page 59
- 3.3.9 Regulations Concerning University Withdrawal, page 59
- 3.3.10 Deferred Admission, page 59
- 3.3.11 Summer Term/Summer Studies, page 60
- 3.3.12 Inter-Faculty Transfer, page 60
- 3.3.13 Readmission, page 60
- 3.3.14 Auditing of Courses, page 60

3.4 Fees, page 61
- 3.4.1 Fee Information Booklet (electronic), page 61
- 3.4.2 Access to Fee Information, page 61
- 3.4.3 Tuition Fees, page 61
- 3.4.4 Compulsory Fees, page 61
- 3.4.5 Administrative Charges, page 61
- 3.4.6 Other Fees, page 62
- 3.4.7 Billings and Due Dates, page 62
- 3.4.8 Fees and Withdrawal from the University, page 62
- 3.4.9 Other Policies Related to Fees, page 63
- 3.4.10 Deferred Fee Payment, page 63
- 3.4.11 Other information, page 64
- 3.4.12 Yearly Fees and Charges by Faculty, page 64

3.5 Student Records, page 64
- 3.5.1 Academic Standing, page 64
- 3.5.2 Credit System, page 64
- 3.5.3 Grading and Grade Point Averages (GPA), page 64
- 3.5.4 Unexcused Absences, page 65
- 3.5.5 Incomplete Courses, page 65
- 3.5.6 Transfer Credits, page 65
- 3.5.7 Verification of Student Record, page 66
- 3.5.8 Changes to Student Records after Normal Deadlines, page 66
- 3.5.9 Transcript of Academic Record, page 66

3.6 Examinations, page 67
- 3.6.1 Examinations – General Information, page 67
- 3.6.2 Final Examinations, page 67
- 3.6.3 Invigilation (Exams from Other Universities), page 68

3.7 Internships, Exchanges and Co-op Programs, page 68
- 3.7.1 Internships and Co-op Programs, page 68
- 3.7.2 Exchange Programs, page 69
- 3.7.3 Field Studies, page 69
- 3.7.4 Quebec Government Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents, page 69
- 3.7.5 Study Abroad Opportunities, page 69

3.8 Scholarships and Student Aid, page 69
- 3.8.1 Entrance Awards for McGill Students, page 69
- 3.8.2 In-Course Awards for McGill Students, page 69
- 3.8.3 Work Study Program, page 70

3.9 Graduation, page 70
- 3.9.1 Graduation Honours, page 70
- 3.9.2 Apply to Graduate, page 70
- 3.9.3 Graduation Approval Query, page 70
- 3.9.4 Replacement Diploma, page 71

3.10 Admission to Professional and Graduate Studies, page 71
- 3.10.1 Language Requirements for Professions, page 71
- 3.10.2 Graduate Studies, page 71

3.1 General Policies and Information

3.1.1 Authorization, Acknowledgement and Consent

When applying for admission to the University, you are bound by and agree to observe all statutes, rules, regulations, and policies at McGill University and the faculty or faculties to which you may be accepted and registered in, including policies contained in the University Calendars and related fee documents. Your obligation as a student begins with your registration and ends in accordance with the University's statutes, rules, regulations, and policies.

You should verify all information or statements provided with your application. Incorrect or false information may jeopardize your admission. The University reserves the right to revoke an admission that is granted based on incorrect or false information in an application or supporting documents.

3.1.2 Student Rights and Responsibilities

The *Handbook on Student Rights and Responsibilities* is published jointly by the Office of the Dean of Students and the University Secretariat. It contains regulations and policies governing your rights and responsibilities as a student at McGill. You will receive it when you get your student ID card at the ID Centre (Downtown and Macdonald Campuses).

The Handbook is also available at www.mcgill.ca/deanofstudents/rights.

3.1.3 Language Policy

The main language of instruction at McGill is English. You have the right to write essays, examinations, and theses in English or in French except in courses where knowledge of a language is one of the objectives of the course.

If you need to improve your English skills, you should take an intensive course in *English as a second language* before or at the start of your studies. Information concerning second-language course offerings can be found in the Faculty of Arts section of this Calendar and in the Summer Studies and Continuing Education Calendars. There are special language requirements for Faculty of Education students; please see Faculty of Education section 8.2.1, "Undergraduate Education Programs".

3.1.4 Policy Concerning Access to Records

The University sends statements of account and all other correspondence directly to students. You retain full control over who has access to your records or accounts; however, officers and members of the University staff also have access to relevant parts of your records for recognized and legitimate use. The University does not send progress reports or any other information to your parents and/or sponsors unless you specifically request it in writing.

In accordance with Quebec's Act Respecting Access to Documents held by Public Bodies and the Protection of Personal Information (the "Access Act"), personal information, including transcripts of academic records, may be released only with the student's authorization. When you apply to McGill, you authorize the University to release certain personal information (name, address, telephone number, email address, date of birth, program and student status) to specific persons and bodies.

The following persons and bodies are included in your information release authorization:

a. Libraries of other Quebec universities with which McGill has reciprocal borrowing agreements (ID number and bar code may also be disclosed to those libraries).
b. *Ministère de l'Immigration et des Communautés culturelles* and/or the *Régie de l'assurance-maladie du Québec* and the *Ministère de l'Éducation, du Loisir et du Sport* (MELS).
c. The appropriate authorities involved with the external or internal funding of your student fees (financial records may also be disclosed to those authorities).
d. The Association of Universities and Colleges of Canada.
e. The Association of Registrars of Universities and Colleges of Canada and the *Conférence des recteurs et des principaux des universités du Québec*, or the member institutions of these organizations, for the purpose of admissions operations and the production of statistics.
f. The school(s) or college(s) that you attended.
g. Students and alumni who have volunteered to speak with admitted students.
h. Student Associations recognized by McGill University for the student category(ies) to which you belong.
i. The McGill Alumni Association.
j. Professional bodies or corporations (e.g., engineers, dentists).
k. McGill Network and Communications Services for the purposes of listing your McGill email address in an online email directory.

If you do not want to authorize the University to disclose personal information to the organizations mentioned above in h, i, j and k, you must complete and submit an Opposition Form, available at Enrolment Services.

3.1.5 Email Communication

All students are assigned a McGill Email Address (usually in the form of firstname.lastname@mail.mcgill.ca) and are given a McGill email mailbox. You can view your McGill Email Address and set your McGill Password on Minerva, under the *Personal Menu*.

Email sent to your McGill Email Address is an official means of communication between McGill University and its students. As with all official University communications, it is your responsibility to ensure you read and act upon University emails in a timely fashion. If you choose to forward University email to another email mailbox, it is your responsibility to ensure that the alternate email mailbox is valid.

You should read the *Code of Conduct for Users of McGill Computing Facilities* and the *Email Communications with Students* policy found under Information Technology on the University Secretariat website at www.mcgill.ca/secretariat/policies/informationtechnology. For more information on email for students, refer to www.mcgill.ca/it and see section 4.6 "For your Information Technology (IT) needs".

3.1.6 Academic Integrity

When submitting work in your courses, you must understand the meaning and consequences of plagiarism and cheating, which are extremely serious academic offences. If you have any doubt as to what might be considered plagiarism when you are preparing an essay or term paper, you should consult the course instructor to obtain appropriate guidelines. You should also consult the student guide to the meaning of plagiarism on the Academic Integrity website at www.mcgill.ca/integrity, where you will find links to instructional tutorials and strategies to prevent cheating. The *Code of Student Conduct and Disciplinary Procedures* includes sections on plagiarism and cheating. You can find the Code in the *Handbook on Student Rights and Responsibilities*, available through the Academic Integrity website or at www.mcgill.ca/deanofstudents/rights.

The possession or use of unauthorized materials in any test or examination constitutes cheating. Responses on multiple-choice exams are normally checked by the Exam Security Computer Monitoring program. The program detects pairs of students with unusually similar answer patterns on multiple-choice exams. Data generated by this program can be used as admissible evidence in an investigation of a possible violation under Section 16 of the *Code of Student Conduct and Disciplinary Procedures*.

The Office of the Dean of Students administers the academic integrity process as described in the *Handbook on Student Rights and Responsibilities*.

3.1.7 Proper Use of Computing Facilities

You must comply with the *Code of Conduct for Users of McGill Computing Facilities* as approved by the University Senate. You can find the Code in the *Handbook on Student Rights and Responsibilities*.

This Code (or policy) is also posted in the University Secretariat listing of *University Policies, Procedures and Guidelines* under Information Technology, at www.mcgill.ca/secretariat/policies/informationtechnology.

3.1.8 Non-smoking Policy

Quebec law prohibits smoking in public buildings.

3.1.9 Health Professions – Immunization Requirement

A compulsory immunization program exists at McGill for students in the health professions, including Dietetics. If you are a new student in those programs, you must complete the immunization program well before classes begin. You can find further information on our website at www.mcgill.ca/studenthealth/forms or by calling the Student Health Service at 514-398-6017.

3.1.10 Health Insurance – International Students

By Senate regulation, all international students (full-time, part-time, half-time, additional session, special, exchange and visiting) and their accompanying dependants who do not have Canadian citizenship or Permanent Resident status must participate in the University's compulsory sickness and accident plan. For enrolment procedures and details on the health insurance plan, consult the International Student Services website. For information concerning rates, see www.mcgill.ca/internationalstudents/health/faq/#3.

All inquiries related to this University policy must be directed to International Student Services.

International Health Insurance
Telephone: 514-398-6012
Email: international.health@mcgill.ca
Website: www.mcgill.ca/internationalstudents/health

3.1.11 Health Insurance – Canadian Residents

If you are a Canadian student from outside Quebec, you should check with your provincial medicare office to ensure that you have valid health coverage while studying at McGill.

If you are a Canadian student who has been living abroad, you may not be eligible for provincial health insurance coverage. To ensure adequate health insurance coverage, you may enrol in the group plan offered through International Student Services. Please note that this option is available only during the first month of your first semester at McGill.

All undergraduate students who pay tuition fees at either the Canadian or Quebec rates and who are members of the Students' Society of McGill University (SSMU) or the Macdonald Campus Students' Society (MCSS) are automatically covered by the Students' Society's Health and Dental Plans. For details on fees, change of coverage dates and on what is covered by the plans, please refer to www.aseq.com. If you're not sure of your eligibility, please contact the *Alliance pour la santé étudiante au Québec (ASEQ)* at 514-789-8775.

3.1.12 Special Medical Needs

If you have special medical needs, have your physician submit appropriate information, on a confidential basis, directly to the Student Health Service; see section 4.3.2 "Student Services – Downtown Campus" for contact information on the Downtown Campus and see section 4.3.3 "Student Services – Macdonald Campus" for Macdonald Campus contact information.

3.1.13 Minerva

Minerva is McGill's web-based information system serving students, staff and faculty. To access Minerva, go to www.mcgill.ca/minerva and click the Login icon. Once logged in to Minerva, you can:

- View class schedules, including course descriptions and spaces available in course sections.
- Register and make course changes.
- View your unofficial transcript and degree evaluation reports.
- View your Permanent Code, citizenship and Quebec residency status and fee information.
- Update personal information such as address, telephone number and emergency contacts.
- Apply to graduate.
- View graduation status and convocation details.
- View your McGill login information to access the Internet and email.
- Order official transcripts.
- Retrieve tax receipts.
- Submit an online course evaluation.
- Apply to McGill and view your application status.

In addition, students in some faculties can use Minerva to change their major or minor programs, and to apply for an Exchange program.

3.1.14 *my*McGill

McGill's web portal, *my*McGill, gives students and staff a personalized interface to the University's information systems.

*my*McGill offers an integrated web experience with a single sign-on (SSO) to several McGill web systems. This allows you to access multiple McGill systems without being prompted for additional logins. To log into *my*McGill, click the *my*McGill tab at the top-right corner of the McGill homepage (www.mcgill.ca) or go to http://my.mcgill.ca.

3.2 Personal Information

3.2.1 Updating Personal Information

It is important to keep your official records up to date, especially your mailing or billing address, because these are used by the University year round. If your address information on file is invalid, incomplete or missing, the University will hold your mail. Once you have provided a valid address, the University will resume sending your mail.

You must update your address(es) and/or telephone number(s) and emergency contact information on Minerva under the *Personal Menu*.

If you are away from campus and do not have access to the Internet, you can request changes by writing to your student affairs office or to Enrolment Services. Your written request must include your signature.

If you need to change important personal information that requires the University to verify official documents, such as a change to your name or citizenship, or correction of your birth date, you must go in person (as soon as possible) to Enrolment Services, James Administration Building, Room 205. Macdonald Campus students can request changes in person at the Student Affairs Office, Laird Hall, Room 106.

3.2.2 Legal Documents

3.2.2.1 Why Does McGill Collect Legal Documents from You?

Tuition fees at McGill vary depending on whether you have provided us with proof that you are a Quebec student, a Canadian out-of-province student, or an international student, as per section 3.2.2.2, "What Documents Does McGill Need from You?".

Some of the documents McGill requests from you help us obtain your **Permanent Code** from the Government of Quebec. This unique 12-character code, is issued by the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS), and is obligatory for all students registered in a Quebec institution.

If you have previously attended school in Quebec, you already possess a Permanent Code - you can find it on your school report card or your CEGEP or university transcript. After you have accepted the University's offer of admission, you can check on Minerva (under the *Personal Menu*) to see if McGill has received your Permanent Code.

You can consult your tuition and legal status (including your Permanent Code) on Minerva. Select *Student Menu* > *Student Accounts Menu* > *View your Tuition and Legal Status*.

3.2.2.2 What Documents Does McGill Need from You?

Follow the instructions in the **first** row of this table that apply to you. **Send clear, legible copies of documents (not originals).**

Quebec and Canadian-Out-Of-Province Students

You have applied to McGill directly from CEGEP or you already have a student record at McGill	• Usually **no documents** are required for your Canadian and/or Quebec status, based on McGill's records or as confirmed by the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS)
You have applied to McGill from another Quebec university	• Canadian birth certificate; or Canadian citizenship card (both sides); or Certificate of Indian status card; or Makivik Society card; or Record of Permanent Resident status (note 3) • For your Quebec residency status, usually no documents are required, unless McGill cannot confirm this from the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS)
You were born in Quebec	• Quebec **birth certificate** (note 1 and 5) • Permanent Code Data Form (note 2 and 6)
You were born (or became a Landed Immigrant) in a Canadian province other than Quebec	• Canadian birth certificate; or Canadian citizenship card (both sides); or Certificate of Indian status card; or Makivik Society card; or Record of Permanent Resident status (note 3) • Permanent Code Data Form (note 2 and 6)
You are a Quebec resident through one of the other situations outlined by the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS)	• Canadian birth certificate; or Canadian citizenship card (both sides); or Certificate of Indian status card; or Makivik Society card; or Record of Permanent Resident status (note 3) • Permanent Code Data Form (note 2 and 6) • Attestation of Residency in Quebec Form (note 6) • **Other supporting documents**, depending on which situation you checked on the above Attestation of Residency Form

International Students

You will be in Canada for less than 6 months (i.e. for only one academic semester)	• Visitors Permit issued by Citizenship and Immigration Canada at your port of entry into Canada • Photo page of your passport and the page stamped by Citizenship and Immigration Canada at your port of entry • Permanent Code Data Form (note 2 and 6)
You will be in Canada for more than 6 months (i.e. for two or more consecutive academic semesters)	• Certificate of Acceptance of Quebec (CAQ) • Permanent Code Data Form (note 2 and 6) • Study Permit issued by Immigration Canada (note 4)

Note 1: You may alternatively provide your Quebec baptismal certificate if it was issued **prior to January 1, 1994,** and clearly shows where you were born and that your baptism in Quebec occurred no more than four months after your date of birth.

Note 2: Your signed Permanent Code Data Form is usually required. If the names of your parents appear on your birth certificate, or if you have already provided McGill with your Permanent Code, you do not need to supply this form.

Note 3: Your Canadian Permanent Resident status can be proved by a copy of your Immigration Canada IMM 5292 document together with your Canadian Permanent Resident card (copy of both sides required). Alternatively, you may provide your IMM 1000 document along with your Permanent Resident card (copy of both sides required).

Note 4: If you are a refugee, you should instead provide your Convention Refugee status document.

Note 5: Usually McGill needs your birth certificate to prove your place of birth in Quebec. If you already have a valid Quebec Permanent Code, but McGill is still charging you Canadian fees, McGill will accept as proof that you qualify for Quebec residency a copy of your Canadian passport that indicates your birth place as being within the province of Quebec.

Note 6: You can find links to download and print the Permanent Code Data and Attestation of Quebec Residency forms at www.mcgill.ca/legaldocuments/forms.

Fee Exemptions

Students in certain categories may be eligible to claim an exemption from the international rate of tuition fees according to the regulations set by the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS).

If you are eligible for one of the exemption categories you are assessed at the Quebec rate of tuition. You can find a list of categories and the required application form at www.mcgill.ca/student-records/fees/exemption and also at Enrolment Services. An exemption will not be granted unless you submit the application form along with your supporting documents to Enrolment Services.

3.2.2.3 Has McGill Received Your Documents?

Quebec/Canadian/International Fees

Once McGill has received your documents, it usually takes McGill one week to process them and update your file accordingly.

- Check your tuition status on the Minerva student accounts menu: *Student Menu* > *Student Accounts Menu* > *View your Tuition and Legal Status*.
- Check the phrase: *Fees currently calculated according to rules for...* This will tell you if you are assessed as: an international student, a Canadian student, or a Quebec student.
- Electronic billing is the official means of delivering fee statements to all students; you may view your e-bill on Minerva. For more information, see the following website: www.mcgill.ca/student-accounts/e-bill.

If you do not agree with your assessment, notify McGill right away. If you provide additional documentation in support of your file after the last day of classes for the given term, McGill cannot accept changes or offer you a lower tuition rate for that term.

Permanent Code

The Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS) usually takes one to four weeks to verify or issue your Permanent Code.

- Check your Permanent Code on Minerva: *Personal Menu* > *Name Change* or alternately via *Student Menu* > *Student Accounts Menu* > *View Tuition Fee and Legal Status*. If your 12-character Permanent Code appears there, your documents are in order. If not, you have not yet provided McGill with your documents listed above or the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS) has not yet confirmed that your documents are sufficient to create a Permanent Code.

3.2.2.4 What Are the Consequences of Not Providing Your Documents?

McGill must receive all proofs of citizenship, requests for Quebec residency, international fee exemptions, and immigration status changes by the end of the last day of classes of a current term for them to take effect for that term. **All requests received after the last day of classes will be processed but your fees will only be lowered for the following term.**

McGill cannot issue you an ID card until all of your documents have been received. Your ID card is essential to use many services on campus, and to take your final exams.

If your Permanent Code is not issued by October 15 (Fall term) or February 15 (Winter term), a hold will be added to your record until McGill has received the necessary documents. This hold will

prevent you from registering or dropping any courses and from obtaining your official transcript. If you are registered in one term or in a one-year program, the University may put a hold on your record earlier in the term.

If your tuition fees are reduced because of the document review process, McGill will waive the difference on any accumulated late payment or interest charges.

3.2.2.5 Where Do I Send my Documents?

You must send in all your documents after you have been accepted to McGill but before your classes begin. **Do not send originals.** Email, fax or mail clear and legible copies of your documents. Write your student ID on the documents so that McGill can match them to your record. The sooner you submit your documents, the sooner the University can update your status and ensure that your record is in order.

By Email:
Follow these steps to submit your legal documents electronically:

1. **Save the attached file in an accepted format:**
   - Standard PDF (.pdf) - encrypted PDFs will not be accepted.
   - Tagged image format (.tif, .tiff; for scans).

Ensure that you save your documents properly in one of the above formats - do not just rename the file extension. Due to the possibility of computer viruses, McGill does not accept Microsoft Word documents (.doc), hypertext files (.htm, .html), JPG, GIF, or any other format.

2. **Ensure that the resolution used is at least 300 dpi** (dots per inch) for an electronic replica (scan) of documentation (e.g., a scan of your birth certificate). The preferred file size is 100KB per image.
3. **Address your email to** legaldocumentation@mcgill.ca **and attach your relevant scanned document(s).** Attach the file(s) to your email; do not include the documents in the body of your email.
4. **Put your First Name, Last Name, and McGill ID number in the subject line of your email.**
   Note: Individual email size (including your attachments) should not exceed 5 MB (5120 KB).

By Mail:
Enrolment Services
Documentation Centre
688 Sherbrooke Street West, Suite 1460
Montreal, QC H3A 3R1 CANADA

By Fax:
514-398-3227

In Person or by Courier:
Enrolment Services
James Administration Building, Room 205
845 Sherbrooke Street West
Montreal, QC H3A 2T5 CANADA

If there is a problem with your documents, contact:
Telephone: 514-398-4474
Email: admissions@mcgill.ca

3.2.3 Identification (ID) Cards

As a student registered at McGill you are required to present an ID card to write examinations, when using libraries and student services and certain laboratories, and to access many residences.

To receive your ID card, you must be a registered student, and you must present your Permanent Code information and proof of legal status in Canada (for a list of acceptable documents, see section 3.2.2 “Legal Documents”).

ID cards will not be issued if any of your legal documents are missing.

Note: you must allow at least three hours after you have registered before applying for your ID card.

Apply for your ID card at these times and locations:

Quebec CEGEP students: Tuesday, June 9 to Tuesday, Sept. 1, 2009. Open 9:00 a.m. to 5:00 p.m. (Note that we are closed on: Wednesday, June 24 and Wednesday, July 1st and weekends). You are encouraged to come during this period to avoid lineups later in August. No international students can be issued an ID card before August 19.	Enrolment Services James Administration Building, Room 205
Canadian and Quebec students: Tuesday, July 28 to Tuesday, Sept. 1, 2009. Open 9:00 a.m. to 5:00 p.m. (except weekends). You are encouraged to come during this period to avoid lineups later in August. No international students can be issued an ID card before August 19.	Enrolment Services James Administration Building Room 205
All students, including international students: Wednesday, August 19 to Friday, August 28, 2009. Open 9:00 a.m. to 5:00 p.m. including Saturday and Sunday, August 22-23.	Lorne M. Trottier Building 3630 University Street
Starting Tuesday, September 1, 2009: Normal office hours.	Enrolment Services James Administration Building Room 205

ID Card Schedule for the Macdonald Campus:

Quebec CEGEP students (newly registered) may obtain an ID card from the Student Affairs Office, Room 106, Laird Hall. Office hours are from 9:00 a.m. to 4:00 p.m., Monday through Thursday and 9:00 a.m. to 3:00 p.m. on Friday throughout the Summer. Please note that the Student Affairs Office will be closed for the statutory holidays of Wednesday, June 24, and Wednesday, July 1.

Canadian and Quebec Students may obtain an ID card August 3 to 22, from 9:00a.m. to 4:00p.m. Monday through Thursday and 10:00a.m. to 3:00p.m. on Friday from the Student Affairs Office, Room 106, Laird Hall. If you are unable to obtain your ID card on one of the above dates, you will be able to obtain it during orientation activities the week of August 24.

International Students may obtain an ID card as of August 19, 2009 from the Student Affairs Office, Room 106, Laird Hall.

As of Tuesday, September 1, 2009, you may obtain an ID card from the Macdonald Campus Student Affairs Office during normal office hours.

Notes:

- If you do not register for consecutive terms you should retain your ID card to avoid having to replace it when you re-register.
- If your card has expired there is no charge for a replacement as long as you hand in the ID card.
- If you change programs or faculties there is no charge as long as you hand in the ID card.
- If your card has been lost, stolen or damaged, there is a $20 replacement fee.
- If you need security access to labs or other facilities, see www.mcgill.ca/security/services/access.

The Student Identification Card is the property of the University, for use by the cardholder only and is not transferable. If you withdraw from all of your courses, you must attach your ID card to the withdrawal form or return it to Enrolment Services (or the Faculty of

Agricultural and Environmental Sciences, Student Affairs Office, Macdonald Campus).

3.2.4 Name

3.2.4.1 Legal Name

This is the name that will appear on your degree, diploma or certificate on graduation, and on your transcript. It is also used by the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS) to create a Permanent Code.

All students are registered under their legal name as it appears in one of the following documents:

1. Canadian birth certificate.
2. Canadian Immigration Record of Landing (IMM1000 or IMM5292 and Permanent Residence card, both sides).
3. Canadian Immigration Study or Work Permit document.
4. Certificate of Acceptance of Quebec (CAQ).
5. International passport (for Canadians, a Canadian citizenship card is required. Note that a Canadian passport is not acceptable).
6. Letter from international student's consulate or embassy in Canada.
7. Marriage certificate issued outside of Quebec (translated into English or French by a sworn officer if in another language). Note that Quebec marriage certificates are only acceptable if issued prior to 1984.

In the case of a variation in the spelling of the name among these documents, the University will use the name on the document that appears first on the above list.

3.2.4.2 Preferred First Name

You can provide a preferred first name on your application for admission or, once admitted, you may send a signed request to Enrolment Services, James Administration Building, Room 205, for the name to be updated on your file.

Your preferred first name appears on class lists (in parentheses beside your legal name) for use by instructors.

3.2.5 Verification of Name

Verify the accuracy of your name on McGill's student records via Minerva. To do this, go to the *Personal Menu* > *Name Change Form*, where you can make minor corrections such as changing case (upper/lower), adding accents and spacing. However, you **cannot** change the name on your record via Minerva. Requests for such changes must be made by presenting official documents (see section 3.2.4 “Name”) in person at Enrolment Services, James Administration Building, Room 205.

3.3 Registration

Once you have confirmed your intention to attend McGill on Minerva at www.mcgill.ca/minerva, you must register by adding courses to your record during the registration periods listed below. You must register on Minerva and can continue to do so throughout the registration period by adding and dropping courses until you have finalized your schedule.

Refer also to Registration information in your faculty section.

All course descriptions are available at www.mcgill.ca/courses. If you are a new student you should refer to the section “Course Information, Regulations and Descriptions” to familiarize yourself with McGill's course numbering system, multi-term course rules, and course terminology.

For fee policies related to registration and withdrawal from courses or withdrawal from the University, please refer to all parts of section 3.4, “Fees”.

3.3.1 Registration Periods

The dates given below were accurate when this Calendar was published. Although changes are not anticipated, you should confirm the dates at www.mcgill.ca/student-records.

Returning Students

Registration will take place between Tuesday, March 31 and Monday, July 27, 2009.

Registration will open in the following order:

Year 3 and Year 4 students:	Tuesday, March 31
Year 2 students:	Thursday, April 2
All other returning students:	Tuesday, April 7

Some faculties and departments set their own schedules for advising and registration as of these dates. Further information is available at the faculty student affairs offices and websites.

To successfully complete registration, you must have an acceptable academic standing from the previous session and have paid any outstanding fees and/or fines.

Newly Admitted Students Entering in September 2009

Registration will take place between Tuesday, June 9 and Tuesday, September 1.

Registration will open in the following order:

Tuesday, June 9, registration opens for students admitted from Quebec CEGEPs.

Tuesday, July 28, registration opens for students whose highest level of education prior to registering at McGill is a French Baccalaureate, International Baccalaureate or at least one year of university.

Wednesday, July 29, registration opens for students whose highest level of education prior to registering at McGill is high school, and who have been admitted to the following faculties/schools/degrees: Arts, B.A. & Sc. degree, Education, Management, Music, Religious Studies, and Social Work.

Thursday, July 30, registration opens for students whose highest level of education prior to registering at McGill is high school, and who have been admitted to the following faculties/schools: Agricultural and Environmental Sciences, Engineering including Architecture, Nursing, Physical and Occupational Therapy, and Science.

If you are a newly admitted student entering in September 2009 and you want to register for courses in the Summer of 2009, you can do so on Minerva. Please check the *Summer Studies Calendar* for further information or see www.mcgill.ca/summer.

Newly Admitted Students Entering in January 2010

Registration will take place between Thursday, December 3, 2009, and Monday, January 4, 2010.

Some faculties and departments require that you meet with an adviser before registration and set specific dates for advising and registration within these dates. Please refer to the faculty sections of this Calendar, as well as to the *Welcome to McGill* booklet or the *Essential Guide for New Students, Macdonald Campus*, which are included with your acceptance package.

3.3.1.1 Late Registration

If you fail to register during the normal registration period, you can register within the period designated by the University for late registration. You will be assessed a late registration fee as listed below:

Returning Students: You may register late from Tuesday, July 28 until and including Tuesday, September 1 with the payment of a late registration fee of $50 ($20 for Special Students).

New, Readmitted, and Returning Students (Fall): You may register late via Minerva from Wednesday, September 2 until

Tuesday, September 15 with the payment of a late registration fee of $100 ($40 for Special Students).

New and Readmitted Students (Winter): You may register late via Minerva from Tuesday, January 5 until Tuesday, January 19 with the payment of a late registration fee of $100 ($40 for Special Students).

Special Late Registration: If you cannot register online during the late registration period, usually due to late admission, you may receive special permission to register in person. This information is included with your letter of acceptance.

3.3.2 Class Schedule

Class Schedule for the upcoming Fall and Winter terms normally becomes available in mid-March at www.mcgill.ca/courses. The Summer term schedule is normally published in January. Class Schedule includes the days and times when courses are offered, class locations, names of instructors, and related information. You can also access the Calendar entries of scheduled courses by clicking the CRN (course reference number) that appears with each course section shown in Class Schedule.

You should make a note of any preregistration requirements for a course, such as placement tests or departmental approval/permission required.

Class Schedule information is subject to change and is updated as courses are added, cancelled, rescheduled or relocated. It is your responsibility to consult Class Schedule at the time of registration, and again before classes begin, to ensure that changes have not caused conflicts in your schedule.

3.3.3 Course Load

It is your responsibility to follow the faculty regulations listed below. When registering on Minerva, you *must not* exceed the maximum credits permitted by your faculty.

For information on course load requirements for entrance scholarships' renewal and in-course awards, see section 3.8.1 "Entrance Awards for McGill Students".

The normal course load in most undergraduate faculties is 15 credits per term. If you carry fewer than 12 credits per term, you are considered a part-time student in that term.

For students in the Faculty of Engineering, Faculty of Education, and Schulich School of Music, the normal course load is 15 to 18 credits per term.

Newly admitted students in Arts, Management, Religious Studies and Science may take up to 17 credits per term.

Students in satisfactory standing may take up to 17 credits per term (18 credits in Music and Engineering).

Students in probationary standing take up to 12 credits per term, with the following exceptions:

- Agricultural and Environmental Sciences: 14 credits.
- Arts: up to 14 credits, with special approval of the Associate Dean.
- Engineering: 13 credits, including repeated courses.
- Music: 14 credits.
- Management: 12 credits maximum of new material.
- Science: up to 14 credits, with special permission of Director, Advising Services.

In some cases a student in probationary standing may add a repeated course in which a grade of D or F was obtained.

Students in Arts, Management, Religious Studies, or Science whose CGPA is above 3.00 may take 18 credits per term; however, you are strongly urged to consult an adviser before doing so.

3.3.3.1 Course Information and Regulations

For course information and regulations, see "Course Information, Regulations and Descriptions".

3.3.4 Changing Programs within Selected Faculties

If you are registered in one of the following, you may add or change programs within your faculty using Minerva:

- Arts
- Science (see Note 2 below)
- Bachelor of Arts and Science degree
- Management (certain programs only)
- Education (certain programs only)
- Engineering (certain programs only)

Certain restrictions apply. In all cases, you should consult the appropriate adviser for approval before making any changes and for faculty-specific regulations concerning program changes.

You are not permitted to use Minerva to change degree (with the exception of Engineering, as below) or to select a program in another faculty or school.

Notes:

1. **Arts, Science, or Bachelor of Arts and Science freshman programs (97 or more credits):** You cannot change programs, but may change options within your freshman program where options are available. Once you have been promoted from the freshman year you will be able to change programs using Minerva as outlined in point 2 of this section.
2. **Arts, Science*, or Bachelor of Arts and Science degree (96 or fewer credits):** You may change major/major concentrations, minor/minor concentrations or faculty programs using Minerva. You may also change into, or out of, an honours program. Some restrictions apply.

   * Science students admitted after September, 2009 are limited to choosing majors or honours programs within the Science group to which they were admitted, but may continue to choose freely from all available minor programs. To change to a major or honours program in another Science group students must make an Intra-Faculty Transfer application, see: www.mcgill.ca/student-records/inter-faculty-transfers.
3. **Desautels Faculty of Management:** You may add or change certain programs using Minerva. Please verify restrictions with the BCom Office.
4. **Faculty of Education students who have registered in the B.Ed. Secondary program:** You may change subjects or options using Minerva. If you are in the B.Sc. Kinesiology program you may add, drop or change minors.
5. **Faculty of Engineering students who have confirmed their offer of admission to the B.Eng. Electrical/Computer/BSE program:** You may select your specific program option using Minerva. You cannot use Minerva to change programs once you have made your initial selection. To make a further change, you must consult an adviser in the Department of Electrical and Computer Engineering. If you are in another program in the Faculty of Engineering you cannot make any program changes using Minerva.

3.3.5 Quebec Inter-University Transfer Agreement (IUT)

The Quebec Inter-University Transfer (IUT) agreement permits concurrent registration at McGill and another Quebec institution.

3.3.5.1 McGill Students

Regular undergraduate and graduate degree, diploma or certificate students registered at McGill may register, with their faculty's permission, at any university in the province of Quebec for three, or in some cases six, **credits** per term in addition to their registration at McGill. These courses, subject to faculty regulations, will be recognized by McGill for the degree that you are registered for, up to the limit imposed by the residency requirements of the program. Normally, you must complete a minimum residency requirement of 60 credits at McGill in order to qualify for a McGill degree (you

should check with your faculty). This privilege will be granted if there are valid academic reasons.

If you want to take advantage of this agreement, consult your student affairs office for details. Note that this agreement is subject to the following conditions:

- The other universities concerned may, at their discretion, refuse the registration of a student for any of their courses.
- You must complete your faculty and program requirements.
- You are responsible for ensuring that the McGill Class Schedule permits you to take these courses without conflict.
- The universities concerned are not responsible for special arrangements in cases of examination or class schedule conflicts.
- Marks earned at the host university will not appear on McGill transcripts or be included in McGill grade point averages.
- If you are attending McGill as an exchange student from outside Quebec, you are not eligible to take courses at another Quebec institution through the IUT agreement.
- You should be aware that late results received from host universities may delay your graduation.

If you are a scholarship holder, you should consult with your student affairs office and the scholarships coordinator concerning eligibility for continuation or renewal of your award(s).

You must initiate an online Quebec Inter-University Transfer (IUT) application to request the required authorizations at www.mcgill.ca/student-records/iut. You may find additional information posted at your faculty website.

Note: Once the Quebec Inter-University Transfer (IUT) application is approved by both the home and host universities, you must register in the same course for which you obtained electronic approval. The method of registration of the host university will vary (e.g., web, in-person, phone, etc.). **You must allow sufficient time to complete and submit your electronic application, because you are responsible for adhering to all the host university's registration deadlines**. If you decide later to drop or withdraw from the course(s) for which approval was granted, you will need to drop or withdraw from the course using the host university's registration method AND submit this change on the online Quebec Inter-University Transfer (IUT) application.

The host institution automatically submits grades for completed courses to McGill.

3.3.5.2 Visiting IUT Students

If you are a student at another Quebec university and you want to take courses at McGill using the Quebec Inter-University Transfer (IUT) agreement, you must initiate an online application to request the required authorizations at www.mcgill.ca/student-records/iut. You should also refer to your home university website for regulations on the number of credits allowed, as well as the policies for transferring the credits.

Note: Once the Quebec Inter-University Transfer (IUT) application is approved by both the home and host universities, you remain responsible for registering in the same course for which you have obtained electronic approval. At McGill, you have to register on Minerva (www.mcgill.ca/minerva). You will be informed via email of the necessary registration steps once your application has been approved. **You must allow sufficient time to complete and submit your electronic application, because you are responsible for adhering to all McGill's registration deadlines**. If you decide later to drop or withdraw from the course(s) for which approval was granted, you will need to drop or withdraw from the course on Minerva AND submit this change on the online Quebec Inter-University Transfer (IUT) application.

McGill automatically submits grades for completed courses to your home university.

3.3.6 Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option

The principle of the Satisfactory/Unsatisfactory (S/U) option is to encourage you to take courses outside the area of your specialization with the view of enabling you to acquire knowledge and skills in a variety of fields.

Where permitted by faculty and program regulations, you may take one elective course per term to be graded under the Satisfactory/Unsatisfactory (S/U) option, to a maximum of 10% of your credits taken at McGill to fulfil the degree requirements.

If you decide to have an elective course graded as Satisfactory/ Unsatisfactory (S/U), you must do so before the Course Change deadline on Minerva as part of the *Student Menu > Registration Menu > Quick Add or Drop Course Sections Menu*. **You cannot make any changes after the Course Change deadline even if you selected the option by mistake**. If the course is a multi-term course, you must select the S/U option by the Course Change deadline of the first part of the course.

The instructor will report grades in the normal fashion. Grades of A through C are converted to "Satisfactory" (S), and grades of D and F are converted to "Unsatisfactory" (U). The courses taken under the S/U option will be excluded from the grade point average calculations, but they will be included in the attempted credits total. Credits for courses with a final grade of S will also be included in the number of credits earned.

Notes:

1. **Desautels Faculty of Management:** The S/U option is not available on Minerva for Management students. Requests for the S/U option can only be made during the official add/drop period. Please contact the BCom Office for details on the conditions that apply.
2. **Faculty of Engineering:** If you select the S/U option for a core course and it is not removed by the Course Change deadline, the student affairs office will remove the option and notify you of the change.
3. **Schulich School of Music:** The S/U option is only applicable to non-music electives.
4. To be considered for in-course awards, including Dean's Honour List designations, and/or the renewal of entrance scholarships, you must complete at least 27 graded credits in the regular academic session, not including courses completed under the S/U option.
5. The S/U option is not available via Minerva to Visiting, Exchange or Quebec Inter-University Transfer Agreement (IUT) students. These students must first contact their home university to ensure that a course taken under the S/U option is acceptable to their home university and that the credits are transferable. After receiving approval from their home university and before McGill's Course Change deadline, they must then consult their McGill faculty student affairs office for approval.
6. Special Students are not eligible to select the S/U option.

For further information, contact your departmental adviser or student affairs office, as appropriate.

3.3.7 Course Change Period

During the initial "Registration Periods" (see section 3.3.1), you may make changes to your course registrations (add or drop courses), subject to the requirements and restrictions of your program and individual courses.

The Course Change deadline coincides with the deadline for late registration. Please see section 1, "Important Dates 2009-10".

If you drop your last Fall course **after** the end of August or drop your last Winter course **after** the end of December, you are considered to be withdrawn from the University. You must follow the procedures for readmission.

If you are registered in the Fall term, you may add and drop Winter term courses throughout the Fall term until the Winter term deadline for course change/late registration.

After the Course Change deadline, you may add courses only with written permission of the instructor, and the Associate Dean or Director of your faculty. A fee will be charged for each course you add.

3.3.8 Regulations Concerning Course Withdrawal

After the Course Change deadline in the Fall and Winter terms, there is a period of a few days during which you may withdraw, with a grade of W and full refund of course fees.

After the Withdrawal (with refund) deadline, there is a period during which withdrawal from a course will also result in a grade of W but no course fees will be refunded.

Courses that begin in the Fall Term
Deadline for withdrawal (grade of W) with refund:
Sunday, September 20, 2009

Deadlines for withdrawal (grade of W) without refund:
- Single-term courses: Sunday, October 18, 2009
- Multi-term courses that begin in Fall term: Tuesday, January 19, 2010

Courses that begin in the Winter Term
Deadline for withdrawal (grade of W) with refund: Sunday, January 24, 2010
Deadline for withdrawal (grade of W) without refund:
- Single-term courses: Sunday, February 14, 2010
- Multi-term courses that begin in Winter term: Saturday, May 15, 2010*

* Note that if you are in multi-term courses with course numbers ending in N1 and N2 (course begins in the Winter term, skips the Summer term, and is completed in the subsequent Fall term) you may withdraw after May 15 and until the end of the Fall term Course Change period by contacting your faculty student affairs office.

After the withdrawal (without refund) deadline but before the end of term, and only under exceptional circumstances, you may be granted permission to withdraw from a course. Permission will not be granted merely because you are doing unsatisfactory work. A grade of W or WF, as appropriate, will appear on your transcript but will not be calculated in your GPA. For further information, consult your faculty student affairs office.

Note:

1. To withdraw from required or complementary courses after the withdrawal (without refund) deadline, you may need to obtain permission from your adviser, and you must fill out and submit a course withdrawal form, available from your faculty student affairs office. Additional restrictions for Music courses are indicated in section 12, "Schulich School of Music".
2. It is solely your responsibility to initiate a course withdrawal by submitting a form to your student affairs office. Neither notification of the course instructor nor discontinuing class attendance is sufficient. The date on which you withdrew is entered on Minerva and is the official date of withdrawal, even if you had stopped attending lectures earlier.
3. Fee refunds, if any, will be in accordance with section 3.4.8, "Fees and Withdrawal from the University".

3.3.9 Regulations Concerning University Withdrawal

If you are considering University withdrawal, you are strongly urged to consult with your adviser and your student affairs office before making a final decision.

Student's Responsibility

It is solely your responsibility to initiate University withdrawal by submitting a form to your student affairs office. Neither notification of the course instructor nor discontinuing class attendance is sufficient. The date on which you dropped or withdrew from all courses is entered on Minerva and is the official date of withdrawal, even if you had stopped attending lectures earlier.

3.3.9.1 Deadlines for University Withdrawal

If you decide not to attend the term(s) in which you are registered, you must officially withdraw from the University within the deadlines indicated. See Withdrawal (W) deadline dates in section 1, "Important Dates 2009-10". If you drop your last Fall or Winter course by the end of the add/drop period of that term you are withdrawn from the University. To return to your studies you must follow the procedures for readmission.

To withdraw from the University by the deadlines indicated below, you must drop or withdraw from all courses on Minerva.

Fall Term:
Deadline for University withdrawal with refund (minus $100 for returning and $200 for new students):
Sunday, September 20, 2009
Deadline for University withdrawal without refund:
Sunday, October 18, 2009

Winter Term:
Deadline for University withdrawal with refund (minus $100 for returning and $200 for new students):
Sunday, January 24, 2010
Deadline for University withdrawal without refund:
Sunday, February 14, 2010

If you are blocked from dropping or withdrawing from your last course on Minerva, you are required to contact your student affairs office, which will supply any forms necessary to complete the University withdrawal as long as you have not missed **the deadline for University withdrawal**.

Note for Faculties of Arts, Engineering, Management, Music, and Science: If you want to withdraw after the deadlines indicated above, under exceptional circumstances you may be granted permission for University withdrawal. You should contact your student affairs office for further information.

Note for Faculty of Agricultural and Environmental Sciences: In addition to the above procedures, if you are a student in the Faculty of Agricultural and Environmental Sciences you must contact your student affairs office for further information on University withdrawal procedures.

3.3.9.2 Consequences of University Withdrawal

Fee refunds, if any, for the term in which you withdraw will be according to section 3.4.8, "Fees and Withdrawal from the University".

Upon withdrawal, you must return your ID card to the University as stated in section 3.2.3, "Identification (ID) Cards".

If you withdraw from the University and want to re-register in a subsequent term, you must follow the procedures for readmission. See section 3.3.13, "Readmission" for more details.

If you withdraw from the University during the Fall term you are considered withdrawn from the entire academic year, regardless of whether you dropped Winter term courses. To return for the Winter term, follow the procedures for readmission.

Note for Faculties of Education, Music and of Agricultural and Environmental Sciences: You do not need to follow the procedures for readmission but must contact your student affairs office.

3.3.10 Deferred Admission

To defer admission to McGill you must make an official request no later than **August 31** for the Fall term and **December 31** for the Winter term to:

Deferral Coordinator
Enrolment Services
James Administration Bldg
Fax: 514-398-4193
Email: deferral@mcgill.ca

Please note that several conditions apply for deferral. These conditions and deadlines will be communicated to you once the University receives your official request.

If you have accepted your offer of admission and registered for courses and now want to defer your admission, you must withdraw from McGill by dropping those courses via Minerva **by the above deadlines** and before submitting a deferral request. If the University grants your request for deferral, your deposit of $200 will be transferred to the deferred term.

If you do not request a deferral by the deadline, you will have to reapply for the next available admission cycle. If you are a registered student and you withdraw after the deadline, you must request readmission through your faculty. See section 3.3.13, "Readmission" for more details.

Note: Applicants to the Schulich School of Music are not eligible to apply for deferred admission.

3.3.11 Summer Term/Summer Studies

The Summer term at McGill covers the months of May to August. During that period a wide array of credit courses from McGill degree programs is offered. Most are month-long courses with lectures every day. These courses are usually accepted for transfer credit by other universities. For more details, consult the Summer Studies Calendar at www.mcgill.ca/summer or the Summer Studies Office at 514-398-5212.

If you take a Summer Studies course to complete your graduation requirements at McGill, you will receive your degree at the Fall Convocation (normally held in November).

It is your responsibility to follow the University and faculty regulations. When registering, you must not exceed the maximum credits permitted by your faculty.

You cannot register for more than 12 credits (Management or Music students, 18 credits) during the summer, at McGill or at other universities, except by special permission of your Associate Dean or Director.

Quebec Inter-University Transfer (IUT) students may take in one summer term a maximum of 1 (one) course regardless of credit weight. Permission to register for more than one course per term must be obtained from the McGill faculty in which the student is registering by using the CREPUQ electronic IUT site at www.crepuq.qc.ca (see section 3.3.5).

3.3.12 Inter-Faculty Transfer

If you are a McGill student and have not graduated and want to transfer into another undergraduate faculty, you may apply using the Minerva *Faculty Transfer/Readmission Menu*, unless otherwise indicated in the table below.

You must also refer to your faculty website for faculty-specific rules and to determine what supporting documents must be submitted for your application. To access the faculty websites, and for more information on faculty transfers, please see www.mcgill.ca/student-records/inter-faculty-transfers.

Faculty/School	Notes	Fall Term Application Deadline	Winter Term Application Deadline
Agricultural and Environmental Sciences, Dietetics and Human Nutrition		June 1	December 1
Architecture	You should contact the Student Affairs Adviser at 514-398-6702 or email mary.lanni@mcgill.ca	May 1	
Arts, B.A. & Sc.	There are no Winter term transfers into Arts.	June 1 (May 1 Social Work)	November 1 B.A. & Sc.
Education	There are no Winter term transfers into Education.	June 1	
Engineering (except Architecture)		June 1	November 1
Management	There is no admission to Management for the Winter term.	June 1	
Music	There is no admission to Music for the Winter term.	January 15	
Nursing		August 15	December 15
Physical and Occupational Therapy	There is no admission to Physical and Occupational Therapy for the Winter term.	June 1	
Religious Studies	Students must apply through the B.Th. Program Coordinator.	June 1	November 1
Science		June 1	November 1

3.3.13 Readmission

To return to McGill after an absence from a Fall and/or Winter term of an academic year, you must submit an application for readmission using Minerva's *Faculty Transfer/Readmission Menu*. In your application state the reasons for your absence from the University and give a summary of your activities during that period.

If you withdrew because of illness, please provide your faculty student affairs office with a medical note to support your application for readmission, stating that you are ready to resume studies.

You must be aware of McGill's time limits for the completion of degrees.

To return to a different faculty after an absence, apply for readmission using Minerva's *Faculty Transfer/Readmission Menu*.

For more details on the readmission process, see www.mcgill.ca/student-records/inter-faculty-transfers. Note that students in the Faculty of Religious Studies must apply through their student affairs office.

Faculty/School	Fall Term Application Deadline	Winter Term Application Deadline
Agricultural and Environmental Sciences, Dietetics and Human Nutrition	August 15	November 15
Architecture	June 1	November 1
Arts, Science, and B.A. & Sc.	July 15	November 15
Education	July 1	Not open for Winter term
Engineering	June 1	November 1
Management	August 15	November 15
Music	June 1	November 15
Nursing	June 15	December 1
Religious Studies	June 1	November 1

3.3.14 Auditing of Courses

McGill does not permit auditing of courses.

3.4 Fees

The information in this section was prepared in early February 2009. Fees for the 2009-10 year will be finalized in late spring. **The University reserves the right to make changes without notice in the published scale of fees**.

Further information regarding fees can be found on the Student Accounts website: www.mcgill.ca/student-accounts.

For information on financial support, see section 3.8, "Scholarships and Student Aid".

3.4.1 Fee Information Booklet (electronic)

The *Fee Information Booklet* will be available on the Student Accounts website www.mcgill.ca/student-accounts/documents in early June. This link will also be sent via your McGill email address shortly after you accept the offer of admission. It contains additional information as well as any fee adjustments that may have been made after the publication of this Calendar. Note that you are bound by the policies and procedures it contains. In the event of any discrepancy, the *Fee Information Booklet* supersedes the Calendar.

3.4.2 Access to Fee Information

You can view your *Account Summary by Term* on Minerva. The Fall 2009 term fees will be accessible as of August 1.

3.4.3 Tuition Fees

Tuition rates are subject to change each academic year. Please access the "Schedule of Fees" on www.mcgill.ca/student-accounts/fees, which will be updated as soon as the fees are announced.

3.4.3.1 Quebec Students and Non-Quebec Students (Canadian or Permanent Resident)

In accordance with provincial government requirements, students must provide proof that they qualify for assessment of fees at the Quebec or non-Quebec Canadian rates; see www.mcgill.ca/student-records/documents for details.

Note: Students who do not submit appropriate documentation by the stipulated deadlines (December 1st - Fall; April 1st - Winter) are billed at the non-Quebec Canadian or the international rate, depending on the documentation submitted. Should your tuition status be changed during the evaluation period, any late payment and/or interest charges accumulated on the difference between the Quebec and Canadian tuition rates will also be waived.

3.4.3.2 International Students

Exemption from International Tuition Fees may be claimed by students in certain categories. Such students, if eligible, are then assessed at the Quebec student rate. A list of these categories and the required application forms can be obtained from Enrolment Services. Information is also available at www.mcgill.ca/student-records/fees/exemption.

For more information concerning Fee Exemptions, please email the Fee Administrator at feecoordinator.es@mcgill.ca.

3.4.4 Compulsory Fees

Rates will be updated and available on the Student Accounts website, www.mcgill.ca/student-accounts, as soon as they become available.

3.4.4.1 Student Services Fees

Student Service fees are governed by the Senate Committee on the Coordination of Student Services, a parity committee composed equally of students and University staff.

These fees are complemented by revenue from the Quebec government, the University, and numerous generous donors, to support the following programs and services: Student Health (including Dental), Mental Health, Counselling and Tutorial, Chaplaincy, Career and Placement, Student Aid and International Student Services, the Office for Students with Disabilities, First-Year Office (including the Francophone Assistant), Off-Campus Housing, and the First Peoples' House.

3.4.4.2 Athletics Fee

The Athletics fee covers athletics facilities, campus recreation such as intramurals, fitness and recreation courses, drop-in recreation, and intercollegiate sports at both the Downtown and Macdonald Campuses.

3.4.4.3 Student Society Fees

Student Society fees are collected on behalf of student organizations and are compulsory. These fees must be approved by the student body through fee referenda according to the constitutional rules of the association or society.

Students vote on changes to Student Society fees during the Spring referendum period.

For Canadian students, the Student Society fees include health and dental insurance. For international students, the Student Society fees include a dental insurance plan. International students are required to participate in the University's compulsory International Health Insurance (IHI) plan. For more information, please contact International Student Services: 514-398-6012.

Rates for the current year may be found at www.mcgill.ca/student-accounts/canadian_insurance.

3.4.5 Administrative Charges

The University charges a number of administrative fees to students that include:

Registration Charge - All students in courses and programs are assessed a registration fee.

Information Technology Charge - The purpose of the information technology fee is to enhance certain technology services provided to students as well as to provide training and support to students in the use of new technology.

Transcripts and Diploma Charge - The University charges a transcripts and diploma fee to all students, which entitles you to order transcripts free of charge and covers the costs of your graduation.

Copyright Fee - All students in courses and programs are charged the copyright fee, which covers the cost of the annual fee that all Quebec universities are required to pay to Copibec (a consortium that protects the interests of authors and editors) for the right to photocopy materials protected by copyright.

You may access the schedule of fees on www.mcgill.ca/student-accounts/fees/compfees/it, which will be updated as soon as the fees for the 2009-2010 academic year are announced.

3.4.6 Other Fees

International Student Health and Accident Plan (compulsory) (based on 2008-09 rates)	
Single	$639
Dependant (one student with one dependant)	$1,794
Family (one student with two or more dependants)	$3,408
Application for Admission	
All Undergraduate programs	$85
All Graduate programs	$100
Admission appeals charge	$100
Late Registration	
After regular registration deadline:	
• All eligible returning students, except Special students and Graduate part-time and additional session students.	$50
• Special students and Graduate part-time and additional session students.	$20
As of the second day of classes:	
• All students except Special students and Graduate part-time and additional session students.	$100
• Special students and Graduate part-time and additional session students.	$40
Late Course Change Fee	$25
Minimum charge upon withdrawal	$100
Rereading Examination Paper (refundable if the letter grade is increased)	$35
Supplemental Examinations, each written paper	$35
Duplicate ID Card	$20
Late Payment charged on balances >$100 as of the end of October (end of February for the Winter term)	$25
Interest on outstanding balances (rate determined in February, to be applicable on June 1, was 14.9% annually in 2008-09))	
Returned cheque charge	$20
Schulich School of Music Fees:	
Audition Fee	$60
Late Music Placement Examination Fee	$50
Late application fee for Music Performance examination (requires permission from Chair, Performance Dept.)	$25
Supplemental Practical Examination in Music	$150
Music Private Lessons Fee (MUIN, MUPG subject code courses)	$500

3.4.7 Billings and Due Dates

3.4.7.1 Confirmation of Acceptance Deposit

When you are admitted to the University, you are required to confirm your acceptance of the offer of admission on Minerva under the *Applicant Menu* at www.mcgill.ca/minerva and you must pay the required $200 deposit by credit card (Visa or MasterCard) at that time.

3.4.7.2 Invoicing of Fees

Fees are assessed on a term-by-term basis.

Electronic billing is the official means of delivering fee statements to all McGill students. Your e-bill includes all charges to your account, including tuition, fees, health insurance and other charges. The University generally produces e-bills at the beginning of the month and sends an email notification to your official McGill email address stating that your e-bill is available for viewing on Minerva. Charges or payments that occur after the statement date appear on the next month's statement, but you can view them immediately on the *Account Summary by Term* under the *Student Accounts Menu* on Minerva (this is the online dynamic account balance view).

Failure to check email on a regular basis *in no way warrants* the cancellation of interest charges and/or late payment fees. Refer to the Student Accounts website at www.mcgill.ca/student-accounts for information on payment due dates.

Term	Payment Due Date
Fall term	
Returning students	August 28, 2009
Students new to the University in Fall	September 29, 2009
Winter Term	
Returning students	January 6, 2010
Students new to the University in Winter	January 29, 2010

Late Payment Fees: If you have an outstanding balance greater than $100 on your account on October 30 (February 26 for the Winter term), you are charged a late payment fee of $25 over and above interest.

3.4.7.3 Guest Access on Minerva

You may choose to give access privileges to a guest on Minerva. These privileges include viewing e-bills/account summaries, tax receipts and e-payment.

The www.mcgill.ca/student-accounts/guest web page describes how to set up this access. You need to provide certain information about the individual you want to access your fee-related information. The guest will be contacted by email and provided with a link to use within a designated time period.

You can cancel guest access privileges at any time.

Note that Student Accounts staff may respond to questions from your authorized guest regarding the information to which they have been given access.

If you do not want to give a guest access privileges to Minerva, you can enter an alternative student billing email address on Minerva to which Student Accounts will send a copy of the monthly e-bill notification. However, if someone has been granted access as a guest and their guest email is the same as a student billing email address, the University will de-activate the student billing email address in order to only notify your guest about the billings once.

You should NOT share your PIN (personal identification number) with anyone, including a guest on Minerva. *Guest Access* allows your guest to view your account information without knowing your PIN.

3.4.8 Fees and Withdrawal from the University

If you decide not to attend the term(s) in which you are registered, you must officially withdraw from the University in accordance with section 3.3.9, "Regulations Concerning University Withdrawal". **Otherwise, you are liable for all applicable tuition and other fees**.

If you use Minerva to drop your last course between September 1 and the end of the withdrawal period with full refund, you will be deemed withdrawn from the University. You are automatically charged a minimum charge of $100 (or your registration deposit fee, whichever is higher) to cover administrative costs of registration.

If you stop attending classes without dropping your courses, you are liable for all applicable tuition and other fees. See section 3.3.9, "Regulations Concerning University Withdrawal".

3.4.8.1 Fee Refund Deadlines

The deadline dates for course refunds are independent of the deadline dates given for withdrawal from courses.

Fall Term - up to and including September 20:
Returning students - 100%* refund (less minimum charge of $100 in the case of complete withdrawal).
New students - 100%* refund (less registration deposit or $100, whichever is higher).

Fall Term - after September 20:
No refund.

Winter Term - up to and including January 24:
Returning students - 100%* refund (less minimum charge of $100 in the case of complete withdrawal).
New students - 100%* refund (less registration deposit or $100, whichever is higher).

Winter Term - after January 24:
No refund.
* Includes tuition fees, society and other fees, student services, registration and transcripts charges, and an information technology charge.

If you want to discuss the refund policy applicable to a special case, contact your faculty student affairs office (Associate Dean or Director).

Music students who, in special circumstances such as illness or injury, receive permission to withdraw from practical instruction after the end of the Course Change period are charged $65 per week for one-hour lessons ($97.50 for one-and-a-half hours) up to a maximum equivalent to the total fees charged for the course.

Full refunds for practical instruction are given up to the last Friday of the Course Change period.

3.4.8.2 Refund Procedures

You are not usually automatically refunded your credit balance as many students choose to keep the balance on account for use for a future term. You may, however, request your credit balance to be refunded at any time, after the course withdrawal with full refund period has passed. For directions on requesting your refund please see www.mcgill.ca/student-accounts/refund.

3.4.9 Other Policies Related to Fees

3.4.9.1 Overdue Accounts

All tuition and fees assessed by the University must be paid in full or arrangements must be made to settle the debt.

Students' accounts are considered **delinquent** if they are not paid in full within 60 days after the bill is issued. McGill places a financial hold on these accounts, preventing students from obtaining official academic transcripts and from accessing Minerva for any registration functions.

Interest: Interest is charged on overdue balances at the monthly rate of 1.24%, multiplied by the balance outstanding at the end of the month (14.9% annually). The rate is evaluated each Spring, and then is set for the following academic year.

Note: You should regularly verify your account balance on Minerva.

The University has no obligation to issue any transcript of record, award any diploma, or re-register a student if you do not pay your tuition fees, library fees, residence fees or loans by their due date.

Information for Registered Students
If you register for a term but still owe amounts from previous terms, you must either pay your account or make payment arrangements with the Student Accounts Office before the end of the course add/drop period. If you have financial difficulty, first contact the Student Aid Office (Brown Student Services Building, Room 3200; 514-398-6013) to discuss the possibility of obtaining financial aid.

If you fail to pay the previous term's fees or to make arrangements to settle your debt prior to the add/drop deadline, the University will cancel your registration in the current and subsequent terms.

Information for Students Who Are No Longer Registered
When students fail to settle their debt or reach a suitable payment arrangement, or fail to provide the Student Accounts Office with up-to-date contact information, the University refers these delinquent accounts to a collection agency. **If neither the University nor the collection agency is able to collect on the account, the University reserves the right to have the student reported to a credit bureau**. You should be aware that the University is entitled to use all legal means to obtain payment and that students are responsible for all costs associated with such actions.

Cancelling Registration for Non-Payment
In accordance with the fee policy stated in section 3.4.9.1, "Overdue Accounts":

The Student Accounts Office will make all reasonable efforts to notify you if your account is delinquent, or if you owe more than $100 from the previous term, before the University cancels your registration for non-payment. The cancellation is effective the last day of the add/drop period unless you settle the account or make payment arrangements with the University by then. If you pay or make payment arrangements with the Student Accounts Office after the add/drop deadline and you want the University to reinstate your registration for the current or subsequent term(s), you must complete the *Request for Reinstatement* form (www.mcgill.ca/files/student-accounts/RequestforReinstatementForm.pdf) and submit it to the Student Accounts Office, which will forward it to Enrolment Services for approval and processing.

3.4.9.2 Acceptance of Fees vs. Academic Standing

Acceptance of fees by the University in no way guarantees that students will receive academic permission to pursue their studies. If it is subsequently determined that your academic standing does not permit you to continue, all fees paid in advance will be refunded by applying to the Student Accounts Office.

3.4.9.3 Fees for Students in Two Programs

Students in two programs normally are billed additional fees for their second program. Depending on the level of the two programs (e.g., one at the undergraduate versus one at the graduate level), you may incur both society and faculty fees and/or additional tuition fees. Consult the Student Accounts website for further details.

You should consult the Fee Coordinator in Enrolment Services for information on tuition fees if you are a student in two programs. Adjustments to bills are made throughout the term in cases where fees cannot be automatically calculated.

3.4.9.4 Quebec Inter-University Transfer Agreements

If you are taking courses as part of the Quebec Inter-University Transfer (IUT) agreement, you are required to pay the fees at your home university. The agreement covers only the transfer of academic credits. International students in undergraduate programs are not usually permitted to take IUT courses. IUT students taking courses at McGill are required to pay additional course charges that are compulsory upon registration, such as special activity charges or course material costs. The University reserves the right to refuse course registrations in non-government-funded activities.

3.4.9.5 Senior Citizens

Financial aid is available for students in need who are aged 65 or over and who are enrolled in full-time degree programs. Contact the Scholarships and Student Aid Office for more information at 514-398-6013.

3.4.10 Deferred Fee Payment

Students with Sponsors

If your fees will be paid by an outside agency such as the Department of Veterans Affairs, CIDA, a foreign government, or your University department (i.e., teaching assistants or demonstrators), you must have written proof of this sponsorship. Your sponsor

must confirm the conditions of their sponsorship in writing on company letterhead to the University. This allows the University to initiate a contract with your sponsor and effect the payment to your fee account. You need to notify the University at least one month before the beginning of the term in which the contract takes effect. For more information and the required forms, see www.mcgill.ca/student-accounts/third.

When a third party agrees to pay fees on behalf of a student, payment is recorded on the fee account, which reduces the balance the student must pay. The University reserves the right to insist upon payment. **If the third party does not pay the promised fees within 90 days of invoicing, the student is responsible for paying the fees plus the late payment fee and accrued interest**.

Students Receiving McGill Scholarships/Awards

Fall Term: The University normally credits McGill scholarships or awards to the recipient's fee account by mid-August. These awards reduce the student's outstanding balance.

Winter Term: Upcoming Winter term scholarships or awards can be viewed by recipients on Minerva once they are processed by the Student Aid Office. These awards are future-dated and are released to the student's fee account by January 4.

Students Receiving Government Aid

The University encourages you to pay your tuition promptly when you receive your government assistance. Interest on outstanding tuition is charged monthly beginning in August for returning students and in September for new students. If you apply for government assistance by June 30 (June 1 for U.S. students), you are entitled to an exemption of interest and/or late payment charges when you receive your government aid award at either the Student Aid Office or the Macdonald Campus Student Services.

Any financial aid you receive must first go toward paying your tuition and student housing fees.

3.4.11 Other information

3.4.11.1 Payment Procedures

Please see the Student Accounts website at www.mcgill.ca/student-accounts/procedure for the various methods of payment available to students and their guests.

3.4.11.2 Tax Receipts

T4A (RL-1), T2202A and Relève 8 slips are issued on Minerva under the Student Accounts Menu by the end of February each year. More information on these slips is available on www.mcgill.ca/student-accounts/tax.

3.4.12 Yearly Fees and Charges by Faculty

Tuition fees at the undergraduate level are based on the number of credits you take.

Please consult the Student Accounts website at www.mcgill.ca/student-accounts/fees for tables of fees by faculty. The University will publish this schedule as soon as the fees for the 2009-2010 academic year are announced.

3.5 Student Records

3.5.1 Academic Standing

You enter the University in satisfactory standing and your academic standing is determined soon after the end of a term based on your faculty's regulations. Standing codes are generated in January for the Fall term, in May for the Winter term, and in September for the Summer term and display on your McGill unofficial and official transcripts. If you receive unsatisfactory standing, you must apply to your faculty for readmission. Consult the appropriate section of this Calendar for the Regulations on Academic Standing for your faculty.

3.5.2 Credit System

The faculties listed in this Calendar use the credit system, where each course is assigned a credit rating reflecting the number of weekly contact hours. In general, a three-credit course indicates three hours of lectures per week for one term but this does not apply to all faculties. Laboratory contact hours usually count for fewer credits. Credits also reflect the amount of effort required and generally assume two hours of personal study for each contact hour.

The credit weight of each course is indicated in parentheses beside the course title.

Note: Credit for multi-term courses (courses with the suffixes: D1, D2; N1, N2; J1, J2, J3) is granted only after successful completion of all components in the specified time frame. For example, a student would have to take D1 and D2 components in consecutive terms and successfully complete them both in order to obtain credit.

Some faculties have specific policies on course credit, so consult your faculty section of the Calendar for more information (e.g., Agricultural and Environmental Sciences: see section 5.5.7 "Credit System"; Engineering: see section 9.3.5.3 "Course Credits"; Science: see section 14.3.6.6 "Course Credit Weight").

3.5.3 Grading and Grade Point Averages (GPA)

Courses can be graded either by letter grades or in percentages, but the official grade in each course is the letter grade. Where appropriate, a class average appears on transcripts expressed as the letter grade most representative of the class performance.

Since Fall 2002, the University has only used letter grades on transcripts and verification forms.

Grades A through C represent satisfactory passes, D a conditional (non-continuation) pass, and F a failure. Certain courses have been approved for Pass/Fail (P/F) grading. Students may also designate elective courses to be graded under the S/U option. See section 3.3.6, "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option".

You must obtain a grade of C or better in courses that you take to fulfil program requirements. You may not register in a course unless you have passed all the prerequisite courses with a grade of C or better, except by written permission of the appropriate department chair.

Grades	Grade Points	Numerical Scale of Marks
A	4.0	85 - 100%
A-	3.7	80 - 84%
B+	3.3	75 - 79%
B	3.0	70 - 74%
B-	2.7	65 - 69%
C+	2.3	60 - 64%
C	2.0	55 - 59%
D	1.0	50 - 54%
F (Fail)	0	0 - 49%

The University assigns grade points to letter grades according to the table above. Your academic standing is determined by a grade point average (GPA), which is calculated by dividing the sum of the course credit, times the grade points by the total course GPA credits. The result is not rounded up to the nearest decimal point.

GPA credits are the credits of courses with grades that are assigned grade points.

$$\text{GPA} = \frac{\Sigma\ (\text{course credit} \times \text{grade points})}{\Sigma\ (\text{GPA course credits})}$$

The *term grade point average* (TGPA) is the GPA for a given term calculated using all the applicable courses at the same level in that term. The *cumulative grade point average* (CGPA) is the GPA calculated using your entire record of applicable courses at McGill at the same level; if you change levels, e.g., from undergraduate to graduate, the CGPA starts again.

This policy took effect in January 2003. Prior to January 2003, if your degree program had changed, e.g., from B.Sc. to B.A., the CGPA started again. For students with academic information prior to Fall 2002, who are registered in a different program or in a different level post-Fall 2002, the transcript displays a special message regarding the CGPA restarting.

If you repeat courses, all results are included in the GPA calculation. Therefore, grades of D or F continue to be used in the CGPA calculation even after you repeat the course or if you take a supplemental examination. Note that credits are only granted once for a repeated course regardless of the passing grade.

3.5.3.1 Other Grades

J — unexcused absence (failed); the student is registered for a course but does not write the final examination or do other required work; calculated as a failure in the TGPA and CGPA.

K — incomplete; deadline extended for submission of work in a course.

KE or K* — further extension granted.

KF — failed to meet the extended deadline for submission of work in a course; calculated as a failure in TGPA and CGPA.

KK — completion requirement waived. Not calculated in TGPA or CGPA.

L — deferred examination.

LE or L* — permitted to defer examination for more than the normal period.

NR — no grade reported by the instructor (recorded by the Registrar).

P — pass; not calculated in TGPA or CGPA.

Q — course continued in next term (applicable only to courses taken pre-Fall 2002).

S — satisfactory; equivalent to C or better in an elective course; not calculated in TGPA or CGPA. (See section 3.3.6, "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option")

U — unsatisfactory; equivalent to D or F in an elective course; not calculated in TGPA or CGPA. (See section 3.3.6, "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option")

W — withdrew; a course dropped, with permission, after the Course Change deadline; not calculated in TGPA or CGPA.

WF — withdrew failing; a course dropped, with special permission in an exceptional case, after faculty deadline for withdrawal from course, the student's performance in the course at that stage being on the level of an F; not calculated in TGPA or CGPA. (Not used by Music.)

WL — faculty permission to withdraw from a deferred examination; not calculated in TGPA or CGPA.

NA or && — grade not yet available.

W-- or -- — no grade; student withdrew from the University, not calculated in TGPA or CGPA.

3.5.4 Unexcused Absences

All students who miss a final exam are given a J grade. The student then has the following options:

a) Ask to be assigned a grade based only on the grades earned for the work submitted up to, but not including, the final exam.

   The grade earned is calculated by adding the grades obtained on the individual pieces of work and a grade of 0 for the portion of the final grade allocated to the final exam. This option is not available if the professor stipulated in the course outline that the final exam is a required part of the evaluation.

b) Request a deferred exam, if the student has the appropriate reasons and documentation.

The student must request option a) no later than four months after the end of the examination period of the original course.

The student must request option b) by the faculty deadlines as indicated in the faculty sections of this Calendar.

Students wishing to appeal a J grade should write to their Associate Dean or Director.

3.5.5 Incomplete Courses

If the instructor decides there is sufficient reason to permit a delay in the submission of required term work, an extension of the deadline after the end of the course may be granted to the student. In this case, the instructor will submit a grade of K (incomplete).

Notes:

1. If the instructor submits a grade of K, he or she will also indicate the date by which the student must complete the work. Consult the faculty sections for maximum extensions.
2. If the instructor submits a new grade within the deadline, both the new grade and the grade of K will appear on your verification forms and unofficial and advising transcript. However, the new grade will replace the K on your official transcript.
3. If you do not complete the required work before the deadline, a grade of KF will be updated on your record. A KF denotes a failed course and is calculated in the TGPA and CGPA as an F.
4. In exceptional circumstances, and with the approval of the Associate Dean or Director, the deadline may be extended further, in which case the grade of KE (further extension granted) appears. If you do not meet the extended deadline, a grade of KF will replace the KE.
5. **Note for Music students**: A Music student who has a mark of K not cleared in mid-May is ineligible for scholarships.
6. If, without a valid excuse, you do not participate in or write a final examination or submit required term work for any courses you were registered in, you will receive a final grade of J (unexcused absence). For more information, see the note regarding J grade above.

3.5.6 Transfer Credits

You may be granted credit for courses passed with a grade of C or better at other universities, as long as you are within the number of credits imposed by McGill's residency requirements and program requirements in some faculties.

In general a maximum of 60 transfer credits from other institutions may be granted. You need a minimum of 60 credits completed at McGill to qualify for a McGill degree. You must be in satisfactory standing in order to be granted the transfer credits. Courses with grades of C-, P, and S are not considered for transfer credits. The letter grades applied by the host institution take precedence over the numerical grades if both are provided.

You need to obtain approval from your student affairs office for courses taken at other universities. In some faculties you need to obtain approval from the student affairs office as well as from your academic adviser before you take the courses, especially if the courses are part of your program requirements.

Grades earned at the host university for transfer courses are not entered on your McGill transcript and are not part of the TGPA or CGPA calculation.

For universities outside Quebec, it is your responsibility to ensure that the host institution sends an official transcript to the student affairs office. You must submit all documents required for approval of your transfer of credits with your faculty at McGill **within four months of completing your exchange program or study away**. If you are studying at another Quebec university on an Inter-University Transfer (IUT) agreement, the host university sends your grade(s) to McGill automatically. For additional information, see section 3.3.5 "Quebec Inter-University Transfer Agreement (IUT)".

Transcripts for transfer courses must meet the following deadlines:

- April 30, if your term of graduation is Winter (Convocation in Spring).
- September 15, if your term of graduation is Summer (Convocation in Fall).
- January 15, if your term of graduation is Fall (degree granted February, Convocation in Spring).

Transcripts not received by the appropriate date are considered for the next graduation period only.

3.5.7 Verification of Student Record

3.5.7.1 Unofficial Transcripts

Subject to section 3.5.8, "Changes to Student Records after Normal Deadlines", you are responsible for verifying your academic record on Minerva using the unofficial transcript to ensure that you are registered in the proper courses, and that the correct program information and expected term of graduation appear on your record.

If you are graduating, verify your record on Minerva before the end of your final term to ensure that the correct expected graduation term appears on your unofficial transcript; if not, you may be overlooked for graduation. You should direct any questions or problems with your record to your student affairs office.

3.5.7.2 Degree Evaluation

Degree Evaluation is a Minerva tool to help students and advisers compare the student's academic record with the requirements of a specific program. If you have access to Degree Evaluation on Minerva you can review your progress within your current program. Also, if you are considering a program change, you can generate a "what-if" comparison of your academic record with the requirements of another program.

The presentation in the Degree Evaluation Report may have a different appearance than the requirements listed in the Calendar. For example, a long listing of courses in the Calendar may be grouped into one course "attribute" on the report.

Degree Evaluation also provides a central record of adviser/faculty-approved adjustments to your program of study, e.g., the replacement of one specified course with another or acceptance of a non-McGill course for credit.

Please note that Degree Evaluation is an advising tool only. A Degree Evaluation Report that indicates program requirements have been satisfied does NOT constitute approval to graduate.

For details regarding Degree Evaluation, including "reading a Degree Evaluation Report," please see www.mcgill.ca/student-records/degree-evaluation.

3.5.8 Changes to Student Records after Normal Deadlines

3.5.8.1 Student Record Changes

Student record changes include the following: course add or course drop, course withdrawal, university withdrawal, program change (including changing minors or concentrations).

3.5.8.2 Registrar Deadlines

Fall term - January 31
Winter term - June 1
Summer term - October 1

3.5.8.3 Before Registrar Deadlines

For record changes after the normal deadlines published in the Calendar, but before the Registrar deadlines above, you must make a request in writing to your Associate Dean or Director, clearly explaining why you could not request the change before these dates. The Associate Dean or Director will review your request and make a decision. If your request is approved, the change is processed according to existing faculty and Enrolment Services student record procedures.

3.5.8.4 After Registrar Deadlines

The University does not normally consider a change requested after the Registrar deadlines listed above. In situations where there are "extraordinary personal" or "extraordinary academic" circumstances that could not have been foreseen prior to these deadlines, you may formally request a student record change from your Associate Dean or Director. If your Associate Dean or Director approves the request, the change will be processed according to faculty and Enrolment Services student-record procedures. For all changes other than grade changes, the faculty will file full documentation that supports the extraordinary circumstances with Enrolment Services.

3.5.8.5 Fee Assessment Consequences

When a change to your student record is made, the revised fee assessment appears on your next fee statement.

If you want to contest the fee assessment, you must make a written request to Enrolment Services. Enrolment Services reviews the extraordinary circumstances described in the supporting documentation provided by your faculty, and consults with the Student Accounts Office if necessary, to decide whether or not to consider the request. Enrolment Services then sends you a letter explaining the decision.

3.5.8.6 Student's Citizenship and/or Immigration or Fee Exemption Status

Note that your faculty does not handle changes related to your citizenship and/or immigration or fee exemption status; please see section 3.2.2, "Legal Documents".

3.5.9 Transcript of Academic Record

3.5.9.1 Unofficial Transcripts

If you require a copy of your student record, access Minerva to view and print an unofficial transcript. This applies to records from 1976 to the present. For pre-1976 records, you must order an official transcript.

3.5.9.2 Official Transcripts

Use Minerva to order an official transcript at *Student Menu* > *Student Records Menu* > *Request Printed/Official Transcript*. If you cannot access Minerva, fill out the *Request for Release of Official Document* form available online at www.mcgill.ca/student-records/transcripts or in person at Enrolment Services (address below), and submit it by mail, by fax, or in person. Note that the form must be signed by the student. To protect privacy, we do not accept telephone or email requests.

Enrolment Services
James Administration Building
845 Sherbrooke Street West, Room 205
Montreal, Quebec H3A 2T5
Fax: 514-398-8939

3.5.9.3 General Information

Transcripts are free of charge.

The University sends official transcripts directly to the addresses provided by the student. If you intend to deliver the transcript to another institution yourself, you can request to receive it in a sealed envelope.

Requests are normally processed in 3 to 5 working days; transcripts requested at peak times and for pre-1976 records take longer.

Enrolment Services is not responsible for transcripts that are lost or delayed in the mail.

The University issues only complete transcripts that record all attempted work and final results obtained in any and all programs. Under no circumstances does the University issue partial transcripts.

Official transcripts are NOT issued for students registered on or after September 2001 who have failed to provide the information and/or documents necessary to obtain or verify their Permanent Code.

Transcripts are not issued if you owe fees or fines over $30.

The University prints official transcripts on secure paper that cannot be copied.

3.5.9.4 Course Numbering on the Transcript

Prior to September 2002, course numbers had a seven-character designation beginning with the three-number code for the teaching unit/department. The next three digits specified the course, with the first of these indicating its level. The final character was a letter indicating the term, or terms, during which the course was offered. For example:
107-200A = Philosophy (107) course (200) in Fall term (A);
301-202B = Architecture (301) course (202) in Winter term (B);
154-230D = Economics (154) course (230) extending for two terms, Fall and Winter (D).

A list of the former Teaching Unit Codes and their Subject Code equivalents is available at www.mcgill.ca/student-records/transcripts.

3.6 Examinations

3.6.1 Examinations – General Information

In addition to the general examination policies listed here, you should consult the faculty sections of this Calendar for particular regulations. You will be informed by the end of the Course Change period of the evaluation method used in each course.

Every student has a right to write term papers, examinations and theses in English or in French except in courses where knowledge of a language is one of the objectives of the course.

You are not permitted to write an examination in any course unless you have fulfilled the requirements of the course to the satisfaction of the instructor and your Associate Dean or Director. Once you have presented yourself for an examination or test, you must submit all written work to the invigilator before leaving.

You must have your valid McGill student ID card with you to write an examination. Forgetfulness is not an acceptable excuse.

You are reminded that cheating in any examination is considered a serious offence that could lead to expulsion from the University. Students are not permitted to have in their possession, or to use, any unauthorized materials during an examination. This includes electronic devices such as cellphones, iPods, MP3 players, PDAs and other web-access devices. Unauthorized items found on the student or desk area during an exam will be confiscated and turned over to the Disciplinary Officer.

Responses on multiple-choice examinations are normally checked by the Exam Security Computer Monitoring Program. The program detects pairs of students with unusually similar answer patterns on multiple-choice examinations. Data generated by the program can be used as admissible evidence either to initiate or corroborate an investigation or a charge of cheating under Section 16 of the *Code of Student Conduct and Disciplinary Procedures*.

All students are responsible for knowing the University Examination Regulations and the *Code of Student Conduct and Disciplinary Procedures*. The regulations are normally posted during the examination period and are available at the following website: www.mcgill.ca/student-records/exam/regulations. Both may be obtained from your student affairs office.

You can find information about issues related to academic integrity at www.mcgill.ca/integrity.

Class Tests
Members of the teaching staff may give interim class tests from time to time.

Special Examination Facilities for the Disabled
If you have a visual or other disability, consult the Coordinator, Office for Students with Disabilities, about the possibility of arranging special examination facilities.

Credit by Examination
In certain exceptional cases and in certain faculties, you can apply to the Associate Dean or Director to write a final examination in order to obtain credit in a course that you were not registered in. This is possible only in those courses where there is no other assessment except the final examination.

3.6.2 Final Examinations

Formal final examinations are held during an examination period at the end of the course term. The dates of the examination periods are listed in section 1, "Important Dates 2009-10".

IMPORTANT NOTE: You are advised not to make travel plans prior to the release of the Final Exam Schedule. Vacation plans *do not* constitute grounds for the deferral or re-scheduling of final exams.

In some courses there is no final examination; your standing in these courses is determined by term work and class tests.

3.6.2.1 University Regulations Concerning Final Examinations

Preamble
The objectives of these regulations are as follows:
1) to protect students from excessive workloads;
2) to use the full 15-week term to maximum advantage.

Regulations

1. These regulations shall apply to undergraduate courses up to and including the 500 level that are evaluated by the use of written examinations. They shall not apply to clinical, field, laboratory, performance, and seminar courses, or to other courses that are evaluated solely by means of a design, paper, program, or project.
2. Written examinations (including take-home examinations) shall not be held during the last two weeks of scheduled classes during the Fall and Winter terms, except where a pattern of continuous evaluation has been established, in which case the total value of examinations given in this period shall comprise no more than 10% of the final mark.
3. If the written examinations in a course constitute 50% or more of the final mark, one of these shall be given as a final written examination; and it shall take place during the examination period after the last day of scheduled lectures in December or April.
4. A final examination given during the examination period shall be worth at least 25% of the final mark.
5. Students shall be informed of all course requirements by the end of the course change period. All term work shall be assigned early enough in the term for students to complete the assignment(s) by the last day of class.

6. The due date for term work in courses to which these regulations apply shall be no later than the last day of classes.
7. In courses that span the Fall and Winter terms (course pairs with numbers ending D1 and D2), instructors who wish to give a mid-year examination in December must schedule it in the formal examination period.
8. The principles enunciated in these regulations shall be applied, appropriately modified, to courses given during the summer, to other courses of less than a 13-week duration, and to courses in the Faculties of Law, Medicine, Dentistry, and Education that do not follow the normal University Timetable.
9. Individual faculties may propose variations in these regulations to the Academic Policy and Planning Committee in order to meet their special needs.
10. These regulations, and any variations to them, shall be made known to students by each faculty.

Instructors are not permitted to grant any special treatment regarding examinations to any student. Students who believe there are circumstances which might justify making special examination arrangements for them or which might legitimately be taken into account in evaluating their performance should apply to the Associate Dean of their faculty (or Director, BCom Program, Desautels Faculty of Management).

It is the responsibility of the student to confirm the date, time and place of the examination by checking examination schedules posted on notice boards on campus and at www.mcgill.ca/students. This information is not available by telephone. No student will be allowed to enter an examination later than one hour after it has started.

3.6.2.2 Deferred Examinations

If, for serious reasons such as illness or family affliction, you have not written one or more examinations, you may receive the permission of your faculty student affairs office to defer the examination to the next supplemental examination period, except in the Faculty of Engineering (where students write the examination the next time the course is given). You should be aware that the University will only defer examinations for compelling reasons, verified and accepted by the student affairs office. You must provide supporting evidence such as an appropriate medical report, and you must inform the student affairs office as soon as possible to explain why you missed the examination.

If you are in one of the following faculties, you must apply for deferred examinations on Minerva: Agricultural and Environmental Sciences, Arts, Education, Engineering, Religious Studies, Science, School of Physical and Occupational Therapy, School of Social Work, and the Centre for Continuing Education. If you do not belong to one of the above faculties, consult your faculty for application procedures.

The final application deadline in Agricultural and Environmental Sciences, Arts, Science, Education, Engineering, Management and the Centre for Continuing Education for deferred examinations is January 15 (for Fall term courses), and May 15 (for Winter term courses and courses that span the Fall and Winter terms).

If your request is approved, an L will appear in place of a grade in those courses. The grade you obtain on the deferred examination will replace the grade of L on your official transcript.

If you receive a grade of D, F, J, or U in a course after a deferred examination, no supplemental examinations will be available. You must either re-register in the same course the following term or in an approved course substitute.

Note for Music students: A Music student who has a mark of L not cleared by mid-May is ineligible for scholarships.

If you are not granted deferred status, you will receive a grade of J in the course, which will count as a failure in the TGPA and CGPA. You may, however, be allowed to write a supplemental examination. **Please note there are no supplemental exams in Agricultural and Environmental Sciences or Management courses. For the Faculty of Engineering, supplemental exams are exceptionally offered for some Science, Humanities and Social Sciences courses. For a list of these courses, see the Faculty of Engineering website (www.mcgill.ca/engineering)**.

For Summer term courses, check with your student affairs office on the availability and restrictions on deferred and supplemental examinations.

In the case of illness, you are urged to consult the McGill Student Health Service. You will need a medical note in support of a request to your Associate Dean or Director for deferred examinations.

If you have already written an examination, you cannot later request for the exam to be deferred. You should consult your student affairs office regarding the availability of supplemental examinations.

3.6.2.3 Reassessments and Rereads

In accordance with the *Charter of Student Rights*, and subject to its stated conditions, you have the right to consult any written submission for which you have received a mark. You also have the right to discuss this submission with the examiner. If you want to have a formal final examination reread, you must apply in writing to your student affairs office (the Associate Dean, Student Affairs, in the Faculty of Agricultural and Environmental Sciences and in the Schulich School of Music). You should check with that office regarding application deadlines for formal rereads.

For more detailed regulations concerning reassessments and rereads, consult your faculty section in this Calendar.

3.6.3 Invigilation (Exams from Other Universities)

Upon request, McGill will act as proctor for exams from other universities or professional accreditation associations. Exams are scheduled on week days at 9:30 a.m., and cannot be scheduled on evenings, weekends, statutory holidays or McGill holidays. This service is limited to written exams.

The Cost

The cost for invigilation and administration is $60.00 per student per exam to be returned in Canada; and $70.00 per student per exam returned in the U.S. and $80.00 for each International exam. Unless otherwise specified by the home institution, you are expected to pay in cash on the day of the exam.

Setting Up

Please confirm the exam date at least 2 weeks in advance of the scheduled exam and provide a telephone number and email address. The meeting point with the invigilator is at Enrolment Services - see address below.

Mailing address for exams

Exams and examination booklets, along with full instructions, should be sent to the address below well in advance of the scheduled exam. Once we receive them, we will confirm this via email with the student.

Enrolment Services
James Administration Building
McGill University
845 Sherbrooke Street West, Room 205
Montreal, Quebec H3A 2T5
Telephone: 514-398-2207
Email: proctor.es@mcgill.ca

3.7 Internships, Exchanges and Co-op Programs

3.7.1 Internships and Co-op Programs

Several faculties at McGill offer undergraduate students the opportunity to participate in an internship or co-op program.

Faculty of Agricultural and Environmental Sciences students, see section 5.1.3.1 “Internship Opportunities and Co-op Experience”.

Desautels Faculty of Management students, see section 11.3.6, "Course Overlap".

Faculty of Engineering students, see section 9.2.9, "EIP: Engineering Internship Program and IP: Industrial Practicum". The Department of Mining and Materials Engineering also offers co-op programs in Metallurgical and Mining Engineering.

Faculty of Science students, see section 14.11.10, "Internship Programs – Industrial Practicum (IP) and Internship Year in Science (IYS)".

Faculty of Arts students, see the Arts Internships website: www.mcgill.ca/arts-internships.

3.7.2 Exchange Programs

For information on Exchange Programs, see section 15.4, "Exchange Programs".

For Desautels Faculty of Management students, see also section 11.1.6, "International Student Exchange Program".

3.7.3 Field Studies

For information on Field Studies, see section 15.3 "Field Studies".

3.7.4 Quebec Government Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents

For information on the Quebec *Government Ministère de l'Éducation, du Loisir et du Sport* (MELS) Travel Awards for Quebec Residents, see section 15.4.3.2 "Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents".

3.7.5 Study Abroad Opportunities

For information on Study Abroad, please refer to section 15.1, "Opportunities for Field Study and Study Abroad" of the Calendar.

3.8 Scholarships and Student Aid

The Scholarships and Student Aid Office offers a complete range of merit and need-based awards for entering and in-course undergraduate students. As well, the office administers all federal, provincial and U.S. government student aid programs. For information and links to government websites, see www.mcgill.ca/studentaid. Comprehensive information concerning all undergraduate awards also appears in the *Undergraduate Scholarships and Awards Calendar* available at www.mcgill.ca/courses or from the Scholarships and Student Aid Office.

3.8.1 Entrance Awards for McGill Students

Undergraduate Entrance Scholarships are available to students entering McGill University in the first year of their first undergraduate degree program. You should consult www.mcgill.ca/studentaid/scholarships/entrancescholarship for details. Highlights include:

- Entrance Scholarships are entirely merit-based; financial need is not considered.
- Value ranges from $3,000 to $10,000.
- There are two types: the One-Year **Basic**, where eligibility is based solely on academic achievement; and the renewable **Major**, based on academic achievement as well as leadership qualities in school and/or community activities.

Application Procedures:

- **Basic:** by applying to McGill, all eligible applicants are automatically considered. No separate application is required.
- **Major:** candidates can apply for a Major Scholarship on the web after their application for admission has been submitted and they have received an email acknowledgment.
- You must ensure that you send in all required supporting documentation.
- Dentistry, Law, Medicine and Music applicants should inquire at their faculty's admissions office regarding availability of awards.
- If you hold a renewable scholarship from the University Committee on Scholarships and Student Aid, it is eligible for renewal only if you meet the McGill standards for renewal. See www.mcgill.ca/studentaid/scholarships/recipients.

Need-Based Entrance Financial Aid: This program offers financial aid to students from families of modest means who require assistance to attend McGill. Upon acceptance to the University, first-year, first-degree students can apply for an entrance bursary on Minerva. The value of the entrance bursary depends on the student's degree of need. Since financial need is the primary factor in the selection of aid recipients, applicants for this program are expected to apply for government student aid programs where eligible.

3.8.2 In-Course Awards for McGill Students

Faculty scholarships and awards are decided by the faculty scholarships committees. You should consult the appropriate section of this Calendar for regulations and information concerning these awards, or the *Undergraduate Scholarships and Awards Calendar*, or the following website: www.mcgill.ca/studentaid/scholarships/in-course.

- Most undergraduate scholarships and awards are granted on the basis of the combined GPA for the Fall and Winter terms, or a ranking in the top 5% of the faculty. Applications are not required unless specifically indicated in the terms of an award.
- To be considered for in-course awards and/or the renewal of entrance scholarships, you must complete at least 27 graded credits in the regular academic year. Courses completed under the Satisfactory/Unsatisfactory option, and Summer courses, are not considered.
- Up to a maximum of 6 credits from courses taken at other Quebec universities through the Inter-University Transfer (IUT) agreement can be counted towards the requirements for scholarship renewal or for consideration for other academic awards. Eligibility is based on all courses taken during the regular academic year, and on both the McGill GPA and the global GPA, which includes the IUT credits.
- You should review all regulations regarding in-course awards by consulting www.mcgill.ca/studentaid/scholarships/in-course/regulations.
- A maximum of the top 10% of students in each faculty are named to the Dean's Honour List. This designation is based on the combined GPA for the Fall and Winter terms and the minimum required CGPA is determined by each faculty. It is an official University recognition of the student's achievements and appears on the transcript. There is no monetary reward.
- Outstanding students, who rank in a maximum of the top 5% of their faculties, may also be considered for the J.W. McConnell and James McGill Awards, which the University Committee on Scholarships and Student Aid awards to top students as ranked and recommended by each faculty.
- All awards, with the exception of prizes, are credited to the tuition fee accounts of students for the following academic year.
- If you hold a renewable scholarship from the University Committee on Scholarships and Student Aid, it is eligible for renewal only if you meet the McGill standards for renewal. See www.mcgill.ca/studentaid/scholarships/recipients.

Need-Based Student Aid: The University offers an In-Course Financial Aid program to full-time undergraduate degree students on

the basis of demonstrated financial need. This aid includes bursaries, short- and long-term loans, a Work Study Program, and a Travel Award Program for exchanges/study abroad. To be considered for McGill financial aid, the University recommends that applicants apply for the maximum government student assistance for which they are eligible. The Scholarships and Student Aid Office oversees all provincial, federal and U.S. student aid programs and disburses government funds.

Student Aid Counsellors are available for consultation on an individual basis to provide advice on budgeting and debt management, and to award financial assistance to needy and deserving students.

3.8.3 Work Study Program

The Work Study Program provides students with financial assistance through part-time employment on campus. Students are accepted into the program based primarily on financial need, though academic standing is also considered. There are a variety of Work Study positions available, ranging from clerical work in an administrative office to research with a professor. In addition to helping you cope with your financial obligations, Work Study also provides practical work experience that may enhance future employment opportunities.

Further information is available on McGill's Work Study website at www.is.mcgill.ca/studentaid/workstudy and at the Scholarships and Student Aid Office:
William & Mary Brown Student Services Building
3600 McTavish Street, Suite 3200
Montreal, QC H3A 1Y2 Canada
514-398-7297
Email: work.study@mcgill.ca
www.mcgill.ca/studentaid/workstudy

Student Aid
Telephone: 514-398-6013
Email: student.aid@mcgill.ca
www.mcgill.ca/studentaid

Scholarships
Telephone: 514-398-4807
Email: scholarships@mcgill.ca
www.mcgill.ca/scholarships

3.9 Graduation

In order to graduate, you must complete faculty and program requirements. **It is your responsibility to meet all faculty and program requirements before graduation**.

You should contact your adviser (Music students should contact the Senior Student Adviser; Graduate students should contact the Graduate Program Director) early in the graduating year to make sure you will meet your program requirements by graduation time.

3.9.1 Graduation Honours

3.9.1.1 Dean's Honour List

If you are graduating with an undergraduate degree, you may be awarded the designation Dean's Honour List under the following conditions:

1) you have completed a minimum of 60 McGill credits towards your degree; and
2) you are in the top 10% of the faculty's graduating class of students; this calculation is based on the CGPA.

Note for transfer students: this designation may be withdrawn if your CGPA at another university or in another faculty at McGill is not comparable to the CGPA earned in your graduating faculty.

3.9.1.2 Distinction

If you are graduating with an undergraduate degree, you may be awarded the designation Distinction under the following conditions:

1) you have completed a minimum of 60 McGill credits towards your degree; and
2) you are in the top 25%, but below the top 10%, of your faculty's graduating class of students; this calculation is based on the CGPA.

Note for transfer students: this designation may be withdrawn if your CGPA at another university or in another faculty at McGill is not comparable to the CGPA earned in your graduating faculty.

Note: the Faculties of Education, Dentistry, Law, Medicine, and the Schools of Architecture, Nursing, as well as the Centre for Continuing Education do not assign the designation of Distinction to graduating students.

Note: the designation of Great Distinction is no longer awarded at graduation. Prior to September 2009, Distinction and Great Distinction were awarded at graduation according to faculty-specific regulations. You can find these rules in the faculty chapters of the 2008-2009 Undergraduate Programs Calendar or any earlier version at www.mcgill.ca/courses.

3.9.2 Apply to Graduate

Most undergraduate students and non-thesis graduate students (master's, certificates, diplomas) must use Minerva to apply to graduate. It is your responsibility to inform McGill of your intention to graduate. You need a minimum residency requirement of 60 credits at McGill to qualify for a McGill degree. The minimum CGPA required to graduate is 2.00.

Deadlines:

- Fall term graduation (courses completed in December for June convocation): You must apply on Minerva by the end of November.
- Winter term graduation (courses completed in April for June convocation): You must apply on Minerva by the end of February.
- Summer term graduation (courses completed by August for October convocation): You must apply on Minerva by the end of March.

If you miss one of these deadlines, contact your faculty student affairs office immediately.

The Application for Graduation is available on Minerva when you register for your final year, **except** if you are in the Faculty of Medicine or Faculty of Dentistry, where you are automatically flagged for graduation in your final year. For more information on how to apply on Minerva, go to www.mcgill.ca/minerva-students/records/graduation.

3.9.3 Graduation Approval Query

As a graduating student you can view the status of your graduation record on Minerva during the Faculty review and approval process (go to *Student Records* > *Graduation Approval Query*). The *Graduation Approval Query* form becomes available to graduating students approximately three to four weeks before the *Degree Granted* notation is updated on their records.

If you have met all requirements for graduation, your student record on Minerva will display the Degree Granted notation at the appropriate time:

- "Late February, for Fall term graduation (Convocation in Spring).
- "Late May, for Winter term graduation (Convocation in Spring).
- "Late October, for Summer term graduation (Convocation in Fall).

See www.mcgill.ca/convocations for information regarding convocation ceremonies.

3.9.4 Replacement Diploma

If your diploma was lost, damaged, or the name on the diploma should be changed, you can request a replacement diploma. You must send a written request plus a certified cheque or money order for CDN $60, payable to McGill University. You should refer to the sections below to determine which situation applies to you. Send your request to:

Enrolment Services
Duplicate Diploma Request
McGill University
James Administration Building, Room 205
Montreal QC H3A 2T5
Email: registration@mcgill.ca

Please note that requests made on behalf of a student must be accompanied by a signed letter of authorization from the student.

To replace a lost diploma: You must provide a sworn affidavit from a notary, a lawyer or a commissioner of oaths certifying that the diploma is lost. The affidavit must include:
your full name; student number; address; phone number; date of birth; degree granted/year granted; and reason for a replacement diploma.

To replace a damaged diploma or change the name on the diploma: You must send or deliver the original diploma, and your letter must include the following information: full name; student number; address; phone number; date of birth; reason for a replacement diploma; and any corrections, additions or deletions.

For name changes: you must include clear and complete photocopies of legal documents supporting your name change request. Please see section 3.2.4 "Name" for the list of acceptable documents. Note that the name change must be processed in the University system before a duplicate diploma can be issued.

To request certified copies of a diploma: McGill provides only one original diploma per student. However, you may obtain certified copies of your diploma. A cover letter bearing your signature and including your full name, student number, address and phone number is required for mail or fax requests. Note that certified copies of your diploma are not sent by fax or email.

To request a translation of a diploma: McGill can provide you certified English or French translations of your diploma as required, free of charge. Please send us a written request specifying the degree to be translated and how many copies you need. You should ensure to include your complete name, address, date of birth and signature. You must allow at least a week for processing and mailing. Note that translated diplomas are not sent by fax or email.

3.10 Admission to Professional and Graduate Studies

If you intend to proceed into Dentistry, Law or Medicine, consult the faculties concerned about their prerequisites for admission.

3.10.1 Language Requirements for Professions

Quebec law requires that candidates seeking admission to provincially recognized professional corporations* must be able to communicate verbally and in writing in French. To demonstrate a working knowledge of French, the professional corporation requires one of the following:

- Evidence that you have completed three years of full-time instruction in a French post-primary school.
- A certificate that shows you completed your secondary education in Quebec in 1986 or later.
- Successful completion of a written examination set by Quebec's *Office de la langue française* (OLF). See below for more information.

If you are a registered student and are within two years of graduating with a degree that will give you access to a professional corporation, you can write the OLF examination. You should contact Enrolment Services for an application form. Examinations take place every three months and may be attempted an unlimited number of times. Priority is given to students closest to graduation.

More information may be obtained from the Office de la langue française, 125 Sherbrooke Street West, Montreal, Quebec, H2X 1X4. Telephone: 514-873-6565. Website: www.olf.gouv.qc.ca.

If you need to acquire a functional level of proficiency in French, you can take courses from either the English and French Language Centre (Faculty of Arts) or the Centre for Continuing Education, 688 Sherbrooke Street West. Telephone: 514-398-6200.

If you are already strong in French and want to maintain or improve your proficiency, you may consider taking courses in the Department of French Language and Literature, Faculty of Arts.

Note: You cannot apply non-credit language courses, and certain credit language courses, completed at the Centre for Continuing Education to program/degree requirements. Consult your faculty for clarification.

* McGill degrees and diplomas currently give access to corporations regulating the activities of the following professional groups:

Agrologists	Lawyers
Architects	Licensed General Accountants
Chartered Accountants	Nurses
Chartered Appraisers	Occupational Therapists
Chemists	Physicians
Dentists	Physiotherapists
Dietitians	Psychologists
Engineers	Social Workers
Geologists	Speech Therapists and Audiologists
Industrial Administration Accountants	Urbanists
Industrial Relations Counsellors	Vocational Guidance Counsellors

3.10.2 Graduate Studies

McGill University offers 250 Doctoral and Master's programs in more than 85 fields of study, and many graduate diploma and certificate programs. We award degrees in a full range of academic disciplines, and are committed to providing you with an excellent graduate education and a rewarding student experience.

Please see www.mcgill.ca/gradapplicants to learn about graduate programs, research, admission requirements and funding opportunities. You can also view the *Graduate and Postdoctoral Studies Calendar* online at www.mcgill.ca/courses.

4 Advising and Support

Table of Contents

4.1 Undergraduate Advising, page 73
- 4.1.1 Advising and the University Mission, page 73
- 4.1.2 The Role of the Student in Advising, page 73
- 4.1.3 Types of Advising and Advisers, page 73
- 4.1.4 Student-For-A-Day Program, page 74
- 4.1.5 Contact Information for Advising, page 74

4.2 Support for Students, page 77
- 4.2.1 Office of the Dean of Students, page 77

4.3 Student Services, page 77
- 4.3.1 Office of the Executive Director, Services for Students, page 77
- 4.3.2 Student Services – Downtown Campus, page 78
- 4.3.3 Student Services – Macdonald Campus, page 78
- 4.3.4 Ombudsperson for Students, page 79
- 4.3.5 Extra-Curricular Activities, page 79
- 4.3.6 Bookstore, page 79
- 4.3.7 Computer Store, page 79
- 4.3.8 Day Care, page 79

4.4 Residential Facilities, page 79
- 4.4.1 University Residences – Downtown, page 79
- 4.4.2 University Residences – Macdonald Campus, page 80

4.5 Athletics & Recreation, page 81

4.6 For your Information Technology (IT) needs, page 81
- 4.6.1 Logging In, page 81
- 4.6.2 *my*McGill (the University portal), page 81
- 4.6.3 *my*Courses, page 81
- 4.6.4 Email, page 81
- 4.6.5 Online Student Directory, page 82
- 4.6.6 Getting Connected, page 82
- 4.6.7 Safe Computing, page 82
- 4.6.8 Set up your security questions in *my*McGill, page 82
- 4.6.9 Need Help?, page 82

4.7 Resources for Study and Research, page 82
- 4.7.1 Libraries, page 82
- 4.7.2 University Archives, page 83
- 4.7.3 Museums, page 83

4.1 Undergraduate Advising

4.1.1 Advising and the University Mission

The Mission Statement of the University expresses the commitment to offer students "the best education available." An essential component of this is the advising process. Because advising takes place in many ways and locations at McGill, it is important that you learn about the different types of advisers (see below) and how they can help you reach your goals.

4.1.2 The Role of the Student in Advising

Your active participation in the advising process is essential for accessing the full range of academic opportunities during your studies. You must be proactive in seeking meetings with various advisers, professors, and counsellors to ensure that you receive the advice you need to formulate a personal plan of study and to meet your academic goals. While advisers are there to provide you with guidance, you are ultimately responsible for meeting your degree or diploma requirements. It is your responsibility to learn the rules and regulations of the University, your faculty, and your program. With your cooperation, advisers and counsellors will assist you throughout your undergraduate studies.

4.1.3 Types of Advising and Advisers

While at McGill, you have access to a variety of advisers, mentors, and counsellors who have different skills, expertise, and levels of authority. You can talk about your situation freely with your advisers; they will respect your wish for confidentiality. Typical types of advisers are described below. You should refer to your faculty's section of the University Undergraduate Programs Calendar for additional advising information specific to your degree program. Note that some academic matters require approval of more than one adviser, e.g., the faculty adviser and the department/school academic adviser.

Faculty Advisers are normally located in the student affairs office of each faculty and are available throughout the calendar year.
Faculty Advisers:

- Are experts in the rules, regulations, and requirements pertaining to specific degree programs.
- Provide ongoing advice and guidance on program selection, course registration, credit load, deadlines, and majors and minors.
- Offer help managing academic situations during periods of personal, financial, or medical difficulties, by working with you to identify various possibilities and strategies for making informed decisions.
- Communicate with other advisers within the University and, with your permission, serve as a direct link to other University resources.

Department/School Academic Advisers are normally located closer to the offices of professors in your area of study and may only be available during specific times of year (e.g., prior to registration for the next session or during the add/drop period) or during regularly scheduled office hours. If you are completing a major or minor in more than one unit, you will likely have an adviser in each unit. The academic adviser may be either a professor or a member of the administrative staff. You should contact your department's administrative office to determine the identity and availability of your academic adviser. You should check your progress with your academic adviser from time to time - and certainly before your final year.

Academic advisers:

- Guide you through course selection to meet the subject matter requirements of the major or minor.
- Consider requests for course equivalencies, recommend prior approval for inter-university transfer credits, or explain the rationale for the design of a department/school program.
- May assist you in planning for, and applying to, university exchange programs, and may also provide, or direct you to, information about scholarships, awards, research fellowships, and opportunities within a given field.
- Are a valuable source of information about the various resources available at McGill.
- Can provide support, guidance, and appropriate referrals if you experience academic or personal difficulties while studying at McGill.
- Are often responsible for confirming that you have met major or minor program requirements for graduation.

Professors/Lecturers may act in a voluntary capacity to mentor you as you progress through your program. The faculty adviser or department/school academic adviser may be able to help you identify a good resource person in your area of study.
Professors/lecturers:

- May provide advice on the latest trends in a specific field of study and make recommendations on related advanced readings.
- May discuss opportunities for a student research experience and help you connect with a professor or lecturer who best suits your interests or learning style.
- Refer you back to the faculty adviser or academic adviser for signatures and permission related to program requirements.

Peer Advisers are student volunteers who have been trained by faculty advisers or department/school academic advisers. They normally offer drop-in hours for advice on University life and will help you find the information you need in the Undergraduate Programs Calendar or through other University resources. Peer advisers are only available in some faculties or departments.

Related Services

The First-Year Office (FYO) (Brown Student Services Building; www.mcgill.ca/firstyear) can help new students navigate their way through the Undergraduate Programs Calendar and the information contained in the *Welcome to McGill* book. They help newly admitted students prepare for the course registration period on Minerva. To maximize this help, you are strongly urged to read the sections in the *Welcome to McGill* book that apply to your faculty. The FYO staff are always available to provide advice and referrals to the many support mechanisms at McGill.

Counselling Service (Brown Student Services Building; www.mcgill.ca/counselling) has professional counsellors and psychologists who are available to discuss personal, academic and career goals or problems. They provide individual counselling, therapy, psychoeducational workshops, and crisis intervention. A walk-in service is available.

Career Planning Service (CaPS) (Brown Student Services Building; www.mcgill.ca/caps) provides career education, guidance, and individual advising to help you in your search for permanent, part-time, or summer jobs and internships.

Enrolment Services (Service Centre, James Administration Building; 514-398-3910; www.mcgill.ca/student-records) is the place to start if you have questions related to credits on entrance or advanced standing based on previous studies.

On the Macdonald Campus, information is provided by the Student Affairs Office, Laird Hall, Room 106.

4.1.4 Student-For-A-Day Program

If you visit our **downtown campus** in October/November (Fall term) or February/March (Winter term), you can choose to sit in on a class that is open to visitors and see McGill from a student's perspective.

You do not need to pre-register: consult the list of courses available at www.mcgill.ca/visiting/studentforaday and select 1 or 2 (maximum) courses you wish to attend. Pick up your Student-For-A-Day pass at the Welcome Centre on the day of your visit. Please note that only 100-level and 200-level lectures are available. For further information, contact the Welcome Centre (514-398-6555).

Note that there are generally few lectures available on Fridays.

If you visit our **Macdonald Campus**, you can participate in the Student-For-A-Day program that provides a total immersion in the Macdonald experience. Prospective students tour the campus, sit in on classes, meet professors and students, and visit labs, facilities and residences. For further information, email the Macdonald Campus Student Affairs Office at studentinfo.macdonald@mcgill.ca to register.

4.1.5 Contact Information for Advising

In general, contact your faculty student affairs office if you have any questions on programs.

4.1.5.1 Faculty Student Affairs Offices

Faculty of Agricultural and Environmental Sciences
Telephone: 514-398-7925
Email: studentinfo.macdonald@mcgill.ca
www.mcgill.ca/macdonald

Faculty of Arts
Office of Advising and Student Information Services (OASIS)
Telephone: 514-398-1029
(from June 1 to August 31)
Telephone: 514-398-4210
(before June 1 and after August 31)
Newly admitted students email:
newstudentadvising.arts@mcgill.ca
Returning students email: adviser.arts@mcgill.ca
www.mcgill.ca/oasis

Students in U1 or above should also see the contact information for advisers in section 4.1.5.2, "Contact Information for Departments, Schools and Programs for Students in the Faculty of Arts (or the B.A. & Sc. Degree)".

Faculty of Education
Telephone: 514-398-7042
Email: sao.education@mcgill.ca
www.mcgill.ca/edu-sao

Faculty of Engineering
Telephone: 514-398-7257
Email: information@engineering.mcgill.ca
www.mcgill.ca/engineering

Desautels Faculty of Management
Telephone: 514-398-4068
Email: bcom.mgmt@mcgill.ca
www.mcgill.ca/desautels/bcom

Faculty of Religious Studies
Telephone: 514-398-5320
Email: info.relgstud@mcgill.ca

Schulich School of Music
Telephone: 514-398-4541
Email: studentaffairs.music@mcgill.ca
www.mcgill.ca/music/student/undergraduate

Faculty of Science
Telephone: 514-398-4210
Email: newstudentadvising.science@mcgill.ca
for newly admitted students only
Email: adviser.science@mcgill.ca
www.mcgill.ca/science/sousa

Students in U1 or above should also see the contact information for advisers in section 4.1.5.2, "Contact Information for Departments, Schools and Programs for Students in the Faculty of Arts (or the B.A. & Sc. Degree)".

4.1.5.2 Contact Information for Departments, Schools and Programs for Students in the Faculty of Arts (or the B.A. & Sc. Degree)

U0 students: Contact the Faculty Office for advising on the freshman program.

U1 students or any other year: Contact the department (school or program) directly for academic advising. You can find additional contact information in the relevant section of the Calendar.

African Studies (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Anthropology (Department of)
Telephone: 514-398-1277
Email: diane.mann@mcgill.ca

Art History & Communication Studies (Department of)
Telephone: 514-398-1828
Email: undergrad.ahcs@mcgill.ca

Canadian Ethnic and Racial Studies (program)
Telephone: 514-398-6853
Email: morton.weinfeld@mcgill.ca

Canadian Studies (program)
Telephone: 514-398-7104
Email: ian.rae@mcgill.ca

Catholic Studies (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Classics (program)
Telephone: 514-398-3975
Email: undergrad.history@mcgill.ca

Computer Science (School of)
Telephone: 514-398-7071 ext. 00118
Email: liette.chin@mcgill.ca

East Asian Studies (Department of)
Telephone: 514-398-6742
Email: asian.studies@mcgill.ca

Economics (Department of)
Telephone: 514-398-4850
Email: lisa.stevenson@mcgill.ca

Education for Arts Students (program)
Telephone: 514-398-7042
Email: sao.education@mcgill.ca

Educational Psychology (program)
Telephone: 514-398-4260
Email: dean.thomson@mcgill.ca

English (Department of)
Telephone: 514-398-6550 or 398-6557
Email: sina.troiano@mcgill.ca

Environment (School of)
Telephone: 514-398-4306
Email: kathy.roulet@mcgill.ca

French Language and Literature (Department of)
Telephone: 514-398-6885
Email: marie.robillard@mcgill.ca

Geography (Department of)
Telephone: 514-398-4951 or 398-4111
Email: gakman@geog.mcgill.ca

German Studies (Department of)
Telephone: 514-398-3650
Email: german.studies@mcgill.ca

Hispanic Studies (Department of)
Telephone: 514-398-6683
Email: hispanic.studies@mcgill.ca

History (Department of)
Telephone: 514-398-3975
Email: undergrad.history@mcgill.ca

History and Philosophy of Science (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Humanistic Studies (program)
Telephone: 514-398-4804
Email: humanisticstudies.arts@mcgill.ca

Industrial Relations (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

International Development Studies (program)
Telephone: 514-398-4804
Email: ids@mcgill.ca

Italian Studies (Department of)
Telephone: 514-398-3953
Email: italian.studies@mcgill.ca

Islamic Studies (Institute of)
Telephone: 514-398-6077
Email: info.islamics@mcgill.ca

Jewish Studies (program)
Telephone: 514-398-6543
Email: undergrad.jewishst@mcgill.ca

Latin American and Caribbean Studies (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Linguistics (Department of)
Telephone: 514-398-4222
Email: andria.de_luca@mcgill.ca

Mathematics & Statistics (Department of)
Telephone: 514-398-3800
Email: advisor@math.mcgill.ca

Middle East Studies (program)
Telephone: 514-398-7108
Email: laila.parsons@mcgill.ca

Music (program)
Telephone: 514-398-6333
Email: bruce.minorgan@mcgill.ca

North American Studies (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Philosophy (Department of)
Telephone: 514-398-6060
Email: info.philosophy@mcgill.ca

Philosophy and Western Religions (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Political Science (Department of)
Telephone: 514-398-4800
Email: effie.poulis@mcgill.ca

Psychology (Department of)
Telephone: 514-398-6121
Email: info@psych.mcgill.ca

Québec, Études sur le (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Religious Studies (program)
Telephone: 514-398-5320
Email: info.relgstud@mcgill.ca

Russian & Slavic Studies (Department of)
Telephone: 514-398-3639
Email: russian.slavicstudies@mcgill.ca

Science for Arts Students (program)
Telephone: 514-398-4109
Email: anne.comeau@mcgill.ca

Sexual Diversity Studies (program)
Telephone: 514-398-4804
Email: interdisciplinary.arts@mcgill.ca

Social Studies of Medicine (program)
Telephone: 514-398-6033
Email: ssom@mcgill.ca

Social Work (School of)
Telephone: 514-398-7070
Email: undergraduate.socialwork@mcgill.ca

Sociology (Department of)
Telephone: 514-398-6868
Email: giovanna.terrasi@mcgill.ca

Women's Studies (program)
Telephone: 514-398-3911 ext. 5
Email: christine.archer@mcgill.ca

4.1.5.3 Contact Information for Departments and Programs for Students in the Faculty of Education (B.Ed. & B.Sc. (Kinesiology) Degree).

All students in the Faculty of Education are required to meet with an Academic Adviser prior to the start of classes.

Additional contact information is located in the relevant section of the Calendar.

Kindergarten & Elementary Program
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Secondary English, Mathematics, Social Studies or Science & Technology
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Teaching English as a Second Language
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Teaching French as a Second Language
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Music
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Concurrent B.Mus./B.Ed.
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Concurrent B.Sc./B.Ed.
Telephone: 514-398-4527
Email: advisedise.education@mcgill.ca

Physical & Health Education
Telephone: 514-398-4184 ext. 0472
Email: nada.abu-merhy@mcgill.ca

Kinesiology
Telephone: 514-398-4184 ext. 0472
Email: nada.abu-merhy@mcgill.ca

4.1.5.4 Contact Information for Departments, Schools and Programs for Students in the Faculty of Engineering

All students in the Faculty of Engineering are required to meet with an Academic Adviser prior to the start of classes.

U0 students (seeking transfer credits): You are initially advised by the Faculty of Engineering Student Affairs Office, followed by advising in your department/school.

U0 students (not seeking transfer credits) and U1 students: Contact your department/school directly.

Additional contact information can be found in the relevant sections of the Calendar.

Architecture
Telephone: 514-398-6702
Email: mary.lanni@mcgill.ca
www.mcgill.ca/architecture

Chemical Engineering
Telephone: 514-398-4494
Email: info.chemeng@mcgill.ca
www.mcgill.ca/chemeng

Civil Engineering
Telephone: 514-398-6860
Email: ugradinfo.civil@mcgill.ca
www.mcgill.ca/civil

Electrical and Computer Engineering
Telephone: 514-398-3943
Email: ecereception@ece.mcgill.ca
www.mcgill.ca/ece

Mechanical Engineering
Telephone: 514-398-8070
Email: lisa.lapka@mcgill.ca
www.mcgill.ca/mecheng

Mining and Materials Engineering
Telephone: 514-398-4755
Email: alicja.sobecka@mcgill.ca
www.mcgill.ca/minmet

Urban Planning
Telephone: 514-398-4075
Email: admissions.planning@mcgill.ca
www.mcgill.ca/urbanplanning

4.1.5.5 Contact Information for Departments, Schools and Programs for Students in the Faculty of Science (or the B.A. & Sc. Degree)

U0 students: Contact the Faculty of Science Student Affairs Office for advising on the Science freshman program or the B.A. & Sc. freshman program.

U1 students or any other year: Contact the department (school or program) directly for academic advising.

Additional contact information is located in the relevant section of the Calendar.

Anatomy and Cell Biology (Department of)
Telephone: 514-398-6335
Email: anatomysec.med@mcgill.ca
Email: nancy.nelson@mcgill.ca
Email: vittoria.catania@mcgill.ca
Atmospheric & Oceanic Sciences (Department of)
Telephone: 514-398-3758
Email: ugradinfo@meteo.mcgill.ca

Biochemistry (Department of)
Telephone: 514-398-2423
Email: christine.laberge@mcgill.ca

Biology (Department of)
Telephone: 514-398-4109
Email: anne.comeau@mcgill.ca

Biotechnology (program)
Telephone: 514-398-3998
Email: dalia.sanmartin@mcgill.ca

Chemistry (Department of)
Telephone: 514-398-6938
Email: advisor.chemistry@mcgill.ca

Cognitive Science (program)
Telephone: 514-398-7330
Email: wendy.brett@mcgill.ca

Computer Science (School of)
Telephone: 514-398-7071 ext. 00118
Email: liette.chin@mcgill.ca

Earth and Planetary Sciences (Department of)
Telephone: 514-398-6767
Email: kristy.thornton@mcgill.ca

Earth Systems Science Interdepartmental (program)
Telephone: 514-398-6767
Email: kristy.thornton@mcgill.ca

Environment (School of)
Telephone: 514-398-4306
Email: kathy.roulet@mcgill.ca

Geography (Department of)
Telephone: 514-398-4951 or 398-4111
Email: gakman@geog.mcgill.ca

Human Nutrition (program)
Telephone: 514-398-7840
Email: jocelyne.begin@mcgill.ca

Interdepartmental Honours Immunology (program)
Telephone: 514-398-4342 (Microbiology and Immunology)
or 514-398-3689 (Physiology)
Email: office.microimm@mcgill.ca
Email: monroe.cohen@mcgill.ca

Kinesiology for Science Students (program)
Telephone: 514-398-4184 ext. 0472
Email: nada.abu-merhy@mcgill.ca

Management (BCom program)
Telephone: 514-398-4068
Email: bcom.mgmt@staff.mcgill.ca
www.mcgill.ca/desautels/bcom

Mathematics & Statistics (Department of)
Telephone: 514-398-2379
Email: advisor@math.mcgill.ca

Microbiology & Immunology (Department of)
Telephone: 514-398-3915
Email: office.microimm@mcgill.ca

Music (program)
Telephone: 514-398-6333
Email: bruce.minorgan@mcgill.ca

Neuroscience (program)
Telephone: 514-398-7330
Email: wendy.brett@mcgill.ca

Pathology (Department of)
Telephone: 514-398-7192 ext. 09018
Email: edith.zorychta@mcgill.ca

Pharmacology (program)
Telephone: 514-398-1398
Email: terence.hebert@mcgill.ca

Physics (Department of)
Telephone: 514-398-6477
Email: chairsec.physics@mcgill.ca

Physiology (Department of)
Telephone: 514-398-3689
Email: sonia.viselli@mcgill.ca

Psychology (Department of)
Telephone: 514-398-6121
Email: info@psych.mcgill.ca

Redpath Museum
Telephone: 514-398-4086 ext. 3188
Email: marie.laricca@mcgill.ca

Science for Teachers
Email: bscbed@physics.mcgill.ca

Technological Entrepreneurship for Science Students (program)
Telephone: 514-398-4068
Email: bcom.mgmt@staff.mcgill.ca
www.mcgill.ca/management

4.2 Support for Students

4.2.1 Office of the Dean of Students

William and Mary Brown Student Services Building
3600 McTavish Street, Suite 4100
Montreal, QC H3A 1Y2

For information, contact (Dean/Associate Dean):
Telephone: 514-398-4990
Email: deanofstudents@mcgill.ca
Website: www.mcgill.ca/deanofstudents

The Dean and the Associate Dean of Students coordinate and promote initiatives concerned with important aspects of the student experience, such as advising, academic integrity, student discipline, student recognition programs, and outreach to families, the McGill community and the broader local community.

4.3 Student Services

4.3.1 Office of the Executive Director, Services for Students

William and Mary Brown Student Services Building
3600 McTavish Street, Suite 4100
Montreal, QC H3A 1Y2

For information, contact:
Telephone: 514-398-3825
Website: www.mcgill.ca/studentservices

The Executive Director, Services for Students (EDSS), coordinates all student services at McGill to help promote student success and well-being. The EDSS is available to provide assistance and/or information on almost all aspects of non-academic student life. Concerns of an academic nature are directed to the proper individual, office or department.

4.3.2 Student Services – Downtown Campus

Unless otherwise indicated, all Student Services on the Downtown Campus are located in the William and Mary Brown Student Services Building, 3600 McTavish Street, Montreal, Quebec, H3A 1Y2.

A list of services available is given below. For further information, see the Student Services website: www.mcgill.ca/studentservices or the address indicated above.

Student Services
General Information: 514-398-8238
Website: www.mcgill.ca/studentservices

Career Planning Service (CaPS): Provides career education, guidance, and individual advising to help you in your search for permanent, part-time, or summer jobs and internships.
Brown Student Services Building, Suite 2200 514-398-3304
Email: careers.caps@mcgill.ca
Website: www.mcgill.ca/caps

Chaplaincy Service: Concerned with the spiritual and mental well-being of all students.
Brown Student Services Building, Suite 4400 514-398-4104
Email: chaplaincy@mcgill.ca
Website: www.mcgill.ca/chaplaincy

Counselling Service: Assists with psychological, emotional, and interpersonal issues as well as vocational and academic concerns.
Brown Student Services Building, Suite 4200 514-398-3601
Email: counselling.service@mcgill.ca
Website: www.mcgill.ca/counselling

First Peoples' House: Fosters a sense of community for Aboriginal students studying at McGill.
3505 Peel Street 514-398-3217
Email: firstpeopleshouse@mcgill.ca
Website: www.mcgill.ca/fph

First-Year Office: Helps ease the transition of all students new to McGill. Coordinates "Discover McGill," a one-day, campus-wide University and faculty orientation.
Brown Student Services Building, Suite 2100 514-398-6913
Email: firstyear@mcgill.ca
Website: www.mcgill.ca/firstyear

Health Services and Dental Clinic: Provides access to experienced physicians, nurses and health educators who offer health services and information in a confidential atmosphere. Also operates a laboratory offering a wide array of testing, and a dental clinic.
Brown Student Services Building, Suite 3300 514-398-6017
Website: www.mcgill.ca/studenthealth

International Student Services: Offers support to international students on non-academic matters (immigration, health insurance, etc.), runs a Buddy Program and an orientation program.
Brown Student Services Building, Suite 3215 514-398-4349
Email: international.students@mcgill.ca
Website: www.mcgill.ca/internationalstudents

Mental Health Service: A psychiatric clinic that offers easily accessible treatment for mental health problems.
Brown Student Services Building, Suite 5500 514-398-6019
Website: www.mcgill.ca/mentalhealth

Scholarships and Student (Financial) Aid Office: Provides assistance in the form of loans, bursaries, and Work Study programs to students requiring financial aid.
Brown Student Services Building, Suite 3200 514-398-6013/6014
514-398-4807 (Scholarships)
Email: student.aid@mcgill.ca
Website: www.mcgill.ca/studentaid

Student Housing (Off-Campus): Maintains computerized lists of available off-campus student housing.
Student Housing Office, 3641 University Street 514-398-6010
Email: offcampus.housing@mcgill.ca
Website: www.mcgill.ca/offcampus

Residences: Offers accommodation for approximately 2,400 students. See section 4.4, "Residential Facilities" for more information.
Student Housing Office 514-398-6368
Email: housing.residences@mcgill.ca
Website: www.mcgill.ca/residences

Office for Students with Disabilities: Coordinates services to meet the needs of students with disabilities.
Brown Student Services Building, Suite 3100 514-398-6009
Email: disabilities.students@mcgill.ca TDD: 514-398-8198
Website: www.mcgill.ca/osd

Tutorial Service: Sponsors an extensive tutorial program for students.
Brown Student Services Building, Suite 4200 514-398-6011
Email: tutoring.service@mcgill.ca
Website: www.mcgill.ca/tutoring

4.3.3 Student Services – Macdonald Campus

While students who study on the Macdonald Campus may make full use of all Student Services available at McGill, the Office of the Executive Director of Services for Students gives you direct access to the services listed below.

Further information can be found on the web at www.mcgill.ca/macdonald-studentservices and the Student Services website: www.mcgill.ca/studentservices.

Unless otherwise indicated, Macdonald Campus services are located in the:
Centennial Centre, Room CC1-124
21,111 Lakeshore Road
Telephone: 514-398-7992
Fax: 514-398-7610
Email: stuserv.macdonald@mcgill.ca

Career Planning Service (CaPS): provides career education, guidance, and individual advising to help you in your search for permanent, part-time, or summer jobs and internships.
Telephone: 514-398-7582
Website: www.mcgill.ca/caps

Counselling Service: A professional counsellor is available three times a week offering counselling for personal, social and emotional issues, as well as for academic and vocational concerns. Appointments are required.
Telephone: 514-398-7992

Health Service: A referral service is available Monday through Friday. A nurse/health educator is on campus Mondays, Tuesdays and Wednesdays, and a physician is available by appointment on specified dates.
Telephone: 514-398-7565

Off-Campus Housing: Maintains computerized lists of available off-campus student housing.
Website: www.mcgill.ca/offcampus
Telephone: 514-398-7992

Student (Financial) Aid Office: Information about government aid, McGill loans and bursaries, and Work Study programs can be obtained at the Centennial Centre. During the academic year (September to April), an Administrator visits the campus every Wednesday to help students with financial problems.
Telephone: 514-398-7992

4.3.4 Ombudsperson for Students

The position of Ombudsperson for Students is filled on a half-time basis by an academic staff member. The Ombudsperson receives complaints from students and assists in the resolution of those complaints through informal means including information, advice, intervention, and referrals with a view to avoiding the more formal grievance procedures that already exist in the University.

The Office of the Ombudsperson is a confidential, independent, and neutral dispute-resolution service for all members of the student community. Please call 514-398-7059 for an appointment.

Office of the Ombudsperson, 3610 McTavish, above Dr. Penfield, Suite 14, Main Floor.
Website: www.mcgill.ca/ombudsperson.

4.3.5 Extra-Curricular Activities

There are over 250 activities and clubs that students may join. These include international clubs; religious groups; political clubs; fraternities; communications groups such as Radio McGill, the *McGill Tribune*, and the *McGill Daily*; and some 50 miscellaneous groups (e.g., science clubs; literary, theatrical and musical societies; a chess club; and the McGill Outing Club).

The University Centre, 3480 McTavish Street, provides club rooms for these activities in a four-storey building with cafeterias, a ballroom, lounges and an experimental theatre. Activities for graduate students are centred in David Thomson House at 3650 McTavish Street. On the Macdonald Campus, facilities are located in the Centennial Centre (refer to section 5, "Faculty of Agricultural and Environmental Sciences, including School of Dietetics and Human Nutrition").

4.3.6 Bookstore

The McGill University Bookstore stocks new and used textbooks, a full range of books for the academic and professional community, stationery supplies, and McGill insignia clothing and gift items. Visit the Bookstore website or in person to sign up for email reminders so you are the first to know about services such as used textbook buy back and other events.

3420 McTavish Street
Telephone: 514-398-7444
Website: www.mcgill.ca/bookstore

Macdonald Bookstore
Centennial Centre
Telephone: 514-398-8300:
Website: www.mcss.mcgill.ca/bookstore.html

4.3.7 Computer Store

The McGill Computer Store, located on the second floor of the University Bookstore, sells a full range of computer hardware, software, peripherals and consumer electronics at educational prices.

3420 McTavish Street
Telephone: 514-398-5025
Website: www.mcgill.ca/mcs
Email: sales.mcs@mcgill.ca

4.3.8 Day Care

The McGill Childcare Centre is an independently run centre that can accommodate 106 children, ranging in age from four months to five years. Early application is required as placement is limited, especially for certain age groups.

The Centre is located at:
3491 Peel Street, Montreal, QC H3A 1W7
Telephone: 514-398-6943

A Campus Day Care Centre, located adjacent to the Macdonald Campus, is an independently run centre that can accommodate approximately 60 children, ranging in age from four months to five years. In addition, 50 children can be accommodated in Home Day Care within the neighbourhood. Preference is given to the Macdonald Campus community. Early application is recommended.

The Centre is located at:
1 Maple Avenue, Ste.-Anne-de-Bellevue H9X 2E3
Telephone: 514-398-7951
For Home Day Care information, contact:
Telephone: 514-457-7953

4.4 Residential Facilities

4.4.1 University Residences – Downtown

Residence Admissions Office
3641 University Street
Montreal, QC H3A 2B3
Telephone: 514-398-6368
Fax: 514-398-2305
Email: housing.residences@mcgill.ca
Website: www.mcgill.ca/residences

McGill Residences house approximately 2,500 undergraduate students in dormitories, apartments, and shared-facilities houses. McGill's dormitories are primarily for first-year students and feature full meal service. McGill's apartment-style residences and shared-facilities houses are mainly for first-year students who desire a more independent residence lifestyle.

Trained upper-year student leaders (Floor Fellows) and Academic Staff (Directors) live in all McGill Residences and provide support for the residents. An elected Residence Council serves as the voice of students.

All residence rooms have telephone and high-speed network-access services, which are available at extra cost. All McGill Residences are connected to the McGill Wireless Network.

4.4.1.1 Dormitory-style Residences

McGill has eight dormitory residences:

- The four co-ed Bishop Mountain Residences (Gardner, McConnell, Molson and Douglas Halls) are located on the slope of Mount Royal and overlook the campus.
- Royal Victoria College (RVC) is an all-women's residence located one block from the McGill gates.
- The co-ed New Residence Hall is located five short blocks from the campus.
- Dio and Prez Rez are co-ed dorms located directly across from the Milton Gates to campus.

Each residence has access to multiple cafeterias and provides compulsory full meal service for all dormitory residents.

Rooms at the Bishop Mountain Residences, Dio and Prez Rez and RVC are mostly single occupancy. New Residence Hall has mostly double rooms. Each student gets a bed, desk, chair, dresser, closet and small fridge (one fridge per double room).

In all halls, residents are responsible for the cleanliness of their rooms. Common bathrooms and showers are located on each floor, except in the New Residence Hall, where there is a private bathroom within each room. Each hall has a laundry room, including card-operated washers and dryers, and ironing facilities. All halls have a TV and recreation room, pay telephones, and a small storage area for suitcases, ski equipment, etc.

4.4.1.2 Apartment-style Residences

Solin Hall is a modern, award-winning apartment-style residence that has two-, three- and four-bedroom apartments. Located four Metro stops west of the main campus, Solin features large common areas (TV and games rooms) and a computer lab, and houses mostly first-year students. Each apartment has a living room, dining room, kitchen and bathroom(s), with basic furniture such as stove, fridge, table, chairs, sofa, lamps and drapes. Bedrooms have a bed, desk, chair and dresser. All apartments and public

area floors are carpeted. Shopping areas are within walking distance. Limited indoor parking is available.

The Greenbriar Apartments residence is located one block from the campus. It houses mostly first-year undergraduate students in self-contained studio and double-occupancy, one-bedroom apartments. Apartment kitchens have a stove, fridge and sink, and bedrooms have a bed, desk, table, chairs, dresser and blinds.

Although these residences do not offer meal plans, residents may purchase one at the residence cafeterias.

4.4.1.3 Shared-facilities Houses

McGill Residences maintains a number of beautifully renovated older buildings, each housing between 13 and 30 first-year students. These shared-facilities houses are located a few blocks from the campus and have single- and double-occupancy bedrooms with large shared kitchens, bathrooms and common areas. Each bedroom has a desk, chair, bed (many are loft beds), dresser, closet and blinds. Common areas are also fully furnished.

Although these residences do not offer meal plans, residents may purchase one at the residence cafeterias.

4.4.1.4 Residence Fees

Residence fees for the 2009-2010 session had not been set at the time this Calendar was published. Fees for the 2008-2009 session were as follows:

Rates for Gardner, McConnell, Molson and Douglas Halls ranged from $9,840 to $10,736 for a single room and $9,236 to $10,148 for a double room. Rates include the mandatory five-day per week meal plan. The rates at Royal Victoria College include a mandatory seven-day per week meal plan and range from $11,404 to $12,006 for single rooms and $10,594 to $10,764 for a double room. These rates are for the regular session: September 1 to April 30.

At the New Residence Hall, room rates (including mandatory meal plan) were $11,838 per person for double rooms and $12,948 for a single room. These rates are for the regular session: September 1 to April 30.

The rooms in Solin Hall and the Greenbriar Apartments are leased on an 11-month basis: September 1 to July 31. The room rates were $7,161 to $8,195 for a single room and $5,522 to $6,105 for a double room in a multi-bedroom apartment at Solin Hall. Single-occupancy studio apartments at Greenbriar were $9,141 and double-occupancy one-bedroom apartments were $6,281 per person. Rates do not include a meal plan.

Shared facilities houses are also leased on an 11-month basis: September 1 to July 31. Room rates ranged from $7,403 to $8,712 for a single room, and from $5,599 to $6,193 for a double room, depending on the dimensions of the room. Rates do not include a meal plan.

4.4.1.5 Meal Plans

Residents at Molson, McConnell and Gardner Halls dine in a large, centrally-located hall. Douglas Hall and RVC have their own dining areas. Residents of Dio and Prez Rez are welcome to use their 5-day meal plan at the RVC and BMH cafeterias. RVC offers 19 meals per week (7 days per week), while the Bishop Mountain Residences offer 15 meals per week (Monday to Friday), including takeout lunches and dinners. All the Halls have kitchenettes, where residents can keep food and prepare snacks or meals at any time.

Residents of the New Residence Hall have access to the on-site cafeteria with extended hours, seven days per week. The meal plan allows residents to eat at certain on-campus cafeterias as well. There are kitchenettes on each floor where residents can prepare snacks at any time.

Solin Hall, the Greenbriar Apartments and the shared-facilities houses do not offer meal plans. The apartments and houses have fully equipped kitchens where students prepare their own meals. However, residents are welcome to purchase a meal plan at the residence cafeterias.

4.4.1.6 Student Government

Each hall has a Residence Council, elected at the start of the academic year. It is the job of the council to gather hall opinions, supervise financial affairs, and organize sports, recreational, and social activities within the residences. McGill's residences are run for the convenience and advantage of the students living in them. The students decide on and administer the rules and regulations themselves.
Note: Residence fees include an activity fee of $20 collected by the University on behalf of the Residence Council of each hall, which comprises each Council's budget with which to plan activities for the hall.

4.4.2 University Residences – Macdonald Campus

Campus Housing Office
P.O. Box 188
Macdonald Campus of McGill University
Sainte-Anne-de-Bellevue, QC H9X 3V9
Telephone: 514-398-7716
Fax: 514-398-7953
Email: residences.macdonald@mcgill.ca
Website: www.mcgill.ca/macdonald-residences

Residence life is an integral part of Macdonald Campus activities. Laird Hall, with a capacity of 250 students, is a co-ed residence that provides accommodation for undergraduate, graduate, and Farm Management Technology students. Residents enjoy comfortable rooms, modern kitchens, cozy lounge facilities, and other amenities that help make their residence life a complete and meaningful part of their university experience. All dorm rooms have telephone and high-speed network access services, which are available at extra cost.

The EcoResidence, Canada's first ecologically friendly student residence and winner of the Prix d'excellence from the Ordre des architectes du Québec, accommodates 100 students. The EcoResidence is a unique initiative that recycled two buildings and incorporated ecological construction technology. This residence will appeal to students who enjoy independent living in self-contained apartments of two or six single-bedroom units. Units are split-level with large, airy common living areas and fully equipped kitchens.

4.4.2.1 Residence Fees – Macdonald Campus

Residence fees are paid separately from tuition, in accordance with regulations of the Fee Payment Option selected at the time of signing a Residence Lease.

The residence fees for the 2009-10 session had not been set at the time this Calendar was published. The 2008-09 session rates for Laird Hall are: $2,560 (double occupancy) and $2,840 (single occupancy). Rates for the EcoResidence vary from $410 to $420 per month. An updated fee sheet will be available with the residence application forms when an offer of accommodation is made.

There is no meal plan offered on the Macdonald Campus. Students may purchase a Commuter meal plan. Refer to www.mcgill.ca/foodservices/plans for additional information. At the moment, meals are also available on a cash basis from the Centennial Centre cafeteria. The cafeteria is open for breakfast and lunch only, five days per week (it is not open Saturdays, Sundays, or on holidays designated by the University). For budgeting purposes, the cost of meals per session is approximately $3,000.

4.4.2.2 Residence Occupancy – Macdonald Campus

The residence fees cover the period August 23, 2009 to May 1, 2010. You must vacate your room at the end of the lease term. Only under exceptional circumstances will you be granted permission to arrive prior to the beginning date of the lease or remain in residence during the summer months. In these cases, you must apply to the Campus Housing Office; an additional fee will be charged if permission is granted.

You can request permission to extend your stay in residence (at the normal weekly charge) if you are taking extended courses after

the regular session, employed on the Campus, or registered for summer courses.

In exceptional circumstances, international students or students coming from a distance may be admitted early. Permission from the Campus Housing Office must be obtained before you leave home. Student Officers may be admitted before the opening date of courses, if permission is granted by the Campus Housing Office.

4.4.2.3 Facilities for Non-Resident Students – Macdonald Campus

The Centennial Centre features common rooms for studying. Lockers are available in the Macdonald-Stewart Building. You can rent them at the Students' Society Office in Centennial Centre. You can purchase meals from the Snack Bar facility of the Centennial Centre and the Link Café located on the ground floor between the Macdonald-Stewart Building and Barton Library. The Snack Bar is open for breakfast and lunch only, Monday through Friday. The Link Café is open Monday through Thursday 8:00 a.m. to 8:00 p.m. and Friday 8:00 a.m. to 3:30 p.m. The Snack Bar and the Link Café are not open Saturdays, Sundays, or holidays designated by the University.

Note: Non-resident students cannot stay overnight in any residence without permission of the Campus Housing Office.

4.4.2.4 Student Parking – Macdonald Campus

You need a permit to park a vehicle on Macdonald Campus, provided you observe the parking regulations and other applicable rules. You can obtain a permit from the Campus Security Office, Laird Hall, Room 101, during regular office hours.

4.5 Athletics & Recreation

Downtown Campus

Dept. of Athletics & Recreation:
Offers a wide range of facilities, activities, and equipment. Facilities include a gymnasium, fitness centre, weight room (with athletics staff on hand seven evenings per week), pool, arena, Fieldhouse, stadium, indoor & outdoor running tracks, tennis courts, squash & racquetball courts, spinning, dance & martial arts studios, and various playing fields.

McGill students can participate in instructional, recreational, intramural and intercollegiate activities, as well as sports clubs. There are nominal fees for instructional courses.

McGill Athletics Centre, 475 Pine Avenue West
Telephone: 514-398-7000
Email: jill.barker@mcgill.ca (recreational sports) or earl.zukerman@mcgill.ca (intercollegiate sports)
Website: www.athletics.mcgill.ca

Macdonald Campus

Athletics:
Offers a wide range of facilities, activities, and equipment free of charge. Facilities include a gymnasium, weight room (with fitness trainers on hand four evenings per week), arena, tennis courts, playing fields and large expanses of green space.
Students can participate in instructional, recreational, intramural and intercollegiate activities. There are nominal fees for instructional courses.

Athletics offices are located in the Stewart Athletic Complex, just west of the Centennial Centre.

Stewart Athletic Complex
Telephone: 514-398-7789
Website: www.macdonaldcampusathletics.mcgill.ca

4.6 For your Information Technology (IT) needs

McGill's IT Services website is your one-stop shop for all central IT services at McGill. Visit www.mcgill.ca/it to:

- Get IT service descriptions and read FAQs.
- Find detailed information such as service cost and service availability as well as instructions on how to access the service and get IT help and support.
- Find system availability, down times and new service announcements posted under Announcements, Features and Events.
- Search the McGill IT Knowledge Base.

The following are some of the basic IT services, to get you started.

4.6.1 Logging In

You need to use your McGill Username (usually in the form of firstname.lastname@mail.mcgill.ca) and McGill Password to access many central IT services including: *my*McGill, *my*Courses, email, wireless, Virtual Private Network (VPN), and McGill's dialup access service (DAS).

To find out your McGill Username and set your McGill Password:

1) Log in to Minerva (using your 9-digit McGill ID number and your PIN).
2) Go to *Personal Menu* > *Password for McGill Username*.
3) Follow the onscreen instructions.

4.6.2 *my*McGill (the University portal)

*my*McGill is the central access point where you:

- Read your email.
- Check *my*Courses.
- Get direct links to Minerva to view and update your student records and account information.
- Search the McGill Library Catalogue.
- Keep abreast of the latest McGill news.
- And more.

Click ***my*McGill** at the top-right corner of any McGill website (www.mcgill.ca) and sign in using your McGill Username and McGill Password.

4.6.2.1 Browser compatibility

*my*McGill currently supports the latest versions of the following browsers:

- Internet Explorer (IE) (Windows).
- Firefox (Mozilla) (Windows/Macintosh).
- Netscape (Windows).

4.6.3 *my*Courses

Many of your courses will have online materials or activities such as assignments and readings, the syllabus, project guidelines, discussion forums, calendars, etc.

Access your online course content via *my*Courses at www.mcgill.ca/mycourses or through *my*McGill.

- Sign in using your McGill Username and McGill Password.
- Click *my*Courses (WebCT Vista) to enter the site.
- Verify your browser settings using the Check Browser utility at the top-right corner of the page.

Find more information on *my*Courses for students at: www.mcgill.ca/it.

4.6.4 Email

Your McGill Email Address (usually in the form of firstname.lastname@mail.mcgill.ca) is the official way the University communicates with you by email. For information on the policy see section

3.1.5, "Email Communication". Access your email at http://exchange.mcgill.ca or through the *my*McGill portal using your McGill Username and McGill Password. View your McGill Username, McGill Email Address and set up your McGill Password on the Minerva *Personal Menu*.

4.6.5 Online Student Directory

Opt in to the student directory and make it easier for your fellow classmates to contact you. Find more on this service at www.mcgill.ca/directory/students.

4.6.6 Getting Connected

Access to the following services is through your McGill Username and McGill Password. You can find more details on the following services at www.mcgill.ca/it:

Wireless
Access the Internet using your laptop or other mobile device from virtually anywhere on campus, through the McGill Wireless network. Log in to the Wireless network using your McGill Username and McGill Password.

Virtual Private Network (VPN)
If you connect to the Internet with an Internet Service Provider (ISP) other than McGill's DAS, you need to establish a VPN connection to access McGill restricted sites and resources (e.g., Library databases). Log in to VPN using your McGill Username and McGill Password.

Dialup Access (DAS)
If you do not have a high speed ISP, use McGill's dialup service and connect to the Internet using your telephone line and a modem. Log in to DAS using your McGill Username and McGill Password.

McGill Residences Telecommunications
For students living in McGill Residences and McGill Off-Campus Residences, there is a Voice and Data (wired and wireless) service.

Computer Labs
Many faculties and departments provide computer labs for students in their programs. For lab locations, computer availability, software/peripheral availability and more, see http://webforms.mcgill.ca/labs.

Connectivity@McGill iCare Clinic
Attend this free, hands-on clinic and learn how to configure your computer to connect to the Internet via wireless or modem, and how to set up a VPN connection. Find out how to register for IT Training at www.mcgill.ca/it.

4.6.7 Safe Computing

Computing Safety iCare Clinic: Attend this free clinic and learn how to prevent viruses, spyware, adware and other malicious programs from infecting your computer. Find out how to register for IT Training at www.mcgill.ca/it.

Free software: Download free antivirus and other software from McGill's Software Licensing site at www.mcgill.ca/software. Find out more about software licensing and protecting your computer at www.mcgill.ca/it.

Note: Be sure to uninstall any previous antivirus software from your computer before installing new antivirus software.

Ten tips for keeping information secure: Read the University's information security tip sheet found at www.mcgill.ca/infosec/tips.

4.6.8 Set up your security questions in *my*McGill

Setting up your security questions and answers for your McGill Password allows you to use the **Forgot Password?** link found on several McGill applications, should you forget it.

Once you have set up your McGill Password in Minerva, log into *my*McGill (http://my.mcgill.ca) and click the McGill Password Security portlet. Follow the onscreen instructions to set up your own security questions and responses.

4.6.9 Need Help?

Welcome New Students
Take an interactive guided tour of IT services: at www.mcgill.ca/it, go to *Welcome New Students*.

McGill IT Knowledge Base
Search the Knowledge Base at http://knowledgebase.mcgill.ca/it for answers to commonly asked questions about IT.

4.6.9.1 Getting Help

Contact the ICS Service Desk by submitting your request via a web form at http://webforms.mcgill.ca, or find ICS Service Desk information at www.mcgill.ca/it.

4.7 Resources for Study and Research

4.7.1 Libraries

The McGill Library consists of 13 branch libraries and special collections located across both campuses. Numbering over six million items, the Library's vast holdings include 2.5 million books, textbooks and course-readers, thousands of journal titles, vast manuscript and pictorial collections and thousands of sound and video recordings. The Library's e-resources are extensive, and include almost 50,000 e-journals, multimedia, and over one-million e-books on subjects ranging from early English literature to nutrition.

A comprehensive website (www.mcgill.ca/library), an online catalogue, and a wide range of library services link the Library's resources to those who need them for learning, research and scholarship. Hundreds of databases on topics from art history to zoology guide users to relevant journal articles and research materials, while subject guides on topics like chemistry and social work provide comprehensive and clear direction for users undertaking research. The Library's website also provides access to items such as past examination papers, McGill theses, and foreign newspapers. All electronic resources are available for use from home using the VPN (Virtual Private Network) or laboratories anywhere on the campus - access any time, any place.

The staff in each branch library can help you locate information for course work, assignments or research topics. Training is provided at all student levels to ensure you know how to find and use information. Information skills programs are undertaken as part of course curricula. Liaison Librarians specialize in specific disciplines, and are available to assist students and staff in person, on the phone, online, by email and via online chat.

Although opening hours vary, most libraries are open up to 84 hours per week, and several branch libraries extend opening hours during examination periods, including 24-hour-access to the Humanities and Social Sciences Library. Hundreds of computers are available for email, word-processing, accessing online courses, reading library materials, preparing assignments and searching the Internet. Designed to enhance the learning experiences of diverse users, the Library's facilities offer a variety of comfortable and attractive spaces, including quiet individual study areas, dynamic e-zones, and group study rooms that can be booked for use. Wireless access is available throughout the library, and all libraries have card-operated printing and copying facilities. Special facilities are available for vision- and hearing-impaired users. Laptops are also available for loan.

You can use special library services such as the Electronic Data Resources Service, which supports empirical and statistical research. Unique scholarly materials from the Rare Books and Special Collections are being digitized and theses are being submitted electronically. The Course Reserve collection in each branch library includes copies of textbooks and high-demand items on course reading lists. You can borrow materials from any library and return them anywhere across the system.

If you need material not owned by McGill University Library our Interlibrary Loan & Document Delivery Service will source it for you and pickup is available at any branch.

4.7.2 University Archives

The McGill University Archives (MUA) acquires, preserves and makes available to researchers (including students) more than 5,000 metres of records dating from 1797 to the present. These records document McGill University faculty, research, alumni and student organizations, and certain Montreal-based organizations. Archived media include textual records, photographs, slides, audio-tapes, film, video, plans, University publications, and artifacts.

The MUA acquires private records to support University research goals and manages the University's corporate memory and information assets through its Records Management Program. This program regulates the flow of administrative records and protects vital evidence of University functions and activities according to Quebec archives and records legislation.

The MUA Reading Room is open Monday to Friday, from 9:00 a.m. to 12:30 p.m. and from 1:45 p.m. to 4:45 p.m.; however, appointments are recommended. The MUA website features virtual exhibitions, tools to search the MUA holdings, and digital collections including the largest campus database of digitized images.

McGill University Archives
McLennan Library - Ground Floor
Telephone: 514-398-3772
Fax: 514-398-8456
Website: www.archives.mcgill.ca

4.7.3 Museums

4.7.3.1 Redpath Museum

The Redpath Museum's mandate is to foster the study of the history and diversity of the natural world, including geological, biological and cultural diversity. Its collections have been growing for over a century, and provide resources for research and for graduate and undergraduate education in biology, geology, anthropology and other fields. Its largest collections include fossils from the ancient sea floor of eastern Quebec, the oldest land plants, a vast range of minerals, molluscs from around the world, Egyptian and classical antiquities, and artifacts from Central Africa. The Museum also houses research laboratories and classrooms.

The Museum welcomes McGill students and staff to visit its permanent exhibit, which presents the history of life through the ages illustrated by material from Quebec and neighbouring regions, as well as displays that feature the mineral and mollusc collections. The Museum also features an ethnology gallery devoted to cultures throughout the world, including ancient Egypt, classical Greece and Rome, Asia, and Africa.

859 Sherbrooke Street West
Telephone: 514-398-4086
Email: redpath.museum@mcgill.ca
Website: www.mcgill.ca/redpath

4.7.3.2 McCord Museum of Canadian History

The McCord Museum houses one of the finest historical collections in North America. It possesses some of Canada's most significant cultural treasures, including the most comprehensive collection of clothing - comprising over 16,000 garments or accessories - made or worn in Canada; an extensive collection of First Nations artifacts - the most important of its kind in Quebec with a corpus of over 13,000 objects from across Canada; and the renowned Notman Photographic Archives, which contain over one-million historical photographs and offer a unique pictorial record of Canada from pre-Confederation to the present. The McCord also houses paintings by renowned artists such as Théophile Hamel, Cornelius Krieghoff, James Pattison Cockburn and George Heriot. The Museum's Textual Archives include some 185 linear metres of documents relating to Canadian history. Finally, the McCord's website (www.mccord-museum.qc.ca) features award-winning virtual exhibitions, innovative learning resources and a vast, searchable database of information on the Museum's collections.

Exhibitions at the McCord provide innovative interpretations of the social and cultural history of Montreal, Quebec and Canada. In addition to guided tours, school programs, cultural activities and lectures, the McCord offers a range of services including the Museum Café and the boutique.

Researchers welcome by appointment.

690 Sherbrooke Street West
Telephone: 514-398-7100
Email: info@mccord.mcgill.ca
Website: www.mccord-museum.qc.ca

4.7.3.3 Lyman Entomological Museum and Research Laboratory

Located on the Macdonald Campus, this institution has the largest insect collection of any Canadian university, and is second in both numbers of species and specimens only to the Canadian National Collection of Insects in Ottawa. It is not generally open to the public since its main functions are research and teaching, not exhibitions. However, tours are available by appointment to interested parties. Telephone: 514-398-7914.

4.7.3.4 Other Historical Collections

In addition to the above, there are other collections and exhibits of a specialized nature, ordinarily open only to students. For access, contact the appropriate department. These include the Anatomical and Pathological Museums.

The Physics Department has two specialized collections that may be viewed by appointment. The Rutherford Museum contains original apparatus and other items used by Professor Ernest Rutherford in his Nobel Prize-winning research at McGill University on radioactivity (1898-1907). The McPherson Collection comprises a wide range of historical apparatus and instruments used for measurements and investigations, with special emphasis on 19th-century physics.

5 Faculty of Agricultural and Environmental Sciences, including School of Dietetics and Human Nutrition

Table of Contents

5.1 The Faculty, page 86
- 5.1.1 Location, page 86
- 5.1.2 Administrative Officers, page 86
- 5.1.3 Programs, page 86
  - 5.1.3.1 Internship Opportunities and Co-op Experience, page 86
  - 5.1.3.2 Exchange Programs, page 86
- 5.1.4 Macdonald Campus Facilities, page 86
- 5.1.5 The Student Affairs Office, page 87

5.2 Summary of Academic Programs, page 87
- 5.2.1 Outline of Academic Programs, page 87
- 5.2.2 Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.), page 87
- 5.2.3 Bachelor of Engineering in Bioresource Engineering - B.Eng.(Bioresource), page 88
- 5.2.4 Bachelor of Science in Food Science - B.Sc.(F.Sc.), page 88
- 5.2.5 Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.), page 88
- 5.2.6 Concurrent Bachelor of Science in Food Science - B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.), page 88
- 5.2.7 Honours Program, page 88
- 5.2.8 Minor Programs, page 88
- 5.2.9 Certificate Programs, page 88
- 5.2.10 Diploma Program, page 88
- 5.2.11 Diploma in Collegial Studies, page 88
- 5.2.12 Environmental Sciences Programs, page 88

5.3 Faculty Admission Requirements, page 88

5.4 Student Information, page 89
- 5.4.1 Student Services, page 89
- 5.4.2 Athletic Services, page 89
- 5.4.3 Macdonald Campus Residences, page 89
- 5.4.4 Extracurricular Activities, page 89
- 5.4.5 Student Rights and Responsibilities, page 89
- 5.4.6 Fees, page 89
- 5.4.7 Scholarships and Bursaries, page 89
- 5.4.8 Immunization for Dietetics Majors, page 89
- 5.4.9 Language Requirement for Professions, page 89

5.5 Faculty Information and Regulations, page 89
- 5.5.1 Minimum Credit Requirement, page 90
- 5.5.2 Minimum Grade Requirement, page 90
- 5.5.3 Freshman Major, page 90
- 5.5.4 Academic Advisers, page 91
- 5.5.5 Categories of Students, page 91
- 5.5.6 Academic Standing, page 91
- 5.5.7 Credit System, page 91
  - 5.5.7.1 Continuing Education Courses, page 91
- 5.5.8 Academic Credit Transfer, page 91
- 5.5.9 Regulations Regarding Second Academic Majors, page 91
  - 5.5.9.1 Procedures for Minor Programs, page 92
- 5.5.10 Course Change Information, page 92
- 5.5.11 Graduate Courses Available to Undergraduates, page 92
- 5.5.12 Attendance and Conduct in Class, page 92
- 5.5.13 Incomplete Grades, page 92
- 5.5.14 Examinations, page 92
  - 5.5.14.1 Reassessments and Rereads, page 92
  - 5.5.14.2 Deferred Examinations, page 92
- 5.5.15 Degree Requirements, page 92
- 5.5.16 Dean's Honour List, page 93
- 5.5.17 Distinction, page 93
- 5.5.18 Honours and First Class Honours, page 93
- 5.5.19 Medals and Prizes, page 93

5.6 Academic Programs, page 93
- 5.6.1 Bachelor of Science (Agricultural and Environmental Sciences) – B.Sc.(Ag.Env.Sc.), page 93
  - 5.6.1.1 Specializations, page 96
  - 5.6.1.2 Department of Animal Science, page 103
  - 5.6.1.3 Department of Natural Resource Sciences, page 103
  - 5.6.1.4 Department of Plant Science, page 103
- 5.6.2 Bachelor of Engineering (Bioresource) - B.Eng.(Bioresource), page 103
  - 5.6.2.1 Department of Bioresource Engineering, page 105
- 5.6.3 Bachelor of Science (Nutritional Sciences) - B.Sc.(Nutr.Sc.), page 105
  - 5.6.3.1 School of Dietetics and Human Nutrition, page 107
- 5.6.4 Bachelor of Science (Food Science) - B.Sc.(F.Sc.), page 107
  - 5.6.4.1 Concurrent Bachelor of Science in Food Science – B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences – B.Sc.(Nutr.Sc.) – Food Science/Nutritional Science Major, page 107
  - 5.6.4.2 Department of Food Science and Agricultural Chemistry, page 108
- 5.6.5 Minor Programs, page 108
  - 5.6.5.1 Minor in Agricultural Production (24 credits), page 108
  - 5.6.5.2 Minor in Ecological Agriculture (24 credits), page 109
  - 5.6.5.3 Minor in Entrepreneurship, page 109
  - 5.6.5.4 Minor in Environmental Engineering (27 credits), page 109
  - 5.6.5.5 Minor in Human Nutrition (24 credits), page 109
- 5.6.6 Certificate Programs, page 110
  - 5.6.6.1 Certificate in Ecological Agriculture (30 credits), page 110
  - 5.6.6.2 Certificate in Entrepreneurship, page 110
  - 5.6.6.3 Certificate in Food Science (30 credits), page 110
- 5.6.7 Field Studies, page 111

5.7 Graduate Programs, page 111

5.8 Farm Management and Technology Program, page 111
- 5.8.1 Program – FMT, page 111
- 5.8.2 Entrance Requirements – FMT, page 111
- 5.8.3 Registration – FMT, page 111
- 5.8.4 Program Outline, page 111

5.8.5 Academic Rules and Regulations – FMT, page 112
5.8.5.1 Sessional Dates, page 112
5.8.5.2 Last Day for Withdrawal or Course Additions, page 112
5.8.5.3 Academic Standing, page 112
5.8.5.4 Handbook on Student Rights and Responsibilities, page 112
5.8.5.5 Institutional Policy on the Evaluation of Student Achievement, page 112
5.8.6 Fees and Expenses – FMT, page 113
5.8.6.1 Fees, page 113
5.8.6.2 Textbooks and Supplies, page 113
5.8.6.3 Financial Assistance, page 113
5.8.7 Residence Accommodation – FMT, page 113
5.9 Instructional Staff, page 113

5.1 The Faculty

Mission statement: The Faculty of Agricultural and Environmental Sciences is committed to excellence in teaching, research and service to ensure that humanity's present and future food, health and natural resource needs are met while protecting the environment.

5.1.1 Location

McGill University, Macdonald Campus
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: 514-398-7928
Website: www.mcgill.ca/macdonald

The Faculty of Agricultural and Environmental Sciences and the School of Dietetics and Human Nutrition are located on the Macdonald Campus of McGill University in Sainte-Anne-de-Bellevue at the western end of the Island of Montreal.

Served by public transport (STM [www.stm.info], bus and train), it is easily reached from the McGill downtown campus and from the Pierre Elliott Trudeau International Airport. Arrangements can also be made to use the McGill intercampus shuttle bus service. The shuttle service is available to all registered students.

5.1.2 Administrative Officers

Chandra Madramootoo; B.Sc.(Agr.Eng.), M.Sc., Ph.D.(McG.), P.Eng.(*James McGill Professor*)
Dean, Faculty of Agricultural and Environmental Sciences, and Associate Vice-Principal (Macdonald Campus)

William H. Hendershot; B.Sc.(Tor.), M.Sc.(McG.), Ph.D.(Br. Col.)
Associate Dean (Academic)

Suha Jabaji; B.Sc.(AUB), M.Sc.(Guelph), Ph.D.(Wat.)
Associate Dean (Research and Graduate Education)

David J. Lewis; B.Sc., M.Sc., Ph.D.(Mem.)
Associate Dean (Student Affairs)

Silvana Pellecchia — **Manager, Student Affairs**

Gary O'Connell; B.Comm.(C'dia) — **Director, Academic and Administrative Services**

William R. Ellyett; B.A.(Sir G. Wms.), B.Ed.(Phys.Ed.)(McG.)
Director of Athletics

Paul Meldrum; B.J.(Hons.)(Car.) — **Acting Manager, Macdonald Campus Farm**

Ginette Legault — **Manager, Campus Housing**

Peter D.L. Knox; B.Sc.(Agr.)(McG.) — **Supervisor, Property Maintenance**

5.1.3 Programs

The Faculty of Agricultural and Environmental Sciences and the School of Dietetics and Human Nutrition offer degrees in Bachelor of Science in Agricultural and Environmental Sciences, Bachelor of Engineering in Bioresource Engineering, Bachelor of Science in Food Science, Bachelor of Science in Nutritional Sciences, Concurrent degree program in Food Science and Nutritional Science, Certificate in Ecological Agriculture, Diploma in Environment, and Diploma of Collegial Studies in Farm Management and Technology.

The Faculty of Agricultural and Environmental Sciences is one of the four faculties in partnership with the McGill School of Environment.

Several programs offered by the Faculty and School lead toward professional accreditation. These include Dietetics (membership in the Dietitians of Canada and the l'Ordre professionnel des diététistes du Québec); Agricultural Economics, Animal Production, Ecological Agriculture, Soil and Water Resources and Plant Production, (specializations in the Agro-Environmental Sciences Major) (membership in the Ordre des agronomes du Québec and other provincial Institutes of Agriculture); Bioresource Engineering (membership as a professional Engineer in any province of Canada plus the Ordre des agronomes du Québec); Food Science (Accreditation by the Institute of Food Technologists and professional accreditation by the Ordre des chimistes du Québec). Professional Practice experiences to complete the dietetics practicum are provided in the McGill teaching hospitals and in a wide variety of health, education, business, government and community agencies.

The Faculty also offers M.Sc. and Ph.D. programs in the areas of Agricultural Sciences, Biological Sciences, Bioresource Engineering, Biotechnology, Environmental Sciences, Food Science, and Nutritional Sciences. M.Sc.(A) programs are offered in some disciplines. In addition, a Graduate Certificate in Biotechnology, a Graduate Diploma in Dietitian Credentialing, and a Graduate Option in Environment are offered.

5.1.3.1 Internship Opportunities and Co-op Experience

Qualified students in the B.Sc.(Ag.Env.Sc.) have the opportunity to participate in a summer-long internship related to their field of study. Students aspiring to become professional agrologists are required to do an internship under the supervision of a professional agrologist.

Most undergraduate programs offered in the Faculty include the opportunity for a Co-op work experience. Internships and Co-op experience both involve a work placement of 12 to 16 weeks' duration where the student is exposed to the main areas of operation of the employer. Each work placement is unique, and the student benefits from a program developed by both the employer and the instructor exclusively for that student.

Students who register for an internship or Co-op experience benefit from practical learning arising from work-term employment in a meaningful job situation. Students also benefit from the non-tangible learning experience arising from the increased responsibilities required to obtain and successfully complete the work term. Students have the opportunity to pursue a 6 credit internship within the Barbados and Panama Field Studies semesters. For details, see section 15.3 "Field Studies".

5.1.3.2 Exchange Programs

The Faculty of Agricultural and Environmental Sciences participates in all university-wide student exchange programs available at McGill and also has faculty-specific exchange programs. For more information, please see section 15.4 "Exchange Programs".

5.1.4 Macdonald Campus Facilities

Morgan Arboretum
The Morgan Arboretum has 245 hectares of managed and natural woodlands, fields and tree plantations used for environmental research and teaching in a wide range of courses. Groups of most Canadian native trees and many useful and important exotics are

also present. The Arboretum features self-guided interpretation trails, 20 kilometres of wooded trails, a variety of forest ecosystems, conservation projects, and forest operations such as plantation management, timber harvesting and maple syrup production. A nature interpretation program is also offered.

Macdonald Campus Library
Located in the Barton Building, the Macdonald Campus Library's collection encompasses a wide variety of resources in agriculture, food and animal science, nutrition, entrepreneurship, the environment, ecology, plant science, and biotechnology. The library is a depository for many print and electronic government publications. All computers provide access to the library catalogue, databases, e-journals and other online resources. In the E-zone students can do research, complete assignments and use specialized software such as ArcGIS, SAS or EndNote. The library is a wireless zone allowing students to connect to the internet using laptops equipped with wireless network interface cards. In addition, throughout the library students can access the internet by connecting their laptops to the Virtual Private Network jacks. Students can request articles or books through the interlibrary loan service using online forms. Liaison librarians are available to assist users in obtaining necessary print or electronic resources, and library workshops are provided throughout the year. For further information about Macdonald Campus Library visit the website at www.mcgill.ca/macdonald-library or feel free to drop by.

Macdonald Campus Computing Centre
The Macdonald Campus Computing Centre, located in the Macdonald-Stewart Building, is staffed and managed by McGill's IST Customer Services (ICS) unit. The complex is comprised of a helpdesk with walk-in/phone support, offices, and a technical repair unit, open 9:00 a.m. to 5:00 p.m., Monday to Friday. Also available are three undergraduate labs offering the following resources (open 24/7 x 365): 48 computers running MS Office, 2 black and white printers, 1 colour printer, 3 scanners and 1 multimedia card reader. A wheelchair-friendly workstation is available in lab MS2-028. ICS is also responsible for supporting the Faculty's computers and public email stations, conveniently located across the Campus. More information is available at www.mcgill.ca/ics/labs.

Lyman Entomological Museum and Research Laboratory
Originally established in 1914 and formerly housed in the Redpath Museum, the Lyman Entomological Museum was moved to the Macdonald Campus in 1961. It houses the largest university collection of insects in Canada, second in size only to the National Collection. The Museum also has an active graduate research program in association with the Department of Natural Resource Sciences. Study facilities are available, on request from the Curator, to all bona fide students of entomology. Visits by other interested parties can be arranged by calling 514-398-7914. More information is available at http://lyman.mcgill.ca.

Brace Centre for Water Resources Management
The Brace Centre for Water Resources Management is located on the Macdonald Campus. It is a multidisciplinary and advanced research and training centre of McGill University, dedicated to solving problems of water management for all human and environmental uses. It brings together staff from several McGill faculties to undertake research, teaching, specialized training, and policy and strategic studies, both in Canada and internationally. The Centre draws on the wide range of facilities available within the University. More information is available at www.mcgill.ca/brace.

5.1.5 The Student Affairs Office

The Student Affairs Office, located in Laird Hall Room 106, provides a wide variety of academic services. These include information about admission (prerequisites and program requirements), academic standing, examinations (deferrals, conflicts, rereads), exchange programs, inter-faculty and intra-faculty transfers, registration (course change, withdrawals), scholarships (entrance and in-course), second degrees, second majors, minors, session away, and graduation (convocation).

Website: www.mcgill.ca/macdonald/studentinfo/sao

5.2 Summary of Academic Programs

5.2.1 Outline of Academic Programs

Programs leading to five degrees are offered on the Macdonald Campus, with Majors associated with each degree. In addition, Minors, Certificates and Diploma programs are offered.

5.2.2 Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)

Major Programs

Graduates of programs marked with an asterisk * are eligible for membership in the Ordre des agronomes du Québec and other provincial institutes of agriculture.

Agricultural Economics*:
- Agribusiness Option, page 93
- Environmental Economics Option, page 93

Agro-Environmental Sciences*, page 94
Environmental Biology, page 94
Environment, under McGill School of Environment:
- Biodiversity and Conservation Domain, page 312
- Ecological Determinants of Health Domain, page 313
- Environmetrics Domain, page 315
- Food Production and Environment Domain, page 316
- Land Surface Processes and Environmental Change Domain, page 317
- Renewable Resource Management Domain, page 318
- Water Environments and Ecosystems Domain, page 319

International Agriculture and Food Systems, page 95
Life Sciences (Biological and Agricultural), page 96

Specializations for Major Programs listed above in Agro-Environmental Sciences, Environmental Biology, International Agriculture and Food Systems, and Life Sciences (Biological and Agricultural)

Agricultural Economics, page 96
Agriculture and Food Systems (Multidisciplinary), page 97
Animal Biology, page 97
Animal Health and Disease, page 97
Animal Production, page 98
Applied Ecosystem Sciences, page 98
Ecological Agriculture, page 98
Entomology, page 99
Environmental Biology (Multidisciplinary), page 99
Health and Nutrition, page 99
International Agriculture, page 99
Life Sciences (Multidisciplinary), page 100
Microbiology, page 100
Molecular Biotechnology, page 101
Plant Biology, page 101
Plant Production, page 101
Plant Protection, page 102
Professional Agrology, page 102
Soil and Water Resources, page 102
Wildlife Biology, page 103

The programs listed below were in effect until the 2008-2009 academic year, with the exception of Agricultural Economics and Environment. Please go to the appropriate Calendar for program requirements or consult your academic adviser.

Graduates of programs marked with an asterisk * are eligible for membership in the Ordre des agronomes du Québec and other provincial institutes of agriculture.

Agricultural Sciences*:
- Agricultural Biotechnology Option
- Ecological Agriculture Option
- General Option
- International Agriculture Option
- Soils Option

Agricultural Sciences Internship*:
- Agricultural Biotechnology Option
- Ecological Agriculture Option
- General Option
- International Agriculture Option
- Soils Science Option

Animal Biology
Animal Science*
Applied Zoology
Botanical Science:
- Ecology Option
- Molecular Option

Environmental Biology (pre 2009 program)
Microbiology:
- Biotechnology Option
- Applied Ecology Option
- Environment Option

Plant Science*
Resource Conservation
Wildlife Biology

5.2.3 Bachelor of Engineering in Bioresource Engineering - B.Eng.(Bioresource)

This normally leads to professional qualification in any provincial professional engineering order plus the Ordre des agronomes du Québec.

Bioresource Engineering:
- Agricultural Engineering Stream, page 103
- BioEnvironmental Engineering Stream, page 103
- Ecological Engineering Stream, page 103
- Food and Bioprocess Engineering Stream, page 103
- Soil and Water Engineering Stream, page 103

5.2.4 Bachelor of Science in Food Science - B.Sc.(F.Sc.)

Food Science:
- Food Chemistry, page 107
- Food Industry (no longer being offered), page 107
- Food Science, page 107

5.2.5 Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.)

Two Majors are offered by the School of Dietetics and Human Nutrition.

Dietetics, page 105
Nutrition:
- Food Function and Safety, page 106
- Global Nutrition, page 106
- Nutritional Biochemistry, page 106
- Sports Nutrition, page 106

5.2.6 Concurrent Bachelor of Science in Food Science - B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences - B.Sc.(Nutr.Sc.)

Food Science / Nutritional Science, page 107

5.2.7 Honours Program

Environment, under McGill School of Environment, page 323

5.2.8 Minor Programs

Agricultural Production, page 108
Ecological Agriculture, page 109
Minor in Environment, under McGill School of Environment, page 305
Environmental Engineering, page 105
Human Nutrition, page 107

5.2.9 Certificate Programs

Ecological Agriculture, page 110
Food Science, page 108

5.2.10 Diploma Program

Diploma in Environment, under McGill School of Environment, page 323

5.2.11 Diploma in Collegial Studies

Farm Management and Technology, page 111

5.2.12 Environmental Sciences Programs

McGill School of Environment (MSE)

The MSE is a joint initiative of the Faculty of Agricultural and Environmental Sciences, the Faculty of Arts, the Faculty of Science, and the Faculty of Law. It offers a B.Sc.(Ag.Env.Sc.) Major in Environment, a B.Sc. Major in Environment, a B.A. & Sc. Inter-Faculty Program in Environment, a B.A. Faculty Program in Environment, a Minor in Environment and a Diploma in Environment. Many of the MSE programs allow students to choose to study exclusively on the Macdonald or downtown campuses, or to take advantage of both.

A list of the B.Sc.(Ag.Env.Sc.) Domains is given under section 5.2.2 "Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)". Further information on all programs is given under the "McGill School of Environment".

Environmental Programs on the Macdonald Campus

A number of integrated environmental science programs are also offered on the Macdonald Campus, particularly within the B.Sc.(Ag.Env.Sc.) and B.Eng.(Bioresource) degrees. The objective of these interdepartmental programs is to provide the student with a well-rounded training in a specific interdisciplinary subject as well as the basis for managing natural resources. For a complete list of the programs, see section 5.2.1 "Outline of Academic Programs".

5.3 Faculty Admission Requirements

For information about the admission requirements for this faculty please refer to the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

For information about inter-faculty transfers, see section 3.3.12 "Inter-Faculty Transfer".

Applications are submitted directly online at www.mcgill.ca/applying. Please note that the same application is used for all undergraduate programs at McGill and two program choices can be entered. For further information contact:

Student Affairs Office
Macdonald Campus of McGill University
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, Quebec H9X 3V9

Telephone: 514-398-7928
Email: studentinfo.macdonald@mcgill.ca
Website: www.mcgill.ca/macdonald/prospective

More specific information on application deadlines and admission requirements can be found at www.mcgill.ca/applying/undergrad.

5.4 Student Information

5.4.1 Student Services

Students who study on the Macdonald Campus may make full use of all McGill Student Services, see section 4.2. The Office of the Executive Director of Services for Students offers direct access to several services, see "Student Services – Macdonald Campus", section 4.3.3.

For further information refer to the Macdonald Campus Student Services website, www.mcgill.ca/macdonald-studentservices, and the Student Services website, www.mcgill.ca/studentservices.

5.4.2 Athletic Services

All students who have paid Student Services fees are also eligible to use any Athletic facility without additional expense. For further information please visit the website, www.macdonaldcampusathletics.mcgill.ca, or telephone the Stewart Athletic Complex at 514-398-7789.

5.4.3 Macdonald Campus Residences

Students may apply for residence in either of two distinctive facilities:

Laird Hall, with a capacity of 250 students, is arranged on a co-educational basis and provides single and double room accommodation for both undergraduate and graduate students.

The EcoResidence, Canada's first ecologically friendly student residence and winner of the Prix d'excellence from the Ordre des architectes du Québec, accommodates 100 students in apartment-style living.

For further information, please refer to "University Residences – Macdonald Campus", section 4.4.2, or the Faculty website, www.mcgill.ca/macdonald-residences, or email residences.macdonald@mcgill.ca.

5.4.4 Extracurricular Activities

All undergraduate, postgraduate, and Farm Management and Technology students are members of the Macdonald Campus Students' Society. The MCSS, through the 19-member Students' Council, is involved in numerous campus activities such as social events, academic affairs, and the coordination of clubs and organizations. Student life is informal and friendly and student groups range from the Outdoor Adventure Club to the Photography Society. Major social events include Orientation activities, Halloween Party and Winter Carnival. The Ceilidh, a student-run bar located in the Centennial Centre, is open every Thursday night.

The Centennial Centre is the centre of student life, offering facilities for student activities, such as meeting rooms, a Yearbook room, pool tables, great places to relax, listen to music and meet friends. Also located in the Centre are the Students' Council offices, an information desk, the Robber's Roost Campus Bookstore and cafeteria.

5.4.5 Student Rights and Responsibilities

The *Handbook on Student Rights and Responsibilities* is published jointly by the Office of the Dean of Students and the University Secretariat. A copy of the Handbook can be found at www.mcgill.ca/secretariat/policies/students or obtained from the Student Affairs Office or the Macdonald Campus Student Services Centre.

5.4.6 Fees

The University reserves the right to make changes without notice in its published scale of tuition, residence and other fees.

Payment of student fees can be made directly on Minerva through internet banking or preauthorized debit charges. The first fee statement is sent by regular mail followed by e-billing viewable on Minerva which students are notified of at their McGill email address.

The University shall have no obligation to issue any transcript of record, award any diploma or re-register a student in case of non-payment of tuition fees, library fines, residence fees, or loans on their due date.

Tuition Fees
General information on Tuition and other fees is found under "Fees", section 3.4.

Other Expenses
In addition to tuition fees and the cost of accommodation and meals, students should be prepared to spend a minimum of $1,000 (dependent on program) on prescribed textbooks and classroom supplies. These may be purchased at the Campus Bookstore in the Centennial Centre.

Uniforms are required for food laboratories. Students in the B.Sc.(Nutr.Sc.) program will be advised of the uniform requirements on acceptance or promotion.

5.4.7 Scholarships and Bursaries

Various entrance and in-course scholarships and bursaries are available. For full details see www.mcgill.ca/studentaid/scholarships.

5.4.8 Immunization for Dietetics Majors

Students in the Dietetics Major are required to complete the Compulsory Immunization Program for Health Care Students prior to registration. Participation in Professional Practice (Stage) in Dietetics will only be permitted for those students who have completed all immunization requirements. For full details see www.mcgill.ca/studenthealth/forms.

5.4.9 Language Requirement for Professions

Quebec law requires that candidates seeking admission to provincially recognized Quebec professional corporations or ordres possess a working knowledge of the French language, i.e., be able to communicate verbally and in writing in that language. Agrologists, chemists, dietitians, and engineers are among those within this group.

For additional information, see section 3.10.1 "Language Requirements for Professions".

5.5 Faculty Information and Regulations

Each student in the Faculty of Agricultural and Environmental Sciences must be aware of the Faculty Regulations as stated in this Calendar. While departmental and faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of program and degree requirements, and for the observance of regulations and deadlines *rests with the student*. It is the student's responsibility to seek guidance if in any doubt; misunderstanding or misapprehension will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

5.5.1 Minimum Credit Requirement

Students must complete the minimum credit requirement for the degree as specified in the letter of admission.

Students are normally admitted to a four-year program requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in the Diploma of Collegial Studies, International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests.

Normally, Quebec students who have completed the Diplôme d'études collégiales (DEC) or equivalent diploma are admitted to the first year of a program requiring the completion of a minimum of 90 credits, 113 credits for Bioresource Engineering, 115 credits for Dietetics plus any missing basic science prerequisites, and 122 credits for the Concurrent Degrees in Food Science and Nutritional Sciences.

Students from outside Quebec who are admitted on the basis of a high school diploma enter the Freshman Major, which comprises 30 credits (see "Freshman Major", section 5.5.3).

Students will not receive credit toward their degree for any course that overlaps in content with a course successfully completed at McGill, at another university, at CEGEP, or Advanced Placement exams, Advanced Level results, International Baccalaureate Diploma, or French Baccalaureate.

Students in the B.Sc.(Ag.Env.Sc.) must take a minimum of two-thirds of their course credits within the Faculty of Agricultural and Environmental Sciences.

5.5.2 Minimum Grade Requirement

Students must obtain grades of C or better in any required, complementary and freshman courses used to fulfil program requirements. Students may not register in a course for which they have not passed all the prerequisite courses with a grade of C or better, except by written permission of the Departmental Chair concerned.

5.5.3 Freshman Major

Program Director: Dr. Marcia Knutt
Department of Bioresource Engineering
Telephone: 514-398-7976

Students entering university for the first time from a high school system (outside of Quebec CEGEP system) will be required to complete a freshman year of at least 30 credits in one of the four programs listed below.

Normally, students registered in the Faculty of Agricultural and Environmental Sciences Freshman program may take a maximum of 8 credits outside the Faculty offerings to meet the requirements of the program. Permission to exceed this limit must be received from the Associate Dean (Student Affairs) prior to registration.

Note: Students who are not certain they have adequate math and/or physics skills to commence the freshman year may wish to take preparatory courses prior to the normal Fall semester. Students are encouraged to discuss their potential need with their academic adviser.

B.Sc. Agricultural & Environmental Sciences

Freshman Advisor: Dr. Alice Cherestes
Department of Bioresource Engineering
Telephone: 514-398-7980

		CREDITS
Required Courses - Fall		**14.5**
AEBI 120	General Biology	3.0
AECH 110	General Chemistry 1	4.0
AEMA 101	Calculus 1	3.0
AEPH 112	Introductory Physics 1	4.0
AGRI 195	Freshman Seminar 1	0.5
Required Courses - Winter		**12.5**
AECH 111	General Chemistry 2	4.0
AEMA 102	Calculus 2	4.0
AEPH 114	Introductory Physics 2	4.0
AGRI 196	Freshman Seminar 2	0.5
Elective - Winter		**3.0**
Elective		3.0
Total Credits		**30.0**

B.Eng. (Bioresource)

Freshman Advisor: Dr. Alice Cherestes
Department of Bioresource Engineering
Telephone: 514-398-7980

		CREDITS
Required Courses - Fall		**14.5**
AEBI 120	General Biology	3.0
AECH 110	General Chemistry 1	4.0
AEMA 101	Calculus 1	3.0
AEPH 113	Physics 1	4.0
BREE 187	Freshman Seminar 1	0.5
Required Courses - Winter		**15.5**
AECH 111	General Chemistry 2	4.0
AEMA 102	Calculus 2	4.0
AEPH 115	Physics 2	4.0
BREE 103	Linear Algebra	3.0
BREE 188	Freshman Seminar 2	0.5
Total Credits		**30.0**

B.Sc. Nutritional Sciences

Freshman Advisor: Judy Campbell-Gordon
School of Dietetics and Human Nutrition
Telephone: 514-398-7556

The Freshman requirements below are currently under review.

		CREDITS
Required Courses - Fall		**14**
AEBI 120	General Biology	3.0
AECH 110	General Chemistry 1	4.0
AEMA 101	Calculus 1	3.0
AEPH 112	Introductory Physics 1	4.0
Required Courses - Winter		**15**
	Cell Biology course to be determined	3.0
AEMA 102	Calculus 2	4.0
AEPH 114	Introductory Physics 2	4.0
FDSC 230	Organic Chemistry	4.0
Elective - Fall/Winter		**1.0**
Elective*		1.0
Total Credits		**30.0**

Advising notes:

* In place of the 1 credit elective, students are strongly advised to take the two freshman seminars listed below; AGRI 195 in the Fall term and AGRI 196 in the Winter term.

AGRI 195	Freshman Seminar 1	0.5
AGRI 196	Freshman Seminar 2	0.5

B.Sc. Food Science:

Freshman Advisor: Dr. Alice Cherestes
Department of Bioresource Engineering
Telephone: 514-398-7980

		CREDITS
Required Courses - Fall		**14.5**
AEBI 120	General Biology	3.0
AECH 110	General Chemistry 1	4.0
AEMA 101	Calculus 1	3.0

AEPH 112	Introductory Physics 1	4.0
AGRI 195	Freshman Seminar 1	0.5
Required Courses - Winter		**12.5**
AECH 111	General Chemistry 2	4.0
AEMA 102	Calculus 2	4.0
AEPH 114	Introductory Physics 2	4.0
AGRI 196	Freshman Seminar 2	0.5
Elective - Winter		**3.0**
Elective		3.0
Total Credits		**30.0**

Concurrent Bachelor of Science in Food Science – B.Sc. (F.Sc.) and Bachelor of Science in Nutritional Sciences – B.Sc. (Nutr.Sc.)

Freshman Advisor: Judy Campbell-Gordon
School of Dietetics and Human Nutrition
Telephone: 514-398-7556

Students admitted to the Concurrent Bachelor of Science in Food Science – B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences – B.Sc.(Nutr.Sc.) program follow the Freshman Major provided in the section above for the B.Sc. Nutritional Sciences program.

5.5.4 Academic Advisers

Before registration, all students entering the Faculty must consult with the Academic Adviser of their program for selection and scheduling of required, complementary, and elective courses. The Academic Adviser will normally continue to act in this capacity for the duration of the student's studies in the Faculty.

A Faculty Adviser is also available in the Student Affairs Office to assist students with student record related matters.

5.5.5 Categories of Students

Full-Time Students
Full-time students in satisfactory standing take a minimum of 12 credits per term.

Where students in probationary standing are not normally permitted to take more than 14 credits per term. In exceptional circumstances the Committee on Academic Standing may give permission to attempt more.

Part-time Students
Part-time students carry fewer than 12 credits per term.

5.5.6 Academic Standing

All students are required to give satisfactory evidence of mastery of the material of lectures and laboratories. Examinations are normally held at the end of each course but other methods of evaluation may also be used. The grade assigned for a course represents the standing of the student in all the work of the course.

The following rules apply to the academic standing of a student:

1. When a student's CGPA (or TGPA in the first term of the program) falls below 2.00, the student's academic standing becomes Probationary.
2. Students in Probationary standing may register for no more than 14 credits per term.
3. While in Probationary standing, students must achieve a TGPA of 2.50 to continue in Probationary standing or a CGPA of 2.00 in order to return to Satisfactory standing. Failure to meet at least one of these conditions will result in Unsatisfactory standing. (In the case of Fall term, this will be Interim Unsatisfactory standing and the rules for Probationary standing will apply.)
4. When a student's CGPA (or TGPA in the first term of the program) falls below 1.50, the student's academic standing becomes Unsatisfactory and withdrawal is required. (In the case of Fall term, the standing will be Interim Unsatisfactory standing and the rules for Probationary standing will apply.)
5. Students in Unsatisfactory standing may not continue in their program. Application for readmission may be made only after registration has been interrupted for at least one term (not including Summer term).
6. Readmission will be in the standing Unsatisfactory/Readmit and a CGPA of 2.00 must be achieved to return to Satisfactory standing or a TGPA of 2.50 must be achieved for Probationary standing. Failure to meet at least one of these conditions will result in requirement for permanent withdrawal.

Committee on Academic Standing
The Faculty's Committee on Academic Standing, consisting of academic staff, administrative staff and a student representative, reviews special requests made by students regarding their academic life.

5.5.7 Credit System

The credit assigned to a particular course reflects the amount of effort it demands of the student. As a guideline, a one-credit course would represent approximately 45 hours total work per course. This is, in general, a combination of lecture hours and other contact hours such as laboratory periods, tutorials and problem periods as well as personal study hours.

Please refer to "Credit System", section 3.5.2.

5.5.7.1 Continuing Education Courses

Not all Continuing Education credit courses are recognized for credit within faculty degree programs. Please communicate with the Student Affairs Office before registering for such courses.

5.5.8 Academic Credit Transfer

Transfer credits based on courses taken at other institutions (completed with a grade of C or better) before entrance to this Faculty are calculated and assigned after an accepted applicant has confirmed that s/he is accepting the offer of admission.

Transfer credits may also be granted for courses taken at other institutions (completed with a grade of C or better) during a student's attendance at McGill University. Permission to apply such credits to a program in this Faculty must be secured by the student before the work is undertaken. Prior Approval Forms are available in the Student Affairs Office in the Faculty. Grades obtained in such courses do not enter into calculations of grade point averages (GPA).

Exemption from a required or complementary course on the basis of work completed at another institution must be approved by both the Instructor of the appropriate McGill course and the Academic Adviser.

Full-time degree students may register, with approval of the Student Affairs Office, for course(s) at any university in the province of Quebec. Those courses successfully completed with a minimum grade of C (according to the standards of the university giving the course), will be recognized for the purpose of the degree but the grades obtained will not enter into calculations of GPA. For further details, see section 3.3.5 “Quebec Inter-University Transfer Agreement (IUT)”, or go to www.crepuq.qc.ca to access the online application.

5.5.9 Regulations Regarding Second Academic Majors

While registered in a Major in the Faculty of Agricultural and Environmental Sciences, a student may pursue a second set of courses of greater scope than a Minor (e.g., Faculty Program, Major, Honours Program, Major Concentration) in either this Faculty or another faculty. Application for a Second Academic Major shall be made to the Associate Dean (Student Affairs) in the Student Affairs Office, Laird Hall, Room 106. Following are the regulations and procedures for Second Academic Majors:

1. The applicant for a Second Academic Major must be in Satisfactory academic standing with a minimum CGPA of 3.00.
2. The applicant, in consultation with the appropriate authority associated with each Major (Academic Adviser, Associate

Dean) must construct a proposal showing all the courses that are to be taken to satisfy the entrance and program requirements of both the First and Second Academic Majors.

3. A minimum of 36 credits must be unique to the Second Major (i.e., not part of the Required or Complementary courses taken for the First Major).
4. Students in the Faculty of Agricultural and Environmental Sciences must obtain prior approval for all proposed Second Academic Majors from their Academic Adviser and the Student Affairs Office and from the Associate Dean, adviser or appropriate committee of the other faculty concerned.
5. Normally, proposals for Second Academic Majors will be initiated before completion of U1 year of the First Academic Major.
6. The academic standards applicable to each Major will be respected.

5.5.9.1 Procedures for Minor Programs

Students wishing to register for a Minor program must complete a Minor Approval form (usually at the beginning of their U2 year), and return it duly completed to the Student Affairs Office. The Minor program will then be added to their record and will automatically continue each year unless officially cancelled by the student in writing. Students wishing to cancel the Minor must notify both the Minor adviser and the Student Affairs Office. The Minor Approval form is available on the Faculty website and in the Student Affairs Office, Laird Hall Room 106.

5.5.10 Course Change Information

1. Courses: please refer to "Course Change Period", section 3.3.7 and "Important Dates 2009-10", section 1.
2. Course withdrawal (Transcript notation of “W”): please refer to "Regulations Concerning Course Withdrawal", section 3.3.8 and "Important Dates 2009-10", section 1.
3. Other changes: Information about changes may be obtained from the Student Affairs Office of the Faculty.

5.5.11 Graduate Courses Available to Undergraduates

Undergraduates wishing to take such courses must have a cumulative grade point average (CGPA) of at least 3.20. Final approval must be obtained from the Graduate and Postdoctoral Studies Office.

5.5.12 Attendance and Conduct in Class

Matters of discipline connected with, or arising from, the general arrangement for teaching are under the jurisdiction of the Dean of the Faculty.

Students may be admonished by a professor or instructor for dishonest or improper conduct or may be reported to the Associate Dean (Student Affairs) for disciplinary action.

Punctual attendance at all classes, laboratory periods, tests, etc., is expected of all students.

5.5.13 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of K (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to the Student Affairs Office are as follows:

- Students graduating in June:
  Fall courses — January 15
  Winter courses, and courses spanning Fall/Winter — April 30
- Non-graduating students:
  Fall courses — January 15
  Winter courses, and courses spanning Fall/Winter — May 15

Students' deadlines for submitting their work must be sufficiently in advance of these dates to ensure that the work can be graded and the mark submitted on time. It is important to note that instructors may impose earlier deadlines than those listed above.

If marks to clear Ks have not been submitted to the Student Affairs Office by the above dates, the K is automatically changed to a KF and counts as an F in the GPA.

Students with a grade of K who have serious extenuating circumstances may request an extension of the K deadline (KE) from the Associate Dean (Student Affairs). Please refer to "Grading and Grade Point Averages (GPA)", section 3.5.3 for more information about grading and credit.

5.5.14 Examinations

Students should refer to "Examinations", section 3.6 for information about final examinations and deferred examinations. Examination schedules are posted on the McGill website, www.mcgill.ca, normally one month after the start of classes for the Tentative Exam Schedule, and two months after the start of classes for the Final Exam Schedule.

Every student has a right to write essays, examinations and theses in English or in French except in courses where knowledge of a language is one of the objectives of the course.

Oral presentations made as part of course requirements shall be in English.

5.5.14.1 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark as well as the right to discuss this submission with the examiner.

If, after discussion with the instructor, students request a formal final examination reread, they must apply in writing to the Associate Dean (Student Affairs). The following conditions apply:

- grades may be either raised or lowered as the result of a reread;
- rereads in courses outside the Faculty of Agricultural and Environmental Sciences are subject to the deadlines, rules and regulations of the relevant faculty.

Application for rereads must be made by March 31 for Fall term courses and by September 30 for Winter term and Summer term courses. Students are assessed a fee for formal rereads. Any request to have term work re-evaluated must be made directly to the instructor concerned. Students should consult the Student Affairs Office for further information and for deadlines for reassessment of in-course work.

5.5.14.2 Deferred Examinations

The Faculty offers deferred exams for medical reasons and exceptional circumstances (to be approved by the Associate Dean (Student Affairs)) for the Fall and Winter period. Verify date in "Important Dates 2009-10", section 1, apply on Minerva and provide medical documentation to the Student Affairs Office.

5.5.15 Degree Requirements

To be eligible for a B.Eng.(Bioresource), B.Sc.(Ag.Env.Sc.), B.Sc.(F.Sc.), B.Sc.(Nutr.Sc.) or Concurrent B.Sc.(F.Sc.) and B.Sc.(Nutr.Sc.) degree, students must have passed, or achieved exemption, with a minimum C grade in all required and complementary courses of the program. They must have a CGPA of at least 2.00.

Students must have completed all Faculty and program requirements; see section 5.5.1 “Minimum Credit Requirement”.

A student must complete a minimum residency requirement of 60 credits at McGill in order to qualify for a McGill degree. Students in the B.Sc.(Ag.Env.Sc.) must take a minimum of 2/3 of their course credits within the Faculty of Agricultural and Environmental Sciences.

In addition, students in the Dietetics program must have completed the Stages of professional formation requiring a CGPA of 2.5.

5.5.16 Dean's Honour List

For information on the designation of Dean's Honour List awarded at graduation, see section 3.9.1.1 "Dean's Honour List".

5.5.17 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 "Distinction".

5.5.18 Honours and First Class Honours

Departments may recommend to the Faculty that graduating students registered in an Honours program be awarded Honours or First-Class Honours under the following conditions:

- students must complete all Honours program requirements; for Honours, the CGPA at graduation must be at least 3.00;
- for First-Class Honours, the CGPA at graduation must be at least 3.50;
- some programs may impose additional requirements, which must be met before students are recommended for Honours or First-Class Honours.

Students in an Honours program whose CGPA is below 3.00 or who did not satisfy certain program requirements must consult their academic adviser to determine their eligibility to graduate in a program other than Honours.

5.5.19 Medals and Prizes

Various medals, scholarships and prizes are open to graduating students. No application is required. Full details of these are set out in the *Undergraduate Scholarships and Awards Calendar,* available on the web at www.mcgill.ca/courses.

5.6 Academic Programs

5.6.1 Bachelor of Science (Agricultural and Environmental Sciences) – B.Sc.(Ag.Env.Sc.)

B.SC.(AG.ENV.SC.) – AGRICULTURAL ECONOMICS MAJOR

Program Director: Professor John Henning
Department of Natural Resource Sciences
Telephone: 514-398-7826

Increasingly complex economic problems facing the agriculture and food system and our natural environment have intensified the need for specialized knowledge and training in the field of agricultural economics. The curriculum is designed to provide students with the knowledge, analytical and decision-making skills required in a career in agribusiness, resource management, international development, and research. The selection of courses from the agribusiness or environmental economics options permits a degree of specialization along those lines, in conjunction with the core courses listed below.

Graduates are eligible to apply for membership in the Ordre des agronomes du Québec (OAQ) if they fulfil the agronomic course requirements (consult the academic adviser).

See section 5.5.1 for prerequisites and minimum credit requirements.

		CREDITS
Core Required Courses:		**36**
One course in accounting (approved by adviser)		3
One course in introductory statistics (approved by adviser)		3
AGEC 200	Principles of Microeconomics	3
AGEC 201	Principles of Macroeconomics	3
AGEC 231	Economic Systems of Agriculture	3
AGEC 320	Intermediate Microeconomic Theory	3
AGEC 330	Agriculture and Food Markets	3
AGEC 333	Resource Economics	3
AGEC 425	Applied Econometrics	3
AGEC 430	Agriculture, Food and Resource Policy	3
AGEC 442	Economics of International Agricultural Development	3
AGEC 491	Research & Methodology	3

Options:

- Agribusiness
- Environmental Economics

AGRIBUSINESS OPTION

Whether one has interests in agricultural supply, production, marketing, finance, food processing or retailing, professional management skills are the key to success. The agribusiness option prepares students for managerial responsibility by drawing on the resources of both the Desautels Faculty of Management and the Faculty of Agricultural and Environmental Sciences. This special partnership provides students with not only a first-class business training but also a specialization in the field of agriculture.

Core Required and Complementary Courses: 36 credits
Option Required and Complementary Courses: 27 credits
Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Option Required Courses:		**9**
AGEC 242	(3) Management Theories and Practices	
AGEC 332	(3) Farm Management and Finance	
AGEC 450	(3) Agriculture Business Management	
Option Complementary Science Courses:		**9**
ANSC 250	(3) Principles of Animal Science	
ENVB 210	(3) The Biophysical Environment	
FDSC 200	(3) Introduction to Food Science	
PLNT 201	(3) Comparative Plant Biology	
Option Complementary Business Courses:		**9**
9 credits chosen from the following list:		
ACCT 361	(3) Intermediate Management Accounting 1	
AGRI 310	(3) Internship in Agriculture/Environment	
BUSA 364	(3) Business Law 1	
MGCR 341	(3) Finance 1	
MGCR 352	(3) Marketing Management 1	
MGCR 382	(3) International Business	
MGSC 373	(3) Operations Research 1	
ORGB 321	(3) Leadership	

ENVIRONMENTAL ECONOMICS OPTION

This option integrates biological sciences and environmental decision making with the economics of natural resource use and development. The environmental economics option is intended to prepare students for careers in the management of natural resources and the analysis of natural resource problems and policies.

Core Required and Complementary Courses: 36 credits
Option Required and Complementary Courses: 27 credits

Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Option Required Science Courses:		**12**
AEMA 306	(3) Mathematical Methods in Ecology	
ENVB 210	(3) The Biophysical Environment	
ENVB 305	(3) Population & Community Ecology	
NRSC 437	(3) Assessing Environmental Impact	
Option Complementary Courses:		**15**
15 credits chosen from the following list:		
AGRI 310	(3) Internship in Agriculture/Environment	
BREE 217	(3) Hydrology and Water Resources	
ECON 225	(3) Economics of the Environment	
ECON 326	(3) Ecological Economics	

ECON 405	(3)	Natural Resource Economics
ENVB 301	(3)	Meteorology
ENVR 203	(3)	Knowledge, Ethics and Environment
MICR 331	(3)	Microbial Ecology
NRSC 333	(3)	Physical and Biological Aspects of Pollution
NUTR 420	(3)	Toxicology and Health Risks
WILD 415	(2)	Conservation Law
WILD 421	(3)	Wildlife Conservation

GENERAL RULES FOR THE FOLLOWING B.SC.(AG.ENV.SC.) PROGRAMS:

Students register in one ***major*** and at least one ***specialization***. They may design their own program by choosing one of the four majors and at least one of the 20 specializations. By choosing two different specializations, students have the option of developing their own interdisciplinary interests. The multidisciplinary specializations are designed for those interested in broad training.

All the required and complementary courses for the major must be completed in full. Within each specialization, at least 18 credits must be unique: that is, they only count for that specialization and do not overlap with either the major or a second specialization. At least 54 credits of the 90 credits required for the degree (120 for students admitted to the Freshman year) must be from 300-level courses or higher; of this at least 12 credits must be from 400-level courses or higher.

Note: Below the program description for each major is a suggested list of specializations that complement the major.

Majors:

- Agro-Environmental Sciences
- Environmental Biology
- International Agriculture and Food systems
- Life Sciences (Biological and Agricultural)

Specializations:

- Agricultural Economics, page 96
- Agriculture and Food Systems (Multidisciplinary), page 97
- Animal Biology, page 97
- Animal Health and Disease, page 97
- Animal Production, page 98
- Applied Ecosystem Sciences, page 98
- Ecological Agriculture, page 98
- Entomology, page 99
- Environmental Biology (Multidisciplinary), page 99
- Health and Nutrition, page 99
- International Agriculture, page 99
- Life Sciences (Multidisciplinary), page 100
- Microbiology, page 100
- Molecular Biotechnology, page 101
- Plant Biology, page 101
- Plant Production, page 101
- Plant Protection, page 102
- Professional Agrology, page 102
- Soil and Water Resources, page 102
- Wildlife Biology, page 103

B.SC.(AG.ENV.SC.) – AGRO-ENVIRONMENTAL SCIENCES MAJOR (42 credits)

Program Director: Katherine McClintock
Department of Plant Science
Telephone: 514-398-7851

This major is focused on the idea that agricultural landscapes are managed ecosystems, and that humans engaged in agriculture must maintain the highest possible environmental standards while providing food and other bioproducts to the marketplace. The major core focuses on the basic and applied biology of cultivated plants, domestic animals, arable soils, and the economics of agriculture. Students then choose one or two specializations in these or connected disciplines that reflect their interests and career goals.

The program has a strong field component that includes hands-on laboratories, visits to agricultural enterprises, and opportunities for internships. Classes and laboratories exploit the unique setting and facilities of the Macdonald Campus and Farm, which is a fully functioning farm in an urban setting that exemplifies many of the issues at the forefront of modern agricultural production. Graduates of this program are eligible to become members of the Ordre des agronomes du Québec.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 36 credits
Complementary Courses: 6 credits
Specialization: at least one specialization of 18 - 24 credits
Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Required Courses:		**36**
AEBI 210	Organisms 1	3
AEHM 205	Science Literacy	3
AEMA 310	Statistical Methods 1	3
AGEC 200	Principles of Microeconomics	3
AGEC 231	Economic Systems of Agriculture	3
AGRI 215	Agro-Ecosystems Field Course	3
ANSC 250	Principles of Animal Science	3
ENVB 210	The Biophysical Environment	3
LSCI 204	Genetics	3
LSCI 211	Biochemistry 1	3
LSCI 230	Introductory Microbiology	3
SOIL 315	Soil Fertility and Fertilizer Use	3

Complementary Courses: **6**

One of:

PLNT 300	(3)	Cropping Systems
PLNT 302	(3)	Forage Crops and Pastures

One of:

ANSC 451	(3)	Dairy and Beef Production Management
ANSC 458	(3)	Swine and Poultry Production

Specializations designed to be taken with the Agro-Environmental Sciences Major:

- Agricultural Economics, page 96
- Animal Health and Disease, page 97
- Animal Production, page 98
- Ecological Agriculture, page 98
- Entomology, page 99
- International Agriculture, page 99
- Plant Production, page 101
- Plant Protection, page 102
- Professional Agrology, page 102
- Soil and Water Resources, page 102

Note: For a complete list of specializations offered for students in the Bachelor of Science in Agricultural and Environmental Sciences, please refer to section 5.2.2 “Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)” and section 5.6.1.1 “Specializations”.

B.SC.(AG.ENV.SC.) – ENVIRONMENTAL BIOLOGY MAJOR (42 credits)

Program Director: Professor Chris Buddle
Department of Natural Resource Sciences
Telephone: 514-398-8026

The Environmental Biology Major is about the biology, diversity and ecology of a broad range of organisms, from plant and vertebrate animals, to insects, fungi and microbes. This Major places a strong emphasis on the ecosystems that species inhabit and the constraints imposed by the physical environment and by environmental change. Environmental Biology has significant field components worked into the course sets, and through this experiential learning, biological diversity, and the ways that species interact with their physical environment in a variety of ecosystems will be studied. The Major makes full use of the unique physical setting and faculty expertise of McGill's Macdonald Campus to train students to become ecologists, taxonomists, field biologists, and ecosystem scientists.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 30 credits
Complementary Courses: 12 credits
Specialization: at least one specialization of 18 - 24 credits
Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Required Courses:		**30**
AEBI 210	Organisms 1	3
AEBI 211	Organisms 2	3
AEBI 212	Evolution and Phylogeny	3
AEHM 205	Science Literacy	3
AEMA 310	Statistical Methods 1	3
ENVB 210	The Biophysical Environment	3
ENVB 222	St. Lawrence Ecosystems	3
ENVB 410	Ecosystem Ecology	3
LSCI 204	Genetics	3
LSCI 211	Biochemistry 1	3

Complementary Courses:			**12**
AEBI 451	(3)	Research Project 1	
AEBI 491	(1)	Scientific Communication	
AEMA 406	(3)	Quantitative Methods: Ecology	
ENTO 340	(3)	Field Entomology	
ENVB 301	(3)	Meteorology	
ENVB 305	(3)	Population & Community Ecology	
ENVB 313	(3)	Phylogeny and Biogeography	
ENVB 315	(3)	Science of Inland Waters	
ENVR 203	(3)	Knowledge, Ethics and Environment	
LSCI 230	(3)	Introductory Microbiology	
MICR 331	(3)	Microbial Ecology	
NRSC 430	(3)	GIS for Natural Resource Management	
NRSC 437	(3)	Assessing Environmental Impact	
PLNT 304	(3)	Biology of Fungi	
PLNT 358	(3)	Flowering Plant Diversity	
SOIL 300	(3)	Geosystems	
SOIL 326	(3)	Soils in a Changing Environment	
WILD 307	(3)	Natural History of Vertebrates	

Specializations designed to be taken with the Environmental Biology Major:

- Applied Ecosystem Sciences, page 98
- Entomology, page 99
- Environmental Biology (Multidisciplinary), page 99
- Plant Biology, page 101
- Plant Protection, page 102
- Soil and Water Resources, page 102
- Wildlife Biology, page 103

Note: For a complete list of specializations offered for students in the Bachelor of Science in Agricultural and Environmental Sciences, please refer to section 5.2.2 "Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)" and section 5.6.1.1 "Specializations".

B.SC.(AG.ENV.SC.) – INTERNATIONAL AGRICULTURE AND FOOD SYSTEMS MAJOR (42 credits)

Program Director: Professor Anwar Naseem
Department of Natural Resource Sciences
Telephone: 514-398-7825

This program is directed at students who seek conceptual understanding of the scope of and inter-relationships among the environmental, economic and socio-cultural factors that shape the nature of developing country food systems as well as scientific competence in the ways in which agriculture can help define sustainable solutions to critical problems defined by food insecurity, malnutrition, poverty and ecological health. Students will be given general preparation sufficient for participation in project management and policy development together with a foundation adequate both for working alongside a range of development specialists and for subsequent acquisition of specific expertise in components of agricultural and food science. The program includes a common core of scientific and development-related courses.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 30 credits
Complementary Courses: 12 credits
Specialization: at least one specialization of 18 - 24 credits
Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Required Courses:		**30**
AEMA 310	Statistical Methods 1	3
AGEC 200	Principles of Microeconomics	3
AGEC 442	Economics of International Agricultural Development	3
AGRI 411	International Agriculture	3
AGRI 493	International Project Management	3
ENVB 210	The Biophysical Environment	3
FDSC 200	Introduction to Food Science	3
LSCI 211	Biochemistry 1	3
PLNT 203	Economic Botany	3
NRSC 340	Global Perspectives on Food	3

Complementary Courses:			**12**
One of:			
ANSC 330	(3)	Fundamentals of Nutrition	
NUTR 307	(3)	Human Nutrition	
9 credits from the following:			
ANSC 250	(3)	Principles of Animal Science	
BREE 217	(3)	Hydrology and Water Resources	
ENTO 352	(3)	Control of Insect Pests	
ENVB 305	(3)	Population & Community Ecology	
FDSC 310	(3)	Post Harvest Fruit and Vegetable Technology	
LSCI 202	(3)	Molecular Cell Biology	
LSCI 204	(3)	Genetics	
LSCI 230	(3)	Introductory Microbiology	
NUTR 501	(3)	Nutrition in Developing Countries	
PARA 410	(3)	Environment and Infection	
PARA 515	(3)	Water, Health and Sanitation	
PLNT 434	(3)	Weed Biology and Control	
WILD 424	(3)	Parasitology	

Specializations designed to be taken with the International Agriculture and Food Systems Major:

- Agricultural Economics, page 96
- Agriculture and Food Systems (Multidisciplinary), page 97
- Animal Production, page 98
- Ecological Agriculture, page 98
- Health and Nutrition, page 99
- Plant Production, page 101
- Soil and Water Resources, page 102

Note: For a complete list of specializations offered for students in the Bachelor of Science in Agricultural and Environmental Sciences, please refer to section 5.2.2 "Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)" and section 5.6.1.1 "Specializations".

B.SC.(AG.ENV.SC.) – LIFE SCIENCES (BIOLOGICAL AND AGRICULTURAL) MAJOR (42 credits)

Program Director: Professor Brian Driscoll
Department of Natural Resource Sciences
Telephone: 514-398-7887

The Life Sciences (Biological and Agricultural) Major provides a strong foundation in the basic biological sciences. It will prepare graduates for careers in the agricultural, environmental, health and biotechnological fields. Graduates with high academic achievement may go on to post-graduate studies in research, or professional programs in the biological, veterinary, medical and health sciences fields.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 27 credits
Complementary Courses: 15 credits
Specialization: at least one specialization of 18 - 24 credits
Electives: To meet the minimum credit requirement for the degree.

		CREDITS
Required Courses:		**27**
AEBI 210	Organisms 1	3
AEBI 211	Organisms 2	3
AEBI 212	Evolution and Phylogeny	3
AEHM 205	Science Literacy	3
AEMA 310	Statistical Methods 1	3
LSCI 202	Molecular Cell Biology	3
LSCI 204	Genetics	3
LSCI 211	Biochemistry 1	3
LSCI 230	Introductory Microbiology	3

Complementary Courses:			**15**
AEBI 451	(3)	Research Project 1	
AEBI 491	(1)	Scientific Communication	
AEHM 330	(3)	Academic and Scientific Writing	
ANSC 234	(3)	Biochemistry 2	
ANSC 250	(3)	Principles of Animal Science	
ANSC 251	(3)	Comparative Anatomy	
ANSC 324	(3)	Developmental Biology and Reproduction	
ANSC 326	(3)	Fundamentals of Population Genetics	
ANSC 330	(3)	Fundamentals of Nutrition	
ANSC 420	(3)	Animal Biotechnology	
BINF 301	(3)	Introduction to Bioinformatics	
BTEC 306	(3)	Experiments in Biotechnology	
ENVB 222	(3)	St. Lawrence Ecosystems	
MICR 331	(3)	Microbial Ecology	
MIMM 324	(3)	Fundamental Virology (Given at downtown campus)	
NRSC 333	(3)	Pollution and Bioremediation	
PARA 438	(3)	Immunology	
PLNT 203	(3)	Economic Botany	
PLNT 304	(3)	Biology of Fungi	
PLNT 315	(3)	Herbs and Medicinal Plants	
PLNT 353	(3)	Plant Structure and Function	
PLNT 424	(3)	Cellular Regulation	
PLNT 426	(3)	Plant Ecophysiology	
WILD 375	(3)	Issues: Environmental Sciences	
WILD 424	(3)	Parasitology	

Specializations designed to be taken with the Life Sciences (Biological and Agricultural) Major:

- Animal Biology, page 97
- Animal Health and Disease, page 97
- Entomology, page 99
- Health and Nutrition, page 99
- Life Sciences (Multidisciplinary), page 100
- Microbiology, page 100
- Molecular Biotechnology, page 101
- Plant Biology, page 101

Note: For a complete list of specializations offered for students in the Bachelor of Science in Agricultural and Environmental Sciences, please refer to section 5.2.2 "Bachelor of Science in Agricultural and Environmental Sciences - B.Sc.(Ag.Env.Sc.)" and section 5.6.1.1 "Specializations".

5.6.1.1 Specializations

B.SC.(AG.ENV.SC.) – SPECIALIZATIONS TO BE TAKEN WITH ONE OF THE MAJORS FOR THE B.SC.(AG.ENV.SC.) DEGREE

Each specialization consists of 24 credits of courses (required and complementary) that provide a coherent package designed to prepare students for a future in a given discipline. Students will select at least one specialization. However, students wishing to broaden their training have the option of choosing to do two. Although the list of suggested specializations appears under each major in the programs section, students interested in other specializations should consult with their academic adviser/specialization coordinator.

SPECIALIZATION: AGRICULTURAL ECONOMICS (24 credits)

Specialization Coordinator:
Professor John Henning
Department of Natural Resource Sciences
Telephone: 514-398-7826

A specialization in Agricultural Economics will complement a student's education in four ways. First, as a social science, Economics will provide an alternative perspective for students in the Faculty. Second, the specialization will provide an excellent foundation of the workings of the economy at large. Third, it will aid students to understand the business environment surrounding the agri-food industry. Finally, it will challenge students to analyze the interaction between the agricultural economy and the natural resource base.

Required Courses: 12 credits
Complementary Courses: 12 credits

		CREDITS
Required Courses		**12**
AGEC 200	Principles of Microeconomics	3
AGEC 201	Principles of Macroeconomics	3
AGEC 330	Agriculture and Food Markets	3
AGEC 333	Resource Economics	3

Complementary Courses			**12**
AGEC 231	(3)	Economic Systems of Agriculture	
AGEC 242	(3)	Management Theories and Practices	
AGEC 320	(3)	Intermediate Microeconomic Theory	
AGEC 332	(3)	Farm Management and Finance	
AGEC 343	(3)	Accounting and Cost Control	
AGEC 425	(3)	Applied Econometrics	
AGEC 430	(3)	Agriculture, Food and Resource Policy	
AGEC 442	(3)	Economics of International Agricultural Development	
AGEC 450	(3)	Agriculture Business Management	
AGEC 491	(3)	Research & Methodology	
AGEC 492	(3)	Special Topics in Agricultural Economics	

SPECIALIZATION: AGRICULTURE AND FOOD SYSTEMS (MULTIDISCIPLINARY) (24 credits)

Specialization Coordinator:
Professor Vijaya Raghavan
Department of Bioresource Engineering
Telephone: 514-398-8731

This flexible specialization offers a balance between food systems and consumption and agricultural production. It provides students with an opportunity to select courses in the economics, nutrition and ethical and environmental implications of food systems and in the fundamentals of animal and plant production. The specialization is designed for students in the International Agriculture and Food Systems major who have broad interests in international agriculture and development.

To complete the specialization, students select 12 credits from the block of complementary courses related to Food Systems and Consumption and 12 credits from the block of complementary courses related to Agriculture Production from the lists in the table below.

Complementary Courses: 24 credits

			CREDITS
Complementary Courses: Food Systems and Consumption			**12**
AGEC 201	(3)	Principles of Macroeconomics	
AGEC 231	(3)	Economic Systems of Agriculture	
AGEC 242	(3)	Management Theories and Practices	
AGEC 320	(3)	Intermediate Microeconomic Theory	
AGEC 330	(3)	Agriculture and Food Markets	
AGEC 333	(3)	Resource Economics	
AGEC 343	(3)	Accounting and Cost Control	
AGEC 430	(3)	Agriculture, Food and Resource Policy	
AGEC 442	(3)	Economics of International Agricultural Development	
ANSC 323	(3)	Mammalian Physiology	
ANSC 424	(3)	Metabolic Endocrinology	
ANSC 551	(3)	Carbohydrate and Lipid Metabolism	
ANSC 552	(3)	Protein Metabolism and Nutrition	
ECON 225	(3)	Economics of the Environment	
ECON 326	(3)	Ecological Economics	
FDSC 251	(3)	Food Chemistry 1	
FDSC 319	(3)	Food Commodities	
FDSC 330	(3)	Food Processing	
LSCI 202	(3)	Molecular Cell Biology	
LSCI 230	(3)	Introductory Microbiology	
MICR 331	(3)	Microbial Ecology	
MICR 341	(3)	Mechanisms of Pathogenicity	
MICR 450	(3)	Environmental Microbiology	
NRSC 221	(3)	Environment and Health	
NRSC 512	(3)	Water: Ethics, Law and Policy	
NUTR 337	(3)	Nutrition Through Life	
NUTR 403	(3)	Nutrition in Society	
NUTR 420	(3)	Toxicology and Health Risks	
NUTR 501	(3)	Nutrition in Developing Countries	
NUTR 512	(3)	Herbs, Foods and Phytochemicals	
PARA 410	(3)	Environment and Infection	
PARA 438	(3)	Immunology	
PARA 515	(3)	Water, Health and Sanitation	
WILD 424	(3)	Parasitology	
Complementary Courses: Agricultural Production			**12**
AGRIC 215	(3)	Agro-Ecosystems Field Course	
AGRI 340	(3)	Principles of Ecological Agriculture	
AGRI 435	(3)	Soil and Water Quality Management	
ANSC 250	(3)	Principles of Animal Science	
ANSC 312	(3)	Animal Health and Disease	
ANSC 451	(3)	Dairy and Beef Production Management	
ANSC 458	(3)	Swine and Poultry Production	
BREE 217	(3)	Hydrology and Water Resources	
ENTO 340	(3)	Field Entomology	
ENTO 352	(3)	Control of Insect Pests	
FDSC 310	(3)	Post Harvest Fruit and Vegetable Technology	
PLNT 300	(3)	Cropping Systems	
PLNT 302	(3)	Forage Crops and Pastures	
PLNT 307	(3)	Vegetable Production	
PLNT 310	(3)	Plant Propagation	
PLNT 312	(3)	Urban Horticulture	
PLNT 315	(3)	Herbs and Medicinal Plants	
PLNT 321	(3)	Fruit Production	
PLNT 322	(3)	Greenhouse Management	
PLNT 434	(3)	Weed Biology and Control	
SOIL 315	(3)	Soil Fertility and Fertilizer Use	

SPECIALIZATION: ANIMAL BIOLOGY (24 credits)

Specialization Coordinator:
Professor Roger Cue
Department of Animal Science
Telephone: 514-398-7805

The specialization in Animal Biology is intended for students who wish to further their studies in the basic biology of large mammals and birds. Successful completion of the program should enable students to qualify for application to most veterinary colleges in North America, to post-graduate studies in a variety of biology programs, and to work in many laboratory settings.

Required Courses: 15 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**15**
ANSC 312	Animal Health and Disease	3
ANSC 323	Mammalian Physiology	3
ANSC 324	Developmental Biology and Reproduction	3
ANSC 420	Animal Biotechnology	3
PARA 438	Immunology	3

Complementary Courses:			**9**
AEBI 451	(3)	Research Project 1	
ANSC 251	(3)	Comparative Anatomy	
ANSC 326	(3)	Fundamentals of Population Genetics	
ANSC 330	(3)	Fundamentals of Nutrition	
ANSC 400	(3)	Eukaryotic Cells and Viruses	
ANSC 424	(3)	Metabolic Endocrinology	
ANSC 433	(3)	Animal Nutrition	
ANSC 560	(3)	Biology of Lactation	
ANSC 565	(3)	Applied Information Systems	

SPECIALIZATION: ANIMAL HEALTH AND DISEASE (24 credits)

Specialization Coordinator:
Professor Sarah Kimmins
Department of Animal Science
Telephone: 514-398-7658

This specialization is offered for students wishing to understand general animal physiology and function, the susceptibility of animals to various diseases, methods for limiting and controlling potential outbreaks, and the resulting implications for the animal, the consumer and the environment. It is an ideal choice for students interested in the care of animals, or in working in laboratories where diseases are being researched.

Required Courses: 15 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**15**
ANSC 312	Animal Health and Disease	3
ANSC 323	Mammalian Physiology	3
ANSC 424	Metabolic Endocrinology	3
MICR 341	Mechanisms of Pathogenicity	3
PARA 438	Immunology	3

Complementary Courses: **9**

AEBI 451	(3)	Research Project 1
ANSC 251	(3)	Comparative Anatomy
ANSC 330	(3)	Fundamentals of Nutrition
NUTR 420	(3)	Toxicology and Health Risks
PHAR 300	(3)	Drug Action
WILD 424	(3)	Parasitology

SPECIALIZATION: ANIMAL PRODUCTION (24 credits)

Specialization Coordinator:
Professor Arif Mustafa
Department of Animal Science
Telephone: 514-398-7506

This specialization will be of interest to students who wish to study the improved efficiency of livestock production at the national and international levels. Students are exposed to animal nutrition, physiology and breeding in a context that respects environmental concerns and animal-welfare issues. When taken in conjunction with the Major in Agro-Environmental Sciences and the Specialization in Professional Agriculture, it conforms with the eligibility requirements of the Ordre des agronomes du Québec.

Required Courses: 21 credits
Complementary Courses: 3 credits

		CREDITS
Required Courses:		**21**
ANSC 301	Principles of Animal Breeding	3
ANSC 312	Animal Health and Disease	3
ANSC 323	Mammalian Physiology	3
ANSC 324	Developmental Biology and Reproduction	3
ANSC 433	Animal Nutrition	3
ANSC 451	Dairy and Beef Production Management	3
ANSC 458	Swine and Poultry Production	3

Complementary Courses: **3**

One of:

ANSC 234	(3)	Biochemistry 2
ANSC 330	(3)	Fundamentals of Nutrition

SPECIALIZATION: APPLIED ECOSYSTEM SCIENCES (24 credits)

Specialization Coordinator:
Professor Elena Bennett
Department of Natural Resource Sciences
Telephone: 514-398-7563

This specialization will be of interest to students who wish to study the improved efficiency of livestock production at the national and international levels. Students are exposed to animal nutrition, physiology and breeding in a context that respects environmental concerns and animal-welfare issues. When taken in conjunction with the Major in Agro-Environmental Sciences and the Specialization in Professional Agriculture, it conforms with the eligibility requirements of the Ordre des agronomes du Québec.

Required Courses: 12 credits
Complementary Courses: 12 credits

		CREDITS
Required Courses:		**12**
AEMA 406	Quantitative Methods: Ecology	3
BREE 327	Bio-Environmental Engineering	3
ENVB 305	Population & Community Ecology	3
ENVB 415	Ecosystem Management	3

Complementary Courses: **12**

Abiotic - 6 credits

AGRI 435	(3)	Soil and Water Quality Management
BREE 217	(3)	Hydrology and Water Resources
BREE 322	(3)	Organic Waste Management
ENVB 301	(3)	Meteorology
MICR 450	(3)	Environmental Microbiology
NRSC 430	(3)	GIS for Natural Resource Management
SOIL 300	(3)	Geosystems
SOIL 326	(3)	Soils in a Changing Environment
SOIL 510	(3)	Environmental Soil Chemistry

Biotic - 6 credits

AGRI 340	(3)	Principles of Ecological Agriculture
ENTO 440	(3)	Insect Diversity
ENVB 315	(3)	Science of Inland Waters
MICR 331	(3)	Microbial Ecology
PLNT 358	(3)	Flowering Plant Diversity
PLNT 426	(3)	Plant Ecophysiology
PLNT 460	(3)	Plant Ecology
WILD 307	(3)	Natural History of Vertebrates

SPECIALIZATION: ECOLOGICAL AGRICULTURE (24 credits)

Specialization Coordinator:
Dr. Caroline Begg
Department of Natural Resource Sciences
Telephone: 514-398-8749

This specialization focuses on the principles underlying the practice of ecological agriculture. When coupled with the Major in Environmental Biology, agriculture as a managed ecosystem which responds to the laws of community ecology is examined; when combined with the Major in Agro-Environmental Sciences and the Specialization in Professional Agrology, this specialization focuses more directly on the practice of ecological agriculture and conforms with the eligibility requirements of the Ordre des agronomes du Québec. It is suitable for students wishing to farm, do extension and government work, and those intending to pursue postgraduate work in this field.

Required Courses: 9 credits
Complementary Courses: 15 credits

		CREDITS
Required Courses:		**9**
AGRI 210	Agro-Ecological History	3
AGRI 215	Agro-Ecosystems Field Course	3
AGRI 340	Principles of Ecological Agriculture	3

Complementary Courses: **15**

AGEC 333	(3)	Resource Economics
AGRI 310	(3)	Internship in Agriculture/Environment
AGRI 435	(3)	Soil and Water Quality Management
ENTO 352	(3)	Control of Insect Pests
ENTO 446	(3)	Apiculture
MICR 331	(3)	Microbial Ecology
NUTR 512	(3)	Herbs, Foods and Phytochemicals
PLNT 302	(3)	Forage Crops and Pastures
PLNT 312	(3)	Urban Horticulture
PLNT 315	(3)	Herbs and Medicinal Plants
PLNT 434	(3)	Weed Biology and Control
PLNT 460	(3)	Plant Ecology
SOIL 326	(3)	Soils in a Changing Environment
SOIL 335*	(3)	Soil Ecology and Management
SOIL 445*	(3)	Agroenvironmental Fertilizer Use

* Note: offered in alternate years

SPECIALIZATION: ENTOMOLOGY (24 credits)

Specialization Coordinator:
Professor Terry Wheeler
Department of Natural Resource Sciences
Telephone: 514-398-7937

This specialization offers students expertise in insect biology, ecology, evolution and behaviour. Applied entomology is included, as insects are key pests in various ecosystems, and insect pest management is and will continue to be a global priority. Insect taxonomy and systematics will be studied both in the field and in the classroom. Through careful selection of complementary courses, students can learn about the role of insects in various ecosystems, their functional importance, and their role in vectoring human disease.

Required Courses: 12 credits
Complementary Courses: 12 credits

			CREDITS
Required Courses:			**12**
ENTO 330		Insect Biology	3
ENTO 340		Field Entomology	3
ENTO 352		Control of Insect Pests	3
ENTO 440		Insect Diversity	3
Complementary Courses:			**12**
ENTO 446	(3)	Apiculture	
ENTO 515	(3)	Parasitoid Behavioural Ecology	
ENTO 520	(3)	Insect Physiology	
ENTO 535	(3)	Aquatic Entomology	
ENTO 550	(3)	Veterinary and Medical Entomology	
PLNT 434	(3)	Weed Biology and Control	
SOIL 335	(3)	Soil Ecology and Management	
WILD 424	(3)	Parasitology	

SPECIALIZATION: ENVIRONMENTAL BIOLOGY (MULTIDISCIPLINARY) (24 credits)

Specialization Coordinator:
Professor Chris Buddle
Department of Natural Resource Sciences
Telephone: 514-398-8026

This is a flexible specialization offering a balance between organisms, their ecology, and ecosystem processes and applications. Biology and ecology of a variety of taxonomic groups and the ways the organisms interact with and affect ecosystem processes will be examined. Students are exposed to ecosystem management and issues related to environmental change. The proposed specialization is designed for students with broad and general interests in environmental biology, but who wish for a strong grounding in Organismal biology and ecology and environmental sciences.

Complementary Courses: 24 credits

			CREDITS
Complementary Courses:			**24**
Organisms			
Minimum of 6 credits from the following:			
BIOL 427	(3)	Herpetology	
ENTO 340	(3)	Field Entomology	
PLNT 304	(3)	Biology of Fungi	
PLNT 358	(3)	Flowering Plant Diversity	
WILD 307	(3)	Natural History of Vertebrates	
WILD 350	(3)	Mammalogy	
WILD 420	(3)	Ornithology	
Ecology			
Minimum 3 credits from the following:			
AEMA 406	(3)	Quantitative Methods: Ecology	
ENTO 440	(3)	Insect Diversity	
ENVB 305	(3)	Population & Community Ecology	
ENVB 315	(3)	Science of Inland Waters	
MICR 331	(3)	Microbial Ecology	
PLNT460	(3)	Plant Ecology	
SOIL 335	(3)	Soil Ecology and Management	
Ecosystem Processes and Applications			
Minimum of 6 credits from the following:			
AGRI 435	(3)	Soil and Water Quality Management	
ENVB 301	(3)	Meteorology	
MICR 450	(3)	Environmental Microbiology	
NRSC 430	(3)	GIS for Natural Resource Management	
NRSC 437	(3)	Assessing Environmental Impact	
SOIL 300	(3)	Geosystems	
SOIL 326	(3)	Soils in a Changing Environment	
WILD 375	(3)	Issues: Environmental Sciences	
WILD 421	(3)	Wildlife Conservation	

SPECIALIZATION: HEALTH AND NUTRITION (24 credits)

Specialization Coordinator:
Professor Linda Wykes
School of Dietetics and Human Nutrition
Telephone: 514-398-7843

This specialization offers students a foundation in nutrition with respect to health and disease. A focus on nutrition and health through the lifespan examines nutrient requirements and its relationship with health and disease prevention. Through careful selection of complementary courses, students can study about health and disease in various contexts ranging from human to animal health.

Required Courses: 12 credits
Complementary Courses: 12 credits

			CREDITS
Required Courses:			**12**
ANSC 323		Mammalian Physiology	3
ANSC 330		Fundamentals of Nutrition	3
NUTR 337		Nutrition Through Life	3
PARA 438		Immunology	3
Complementary Courses:			**12**
ANSC 312	(3)	Animal Health and Disease	
ANSC 424	(3)	Metabolic Endocrinology	
ANSC 551	(3)	Carbohydrate and Lipid Metabolism	
ANSC 552	(3)	Protein Metabolism and Nutrition	
NUTR 344	(3)	Clinical Nutrition 1	
NUTR 420	(3)	Toxicology and Health Risks	
NUTR 450	(3)	Research Methods: Human Nutrition	
NUTR 503	(3)	Bioenergetics and the Lifespan	
NUTR 512	(3)	Herbs, Foods and Phytochemicals	
NUTR 551	(3)	Analysis of Nutrition Data	
PARA 410	(3)	Environment and Infection	
PARA 515	(3)	Water, Health and Sanitation	
PLNT 315	(3)	Herbs and Medicinal Plants	
WILD 424	(3)	Parasitology	

SPECIALIZATION: INTERNATIONAL AGRICULTURE (24 credits)

Specialization Coordinator:
Professor Humberto Mondardes
Department of Animal Science
Telephone: 514-398-7809

This specialization will provide the student with coursework and hands-on experience of techniques and issues related to agriculture in a tropical setting. Theoretical courses on the policies and practice of agriculture in an international context are complemented by participation in one of the international field semesters. Note that there is a selection process for participation in a field semester and that participation entails extra cost. In addition, students should consult the academic adviser for the specialization and carefully review the prerequisites for courses in the field

semester and the general requirements for participation, which may be over and above what is required by the student's major.

Required Courses: 6 credits
Complementary Courses: 18 credits

		CREDITS
Required Courses:		**6**
AGEC 442	Economics of International Agricultural Development	3
AGRI 411	International Agriculture	3
Complementary Courses:		**18**

One of the following:
NRSC 340 (3) Global Perspectives on Food
NUTR 501 (3) Nutrition in Developing Countries
PARA 515 (3) Water, Health and Sanitation

One of the McGill Field Study Semesters listed below (15 credits each)

African Field Study Semester

African Field Study Semester, Required Courses (6 credits):
GEOG 416 (3) Africa South of the Sahara
NRSC 300 (3) Natural History of East Africa

African Field Study Semester, Complementary Courses (9 credits)

9 credits chosen from the complementary course set offered in the year of participation in the field study semester.

Barbados Field Study Semester
AGRI 452 (3) Water Resources in Barbados
AGRI 519 (6) Sustainable Development Plans
URBP 507 (3) Planning and Infrastructure
URBP 520 (3) Globalization: Planning and Change

Barbados InterdisciplinaryTropical Studies Field Semester
AEBI 421 (3) Tropical Horticultural Ecology
AEBI 423 (3) Sustainable Land Use
AEBI 425 (3) Tropical Energy and Food
AEBI 427 (6) Barbados Interdisciplinary Project

Panama Field Study Semester
AGRI 550 (3) Sustained Tropical Agriculture
BIOL 553 (3) Neotropical Environments
ENVR 451 (6) Research in Panama
GEOG 498 (3) Humans in Tropical Environments

SPECIALIZATION: LIFE SCIENCES (MULTIDISCIPLINARY) (24 credits)

Specialization Coordinator:
Professor Brian Driscoll
Department of Natural Resource Sciences
Telephone: 514-398-7887

Students taking this specialization have a wide variety of life sciences course offerings to choose from to allow them to target their program to their own interests in the field. Course choices are balanced between "fundamentals" and "applications." Depending upon the courses chosen, the resulting program may be relatively specialized or very broad, spanning several disciplines. Such a broad background in life sciences will open up employment opportunities in a variety of diverse bioscience industries; students with an appropriate CGPA may proceed to a wide variety of post-graduate programs or professional schools.

Complementary Courses: 24 credits

CREDITS

Complementary Courses: Fundamentals **12**

12 credits selected from the following:
ANSC 312 (3) Animal Health and Disease
ANSC 323 (3) Mammalian Physiology
ANSC 324 (3) Developmental Biology and Reproduction
ANSC 330 (3) Fundamentals of Nutrition
ANSC 400 (3) Eukaryotic Cells and Viruses
ANSC 433 (3) Animal Nutrition
ENTO 330 (3) Insect Biology
ENTO 440 (3) Insect Diversity
ENVB 305 (3) Population & Community Ecology
ENVB 313 (3) Phylogeny and Biogeography
ENVB 315 (3) Science of Inland Waters
MICR 331 (3) Microbial Ecology
MICR 338 (3) Bacterial Molecular Genetics
MICR 450 (3) Environmental Microbiology
NUTR 337 (3) Nutrition Through Life
PARA 438 (3) Immunology
PLNT 304 (3) Biology of Fungi
PLNT 353 (3) Plant Structure and Function
PLNT 358 (3) Flowering Plant Diversity
PLNT 424 (3) Cellular Regulation
PLNT 426 (3) Plant Ecophysiology
PLNT 460 (3) Plant Ecology
WILD 375 (3) Issues: Environmental Sciences
WILD 424 (3) Parasitology

Complementary Courses: Applications **12**

12 credits selected from the following:
AEBI 451 (3) Research Project 1
AEMA 406 (3) Quantitative Methods: Ecology
ANSC 420 (3) Animal Biotechnology
ANSC 424 (3) Metabolic Endocrinology
ANSC 506 (3) Advanced Animal Biotechnology
ANSC 560 (3) Biology of Lactation
ANSC 565 (3) Applied Information Systems
BINF 301 (3) Introduction to Bioinformatics
BINF 511 (3) Bioinformatics for Genomics
BTEC 306 (3) Experiments in Biotechnology
BTEC 535 (3) Functional Genomics in Model Organisms
BTEC 555 (3) Structural Bioinformatics
ENTO 352 (3) Control of Insect Pests
ENTO 535 (3) Aquatic Entomology
ENTO 550 (3) Veterinary and Medical Entomology
ENVB 301 (3) Meteorology
FDSC 442 (3) Food Microbiology
MICR 341 (3) Mechanisms of Pathogenicity
NRSC 430 (3) GIS for Natural Resource Management
NUTR 420 (3) Toxicology and Health Risks
NUTR 512 (3) Herbs, Foods and Phytochemicals
PARA 410 (3) Environment and Infection
PARA 515 (3) Water, Health and Sanitation
PLNT 305 (3) Plant Pathology
PLNT 310 (3) Plant Propagation
PLNT 315 (3) Herbs and Medicinal Plants
PLNT 434 (3) Weed Biology and Control
PLNT 435 (3) Plant Breeding
SOIL 335 (3) Soil Ecology and Management

SPECIALIZATION: MICROBIOLOGY (24 credits)

Specialization Coordinator:
Professor Lyle Whyte
Department of Natural Resource Sciences
Telephone: 514-398-7889

Students following this specialization receive education and training in fundamental principles and applied aspects of microbiology. Complementary courses allow students to focus on basic microbial sciences or applied areas such as biotechnology. Successful graduates may work in university, government and industrial research laboratories, in the pharmaceutical, fermentation and

food industries, and with an appropriate CGPA proceed to post-graduate studies or professional biomedical schools.

Required Courses: 15 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**15**
MICR 331	Microbial Ecology	3
MICR 338	Bacterial Molecular Genetics	3
MICR 341	Mechanisms of Pathogenicity	3
MICR 450	Environmental Microbiology	3
PARA 438	Immunology	3

Complementary Courses: **9**

AEBI 451	(3)	Research Project 1
BINF 301	(3)	Introduction to Bioinformatics
BINF 511	(3)	Bioinformatics for Genomics
BTEC 306	(3)	Experiments in Biotechnology
BTEC 535	(3)	Functional Genomics in Model Organisms
BTEC 555	(3)	Structural Bioinformatics
FDSC 442	(3)	Food Microbiology
MICR 300	(3)	Microbial Physiology Lab
MIMM 324	(3)	Fundamental Virology
PARA 410	(3)	Environment and Infection
PLNT 304	(3)	Biology of Fungi
PLNT 424	(3)	Cellular Regulation
WILD 424	(3)	Parasitology
or MIMM 413	(3)	Parasitology

SPECIALIZATION: MOLECULAR BIOTECHNOLOGY (24 credits)

Specialization Coordinator:
Professor Timothy Geary
Institute of Parasitology
Telephone: 514-398-7612

Students following this specialization receive education and training in fundamental principles and applied aspects of molecular biology and biotechnology. Complementary courses allow students to focus on basic molecular biology or aspects of biotechnology such as bioinformatics. Successful graduates may work in university, government and industrial research laboratories, bioscience industries (i.e. pharmaceutical), and with an appropriate CGPA proceed to post-graduate studies or professional biomedical schools.

Required Courses: 15 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**15**
BINF 301	Introduction to Bioinformatics	3
BTEC 306	Experiments in Biotechnology	3
MICR 338	Bacterial Molecular Genetics	3
PARA 438	Immunology	3
PLNT 424	Cellular Regulation	3

Complementary Courses: **9**

AEBI 451	(3)	Research Project 1
ANSC 234	(3)	Biochemistry 2
ANSC 323	(3)	Mammalian Physiology
ANSC 400	(3)	Eukaryotic Cells and Viruses
ANSC 420	(3)	Animal Biotechnology
ANSC 508	(3)	Tools in Animal Biotechnology
ANSC 565	(3)	Applied Information Systems
BINF 511	(3)	Bioinformatics for Genomics
BTEC 535	(3)	Functional Genomics in Model Organisms
BTEC 555	(3)	Structural Bioinformatics
CELL 500	(3)	Techniques Plant Molecular Genetics
CELL 501	(3)	Plant Molecular Biology and Genetics
MIMM 324	(3)	Fundamental Virology

SPECIALIZATION: PLANT BIOLOGY (24 credits)

Specialization Coordinator:
Professor Marcia Waterway
Department of Plant Science
Telephone: 514-398-7864

This specialization emphasizes the study of plants from the cellular to the organismal level. The structure and function, development, classification, and ecology of plants will be studied. Most courses offer laboratory classes that expand on the lecture material and introduce students to the latest techniques in plant biology. Many laboratory exercises use the excellent research and field facilities at the Morgan Arboretum, McGill Herbarium, Emile A. Lods Agronomy Research Centre, the Horticultural Centre and the Plant Science greenhouses as well as McGill field stations. Students may undertake a research project under the guidance of a member of the Plant Science Department as part of their studies. Graduates with the specialization may continue in post-graduate study or work in the fields of botany, mycology, ecology, or environmental science and plant molecular biology.

Required Courses: 12 credits
Complementary Courses: 12 credits

		CREDITS
Required Courses:		**12**
PLNT 353	Plant Structure and Function	3
PLNT 358	Flowering Plant Diversity	3
PLNT 426	Plant Ecophysiology	3
PLNT 460	Plant Ecology	3

Complementary Courses: **12**

BINF 511	(3)	Bioinformatics for Genomics
CELL 500	(3)	Techniques Plant Molecular Genetics
CELL 501	(3)	Plant Molecular Biology and Genetics
ENVB 313	(3)	Phylogeny and Biogeography
NUTR 512	(3)	Herbs, Foods and Phytochemicals
PLNT 203	(3)	Economic Botany
PLNT 310	(3)	Plant Propagation
PLNT 315	(3)	Herbs and Medicinal Plants
PLNT 424	(3)	Cellular Regulation
PLNT 435	(3)	Plant Breeding
PLNT 489	(1)	Project Planning and Proposal
PLNT 490	(2)	Research Project

SPECIALIZATION: PLANT PRODUCTION (24 credits)

Specialization Coordinator:
Professor Katrine Stewart
Department of Plant Science
Telephone: 514-398-7872

The goal of this specialization is to give students an excellent background in the knowledge and skills relating to the biology and physiology, breeding, propagation, and management of domesticated plants. The plant industry, in both rural and urban settings, is a sector of growing importance to Canadian and global economies. Graduates may find employment directly with plants in horticulture or in field crop development, production and management; or in government services, extension, teaching, consulting or post-graduate studies. When taken in conjunction with the Major in Agro-Environmental Sciences and the Specialization in Professional Agriculture, this specialization conforms with the eligibility requirements for the Ordre des agronomes du Québec.

Required Courses: 18 credits
Complementary Courses: 6 credits

		CREDITS
Required Courses:		**18**
PLNT 300	Cropping Systems	3
PLNT 305	Plant Pathology	3
PLNT 310	Plant Propagation	3
PLNT 353	Plant Structure and Function	3
PLNT 434	Weed Biology and Control	3
PLNT 435	Plant Breeding	3

Complementary Courses: **6**

PLNT 203 (3) Economic Botany
PLNT 302 (3) Forage Crops and Pastures
PLNT 307 (3) Vegetable Production
PLNT 312 (3) Urban Horticulture
PLNT 315 (3) Herbs and Medicinal Plants
PLNT 321 (3) Fruit Production
PLNT 322 (3) Greenhouse Management
PLNT 331 (3) Grains and Biofuel Crops
PLNT 489 (1) Project Planning and Proposal
PLNT 490 (2) Research Project

SPECIALIZATION: PLANT PROTECTION (24 credits)

Specialization Coordinator:
Professor Ajjamada Kushalappa
Department of Plant Science
Telephone: 514-398-7867

This specialization is recommended for students with a strong interest in the complex field of plant protection in both urban and agricultural settings. The biology of herbivores, of pathogenic organisms, and of plant competitive interactions and defense mechanisms as well as the interactions of plants with their environment will be studied. Students interested in the theory and application of techniques of integrated plant protection should choose this specialization in conjunction with the Major in Agro-Environmental Sciences or the Major in Environmental Biology. Those interested in the biotechnology and molecular aspects of plant-pathogen or plant-insect interactions should choose it in conjunction with the Major in Life Sciences (Biological and Agricultural). Complementary specializations could include Plant Biology, Plant Production, Entomology or Microbiology.

Required Courses: 18 credits
Complementary Courses: 6 credits

		CREDITS
Required Courses:		**18**
ENTO 330	Insect Biology	3
ENTO 352	Control of Insect Pests	3
PLNT 304	Biology of Fungi	3
PLNT 305	Plant Pathology	3
PLNT 353	Plant Structure and Function	3
PLNT 434	Weed Biology and Control	3

Complementary Courses: **6**

ENTO 340 (3) Field Entomology
ENTO 515 (3) Parasitoid Behavioural Ecology
PLNT 426 (3) Plant Ecophysiology
PLNT 430 (3) Plant Disease Epidemiology
PLNT 520 (3) Plant-Microbe Interactions

SPECIALIZATION: PROFESSIONAL AGROLOGY (21 credits)

Specialization Coordinator:
Ms. Katherine McClintock
Department of Plant Science
Telephone: 514-398-7940

This specialization is required for students who wish to qualify for membership in the Ordre des agronomes du Québec. It cannot be taken alone; it must be taken with a second specialization in Agricultural Economics, Animal Production, Ecological Agriculture, Plant Production, or Soil and Water Resources.

Note: None of the credits within this specialization may also count for the student's major or other specialization. All of the 21 credits count only for this specialization.

Required Courses: 12 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**12**
AGRI 330	Agricultural Legislation	3
AGRI 410D1	Agrology Internship	3
AGRI 410D2	Agrology Internship	3
AGRI 430	Professional Practice in Agrology	3
AGRI 490	Agri-Food Industry Project	3

Complementary Courses: **9**

3 credits from:
AGEC 332 (3) Farm Management and Finance
ANSC 433 (3) Animal Nutrition
SOIL 445 (3) Agroenvironmental Fertilizer Use

6 additional credits, approved by the academic adviser, in agricultural sciences or applied agriculture from the specializations in Agricultural Economics, Animal Production, Ecological Agriculture, Plant Production, or Soil and Water Resources.

SPECIALIZATION: SOIL AND WATER RESOURCES (24 credits)

Specialization Coordinator:
Professor Guy Mehuys
Department of Natural Resource Sciences
Telephone: 514-398-7944

This specialization will interest students who want to understand how soils and water interact within managed ecosystems such as urban or agricultural landscapes. The conservation and management of agricultural soils, issues affecting watershed management and decision making, and the remediation of contaminated soils will be examined. When taken with the Major in Agro-Environmental Sciences and the Specialization in Professional Agriculture, this specialization conforms with the eligibility requirements for the Ordre des agronomes du Québec.

Required Courses: 15 credits
Complementary Courses: 9 credits

		CREDITS
Required Courses:		**15**
BREE 217	Hydrology and Water Resources	3
SOIL 315	Soil Fertility and Fertilizer Use	3
SOIL 326	Soils in a Changing Environment	3
SOIL 335*	Soil Ecology and Management	3
SOIL 445*	Agroenvironmental Fertilizer Use	3

* Note: courses offered in alternate years

Complementary Courses: **9**

3 credits from:
AGRI 435 (3) Soil and Water Quality Management
BREE 416 (3) Engineering for Land Development

6 credits from:
BREE 322 (3) Organic Waste Management
BREE 327 (3) Bio-Environmental Engineering
ENVB 301 (3) Meteorology
NRSC 333 (3) Pollution and Bioremediation
NRSC 430 (3) GIS for Natural Resource Management
SOIL 510 (3) Environmental Soil Chemistry

SPECIALIZATION: WILDLIFE BIOLOGY (24 credits)

Specialization Coordinator:
Professor Murray Humphries
Department of Natural Resource Sciences
Telephone: 514-398-7885

This specialization focuses on the ecology of vertebrate animals, their biological and physical environment and the interactions that are important in the management of ecological communities and wildlife species. Students have access to local wildlife resources including the Avian Science and Conservation Centre, the McGill Arboretum, the Stonycroft Wildlife Area, the Molson Reserve and the Ecomuseum.

Required Courses: 13 credits
Complementary Courses: 11 credits

		CREDITS
Required Courses:		**13**
PLNT 358	Flowering Plant Diversity	3
WILD 307	Natural History of Vertebrates	3
WILD 401	Fisheries and Wildlife Management	4
WILD 421	Wildlife Conservation	3
Complementary Courses:		**11**

At least 6 credits from:

BIOL 427	(3)	Herpetology
WILD 350	(3)	Mammalogy
WILD 420	(3)	Ornithology

At least 5 credits from:

ENVB 315	(3)	Science of Inland Waters
NRSC 514	(3)	Freshwater Ecosystems
WILD 311	(3)	Ethology
WILD 415	(2)	Conservation Law
WILD 424	(3)	Parasitology
WILD 475	(3)	Desert Ecology

5.6.1.2 Department of Animal Science

Macdonald Stewart Building - Room MS1-084
Telephone: 514-398-7794
Fax: 514-398-7964
Email: animal.science@mcgill.ca
Website: www.mcgill.ca/animal

Chair — Kevin M. Wade

Emeritus Professor — John E. Moxley, Roger B. Buckland, Urs Kuhnlein

Professors — Kwet Fane Ng Kwai Hang, Flannan Hayes, Xin Zhao *(James McGill Professor)*,

Associate Professors — Vilceu Bordignon, Roger I. Cue, Humberto G. Monardes, Arif Mustafa (*William Dawson Scholar*), Leroy E. Phillip, Kevin Wade, David Zadworny

Assistant Professors — Martin Chénier, Raj Duggavathi, Sarah Kimmins

Adjunct Professors — Pierre Lacasse, Daniel Lefebvre, Bruce Murphy

The Department of Animal Science offers Majors in Animal Science and Animal Biology.

5.6.1.3 Department of Natural Resource Sciences

Macdonald Stewart Building – Room MS3-040
Telephone: 514-398-7890
Fax: 514-398-7990
Email: info@nrs.mcgill.ca
Website: www.mcgill.ca/nrs

Chair — Benoît Côté

Emeritus Professors — Roger Knowles, Angus F. Mackenzie, Robert A. MacLeod, Peter H. Schuepp, Robin K. Stewart

Professors — David M. Bird, Peter Brown (*joint appoint. with Geography and McGill School of Environment*), James W. Fyles (*Tomlinson Professor of Forest Ecology*), William H. Hendershot

Associate Professors — Chistopher Buddle, Benoît Côté, Mark A. Curtis, Brian T. Driscoll, Gary B. Dunphy, John Henning, David J. Lewis, Guy R. Mehuys, Donald F. Niven, Manfred E. Rau, Ian Strachan, Paul Thomassin, Rodger D. Titman, Joann Whalen, Terry A. Wheeler, Lyle Whyte

Assistant Professors — Elena Bennett *(joint appoint. with McGill School of Environment)*, Gordon Hickey, Murray Humphries, Anwar Naseem

Curators — Stephanie Boucher, Christina Idziak

Associate Members — Colin A. Chapman (*Anthropology*), Lauren J. Chapman (*Biology*), David Green (*Redpath Museum*), William D. Marshall (*Dept. of Food Science and Agricultural Chemistry*), Donald L. Smith (*Dept. of Plant Science*), Marilyn Scott (*Institute of Parasitology*)

Adjunct Professors — Denis Angers, Yves Basset, Suzanne Beauchemin, Dominique Berteaux, Guy Boivin, Michel Bouchard, Kimberly Fernie, Charles W. Greer, Carlos Miguez, Peter Outridge, Elizabeth Pattey, Jean-Pierre Savard, Elwin G. Smith, Geoffrey Sunahara, Charles Vincent

Past Professor — Laurie Baker

5.6.1.4 Department of Plant Science

Raymond Building – Room R2-019
Telephone: 514-398-7851
Fax: 514-398-7897
Email: plant.science@mcgill.ca
Website: www.mcgill.ca/plant

Chair — Donald L. Smith

Emeritus Professors — Ralph H. Estey, William F. Grant

Professors — Pierre Dutilleul, Donald L. Smith, Alan K. Watson

Associate Professors — Sylvie de Blois, Danielle J. Donnelly, Marc Fortin, Suha Jabaji, Ajjamada C. Kushalappa, Philippe Seguin, Katrine A. Stewart, Marcia J. Waterway

Assistant Professors — Jacqueline C. Bede, Jaswinder Singh, Martina V. Stromvik

Faculty Lecturers — Caroline Begg, Serge Lussier, David Wees

Associate Members — Gregory Brown *(Department of Biology)*, Timothy A. Johns *(School of Dietetics and Human Nutrition)*

Adjunct Professors — Todd Capson, Marc Fortin, Sylvie Jenni, Shahrokh Khanizadeh, Jean-François Laliberté

The Department of Plant Science offers Majors in Botanical Science and Plant Science, and participates in administering Majors in Agricultural Sciences and the Environmetrics and Food Production and Environment Domains of the McGill School of Environment.

5.6.2 Bachelor of Engineering (Bioresource) - B.Eng.(Bioresource)

BIORESOURCE ENGINEERING MAJOR

The Department of Bioresource Engineering collaborates with other departments and the Faculty of Engineering in providing courses of instruction for a curriculum in Bioresource Engineering. Graduates qualify to apply for registration as professional engineers in any province of Canada.

There are five streams offered within the Bioresource Engineering Major. Via the appropriate choice of elective course sets, a particular area of study may be emphasized. More information about these streams and the suggested course sets for each can be found on the Department website at www.mcgill.ca/bioeng.

In the **Bio-Environmental Engineering** stream, students learn about soil and water quality management and conservation, geomatics, hydrology and water resources, organic waste treatment,

use of GIS for biosystem operation, engineering for land development, climate control in buildings, ecosystem remediation, and many other related topics.

Students who follow the **Soil and Water** stream learn about hydrology, irrigation and drainage, soil and water management, environmental quality control and remediation, structural design, machinery design, artificial intelligence, GIS, and remote sensing.

In the **Ecological Engineering** stream, students learn how to apply principals of engineering and ecology to the design and implementation of complex ecological systems. They learn how to create systems that preserve and enhance natural ecological processes as a means of fulfilling design requirements.

In the **Food and Bioprocessing** stream, students are taught about the engineering of foods and food processes, physical properties of biological materials, post-harvest technology, fermentation and bio-processing, the management of organic wastes, biotechnology, the design of machinery for bioprocessing, etc.

Students who specialize in the **Agricultural Engineering** stream will learn about machine design, machinery, robotics, structural design, environmental quality control, waste management, artificial intelligence, GIS, remote sensing, complex system simulation, and much more.

All required and complementary courses must be passed with a minimum grade of C. One term is spent taking courses from the Faculty of Engineering on the McGill downtown campus.

Students also have the opportunity to pursue a Minor. Several possibilities are: Agricultural Production, Environment, Ecological Agriculture, Biotechnology, Computer Science, Construction Engineering and Management, Entrepreneurship, and Environmental Engineering**.** Details of some of these Minors can be found in the Faculty of Engineering "Minor Programs", section 9.6. To complete a Minor, it is necessary to spend at least one extra term beyond the normal requirements of the B.Eng.(Bioresource) program.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 53 credits
Complementary Courses: 60 credits

		CREDITS
Required Courses:		**53**
BREE 205	Engineering Design 1	3
BREE 210	Mechanical Analysis and Design	3
BREE 216	Bioresource Engineering Materials	3
BREE 252	Computing for Engineers	3
BREE 301	Biothermodynamics	3
BREE 305	Fluid Mechanics	3
BREE 312	Electric Circuits and Machines	3
BREE 319	Engineering Mathematics	3
BREE 327	Bio-Environmental Engineering	3
BREE 341	Mechanics of Materials	3
BREE 481	Undergraduate Seminar 1	.5
BREE 482	Undergraduate Seminar 2	.5
BREE 483	Undergraduate Seminar 3	.5
BREE 484	Undergraduate Seminar 4	.5
BREE 485	Undergraduate Seminar 5	.5
BREE 486	Undergraduate Seminar 6	.5
BREE 490	Engineering Design 2	3
BREE 495	Engineering Design 3	3
AEMA 202	Intermediate Calculus	3
AEMA 305	Differential Equations	3
MECH 289	Design Graphics	3
MIME 221	Engineering Professional Practice	2
MIME 310	Engineering Economy	3
Complementary Courses:		**60**

Set A (6 credits):

One of the following: 3

AEMA 310 (3) Statistical Methods 1
CIVE 302 (3) Probabilistic Systems
MATH 323 (3) Probability

One of the following: 3

CHEE 315 (4) Heat and Mass Transfer
MECH 346 (3) Heat Transfer

Set B - Basic Sciences (9 credits):

9 credits from the following, with at least 3 credits chosen from: 9

AEBI 210 (3) Organisms 1
AEBI 211 (3) Organisms 2
ENVB 305 (3) Population & Community Ecology
LSCI 202 (3) Molecular Cell Biology
LSCI 211 (3) Biochemistry 1
LSCI 230 (3) Introductory Microbiology
MICR 331 (3) Microbial Ecology

and the remainder, if any, chosen from:

AGRI 340 (3) Principles of Ecological Agriculture
ANSC 250 (3) Principles of Animal Science
ENVB 210 (3) The Biophysical Environment
ENVB 301 (3) Meteorology
FDSC 200 (3) Introduction to Food Science
GEOG 203 (3) Environmental Systems
NRSC 333 (3) Pollution and Bioremediation
NRSC 437 (3) Assessing Environmental Impact
NRSC 510 (3) Agricultural Micrometeorology
PLNT 300 (3) Cropping Systems
PLNT 322 (3) Greenhouse Management
PLNT 421 (3) Landscape Plant Materials
SOIL 331 (3) Soil Physics
SOIL 510 (3) Environmental Soil Chemistry

Set C - Social Sciences (9 credits):

Minimum of one 3-credit course on the impact of technology on society from the following list: 3

CHEE 230 (3) Environmental Aspects of Technology
CHEE 430 (3) Technology Impact Assessment
CIVE 469 (3) Infrastructure and Society
ENVR 201 (3) Society and Environment
MIME 308 (3) Social Impact of Technology
SOCI 235 (3) Technology and Society

Plus two 3-credit courses in social sciences, administrative studies, law or a language course (other than the student's normal spoken languages) at the U1 undergraduate level or higher, with approval of the Academic Adviser.) 6

Set D - Engineering (36 credits, minimum):

36 credits (minimum) from the following list with the option (and approval of the Academic Adviser) of taking a maximum of 6 credits from other courses offered in the Faculty of Engineering: 36

BREE 214 (3) Geomatics
BREE 217 (3) Hydrology and Water Resources
BREE 314 (3) Agri-Food Buildings
BREE 315 (3) Design of Machines
BREE 322 (3) Organic Waste Management
BREE 325 (3) Food Process Engineering
BREE 412 (3) Machinery Systems Engineering
BREE 416 (3) Engineering for Land Development
BREE 418 (3) Soil Mechanics and Foundations
BREE 419 (3) Structural Design
BREE 423 (3) Biological Material Properties
BREE 497 (3) Environmental Design Project
BREE 501 (3) Simulation and Modelling
BREE 502 (3) Drainage/Irrigation Engineering
BREE 504 (3) Instrumentation and Control
BREE 506 (3) Advances in Drainage Management
BREE 509 (3) Hydrologic Systems and Modelling
BREE 510 (3) Watershed Systems Engineering
BREE 512 (3) Soil Cutting and Tillage
BREE 515 (3) Soil Hydrologic Modelling

BREE 518	(3)	Bio-Treatment of Wastes
BREE 519	(3)	Advanced Food Engineering
BREE 520	(3)	Food, Fibre and Fuel Elements
BREE 525	(3)	Climate Control for Buildings
BREE 530	(3)	Fermentation Engineering
BREE 531	(3)	Post-Harvest Drying
BREE 532	(3)	Post-Harvest Storage
BREE 533	(3)	Water Quality Management
CHEE 474	(3)	Biochemical Engineering
CIVE 317	(3)	Structural Engineering 1
CIVE 318	(3)	Structural Engineering 2

MINOR IN ENVIRONMENTAL ENGINEERING

Detailed information on this minor can be found under section 5.6.5.4 "Minor in Environmental Engineering (27 credits)".

BARBADOS FIELD STUDY SEMESTER

For more information, see section 15.3.2 "Barbados Field Study Semester".

BARBADOS INTERDISCIPLINARY TROPICAL STUDIES FIELD SEMESTER

For more information, see section 15.3.3 "Barbados Interdisciplinary Tropical Studies Field Semester".

5.6.2.1 Department of Bioresource Engineering

Macdonald Stewart Building – Room MS1-027
Telephone: 514-398-7773
Fax: 514-398-8387
Email: shiv.prasher@mcgill.ca
Website: www.mcgill.ca/bioeng

Chair — Shiv O. Prasher

Emeritus Professor — Robert S. Broughton

Professors — Suzelle Barrington, Robert Kok, Chandra Madramootoo *(James McGill Professor)*, Edward McKyes, Shiv O. Prasher *(James McGill Professor)*, G.S. Vijaya Raghavan *(James McGill Professor)*

Associate Professor — Michael O. Ngadi *(William Dawson Scholar)*

Assistant Professors — Grant Clark, Mark Lefsrud, Valérie Orsat

Adjunct Professors — Joyce Boye, Murray Clamen, Serge Guiot, Philippe Savoie, Clément Vigneault, Ning Wang

Faculty Lecturers — Alice Cherestes, Marcia Knutt

5.6.3 Bachelor of Science (Nutritional Sciences) - B.Sc.(Nutr.Sc.)

DIETETICS MAJOR

Academic Advising Coordinator:
Sandy Phillips, M.Sc., R.D.
School of Dietetics and Human Nutrition

The Dietetics major, which includes a 40 week internship (Stage) as part of its degree requirements, is a professional program that leads to membership in a regulatory body and professional licensure as a Dietitian/Nutritionist.

Graduates are qualified for challenging professional and leadership positions related to food and health, as dietitians, nutritionists and food administrators. The designations "Dietitian" and "Nutritionist" are reserved titles associated with reserved acts in the province of Quebec. As clinical nutritionists, dietitians may work in health-care settings, nutrition counselling centres, clinics and private practice. As community nutritionists, dietitians are involved in nutrition education programs through school boards, sports centres and local and international health agencies. The dietitian in the food service sector participates in all aspects of management to assure quality food products. Postgraduate programs are available to qualified graduates. The duration of the program is three and one-half years.

Successful graduates are qualified for membership in Dietitians of Canada and the Ordre professionnel des diététistes du Québec. Forty weeks of supervised professional experience in clinical and community nutrition and food service systems management are included.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 100 credits
(99 credits plus one additional credit to be determined)
Note: The School firmly applies prerequisite requirements for registration in all required courses in the Dietetics Major.

All required and complementary courses must be passed with a minimum grade of C.
Complementary Courses: 6 credits
Electives: 9 credits to meet the minimum credit requirements for the degree.

		CREDITS
Term 1		**15**
AGEC 242	Management Theories and Practices	3
LSCI 211	Biochemistry 1	3
NUTR 207	Nutrition and Health	3
NUTR 214	Food Fundamentals	3
One Elective or Complementary (see list below)		3
Term 2		**15**
ANSC 234	Biochemistry 2	3
LSCI 230	Introductory Microbiology	3
NUTR 208*	Stage in Dietetics 1	1
NUTR 217	Application: Food Fundamentals	3
NUTR 322	Applied Sciences Communications	2
One Elective or Complementary (see list below)		3
Summer		**3**
NUTR 209*	Professional Practice Stage 1B	3
Term 3		**17**
AEMA 310	Statistical Methods 1	3
AGEC 343	Accounting and Cost Control	3
ANSC 323	Mammalian Physiology	3
ANSC 330	Fundamentals of Nutrition	3
NUTR 345	Food Service Systems Management	2
One Elective or Complementary (see list below)		3
Term 4		**16**
ANSC 424	Metabolic Endocrinology	3
NUTR 310*	Stage in Dietetics 2A	1
NUTR 337	Nutrition Through Life	3
NUTR 344	Clinical Nutrition 1	4
NUTR 346	Quantity Food Production	2
One Elective or Complementary (see list below)		3
Summer		**5**
NUTR 311*	Stage in Dietetics 2B	5
Term 5		**17**
NUTR 403	Nutrition in Society	3
NUTR 446	Applied Human Resources	3
NUTR 450	Research Methods: Human Nutrition	3
NUTR 545	Clinical Nutrition 2	5
One Elective or Complementary (see list below)		3
Term 6		**12**
NUTR 409*	Stage in Dietetics 3	8
NUTR 436	Nutritional Assessment	2
NUTR 438	Interviewing and Counselling	2
Term 7		**14**
NUTR 510*	Professional Practice - Stage 4	14
Term to be determined: Additional Required Credit		**1**
Advising Note: Students looking for a 1 credit course are advised to take AGRI 480.		
AGRI 480	Special Topics 1	1

Complementary Courses: two courses are to be selected from the following, as specified:
3 credits of Human Behavioural Science courses chosen from:
NUTR 301 (3) Psychology
or equivalent course from another faculty.

3 credits from the social sciences that may include:
AGEC 200 (3) Principles of Microeconomics
AGEC 230 (3) Agricultural and Food Marketing
ENVR 201 (3) Society and Environment
ENVR 203 (3) Knowledge, Ethics and Environment
RELG 270 (3) Religious Ethics and the Environment
or equivalent courses from another faculty.

Elective Courses:
Students who need to improve their proficiency in either English or French are strongly encouraged to choose their electives for that purpose. Students wishing to take language courses should check with the English and French Language Centre, Faculty of Arts, as placement testing may be required. Students are encouraged to develop a working knowledge of French in order to optimize their participation and learning in Stage placement sites.

Alternate elective choices can include, but are not limited to the following:
AEHM 300 (3) ESL: High Intermediate 1
AEHM 301 (3) ESL: High Intermediate 2
AEHM 330 (3) Academic and Scientific Writing
FDSC 200 (3) Introduction to Food Science
NUTR 501 (3) Nutrition in Developing Countries
NUTR 503 (3) Bioenergetics and the Lifespan
NUTR 512 (3) Herbs, Foods and Phytochemicals

* Successful completion of each component of each level of Stage (Professional Practice) in Dietetics is a prerequisite for the next level and must be passed with a minimum grade of C. Undergraduate registration is restricted to students in the Dietetics Major, CGPA greater than or equal to 3.0. Students in the Dietetics Major who have a CGPA below a 3.0 for two consecutive years will not be permitted to continue in the program. Visiting and Special students must contact the Academic Advising Coordinator (dietetics) regarding course registration approval.

Students are reminded that ethical conduct on Professional Practice (Stage) rotations is required. The Faculty reserves the right to require the withdrawal of any student if at any time the Faculty feels the student has displayed unprofessional conduct or demonstrates incompetence.

A compulsory immunization program exists at McGill which is required for Dietetics students to practice. Students should complete their immunization before arriving at Macdonald Campus; medical/health documentation must be received prior to commencement of Stage.

NUTRITION MAJOR

Academic Advising Coordinator:
Kristine G. Koski, Ph.D., R.D. (U.S.)
School of Dietetics and Human Nutrition

This Major covers the many aspects of human nutrition and food and gives first, an education in the scientific fundamentals of these disciplines and second, an opportunity to focus in (a) nutritional biochemistry and metabolism, (b) global nutrition issues, (c) food function, product development and safety and/or (d) sports nutrition. Graduates are qualified for careers in pharmaceutical and/or food industries or government laboratories, the health science communications field, sports clinics and national or international food support programs. Graduates often continue on to further studies preparing for careers in research, medicine, and dentistry or as specialists in nutrition. Aside from working as university teachers and researchers, postgraduates may be employed by government and health protection agencies, in world development programs or in the food sector.

(Currently under revision)

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 54 credits
All required courses must be passed with a minimum grade of C.
Complementary Courses: 15/16 credits
Electives: 21/20 credits to meet the minimum credit requirement for the degree. Reciprocal agreement allows all students to take a limited number of electives at any Quebec university. With prior approval students can take electives at any Canadian or international university.

		CREDITS
Required Courses:		**54**
Term 1		
FDSC 212	Bioseparation Techniques	3
LSCI 211	Biochemistry 1	3
NUTR 207	Nutrition and Health	3
NUTR 214	Food Fundamentals	3
Please note: The course FDSC 212 has been retired and the program requirements are under review.		
Term 2		
ANSC 234	Biochemistry 2	3
FDSC 251	Food Chemistry 1	3
LSCI 230	Introductory Microbiology	3
NUTR 322	Applied Sciences Communication	2
Term 3		
ANSC 323	Mammalian Physiology	3
AEMA 310	Statistical Methods 1	3
FDSC 305	Food Chemistry 2	3
Term 4		
ANSC 424	Metabolic Endocrinology	3
NUTR 337	Nutrition Through Life	3
NUTR 344	Clinical Nutrition 1	4
Term 5		
NUTR 420	Toxicology and Health Risks	3
NUTR 450	Research Methods: Human Nutrition	3
NUTR 512	Herbs, Foods, and Phytochemicals	3
NUTR 551	Analysis of Nutrition Data	3
Complementary Courses:		**15/16**
One of the following courses:		**3**
NUTR 307	Human Nutrition	
or ANSC 330	Fundamentals of Nutrition	
And one of the following sets of 12/13 credits.		**12/13**
Nutritional Biochemistry:		**13**
ANSC 551	Carbohydrate and Lipid Metabolism	3
ANSC 552	Protein Metabolism & Nutrition	3
LSCI 204	Genetics	4
PARA 438	Immunology	3
Global Nutrition:		**12**
AGRI 340	Principles of Ecological Agriculture	3
NRSC 340	Global Perspectives on Food	3
NUTR 403	Nutrition in Society	3
NUTR 501	Nutrition in Developing Countries	3
Food Function and Safety:		**12**
FDSC 300	Principles of Food Analysis 1	3
FDSC 315	Separation Techniques in Food Analysis 1	3
FDSC 319	Food Commodities	3
FDSC 425	Principles of Quality Assurance	3
Sports Nutrition:		**12**
ANAT 214	Systemic Human Anatomy	3
or EDKP 205	Structural Anatomy	3
EDKP 391	Physiology in Sport and Exercise	3
EDKP 495	Scientific Principles of Training	3
NUTR 503	Bioenergetics and the Life Span	3

MINOR IN HUMAN NUTRITION

Detailed information on this minor can be found under section 5.6.5.5 "Minor in Human Nutrition (24 credits)".

CONCURRENT BACHELOR OF SCIENCE IN FOOD SCIENCE – B.SC.(F.SC.) and BACHELOR OF SCIENCE IN NUTRITIONAL SCIENCES – B.SC.(NUTR.SC.) – FOOD SCIENCE / NUTRITIONAL SCIENCE MAJOR

Detailed information on this concurrent program can be found under section 5.6.4.1 "Concurrent Bachelor of Science in Food Science – B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences – B.Sc.(Nutr.Sc.) – Food Science/Nutritional Science Major".

5.6.3.1 School of Dietetics and Human Nutrition

Macdonald Stewart Building – Room MS2-039
Telephone: 514-398-7840
Fax: 514-398-7739
Email: nutrition.dietetics@mcgill.ca
Website: www.mcgill.ca/dietetics

Director — Kristine G. Koski

Emeritus Professor — Harriet V. Kuhnlein

Professors — Luis B. Agellon, Timothy A. Johns

Associate Professors — Grace Egeland *(Canada Research Chair),* Katherine Gray-Donald, Kristine G. Koski, Stan Kubow, Louise Thibault, Hope Weiler *(Canada Research Chair)*, Linda Wykes *(William Dawson Scholar),* Grace S. Marquis *(Canada Research Chair)*

Lecturers — Peter Bender (PT), Lynda Fraser (PT), Mary Hendrickson, Linda Jacobs Starkey, Maureen Rose, Joane Routhier, Sandy Phillips, Hugues Plourde, Heidi Ritter

Adjunct Professors — Mary l'Abbé, Kevin A. Cockell

Cross-Appointed Staff
Food Science and Agricultural Chemistry: Selim Kermasha
Medicine: Louis Beaumier, Franco Carli, Stephanie Chevalier, Réjeanne Gougeon, L. John Hoffer, Larry Lands, Errol Marliss, José Morais, Thomas Schricker, Jean-François Yale, Ralph Lattermann,
Parasitology: Marilyn E. Scott
MUHC: Sonya Page

Health and well-being of individuals in relation to food choices and physiological status prevails as the unifying theme of the programs in the School of Dietetics and Human Nutrition. The availability of food, normal metabolism and clinical nutrition, community nutrition at the local and international level, the evaluation of nutritional products and their use in nutrition, and the communication of information about food and health form the core of academic programs.

5.6.4 Bachelor of Science (Food Science) - B.Sc.(F.Sc.)

FOOD SCIENCE MAJOR

This program is intended for those students interested in the multidisciplinary field of food science. The courses are integrated to acquaint the student with food processing, food chemistry, quality assurance, analytical procedures, food products, standards and regulations. The program prepares graduates for employment as scientists in industry or government, in regulatory, research, quality assurance, or product development capacities.

Graduates have the academic qualifications for membership in the Canadian Institute of Food Science and Technology. Graduates can also qualify for recognition by the Institute of Food Technologists (IFT) and the Ordre des chimistes du Québec (OCQ) by selection of an appropriate option.

All options are completed to 90 credits with free elective courses.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 69 or 81 credits
Electives: selected in consultation with Academic Adviser, to meet the minimum 90-credit requirement for the degree. A portion of these credits should be in the humanities/social sciences.

		CREDITS
Required Courses Common to all 3 Options:		**51**
AEMA 310	Statistical Methods 1	3
AGRI 510	Professional Practice	3
BREE 324	Elements of Food Engineering	3
FDSC 200	Introduction to Food Science	3
FDSC 213	Analytical Chemistry 1	3
FDSC 251	Food Chemistry 1	3
FDSC 300	Principles of Food Analysis 1	3
FDSC 310	Post Harvest Fruit and Vegetable Technology	3
FDSC 319	Food Commodities	3
FDSC 330	Food Processing	3
FDSC 400	Food Packaging	3
FDSC 425	Principles of Quality Assurance	3
FDSC 442	Food Microbiology	3
FDSC 495	Food Science Seminar	3
LSCI 211	Biochemistry 1	3
LSCI 230	Introductory Microbiology	3
NUTR 207	Nutrition and Health	3

Note: If an introductory CEGEP level Organic Chemistry course has not been completed, then FDSC 230 (Organic Chemistry) must be completed as a replacement.

Food Chemistry Option (OCQ & IFT) Additional Required Credits		**30**
FDSC 233	Physical Chemistry	3
FDSC 305	Food Chemistry 2	3
FDSC 315	Separation Techniques in Food Analysis 1	3
FDSC 334	Analysis of Food Toxins and Toxicants	3
FDSC 405	Product Development	3
FDSC 410	Flavour Chemistry	3
FDSC 490	Research Project 1	3
FDSC 491	Research Project 2	3
FDSC 515	Enzyme Thermodynamics/Kinetics	3
FDSC 520	Biophysical Chemistry of Food	3

Food Science Option (IFT) Additional Required Credits		**18**
FDSC 233	Physical Chemistry	3
FDSC 305	Food Chemistry 2	3
FDSC 315	Separation Techniques in Food Analysis 1	3
FDSC 334	Analysis of Food Toxins and Toxicants	3
FDSC 405	Product Development	(3)
FDSC 410	Flavour Chemistry	3

Food Industry Option

Note: This option is no longer being offered.

5.6.4.1 Concurrent Bachelor of Science in Food Science – B.Sc.(F.Sc.) and Bachelor of Science in Nutritional Sciences – B.Sc.(Nutr.Sc.) – Food Science/Nutritional Science Major

The concurrent program B.Sc.(F.Sc.) and B.Sc.(Nutr.Sc.) is designed to give motivated students the opportunity to combine the two fields. The two disciplines complement each other with food science providing the scientific foundation in the fundamentals of food science and its application in the food system, while nutritional sciences brings the fundamental knowledge in the nutritional aspects of food and metabolism. The program aims to train students with the fundamental knowledge in both disciplines to promote the development of healthy food products for human consumption. The overall program is structured and closely integrated

so as to satisfy the academic requirements of both degrees as well as the professional training or exposure to industry.

See section 5.5.1 for prerequisites and minimum credit requirements.

Required Courses: 79 credits
Complementary Courses: 30 credits
Electives: 13 credits

		CREDITS
Required Courses:		**79**
AEMA 310	Statistical Methods 1	3
ANSC 234	Biochemistry 2	3
ANSC 323	Mammalian Physiology	3
ANSC 424	Metabolic Endocrinology	3
FDSC 200	Introduction to Food Science	3
FDSC 213	Analytical Chemistry 1	3
FDSC 251	Food Chemistry 1	3
FDSC 300	Principles of Food Analysis 1	3
FDSC 305	Food Chemistry 2	3
FDSC 310	Post Harvest Fruit and Vegetable Technology	3
FDSC 315	Separation Techniques in Food Analysis 1	3
FDSC 319	Food Commodities	3
FDSC 330	Food Processing	3
FDSC 334	Analysis of Food Toxins and Toxicants	3
FDSC 400	Food Packaging	3
FDSC 425	Principles of Quality Assurance	3
FDSC 442	Food Microbiology	3
FDSC 497	Professional Seminar: Food	1.5
LSCI 211	Biochemistry 1	3
LSCI 230	Introductory Microbiology	3
NUTR 207	Nutrition and Health	3
NUTR 214	Food Fundamentals	3
NUTR 307	Human Nutrition	3
NUTR 337	Nutrition Through Life	3
NUTR 344	Clinical Nutrition 1	4
NUTR 497	Professional Seminar: Nutrition	1.5
NUTR 512	Herbs, Foods and Phytochemicals	3
Complementary Courses:		**30**
At least 9 credits from the following:		
AGEC 200	(3) Principles of Microeconomics	
AGEC 201	(3) Principles of Macroeconomics	
AGEC 330	(3) Agriculture and Food Markets	
AGEC 430	(3) Agriculture, Food and Resource Policy	
AGEC 442	(3) Economics of International Agricultural Development	
AGEC 450	(3) Agriculture Business Management	
At least 9 credits from the following		
AGEC 242	(3) Management Theories and Practices	
ENVR 203	(3) Knowledge, Ethics and Environment	
NRSC 340	(3) Global Perspectives on Food	
NUTR 301	(3) Psychology	
NUTR 322	(2) Applied Sciences Communication	
NUTR 446	(3) Applied Human Resources	
12 credits from the following:		
FDSC 480	(12) Industrial Stage/Food	
NUTR 480	(12) Industrial Stage/Nutrition	

CERTIFICATE IN FOOD SCIENCE

Detailed information on this certificate program can be found under section 5.6.6.3 "Certificate in Food Science (30 credits)".

5.6.4.2 Department of Food Science and Agricultural Chemistry

Macdonald Stewart Building – Room MS1-034
Telephone: 514-398-7898
Fax: 514-398-7977
Email: foodscience@mcgill.ca
Website: www.mcgill.ca/foodscience

Chair — Selim Kermasha

Professors — Inteaz Alli, William D. Marshall, Hosahalli S. Ramaswamy, Frederik R. van de Voort

Associate Professors — Ashraf A. Ismail, Selim Kermasha, Benjamin K. Simpson, Varoujan Yaylayan

Assistant Professors — Martin Chénier, Salwa Karboune

5.6.5 Minor Programs

5.6.5.1 Minor in Agricultural Production (24 credits)

Academic Adviser: Professor Katrine Stewart
Department of Plant Science
Telephone: 514-398-7872

This Minor program is designed to allow students in non-agricultural production Majors to receive credit for courses in agricultural production and to stimulate "cross-over" studies. The Minor can be associated with existing Major programs in the Faculty, but in some instances it may require more than 90 credits to meet the requirements of both the Major and the Minor.

Students are advised to consult their Major Program adviser and the Academic Adviser of the Minor in their first year. At the time of registration for their penultimate year, students must declare their intent to obtain a Minor in Agricultural Production. With the agreement of their Major Program adviser they must submit their program of courses already taken, and to be taken in their final year, to the Academic Adviser of the Agricultural Production Minor. The Academic Adviser of the Agricultural Production Minor will then certify which courses the student will apply toward the Minor and that the student's program conforms with the requirements of the Minor.

General Regulations

To obtain a Minor in Agricultural Production, students must:

a) ensure that their academic record at the University includes a C grade or higher in the courses as specified in the course requirements given below.

b) offer a minimum total of 24 credits from the courses as given below, of which not more than 6 credits may be counted for both the Major and the Minor programs. This restriction does not apply to elective courses in the Major program.

Required Courses: 12 credits
Complementary Courses: 12 credits

		CREDITS
Required Courses:		**12**
AEBI 210	Organisms 1	3
ANSC 250	Principles of Animal Science	3
ENVB 210	The Biophysical Environment	3
PLNT 300	Cropping Systems	3
Complementary Courses:		**12**
12 credits chosen from the following list in consultation with the Academic Adviser for the Minor:		
ANSC 451	(3) Dairy and Beef Production Management	
ANSC 458	(3) Swine and Poultry Production	
PLNT 302	(3) Forage Crops and Pastures	
PLNT 307	(3) Vegetable Production	
PLNT 321	(3) Fruit Production	
PLNT 331	(3) Grains and Biofuel Crops	

Notes:

1. Most courses listed at the 300 level and higher have prerequisites. Although instructors may waive prerequisite(s) in some

cases, students are urged to prepare their program of study well before their final year.

2. Not all courses are offered every year. For information on available courses, consult Class Schedule at www.mcgill.ca/minerva; complete listings can be found in the Courses section of this Calendar.

5.6.5.2 Minor in Ecological Agriculture (24 credits)

Academic Adviser: Dr. Caroline Begg
Department of Natural Resource Sciences
Telephone: 514-398-8749

This Minor program is designed to focus on the principles underlying the practice of ecological agriculture and is suitable for students wishing to farm, do extension and government work, and those intending to pursue postgraduate studies in this field.

The Minor can be associated with existing Major programs in the Faculty, but in some instances it may require more than 90 credits to meet the requirements of both the Major and the Minor.

Students are advised, during the U1 year, to consult their Major Program adviser and the academic adviser of the Minor. At the time of registration for the U2 year, students must declare their intent to obtain the Minor. With the agreement of their Major Program adviser they must submit their program of courses already taken, and to be taken, to the academic adviser of the Minor. The academic adviser of the Minor will then certify which courses the student will apply toward the Minor and confirm that the student's program conforms with the requirements of the Minor.

General Regulations
To obtain a Minor in Ecological Agriculture, students must:

a) Ensure that their academic record at the University includes a C grade or higher in the courses as specified in the course requirements given below.

b) Offer a minimum total of 24 credits from the courses as given below, of which not more than 6 credits may be counted for both the Major and the Minor programs. This restriction does not apply to elective courses in the Major program.

Required Courses: 9 credits
Complementary Courses: 15 credits

		CREDITS
Required Courses:		**9**
AGRI 210	Agro-Ecological History	3
AGRI 215	Agro-Ecosystems Field Course	3
AGRI 340	Principles of Ecological Agriculture	3
Complementary Courses:		**15**
AGEC 333 (3)	Resource Economics	
AGRI 310 (3)	Internship in Agriculture/ Environment	
AGRI 435 (3)	Soil and Water Quality Management	
ENTO 352 (3)	Control of Insect Pests	
ENTO 446 (3)	Apiculture	
MICR 331 (3)	Microbial Ecology	
NUTR 512 (3)	Herbs, Foods and Phytochemicals	
PLNT 302 (3)	Forage Crops and Pastures	
PLNT 312 (3)	Urban Horticulture	
PLNT 315 (3)	Herbs and Medicinal Plants	
PLNT 434 (3)	Weed Biology and Control	
PLNT 460 (3)	Plant Ecology	
SOIL 326 (3)	Soils in a Changing Environment	
SOIL 335* (3)	Soil Ecology and Management	
SOIL 445* (3)	Agroenvironmental Fertilizer Use	

* Note: offered in alternate years

5.6.5.3 Minor in Entrepreneurship

Note: Students will no longer be admitted into the Minor in Entrepreneurship as it is being suspended. For additional information on the Minor in Entrepreneurship, consult the *2007-2008 Undergraduate Programs Calendar* available at www.mcgill.ca/courses.

5.6.5.4 Minor in Environmental Engineering (27 credits)

The Minor program consists of 27 credits in courses that are environment related. By means of a judicious choice of complementary and elective courses, Bioresource Engineering students may obtain this Minor with a minimum of 12 additional credits.

The "Environmental Engineering Minor", section 9.6.8, is administered by the Faculty of Engineering, Department of Civil Engineering and Applied Mechanics.

Courses available in the Faculty of Agricultural and Environmental Sciences (partial listing):

BREE 322 Organic Waste Management
BREE 416 Engineering for Land Development
BREE 518 Bio-Treatment of Wastes
MICR 331 Microbial Ecology

5.6.5.5 Minor in Human Nutrition (24 credits)

Academic Adviser: Linda Wykes, Ph.D.
School of Dietetics and Human Nutrition

The Minor in Human Nutrition is intended to complement a student's primary field of study by providing a focused introduction to the metabolic aspects of human nutrition. It is particularly accessible to students in Biochemistry, Biology, Physiology, Anatomy and Cell Biology, Microbiology and Immunology, Animal Science or Food Science programs. The completion of 24 credits is required, of which at least 18 must not overlap with the primary program. All courses must be taken in the appropriate sequence and passed with a minimum grade of C. Students may declare their intent to follow the Minor program at the beginning of their U2 year. They must then consult with the Academic Adviser for the Human Nutrition Minor in the School of Dietetics and Human Nutrition to obtain approval for their course selection. Since some courses may not be offered every year and many have prerequisites, students are cautioned to plan their program in advance.

The Minor program does not carry professional recognition; therefore, it is not suitable for students wishing to become nutritionists or dietitians. However, successful completion may enable students to qualify for many postgraduate nutrition programs.

Required Courses: 6 credits
Complementary Courses: 18 credits

		CREDITS
Required Courses:		**6**
NUTR 337	Nutrition Through Life	3
NUTR 450	Research Methods: Human Nutrition	3
Complementary Courses:		**18**

3 credits in biochemistry, one of:
ANSC 234 (3) Biochemistry 2
BIOC 311 (3) Metabolic Biochemistry

3 credits in physiology, one of:
ANSC 323 (3) Mammalian Physiology
PHGY 210 (3) Mammalian Physiology 2
PHGY 202 (3) Human Physiology: Body Functions

3 credits in nutrition, one of:
ANSC 330 (3) Fundamentals of Nutrition
NUTR 307 (3) Human Nutrition

9 credits from the following list:
ANSC 551 (3) Carbohydrate and Lipid Metabolism
ANSC 552 (3) Protein Metabolism and Nutrition
MIMM 314 (3) Immunology
or PARA 438 (3) Immunology
NUTR 403 (3) Nutrition in Society
NUTR 436 (2) Nutritional Assessment
NUTR 420 (3) Toxicology and Health Risks
NUTR 512 (3) Herbs, Foods and Phytochemicals
NUTR 501 (3) Nutrition in Developing Countries
NUTR 430 (3) Directed Studies: Dietetics and Nutrition 1
or NUTR 431 (3) Directed Studies: Dietetics and Nutrition 2
NUTR 551 (3) Analysis of Nutrition Data

PATH 300 (3) Human Disease

Notes:
1. Most courses listed at the 300 level and higher have prerequisites. Although instructors may waive prerequisite(s) in some cases, students are urged to prepare their program of study well before their final year.
2. Some courses may not be offered every year. For information on available courses, consult Class Schedule at www.mcgill.ca/minerva; complete listings can be found in the Courses section of this Calendar.

5.6.6 Certificate Programs

5.6.6.1 Certificate in Ecological Agriculture (30 credits)

Academic Adviser: Dr. Caroline Begg
Department of Natural Resource Sciences
Telephone: 514-398-8749

This 30-credit Certificate Program is very similar to the Minor Program and is designed to focus on the principles underlying the practice of ecological agriculture. The Certificate may be of special interest to professional agrologists who wish further training, as well as formal recognition that they have completed a coherent program of courses beyond their B.Sc. studies.

Students holding a B.Sc. in agriculture or a related area are eligible to register for this program provided that they are otherwise acceptable for admission to the University. Students who have completed the Minor or Specialization in Ecological Agriculture are not permitted to register for this program.

General Regulations
To obtain a Certificate in Ecological Agriculture, students must offer a minimum total of 30 credits from the courses as given below.

Required Courses: 9 credits
Complementary Courses: 21 credits

		CREDITS
Required Courses:		**9**
AGRI 210	Agro-Ecological History	3
AGRI 340	Principles of Ecological Agriculture	3
WILD 205	Principles of Ecology	3
Complementary Courses:		**21**
21 credits chosen from the following, in consultation with the Academic Adviser for Ecological Agriculture		
with at least 3 credits chosen from:		3-6
SOIL 335 (3)	Soil Ecology and Management	
SOIL 445 (3)	Agroenvironmental Fertilizer Use	
and the remaining credits to be chosen from:		15-18
AGEC 333 (3)	Resource Economics	
AGRI 215 (3)	Agro-Ecosystems Field Course	
AGRI 310 (3)	Internship in Agriculture/Environment	
AGRI 435 (3)	Soil and Water Quality Management	
ENTO 352 (3)	Control of Insect Pests	
ENVB 410 (3)	Ecosystem Ecology	
MICR 331 (3)	Microbial Ecology	
NUTR 512 (3)	Herbs, Foods and Phytochemicals	
PLNT 302 (3)	Forage Crops and Pastures	
PLNT 312 (3)	Urban Horticulture	
PLNT 434 (3)	Weed Biology and Control	
PLNT 460 (3)	Plant Ecology	
WILD 311 (3)	Ethology	

Notes:
1. Most courses listed at the 300 level and higher have prerequisites. Although instructors may waive prerequisite(s) in some cases, students are urged to prepare their program of study to ensure that they have met all conditions.
2. Not all courses are offered every year. For information on available courses, consult Class Schedule at www.mcgill.ca/minerva; complete listings can be found in the Courses section of this Calendar.
3. Students using AGRI 310 towards the requirements of the Specialization/Minor/Certificate are limited to an experience on farms or other enterprises that are either organic, biodynamic, or practising permaculture. The placement must be approved by the academic adviser for the Specialization/Minor/Certificate.

5.6.6.2 Certificate in Entrepreneurship

The Certificate in Entrepreneurship is no longer being offered. For Information on this program, refer to the *2006-2007 Undergraduate Programs Calendar*.

5.6.6.3 Certificate in Food Science (30 credits)

Academic Adviser: Hosahalli S. Ramaswamy
Department of Food Science and Agricultural Chemistry
Telephone: 514-398-7919

This 30-credit program will appeal to mature students who have a first degree in a science-related discipline. Students must complete the Introduction to Food Science, Food Microbiology and Quality Assurance courses, at least three food chemistry/analysis courses, two processing/engineering courses, and at least one course in communication skills, ethics or business skills. Entry to this program is permitted only in September.

Required Courses: 3 credits
Complementary Courses: 27 credits

		CREDITS
Required Course:		**3**
FDSC 200	Introduction to Food Science	3
Complementary Courses:		**27**
9 credits from the following:		
FDSC 251	Food Chemistry 1	3
FDSC 300	Principles of Food Analysis 1	3
FDSC 305	Food Chemistry 2	3
FDSC 315	Separation Techniques in Food Analysis 1	3
FDSC 319	Food Commodities	3
FDSC 334	Analysis of Food Toxins and Toxicants	3
FDSC 410	Flavour Chemistry	3
FDSC 495	Food Science Seminar	3
6 credits from the following:		
BREE 324	Elements of Food Engineering	3
FDSC 310	Post Harvest Fruit and Vegetable Technology	3
FDSC 330	Food Processing	3
FDSC 400	Food Packaging	3
FDSC 405	Product Development	3
FDSC 425	Principles of Quality Assurance	3
3 credits from the following:		
FDSC 442	Food Microbiology	3
LSCI 230	Introductory Microbiology	3
NUTR 207	Nutrition and Health	3
9 credits from the following:		
AGRI 510	Professional Practice	3
FDSC 515	Enzyme Thermodynamics/Kinetics	3
FDSC 519	Advanced Food Processing	3
FDSC 520	Biophysical Chemistry of Food	3
FDSC 530	Advanced Analytical Chemistry	3
FDSC 535	Food Biotechnology	3
FDSC 536	Food Traceability	3
FDSC 537	Nutraceutical Chemistry	3

5.6.7 Field Studies

African Field Study Semester
The Department of Geography, Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester, see section 15.3.1 "African Field Study Semester".

Barbados Field Study Semester
This program takes place at Bellairs Research Institute in Barbados, it is a full 15-credit program offered each Fall semester. For more information, see section 15.3.2 "Barbados Field Study Semester".

Barbados Interdisciplinary Tropical Studies Field Semester
This 15-credit program is offered at the Bellairs Research Institute in Barbados. For more information, see section 15.3.3 "Barbados Interdisciplinary Tropical Studies Field Semester".

Panama Field Study Semester
The program is a joint venture between McGill University and the Smithsonian Tropical Research Institute (STRI) in Panama. For more information, see section 15.3.4 "Panama Field Study Semester".

5.7 Graduate Programs

Graduate work may be undertaken on the Macdonald Campus, through the Departments of Agricultural Economics, Animal Science, Bioresource Engineering, Food Science and Agricultural Chemistry, Natural Resource Sciences, and Plant Science, the Institute of Parasitology, and the School of Dietetics and Human Nutrition.

The advanced courses of study offered lead to the degrees of Master of Science, Graduate Certificate in Biotechnology, Graduate Certificate in Integrated Water Resources Management (IWRM), and Doctor of Philosophy.

Information on these programs and related fellowships is available from the Student Affairs Office, Macdonald Campus of McGill University, 21,111 Lakeshore Road, Laird Hall, Sainte-Anne-de-Bellevue, Quebec, H9X 3V9.

The *Graduate and Postdoctoral Studies Calendar* and full information regarding graduate courses, theses, registration, fellowships, etc., can be accessed on the McGill website, www.mcgill.ca.

5.8 Farm Management and Technology Program

Farm Management and Technology Program
Faculty of Agricultural and Environmental Sciences
P.O. Box 204, Macdonald Campus of McGill
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9

Telephone: 514-398-7814
Fax: 514-398-7955
Email: fmt.macdonald@mcgill.ca
Website: www.mcgill.ca/fmt

Director — Peter Enright

5.8.1 Program – FMT

This 3-year academic and practical program is offered on the Macdonald Campus and taught by the staff of the Faculty of Agricultural and Environmental Sciences of McGill University. The program is funded by the *Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec* and authorized by the *Ministère de l'Éducation, du Loisir et du Sport du Québec*.

The educational goals of the program are:

1. to make our graduates competent in the exercise of their profession;
2. to help the student's integration into professional life;
3. to foster professional mobility;
4. to foster a need for continual development of professional knowledge.

Six academic terms are spent on the Macdonald Campus studying a sequence of courses in soil, plant science, animal science, engineering, economics and management. The first summer of the program includes a 13-week internship on an agricultural enterprise other than the home farm, or an agricultural business where the student learns the many skills and encounters the many problems related to modern commercial agriculture. Students prepare for their Enterprise internship during both academic semesters of Year 1 through two Farm Practice courses.

During the second summer, students are registered in Entrepreneurship 1, which involves agricultural enterprises. The students will be responsible for data collection to be used in their Farm Project and the Nutrient Management Plan 2 when they return to campus for the Fall semester. The internships and practicums will enable the students to relate their academic work to the reality of farming and the agri-food sector.

Finally, courses in English, Français, Humanities, Physical Education and two complementary courses taken during the program will entitle the student to receive a Diplôme d'études collégiales (DEC) from the *Ministère de l'Éducation, du Loisir et du Sport du Québec*. Students will also receive a certification from Macdonald Campus stating that they have successfully completed the requirements of the Farm Management and Technology Program.

5.8.2 Entrance Requirements – FMT

1. Students should have a good practical knowledge of farming under eastern Canadian conditions. One year of experience is recommended but under special conditions a four-month summer season is acceptable.
2. The minimum academic entrance requirements are a Quebec High School Leaving Certificate (Secondary V), or its equivalent and any other academic requirement set by the M.E.L.S.
3. All candidates for admission must make arrangements to come to the Macdonald Campus for an interview prior to admission to the program.
4. Admission to this program is only in the Fall semester.
5. We strongly encourage incoming students to acquire their driver's permit (both for cars **and** farm equipment) before coming to Macdonald Campus. This is first for safety reasons, given that students work with farm equipment (Soil Preparation) very early on as they arrive at Macdonald. As well, most farmers require that their employees and stagiaires know how to drive and possess the appropriate driver's license.

5.8.3 Registration – FMT

Students in the Farm Management and Technology Program must register online using Minerva at www.mcgill.ca/minerva-students for each semester at McGill.
Note: The University reserves the right to make changes without prior notice to the information contained in this publication, including the alteration of various fees, schedules, conditions of admission and credit requirements and the revision or cancellation of particular courses. In normal circumstances, individual courses will not be offered with less than five registrants.

5.8.4 Program Outline

Administrative Unit

FMTP 001	Farm Practice 1
FMTP 007	Health and Farm Safety
FMTP 011	Farm Practice 2
FMTP 036	Enterprise Internship
FMTP 037	Entrepreneurship 1

Bioresource Engineering

FMTP 003	Soil Preparation
FMTP 004	Microcomputing
FMTP 014	Machinery Management
FMTP 018	Building Maintenance
FMTP 019	Tools and Machinery Maintenance
FMTP 021	Soil and Water Conservation
FMTP 024	Farm Building Planning
FMTP 027	Precision Farming

Agricultural Economics

FMTP 002	Introduction to Economics
FMTP 025	Farm Project
FMTP 038	Financial and Managerial Accounting
FMTP 039	Agri-Marketing
FMTP 042	Budgeting, Finance and Policies
FMTP 043	Entrepreneurship 2
FMTP 044	Management of Human Resources

Animal Science

FMTP 005	Animal Anatomy and Physiology
FMTP 008	Introduction to Animal Science

English

FMTP 080	English Upgrading
FMTP 081	Components of Discourse
FMTP 082	Literary Genres
FMTP 083	Literary Themes
FMTP 084	English for FMT

Français

FMTP 075	Langue française et communication
FMTP 098	Français agricole

Humanities

FMTP 085	Humanities 1: Knowledge
FMTP 086	Humanities 2: World Views
FMTP 087	Environmental and Organizational Issues

Natural Resource Sciences

FMTP 009	Soil Fertilization
FMTP 040	Nutrient Management Plan 1
FMTP 041	Nutrient Management Plan 2

Physical Education

FMTP 093	Health and Physical Education
FMTP 094	Physical Activity
FMTP 095	Active Living

Plant Science

FMTP 006	Agricultural Botany
FMTP 017	Pesticide Use

ELECTIVE PRODUCTION COURSES

We offer four production courses in the area of Animal Science and four production courses in the area of Plant Science. Students must take a minimum of two courses in each category for a total of four courses. Students could elect to take more than four courses if they wish, after a discussion with their academic adviser. They must take a minimum of two courses per semester.

Animal Science category

FMTP 028	Dairy Heifer Management
FMTP 029	Dairy Herd Management
FMTP 030	Swine and Poultry
FMTP 031	Beef and Sheep

Plant Science category

FMTP 032	Fruit and Vegetable Crops
FMTP 033	Greenhouse Crops
FMTP 045	Field Crop Production
FMTP 046	Field Crop Management

COMPLEMENTARY COURSES*

Students must take the following complementary courses to meet the program requirements:

FMTP 096	Forests, Forestry and Society
FMTP 097	Landscape Design

* After consultation with their academic adviser, students can substitute complementary courses taken at another collegial institution. This includes science courses which are required for further studies in a degree program. The cost associated with courses taken elsewhere must be assumed by the students.

COMPREHENSIVE ASSESSMENT

The objective of this examination is to ensure that students have attained the objectives and standards for each competency in the program. Successful completion of the Comprehensive Assessment is mandatory to obtain the D.E.C.

The passing grade is 60%. The mark indicating that the student has successfully completed the Comprehensive Assessment will appear on the student's transcript.

ENGLISH EXIT EXAMINATION

All students who wish to graduate and obtain the D.E.C. must pass the English Exit Examination that is offered by the M.E.L.S. Students must take this examination on the date selected by the M.E.L.S.

5.8.5 Academic Rules and Regulations – FMT

5.8.5.1 Sessional Dates

The number of teaching and examination days is set by the *Ministère de l'Éducation, du Loisir et du Sport du Québec*. The sessional dates vary from year to year. At the present time, each semester has 75 teaching days and 7 days of exams.

5.8.5.2 Last Day for Withdrawal or Course Additions

The last day to make course registration changes for Fall term courses is September 20.

The last day to make course registration changes for Winter term courses is February 15.

5.8.5.3 Academic Standing

Attendance in class is compulsory. Students with attendance of less than 80% may not be permitted to write examinations.

Examinations and other work in courses will be marked according to the percentage system. The minimum passing mark in a course is 60%.

When a student's cumulative percent average (CPA) or semestrial percent average (SPA) first drops below 60%, or they fail four or more courses in a semester, withdrawal is advised. Students who choose to remain in the program are on probation.

Students on probation are normally permitted to register for not more than 10 credits per semester. They are not permitted to be on probation for more than one semester unless they obtain a SPA of 70% or higher.

Students who do not raise their CPA to 60% (or obtain a SPA of 70%) while on probation are not permitted to continue. They are required to withdraw from the Program for one year. If, after this period, students wish to be readmitted, they must apply in writing to the Director of the Program.

5.8.5.4 Handbook on Student Rights and Responsibilities

This Handbook is a compendium of regulations and policies governing student rights and responsibilities at McGill University. It is published jointly by the Dean of Students' Office and the Secretariat. A copy of the Handbook can be found at www.mcgill.ca/secretariat/policies/students or obtained from the Student Affairs Office or the Macdonald Campus Student Services Centre.

5.8.5.5 Institutional Policy on the Evaluation of Student Achievement

The policy has the following objectives:

- to establish and explain the principles followed in evaluating student learning;

- to describe the means of translating these principles into practice and to establish the required procedures;
- to articulate the appropriate responsibilities of students, instructors, departments, and academic administrators;
- to account to students, parents, universities and employers for the standards of learning at the campus;
- to create an environment of awareness and free discussion of pedagogical concerns within all segments of the campus community;
- to provide information which will allow students to more fully understand and participate in the educational process;
- to provide the framework within which instructors and academic administrators can exercise their professional judgment in a competent, just, and coherent fashion.

Copies are available in the Library and students are informed of it at registration.

5.8.6 Fees and Expenses – FMT

5.8.6.1 Fees

Tuition fees for all full-time students who are eligible for the Farm Management and Technology Program are paid by the *Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec*. Student Services and Student Societies' fees, as well as course material fees, will be charged according to the schedule in effect for all Macdonald Campus students. At the time of publishing, the fees* were $758.45 for the Fall semester and $598.85 for the Winter semester.

* 2009-10 fees, subject to change without notice.

5.8.6.2 Textbooks and Supplies

The cost of textbooks and supplies is estimated at $200.00 per semester.

5.8.6.3 Financial Assistance

In-Course Financial Aid (including loans and bursaries) is available to full-time students on the basis of demonstrated financial need, however, it is recommended that all applicants apply for the maximum government student assistance program for which they are eligible. Students may apply for In-Course Financial Aid through the Financial Aid Menu on Minerva and will then be asked to make an appointment with the Loan Administrator who visits the Student Service Centre, Macdonald campus, every Wednesday to meet with students with financial difficulties. For more information see "Scholarships and Student Aid", section 3.8, or contact the Student Service Centre at 514-398-7992.

5.8.7 Residence Accommodation – FMT

The Laird Hall Residence has a capacity of 250 students. It accommodates undergraduate, graduate, and Farm Management and Technology Program students on the Macdonald Campus. For more information, please refer to section 4.4.2 “University Residences – Macdonald Campus”, or the Faculty website, www.mcgill.ca/macdonald-residences, or email residences.macdonald@mcgill.ca.

5.9 Instructional Staff

Agellon, Luis B.; B.Sc., Ph.D.(McM.); Professor of Human Nutrition and Canada Research Chair

Alli, Inteaz; B.Sc.(Guyana), M.Sc., Ph.D.(McG.); Professor of Food Science and Agricultural Chemistry

Barrington, Suzelle; B.Sc.(Agr.Eng.), Ph.D.(McG.); Professor of Bioresource Engineering

Bede, Jacqueline; B.Sc.(Calg.), M.Sc., Ph.D.(Tor.); Assistant Professor of Plant Science

Beech, Robin N.; B.Sc.(Nott.), Ph.D.(Edin.); Associate Professor of Parasitology

Begg, Caroline; B.Sc.(Agr.)(McG.), M.Sc.(Sask.), Ph.D.(McG.); Faculty Lecturer, Department of Plant Science

Bennett, Elena; B.A.(Oberlin), M.Sc., Ph.D.(Wis.); Assistant Professor of Ecosystem Ecology and McGill School of Environment

Bird, David M.; B.Sc.(Guelph), M.Sc., Ph.D.(McG.); Fellow A.O.U.; Professor of Wildlife Biology and Director, Avian Science and Conservation Centre

Bordignon, Vilceu; Ag.Tec.(EAPC), D.V.M., M.Sc., Ph.D.; Associate Professor of Animal Science

Broughton, Robert S.; B.S.A., B.A.Sc.(Tor.), S.M.(MIT), Ph.D.(McG.), L.L.D.(Dal.); F.A.S.A.E., F.C.S.A.E.; Emeritus Professor of Bioresource Engineering

Brown, Peter G.; B.A.(Haver.), M.A., Ph.D.(Col.); Professor of Natural Resource Sciences (*joint appoint. with Geography and McGill School of Environment*)

Buckland, Roger B.; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(Md.); Emeritus Professor of Animal Science

Buddle, Christopher; B.Sc.(Guelph), Ph.D.(Alta.); Associate Professor of Forest Insect Ecology

Chenier, Martin R.; B.Sc., M.Sc.(Laval), Ph.D.(McG.); Assistant Professor of Food Safety

Cherestes, Alice; B.A., M.A., Ph.D.(CUNY); Faculty Lecturer, Faculty of Agricultural and Environmental Sciences

Clark, Grant; B.Sc. Agric. Eng.(Alta.), Ph.D.(McG.); Assistant Professor of Bioresource Engineering

Côté, Benoît; B.Sc., Ph.D.(Laval); Associate Professor of Woodland Resources, Chair of Department of Natural Resource Sciences

Cue, Roger I.; B.Sc.(Newcastle, UK), Ph.D.(Edin.); Associate Professor of Animal Science

Curtis, Mark; B.Sc., M.Sc., Ph.D.(McG.); Associate Professor of Wildlife Biology

de Blois, Sylvie; B.Sc.(Agr.)(McG.), M.Sc., Ph.D.(Montr.), Associate Professor of Plant Science and McGill School of Environment

Donnelly, Danielle J.; B.Sc.(Agr.)(McG.), M.Sc.(Br. Col.), Ph.D.(S. Fraser); Associate Professor of Plant Science

Driscoll, Brian T.; B.Sc., Ph.D.(McM.); Associate Professor of Microbiology

Duggavathi, Rajesha; B.V.Sc., M.V.Sc.(Univ. of Agricultural Sciences, Bangalore), Ph.D.(Sask.); Assistant Professor of Animal Science

Dunphy, Gary B.; B.Sc.(New Br.), M.Sc., Ph.D.(Nfld.); Associate Professor of Entomology

Dutilleul, Pierre R.; B.Sc., Ph.D.(Belgium); Professor of Statistics

Dzierszinski, Florence; Bacc.(Université de Lille I), M.Sc.(Université de Compiègne/Université de Lille I), Ph.D.(Université de Lille I); Assistant Professor of Parasitology and Canada Research Chair

Egeland-Hovda, Grace M.; B.A.(Luther), Ph.D.(Pitt.); Associate Professor of Human Nutrition and Canada Research Chair

Ellyett, William R.; B.A.(Sir G. Wms.), B.Ed.(P.E.)(McG.); Faculty Lecturer (PT), Farm Management and Technology Program and Director of Athletics

Enright, Peter; B.Sc.(Agr.Eng.), M.Sc.(McG.); Faculty Lecturer, Director, Farm Management and Technology Program

Estey, Ralph H.; B.Ed.(New Br.), M.S.(Maine), D.I.C.(Imp. Coll.), B.Sc.(Agr.), Ph.D.(McG.), F.L.S.; Emeritus Professor of Plant Pathology

Fyles, James W.; B.Sc., M.Sc.(Vic. (BC)), Ph.D.(Alta.); Professor of Woodland Resources (*Tomlinson Professor of Forest Ecology*)

Geary, Timothy G.; B.Sc.(Notre Dame), Ph.D.(Mich.); Professor of Parasitology, Director, Institute of Parasitology, Canada Research Chair in Parasite Biotechnology

Georges, Elias; B.Sc., Ph.D.(McG.); Associate Professor of Parasitology

Grant, William F.; B.A., M.A.(McM.), Ph.D.(Virg.), F.L.S.; Emeritus Professor of Genetics

Gray-Donald, Katherine; B.Sc., Ph.D.(McG.); Associate Professor of Human Nutrition

Hayes, J. Flannan; B.Agr.Sc., M.Agr.Sc.(Dublin), Ph.D.(N. Carolina St.); Professor of Animal Science
Hendershot, William H.; B.Sc.(Tor.), M.Sc.(McG.), Ph.D.(Br. Col.); Associate Dean (Academic), Professor of Soil Science
Hendrickson-Nelson, Mary; B.A.(College of St. Benedict), B.Sc.(Minn.), M.Sc.(Colo. St.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Henning, John C.; B.Sc., Ph.D.(Guelph); Associate Professor of Agricultural Economics
Hickey, Gordon M.; B.F.Sc.(Melb.), Ph.D.(Br. Col.); Assistant Professor of Natural Resource Sciences
Humphries, Murray; B.Sc.(Manit.), Ph.D.(Alta.); Assistant Professor of Wildlife Biology (NSERC Northern Chair)
Ismail, Ashraf A.; B.Sc., Ph.D.(McG.); Associate Professor of Food Science and Agricultural Chemistry
Jabaji, Suha; B.Sc.(AUB), M.Sc.(Guelph), Ph.D.(Wat.); Associate Professor of Plant Science and Associate Dean (Research and Graduate Education)
Jacobs Starkey, Linda; B.Sc.(H.Ec.)(Mt. St. Vin.), M.Sc., Ph.D.(McG.), RD, FDC; Faculty Lecturer, School of Dietetics and Human Nutrition
Jardim, Armando; B.Sc., Ph.D.(Vic. (BC)); Associate Professor of Parasitology
Johns, Timothy A.; B.Sc.(McM.), M.Sc.(Br. Col.), Ph.D.(Mich.); Professor of Human Nutrition
Karboune, Salwa; B.Sc., M.Sc.(Institut Agronomique et Vétérinaire Hassan II), Ph.D.(Univ. de la Mediterranée); Assistant Professor of Food Science
Kermasha, Selim; B.Sc.(Baghdad), D.Sc.(Nancy); Associate Professor of Food Science and Agricultural Chemistry and Chair of Department
Kimmins, Sarah; B.Sc.(Dal.), M.Sc.(Nova Scotia Ag.), Ph.D.(Dal.); Assistant Professor of Animal Science
Knowles, Roger; B.Sc.(Birm.), Ph.D., D.Sc.(Lond.), F.R.S.C.; Emeritus Professor of Microbiology
Knutt, Marcia E.; H.B.Sc.(W. Ont.), M.A., Ph.D.(Brandeis); Faculty Lecturer, Department of Bioresource Engineering
Kok, Robert; B.E.Sc., Ph.D.(W. Ont.); Professor of Bioresource Engineering
Koski, Kristine G.; B.S., M.S.(Wash.) Ph.D.(Calif., Davis); Associate Professor of Human Nutrition and Director, School of Dietetics and Human Nutrition
Kubow, Stan; B.Sc.(McG.), M.Sc.(Tor.), Ph.D.(Guelph); Associate Professor of Dietetics and Human Nutrition
Kuhnlein, Harriet V.; B.S.(Penn. St.), M.S.(Ore.), Ph.D.(Calif. Berk.); Emeritus Professor of Human Nutrition
Kuhnlein, Urs; B.Sc.(Fed. Inst. of Tech., Zurich), Ph.D.(Geneva Coll.); Emeritus Professor of Animal Science
Kushalappa, Ajjamada C.; B.Sc., M.Sc.(B'lore), Ph.D.(Flor.); Associate Professor of Plant Science
Lefsrud, Mark G.; B.S.(Sask.), M.S.(Rutg.), Ph.D.(Tenn.); Assistant Professor of Bioresource Engineering
Lewis, David J.; B.Sc., M.Sc., Ph.D.(Mem.); Associate Dean (Student Affairs) and Associate Professor of Entomology
Lussier, Serge; B.Sc.(Agr.)(McG.); Assistant Director and Faculty Lecturer, Farm Management and Technology Program
MacKenzie, Angus F.; B.S.A., M.Sc.(Sask.), Ph.D.(C'nell); Emeritus Professor of Soil Science
MacLeod, Robert A.; B.A., M.A.(Br. Col.), Ph.D.(Wis.), F.R.S.C.; Emeritus Professor of Microbiology
Madramootoo, Chandra; B.Sc.(Agr.Eng.), M.Sc., Ph.D.(McG.); P.Eng. Dean (*James McGill Professor*)
Marquis, Grace S.; B.A.(Ind.), M.Sc.(Mich. St.), Ph.D.(C'nell); Associate Professor of Human Nutrition and Canada Research Chair
Marshall, William D.; B.Sc.(New Br.), Ph.D.(McM.); Professor of Food Science and Agricultural Chemistry
McClintock, Katherine; B.A.(Welles.), B.Sc.(Agr.), M.Sc.(McG.); Faculty Lecturer, Department of Plant Science
McKyes, Edward; B.Eng., M.Eng., Ph.D.(McG.), F.C.S.A.E.; Professor of Bioresource Engineering
Mehuys, Guy R.; B.Sc., Ing.Agron.(Gembloux), Ph.D.(Calif.); Associate Professor of Soil Science
Moffat, Donald; B.Ed.(P.E.)(McG.), Grad. Dip. in Sports Admin.(C'dia); Faculty Lecturer (PT), Farm Management and Technology Program and Coordinator Campus Recreation, Athletics and Recreation
Molgat, Christian; B.Sc.(Guelph), B.Sc.(Ott.); Faculty Lecturer, Farm Management and Technology Program
Monardes, Humberto G.; B.Sc.(Concepcion, Chile), M.Sc., Ph.D.(McG.); Associate Professor of Animal Science
Moxley, John E.; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(C'nell), F.A.I.C.; Emeritus Professor of Animal Science
Mustafa, Arif F.; B.Sc., M.Sc.(Khartoum), Ph.D.(Sask.); Associate Professor of Animal Science (*William Dawson Scholar*)
Naseem, Anwar; B.Sc.(McG.), M.A., M.Sc.(Penn.), Ph.D.(Mich. St.); Assistant Professor of Agricultural Economics
Ngadi, Michael O.; B.Eng.(Nigeria), M.A.Sc., Ph.D.(Nova Scotia TC.); Associate Professor of Bioresource Engineering (*William Dawson Scholar*)
Ng Kwai Hang, Kwet Fane; B.Sc.(Agr.), M.Sc., Ph.D.(McG.); Professor of Animal Science
Niven, Donald F.; B.Sc., Ph.D.(Aber.); Associate Professor of Microbiology
Orsat, Valerie; B.Sc., M.Sc., Ph.D.(McG.); Assistant Professor of Bioresource Engineering
Phillip, Leroy E.; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(Guelph); Associate Professor of Animal Science
Phillips, Sandra; B.A.(Qu.), B.Sc.(F.Sc.), M.Sc.(McG.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Plourde, Hugues; B.Sc.(Nutr.Sci.)(McG.), M.Sc.(Nutr.)(Montr.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Prasher, Shiv O.; B.Tech, M.Tech.(Punjab), Ph.D.(Br. Col.); Professor of Bioresource Engineering and Chair of Department (*James McGill Professor*)
Prichard, Roger K.; B.Sc., Ph.D.(N.S.W.); Professor, Institute of Parasitology (*James McGill Professor*)
Raghavan, G.S. Vijaya; B.Eng.(B'lore), M.Sc.(Guelph), Ph.D.(Colo. St.); F.A.S.A.E, F.C.S.A.E., F.A.S.M.E.; Professor of Bioresource Engineering (*James McGill Professor*)
Ramaswamy, Hosahalli; B.Sc.(Bangalore), M.Sc.(Mysore), M.Sc., Ph.D.(Br. Col.); Professor of Food Science and Agricultural Chemistry
Rau, Manfred E.; B.Sc., Ph.D.(W. Ont.); Associate Professor of Parasitology in Department of Natural Resource Sciences
Ribeiro, Paula A.; B.Sc., Ph.D.(York (Can.)); Associate Professor of Parasitology
Ritter, Heidi; B.Sc., M.Sc.(Nutr.Sci.)(McG.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Rohrbach, Petra; B.Sc.(McG.), Diplom Biology(Heidel.), Dr. rer. Nat.(Deutsches Krebsforschungszentrum); Assistant Professor of Parasitology
Rose, Maureen; B.Sc.(F.Sc.), M.Ed., Ph.D.(McG.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Routhier, Joane; B.Sc.(F.Sc.)(McG.); Faculty Lecturer (Stage), School of Dietetics and Human Nutrition
Salavati, Reza; B.A, M.A.(Calif. St.), Ph.D. (Wesl.); Assistant Professor of Parasitology
Schuepp, Peter H.; Dipl.Sc.Nat.(Zurich), Ph.D.(Tor.); Emeritus Professor of Agricultural Physics
Scott, Marilyn E.; B.Sc.(New Br.), Ph.D.(McG.); Associate Professor of Parasitology
Seguin, Philippe; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(Minn.); Associate Professor of Plant Science
Simpson, Benjamin K.; B.Sc.(Univ. Sc. & Tech., Kumasi), Ph.D.(Nfld.); Associate Professor of Food Science and Agricultural Chemistry
Singh, Jaswinder; B.Sc., M.Sc.(Punjab Agricultural University), Ph.D.(Syd.); Assistant Professor of Plant Science
Smith, Donald L.; B.Sc., M.Sc.(Acad.), Ph.D.(Guelph); Professor of Plant Science and Chair of Department *(James McGill Professor)*
Stewart, Katrine A.; B.Sc.(Agr.)(Br. Col.), Ph.D.(Reading); Associate Professor of Horticulture

Stewart, Robin K.; B.Sc.(Agr.), Ph.D.(Glas.); Emeritus Professor of Entomology
Strachan, Ian; B.Sc.(Tor.), M.Sc., Ph.D.(Qu.); Associate Professor of Agrometeorology
Stromvik, Martina V.; B.A., M.S.(Stockholm), Ph.D.(Ill-Chic.); Assistant Professor of Plant Science
Thériault, Pascal; B.Sc.(Agr.), M.Sc.(KSU); Faculty Lecturer, Farm Management and Technology Program
Thibault, Louise; B.Sc., M.Sc., Ph.D.(Laval); Associate Professor of Dietetics and Human Nutrition
Thomassin, Paul; B.Sc.(Agr.)(McG.), M.S., Ph.D.(Hawaii Pac.); Associate Professor of Agricultural Economics
Titman, Rodger D.; B.Sc.(McG.), M.Sc.(Bishop's), Ph.D.(New Br.), Fellow A.O.U.; Associate Professor of Wildlife Biology and Associate Director, Avian Science and Conservation Centre
van de Voort, Frederik R.; B.Sc., M.Sc., Ph.D.(Br. Col.); Professor of Food Science and Agricultural Chemistry
Vickery, Vernon R.; B.Sc.(Agr.), M.Sc., Ph.D.(McG.); Emeritus Curator of the Lyman Entomological Museum and Research Laboratory
Wade, Kevin; B.Agr.Sc., M.Agr.Sc.(Dublin), Ph.D.(C'nell); Associate Professor of Animal Science and Chair, Department of Animal Science
Waterway, Marcia J.; B.A.(Calvin), M.S.(Wis.), Ph.D.(C'nell); Associate Professor of Plant Science and Curator, McGill University Herbarium
Watson, Alan K.; B.Sc.(Agr.), M.Sc.(Br. Col.), Ph.D.(Sask.); Professor of Agronomy and Director, Phytorium/Biopesticide Quarantine Facility
Wees, David D.; B.Sc.(Agr.), M.Sc.(McG.); Faculty Lecturer, Department of Plant Science
Weiler, Hope; B.A.Sc.(Guelph), Ph.D.(McM.); Associate Professor of Human Nutrition and Canada Research Chair
Whalen, Joann; B.Sc.(Agr.)(Dal.), M.Sc.(McG.), Ph.D.(Ohio St.); Associate Professor of Soil Science
Wheeler, Terry; B.Sc.(Nfld.), M.Sc., Ph.D.(Guelph); Associate Professor of Entomology and Director, Lyman Entomological Museum and Research Laboratory
Whyte, Lyle G; B.Sc.(Regina), Ph.D.(Wat.); Associate Professor of Microbiology and Canada Research Chair
Wykes, Linda; B.Sc., M.Sc., Ph.D.(Tor.); Associate Professor of Dietetics and Human Nutrition (*William Dawson Scholar*)
Yaylayan, Varoujan A.; B.Sc., M.Sc.(Beirut), Ph.D.(Alta.); Associate Professor of Food Science and Agricultural Chemistry
Zadworny, David; B.Sc., Ph.D.(Guelph); Associate Professor of Animal Science
Zhao, Xin; B.Sc., M.Sc.(Nanjing IT), Ph.D.(C'nell); Professor of Animal Science (*William Dawson Scholar*)

6 Faculty of Arts, including School of Social Work

Table of Contents

6.1 The Faculty, page 118
- 6.1.1 Location, page 118
- 6.1.2 Administrative Officers, page 118
- 6.1.3 Programs and Teaching in Arts, page 118
- 6.1.4 Arts Office of Advising and Student Information Services (OASIS), page 118

6.2 Faculty Admission Requirements, page 118

6.3 Faculty Degree Requirements, page 118
- 6.3.1 Minimum Credit Requirement, page 118
- 6.3.2 Residency, page 119
- 6.3.3 Cumulative Grade Point Average (CGPA), page 119
- 6.3.4 Time and Credit Limit for Completion of the Degree, page 119
- 6.3.5 Program Requirements, page 119
  - 6.3.5.1 Freshman Program, page 119
  - 6.3.5.2 Departmental Programs, page 119
- 6.3.6 Course Requirements, page 120
  - 6.3.6.1 Course Prerequisites, page 120
  - 6.3.6.2 Course Overlap, page 120
  - 6.3.6.3 Courses Outside the Faculties of Arts and of Science, page 120
  - 6.3.6.4 Inter-University Transfer Credit Policy for Courses Taken Outside the Faculties of Arts and of Science, page 121
  - 6.3.6.5 Inter-Faculty Transfer Credit Policy for Courses Taken Outside the Faculties of Arts and of Science, page 121
  - 6.3.6.6 Policy on Distance Education Courses, page 121
  - 6.3.6.7 Internship Courses, page 121
  - 6.3.6.8 Courses Taken Under the Satisfactory/Unsatisfactory Option, page 121
  - 6.3.6.9 Courses in English as a Second Language (ESL), page 121
  - 6.3.6.10 Course Credit Weight, page 122

6.4 Advising, page 122

6.5 Registration, page 122
- 6.5.1 Program Registration, page 122
- 6.5.2 Course Registration, page 122
  - 6.5.2.1 Registration for First-Year Seminars, page 122
  - 6.5.2.2 Registration in Multi-Term Courses, page 122
- 6.5.3 Apply to Graduate, page 122

6.6 Grading and Credit, page 123
- 6.6.1 Incomplete Grades, page 123

6.7 Examinations, page 123

6.8 Supplemental Assessments, page 123
- 6.8.1 Supplemental Examinations, page 123
- 6.8.2 Reassessments and Rereads, page 123

6.9 Academic Standing, page 124

6.10 Awards and Honorary Designations, page 125
- 6.10.1 Honours and First-Class Honours, page 125
- 6.10.2 Dean's Honour List, page 125
- 6.10.3 Distinction, page 125
- 6.10.4 Medals and Prizes, page 125

6.11 Programs in the Faculty, page 125
- 6.11.1 Major Concentrations, page 125
- 6.11.2 Faculty Programs, page 125
- 6.11.3 Honours Programs, page 125
- 6.11.4 Joint Honours Programs, page 126
- 6.11.5 Minor Concentrations, page 126

6.12 Academic Programs, page 127
- 6.12.1 First-Year Seminars, page 127
- 6.12.2 Faculty of Arts Internship Program, page 127
- 6.12.3 Field Studies and Study Abroad Programs, page 127
- 6.12.4 African Studies Program (AFRI), page 127
- 6.12.5 Anthropology (ANTH), page 128
- 6.12.6 Art History and Communication Studies (ARTH and COMS), page 131
- 6.12.7 Canadian Ethnic and Racial Studies Minor Concentration, page 134
- 6.12.8 Canadian Studies Program (CANS), page 134
- 6.12.9 Catholic Studies Program (CATH), page 137
- 6.12.10 Classics Program (CLAS), page 138
- 6.12.11 Minor in Cognitive Science, page 140
- 6.12.12 Computer Science (COMP), page 140
- 6.12.13 East Asian Studies (EAST), page 141
- 6.12.14 Economics (ECON), page 146
- 6.12.15 Education for Arts Students Minor Concentration, page 149
- 6.12.16 Educational Psychology Minor Concentration, page 149
- 6.12.17 English (ENGL), page 150
- 6.12.18 English as a Second Language (ESLN), page 153
- 6.12.19 English for Academic Purposes (EAPR), page 154
- 6.12.20 Environment, page 154
- 6.12.21 French as a Second Language (FRSL), page 154
- 6.12.22 French Language and Literature (FREN), page 154
- 6.12.23 Geography (GEOG), page 160
- 6.12.24 German Studies (GERM), page 164
- 6.12.25 Hispanic Studies (HISP), page 167
- 6.12.26 History (HIST), page 169
- 6.12.27 History and Philosophy of Science (HPSC), page 171
- 6.12.28 Humanistic Studies (HMST), page 172
- 6.12.29 Industrial Relations Faculty Program, page 172
- 6.12.30 International Development Studies (INTD), page 173
- 6.12.31 Islamic Studies (ISLA), page 175
- 6.12.32 Italian Studies (ITAL), page 176
- 6.12.33 Jewish Studies (JWST), page 177
- 6.12.34 Latin-American and Caribbean Studies (LACS), page 181
- 6.12.35 Linguistics (LING), page 183
- 6.12.36 Mathematics and Statistics (MATH), page 184
- 6.12.37 Middle East Studies Program (MEST), page 187
- 6.12.38 Music (MUAR), page 189
- 6.12.39 North American Studies Program (NAST), page 190
- 6.12.40 Philosophy (PHIL), page 192
- 6.12.41 Philosophy and Western Religions (PHWR), page 194
- 6.12.42 Political Science (POLI), page 197
- 6.12.43 Psychology (PSYC), page 202
- 6.12.44 Quebec Studies/Études sur le Québec (QCST), page 205
- 6.12.45 Religious Studies (RELG), page 207
- 6.12.46 Russian and Slavic Studies (RUSS), page 212
- 6.12.47 Science for Arts Students, page 214
- 6.12.48 Sexual Diversity Studies Program, page 217

6.12.49 Social Studies of Medicine (SSMD), page 217
6.12.50 Social Work (SWRK), page 218
6.12.51 Sociology (SOCI), page 220
6.12.52 Women's Studies (WMST), page 222

6.1 The Faculty

6.1.1 Location

Dawson Hall
853 Sherbrooke Street West
Montreal, QC H3A 2T6
Canada

Telephone: 514-398-4210
Faculty website: www.mcgill.ca/arts
Arts Office of Advising and Student Information Services (OASIS) website: www.mcgill.ca/oasis

Arts OASIS, and the Office of the Associate Dean (Student Affairs) of the Faculty of Arts, are located in Dawson Hall, Rooms 110 and 115. Arts OASIS serves students in the Faculty of Arts.

6.1.2 Administrative Officers

Christopher Manfredi; B.A., M.A.(Calg.), M.A., Ph.D.(Claremont) **Dean**

M.N. Cooke; B.A.(Qu.), M.A.(C'nell), M.A., Ph.D.(Tor.) **Associate Dean (Research and Graduate Studies)**

TBA **Associate Dean (Academic and Oversight)**

Enrica Quaroni; B.A., Ph.D.(McG.) (*on leave 2009-2010*) **Associate Dean (Student Affairs)**

André Costopoulos; B.A.(McG.), M.A.(Montr.), Ph.D.(Oulu) **Acting Associate Dean (Student Affairs)**

Susan Sharpe **Course and Program Officer**

Sharon Bezeau; B.A.(Tor.), M.A.(C'dia) **Associate Director (Student Affairs)**

Donald Sedgwick; B.Sc., M.Sc.(McG.) **Senior Faculty Adviser**

6.1.3 Programs and Teaching in Arts

Established in 1843, the Faculty of Arts is one of the oldest in Canada and remains the largest at McGill. With over 6,000 full-time students and over 250 full-time professors, the Faculty offers several hundred courses in many disciplines.

The Faculty of Arts permits students great program flexibility. Students may concentrate on one Arts discipline while obtaining Minor Concentrations in different Arts disciplines as well as in other faculties, such as, for example, Science. McGill's historic Arts building is the centrepiece of the University's downtown campus. It houses classrooms, offices and Moyse Hall – an elegant and well-equipped performance theatre. The Faculty maintains bilateral exchange programs with many universities around the world and encourages students to spend a term or two studying abroad, either through an exchange program or independently.

McGill Arts graduates are valued for their ability to think critically and communicate effectively, often in more than one language. Their skills in research and analysis are applicable in a wide spectrum of professional fields, such as law, education, business, government, and public service.

The Faculty of Arts offers programs leading to the degrees of B.A. and B.S.W. Admission is selective; fulfilment of the minimum requirements does not guarantee acceptance. Admission criteria are described in the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

The Faculty of Arts also offers a Diploma in Environment under the McGill School of Environment, a 30-credit program available to holders of a B.Sc. or B.A. or equivalent. All credits for the Diploma must be completed at McGill. For more information on the "Diploma in Environment", see section 10.11.

Finally, the Faculties of Arts and of Science jointly offer the Bachelor of Arts and Science (B.A. & Sc.), which is described in the Arts and Science section of the Calendar.

6.1.4 Arts Office of Advising and Student Information Services (OASIS)

Arts OASIS provides ongoing advice and guidance on programs, degree requirements, registration, course change, course and university withdrawal, deferred exams, supplemental exams, rereads, academic standing, inter-faculty transfer, year or term away, transfer credits, second programs, second degrees, and graduation.

Faculty advisers in Arts OASIS (Arts Office of Advising and Student Information Services) offer help managing academic situations during periods of personal, financial or medical problems, by working with students to identify various possibilities and strategies for making informed decisions. OASIS advisers can be contacted via email at adviser.arts@mcgill.ca.

Special requests can be made, in writing, to the Associate Dean (Student Affairs). For more information, please refer to our website at www.mcgill.ca/oasis.

6.2 Faculty Admission Requirements

For information about admission requirements to the B.A. or B.S.W., please refer to the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

For information about inter-faculty transfers, please refer to section 3.3.12, "Inter-Faculty Transfer", as well as to the relevant information posted on the Arts OASIS website at www.mcgill.ca/oasis.

6.3 Faculty Degree Requirements

Each student in the Faculty of Arts must be aware of the Faculty regulations as stated in this Calendar and on the McGill, Arts, and Arts Office of Advising and Student Information Services (OASIS) websites. While departmental and Faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of, program and degree requirements, and for the observance of regulations and deadlines *rests with the student*. It is the student's responsibility to seek guidance from Arts OASIS if in any doubt; misunderstanding or misapprehension will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

To be eligible for a B.A. degree, students must fulfil all Faculty and program requirements as indicated below:

"Minimum Credit Requirement", see section 6.3.1
"Residency", see section 6.3.2
"Cumulative Grade Point Average (CGPA)", see section 6.3.3
"Time and Credit Limit for Completion of the Degree", see section 6.3.4
"Program Requirements", see section 6.3.5
"Course Requirements", see section 6.3.6

6.3.1 Minimum Credit Requirement

Students must complete the minimum credit requirement for the degree as specified in the letter of admission.

Students are normally admitted to a four-year degree requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results

in the Diploma of Collegial Studies, International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests.

Students who are readmitted after interrupting their studies for a period of five consecutive years or more may be required to complete a minimum of 60 credits and satisfy the requirements of a program. In this case, a new GPA will be calculated. The Associate Dean (Student Affairs), in consultation with the appropriate department, may approve a lower minimum for students who had completed 60 credits or more before interrupting their studies.

Students who are readmitted after a period of absence are normally subject to the program and degree requirements in effect at the time of readmission.

6.3.2 Residency

To obtain a B.A. or B.S.W. degree, students must complete satisfactorily a minimum of 60 credits at McGill University towards the fulfilment of the degree requirements. At least two-thirds of all program requirements (Multi-track, Honours, Faculty) must normally be completed at McGill. In addition, some departments may require that their students complete specific components of their program at McGill.

Exceptionally, and subject to departmental approval, students in a Minor Concentration who pursue an approved exchange or study away program may complete up to half of the Minor Concentration requirements elsewhere.

The residency requirement for the Diploma in Environment is 30 credits completed at McGill.

6.3.3 Cumulative Grade Point Average (CGPA)

Each candidate for a degree must achieve a minimum cumulative grade point average (CGPA) of 2.00.

6.3.4 Time and Credit Limit for Completion of the Degree

Students who need 96 or fewer credits to complete their degree requirements are expected to complete their degree in no more than eight terms after their initial registration for the degree. Students in the Freshman Program become subject to these regulations one year after their initial registration. Students who need or wish to exceed this time limit must apply to the Associate Dean (Student Affairs) for permission to continue their studies.

Students who wish to exceed the minimum credit requirement for their degree must also seek permission of the Associate Dean (Student Affairs) to continue their studies.

Permission for exceeding the time and/or credit limit will normally be granted only for valid academic reasons, such as a change of program (subject to departmental approval) and part-time status. Elective credits over the credit limit will be flagged for no credit and the grades will not count in the CGPA.

6.3.5 Program Requirements

6.3.5.1 Freshman Program

Students who need to complete 97-120 credits to complete their degree requirements must complete the Freshman program, which is designed to provide a basic foundation prior to selecting a departmental program. Students may select one of the following Freshman program options on Minerva:

General Option

- 6 credits in each of three of the following areas: social sciences, languages, humanities, or mathematics and science, with a maximum of 18 credits per area and 12 credits per department.

Arts Legacy (Freshman) Option: Making Modernities

- 24 credits of prescribed courses that will be taught in four consecutive units of six and a half weeks. Courses will be thematically linked and deal in an interdisciplinary way with the Ancient Worlds of China and Greece/Rome, Medieval Mediterranean Worlds, Early Modern Atlantic Worlds, and Global Modern Worlds. Each course features lectures, seminars, tutorials and performances. Enrolment is on a first-come first-served basis. Students should register for six additional credits, preferably from the areas of language or of mathematics and science.

French Option

- 18 credits of courses conducted in French. Depending on degree of language proficiency attained, this could include a maximum of 12 credits of intensive French language courses.

For further details, refer to the Arts Freshman information on the web at www.mcgill.ca/oasis.

6.3.5.2 Departmental Programs

Arts students, other than those registered in the Freshman Program, are required to have an approved program (Multi-track, Honours, Faculty), and to select their courses in each term with a view to timely completion of their degree and program requirements. No course may fulfil the requirements for more than one program or Concentration requirement. Students must complete one of the following program streams:

MULTI-TRACK SYSTEM

To recognize the diversity of student backgrounds and interests and the multiple routes to understanding provided by a modern university, the Faculty of Arts offers a 90-credit multi-track system that includes a Major Concentration complemented by at least a Minor Concentration and that may be completed in one of the following ways:

Options

A: Major Concentration (36) + Minor Concentration (18) + 36 credits of electives

B: Major Concentration (36) + Major Concentration (36) + 18 credits of electives

C: Major Concentration (36) + Minor Concentration (18) + Minor Concentration (18) + 18 credits of electives

Regulations:

- Within option A and option B, all Concentrations must be in different academic units. (For students completing a second degree in the Faculty of Arts, this regulation is waived.)
- Within option C, one of the Minor Concentrations may be in the same unit as the Major Concentration. Students who pursue a same-unit Minor Concentration will substitute additional complementary (non-required) courses to a total of 18 credits for any courses completed as a part of their Major Concentration within that unit.
- Students will include within the 36 or 18 credits of their Major or Minor Concentration any university-level (200 or above) prerequisites to required courses within their Concentrations.

Definitions:

Units: academic departments or administrative equivalents.

Programs: lists of required and complementary courses (including prerequisites for required courses) prepared and maintained by units.

Major Concentration: a program of 36 credits taken from a unit's course offerings.

Minor Concentration: a program of 18 credits taken from a unit's course offerings. Expandable Minor Concentrations are those which can, on the completion of 18 additional approved credits, be expanded into a Major Concentration within the appropriate unit.

HONOURS PROGRAM

Honours programs demand a high degree of specialisation, and require students to satisfy specific departmental and Faculty Honours requirements while maintaining a good academic standing. They are designed to prepare students for graduate study.

Regulations:

- To be registered in an Honours program after the first year, students must have attained a GPA and CGPA of at least 3.00 in the previous year, unless they have special permission from the department and the Associate Dean (Student Affairs).
- To complete an Honours degree, a student must achieve a minimum CGPA of 3.00. The program GPA (the GPA of all required and complementary courses taken at McGill which constitute the Honours program) must be a minimum of 3.00, although academic units may set higher requirements for their program GPA.
- In addition to the completion of the Honours requirements, students must complete at least a Minor Concentration in an academic unit other than the one in which the Honours requirements are satisfied. (Students completing a second degree in the Faculty of Arts do not need to complete a minor.)

JOINT HONOURS PROGRAM

Students who wish to study at the Honours level in two disciplines can combine Joint Honours program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs. Each Joint Honours component consists of a maximum of 36 required and complementary credits (not including program prerequisites). In cases where a minimum of 24 credits are in courses normally restricted to Honours students, the total of required and complementary credits may be as few as 30.

To complete a Joint Honours degree, a student must achieve a minimum CGPA of 3.00. The program GPA (the GPA of all required and complementary courses taken at McGill which constitute the Joint Honours program) must be a minimum of 3.00, although academic units may set higher requirements for their component of the program GPA.

FACULTY PROGRAM

A Faculty program is an approved selection of courses constituting a concentration in an intellectually coherent and inter-faculty field of studies. These courses must include approved selections from one of the following:

- The Faculties of Arts and of Science, and at least one other faculty
- The Faculty of Arts, and at least one faculty other than the Faculty of Science
- The Faculty of Arts currently recognizes the following Faculty Programs:
  - Industrial Relations
  - McGill School of Environment

SCIENCE MINOR PROGRAMS

Students wishing to register for a Minor program offered by the Faculty of Science must fulfil the Arts program requirements as indicated above, as well as complete any prerequisites for the additional program. Students so interested must write to the Associate Dean (Student Affairs), including with their request written approval from the Science Minor adviser.

6.3.6 Course Requirements

All required and complementary courses used to fulfil program requirements must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a required course must either pass the supplemental examination in the course or do additional work for a supplemental grade if these options are available, or repeat the course. Course substitution will be allowed only in special cases; students should consult their academic adviser.

Normally, students are permitted to repeat a failed course only once. (Failure is considered to be a grade of less than C or the administrative failures of J and KF.) If a required course is failed a second time, a student must appeal to the Associate Dean (Student Affairs) for permission to take the course a third time. If permission is denied by the Associate Dean and/or by the Committee on Student Standing, on appeal, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another appropriate complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once.

Full details of the course requirements for all programs offered are given in each unit's section together with the locations of departmental advisory offices, program directors and telephone numbers should further information be required.

6.3.6.1 Course Prerequisites

The Faculty of Arts does not prevent students from registering for courses if they do not have the required prerequisites. However, students who lack the prerequisite course must consult with the instructor of their course to ensure that they have the necessary background. Please note that other faculties may not allow registration without the required prerequisite courses.

6.3.6.2 Course Overlap

Students will not receive additional credit towards their degree for any course that overlaps in content with a course for which the student has already received credit at McGill, CEGEP, at another university, or Advanced Placement exams, Advanced Level results, International Baccalaureate Diploma, or French Baccalaureate. It is the student's responsibility to consult Arts OASIS or the department offering the course as to whether or not credit can be obtained and to be aware of exclusion clauses specified in the course description in the Calendar. Please refer to the following website for specific information about advanced standing credits and McGill course exemptions: www.mcgill.ca/student-records/transfercredits.

Credit for statistics courses will be given with the following stipulations:

- Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, PSYC 204, SOCI 350.
- Credit will be given for ONLY ONE of the following intermediate statistics courses: AEMA 411, ECON 227D1/D2, ECON 257D1/D2, GEOG 351, MATH 204, MGCR 272, PSYC 305, SOCI 461. Only when ECON 227D1/D2 is combined with PSYC 305, will credit be given for both courses.
- Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, PSYC 204, PSYC 305, SOCI 350.
- For 500-level statistics courses not listed above, students must consult a program adviser to ensure that no significant overlap exists. Where such overlap exists with a course for which the student has already received credit, credit for the 500-level course will not be allowed.
- PSYC 204 may not be taken if a grade of 75% was received in an equivalent course completed at CEGEP.

Credit for computer courses will be subject to the following restrictions:

- Credit for courses offered by the School of Computer Science is governed by rules specified in each individual course description.

6.3.6.3 Courses Outside the Faculties of Arts and of Science

The following regulations apply to students in the Faculty of Arts who wish to take courses outside the Faculties of Arts and of Science:

- Regardless of their minimum credit requirement towards their B.A. degree, students are allowed a maximum of 12 credits in

elective and/or complementary courses taken in faculties other than the Faculties of Arts and of Science.

- Students in certain designated programs that include a number of required and complementary courses in other faculties are permitted a maximum of 30 credits outside the Faculty of Arts and Science. These programs are as follows:

  Faculty programs:
  - Environment
  - Industrial Relations

  Minors:
  - Education for Arts students
  - Finance for non-Management students
  - Management for non-Management students
  - Marketing for non-Management students
  - Musical Applications of Technology
  - Musical Science and Technology
  - Operations Management for non-Management students

  Minor Concentrations:
  - Educational Psychology
  - Environment
  - Geography Urban Systems
  - Music

  Major Concentrations:
  - Geography Urban Systems
  - Music

  Honours:
  - Environment
  - Urban Systems

  Joint Honours:
  - Economics and Accounting
  - Economics and Finance
- Students who combine any two or more of the programs listed above may not exceed 40 credits outside the Faculty of Arts and of Science.
- Any courses taught at McGill University may be used towards the maximum allowed with the following exceptions:
  - Continuing Education: Continuing Education courses with a teaching unit that starts with C are not for credit (except for CHEM).
  - Distance Education: Refer to the "Policy on Distance Education Courses", see section 6.3.6.6.
- For the purpose of this policy, courses taught in other faculties and specifically listed in the Arts or Science section of the Calendar are considered as courses taught in the Faculties of Arts and of Science.
- For the purpose of this policy, all courses taken to fulfil the requirements for an approved field semester will be considered as courses in Arts or Science.
- The maximum number of credits allowed will be strictly enforced.

6.3.6.4 Inter-University Transfer Credit Policy for Courses Taken Outside the Faculties of Arts and of Science

Students who transfer from faculties outside the Faculties of Arts and of Science at another institution may transfer up to a maximum of 30 credits under the following conditions:

- Only courses passed with a grade of C or better will be transferred. Grades of C-, P or S are not acceptable. The letter grades applied by the former home institution take precedence over the numerical grades if provided.
- Decisions on whether a course is outside the Faculties of Arts and of Science will be based on the original faculty in which the course was taken.
- Refer to the "Policy on Distance Education Courses" in section 6.3.6.6.
- Transfer credits for Continuing Education courses will be granted only if the courses can be used towards a degree program in a faculty other than Continuing Education at the original university.
- Transfer students will be allowed to take courses outside the Faculties of Arts and of Science at McGill only if they have transferred fewer than 12 credits, and then only up to a maximum of 12 credits.
- Transfer students who register for a Faculty of Arts program that requires additional credits outside the Faculties of Arts and of Science will be allowed to take only the number of credits outside the Faculties of Arts and of Science required to complete the program. These programs are listed under section 6.3.6.3, "Courses Outside the Faculties of Arts and of Science".

6.3.6.5 Inter-Faculty Transfer Credit Policy for Courses Taken Outside the Faculties of Arts and of Science

Students will normally have counted for credit (for grades of D or better) and/or GPA (regardless of the grade) all courses in Arts and Science, and up to a maximum of 30 credits of courses outside of Arts and of Science.

- Transfer students will be allowed to take courses outside the Faculties of Arts and of Science at McGill only if they have transferred fewer than 12 credits, and then only up to a maximum of 12 credits.
- Transfer students who register for a Faculty of Arts program that requires additional credits outside the Faculties of Arts and of Science will be allowed to take only the number of credits outside the Faculties of Arts and of Science required to complete the program. These programs are listed under section 6.3.6.3, "Courses Outside the Faculties of Arts and of Science".

6.3.6.6 Policy on Distance Education Courses

A maximum of 6 credits of elective courses taught through distance education may be used towards the B.A. degree at McGill. Courses taught through distance education from institutions other than McGill will be approved as transfer credits under the following conditions:

- the course is given by a government-accredited, degree-granting institution acceptable to McGill;
- the course counts for credit towards degrees granted at the institution giving the course;
- prior approval for the course is obtained from Arts OASIS.

The combined total of regular course credits and distance education course credits may not exceed the permitted maximum number of credits per term according to Faculty regulations. Courses taught through distance education may not be used to complete program requirements, except on an individual basis when serious, documented circumstances warrant it. In such cases, prior approval must be obtained from the student's program adviser and the Associate Dean (Student Affairs).

6.3.6.7 Internship Courses

The Faculty of Arts offers internship courses for credit. For more information, refer to section 6.12.2, "Faculty of Arts Internship Program".

6.3.6.8 Courses Taken Under the Satisfactory/ Unsatisfactory Option

For more information and restrictions, please consult "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option" in section 3.3.6.

6.3.6.9 Courses in English as a Second Language (ESL)

ESL courses are only open to students whose primary language is not English and who have studied for fewer than five years in English-language secondary institutions. Students in the Faculty of Arts may take a maximum of 12 credits, including academic writing courses for non-anglophones.

6.3.6.10 Course Credit Weight

The credit assigned to a particular course should reflect the amount of effort it demands of the student. Normally, one credit will represent three hours total work per week for one term - including a combination of lecture hours, other contact hours, such as laboratory periods, tutorials, and problem periods, as well as personal study time.

6.4 Advising

Students who need 96 or fewer credits to complete their degree requirements must consult an academic adviser in their proposed department of study to obtain advice and approval of their course selection. To facilitate program planning, they must present their transcript and letter of admission. For a detailed description of advising and registration procedures, students should refer to *Welcome to McGill*, which they receive from Enrolment Services upon their acceptance, as well as the Arts OASIS website, www.mcgill.ca/oasis and departmental websites.

Students who need 97-120 credits to complete their degree requirements will normally be registered in a Freshman Program until they complete their first year. They must consult an adviser in Arts OASIS to obtain advice and approval of their course selection. For a detailed description of advising and registration procedures, Freshman students should refer to "Registration", in section 3.3 and "Advising and Support", in section 4, *Welcome to McGill*, which they receive upon acceptance from Enrolment Services, as well as the Arts OASIS website, www.mcgill.ca/oasis.

Academic advising for all returning students takes place in March for the upcoming academic year. For more information, students should refer to the Arts OASIS website, www.mcgill.ca/oasis.

6.5 Registration

All students register by Minerva, McGill's web-based registration system.

For detailed information about registration, please refer to "Registration" in section 3.3, W*elcome to McGill*, the Arts OASIS website, www.mcgill.ca/oasis, and to the Student Records website, www.mcgill.ca/student-records.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not re-register in the Faculty. However, students who can provide proof of extenuating circumstances that affected their academic performance may appeal to the Associate Dean (Student Affairs) for readmission. For more information, students should see section 3.3.13 "Readmission".

Students who have an outstanding fee balance from a previous term or outstanding fines will not be permitted to register. In addition, students who have registered for the upcoming academic year, but who subsequently take summer courses without paying the fees, will have their registration cancelled. Registration will be denied until these debts are paid in full. Students must pay all debts before the end of the registration period to be permitted to register. Students with financial problems should consult the Student Aid Office, Brown Student Services Building.

Students who decide not to return to McGill after initiating registration must withdraw from all of their courses on Minerva or inform Arts OASIS in writing. The deadline for withdrawal from the University is the same deadline as for a course withdrawal; see section 3.3.8 "Regulations Concerning Course Withdrawal" and section 3.3.9, "Regulations Concerning University Withdrawal". After the deadline, students may, under exceptional circumstances, be granted permission to withdraw from the University. Such students should contact Arts OASIS for further information.

6.5.1 Program Registration

Students should refer to *Welcome to McGill* or to the Arts Registration information on how to register for programs on the Arts OASIS website, www.mcgill.ca/oasis, and to the Student Records website, www.mcgill.ca/student-records. See section 6.11, "Programs in the Faculty" for a list of programs that can be taken by Arts students.

6.5.2 Course Registration

All courses have limited enrolment. Students in the Faculty of Arts may register for and take for credit any course, unless otherwise indicated, in the sections of the Calendar applicable to the Faculties of Arts and of Science, subject to the course restrictions listed in this section.

Since the registration system is unable to verify whether or not Faculty regulations are respected, it is technically possible to register for courses that may not be credited towards the B.A. When students' records are manually verified, however, any courses taken that violate the Faculty regulations will be flagged after the end of course change period as "not for credit towards the B.A." As a result, the students' expected date of graduation may be delayed.

Some courses may require special permission. Students should consult this Calendar and/or the Class Schedule at www.mcgill.ca/courses well in advance of the Course Change period to determine if permission is required of the instructor, the department, or the Faculty for any course they wish to take.

Students who believe they have valid reasons to take a course that may not be credited towards the B.A. must obtain the permission of the Associate Dean (Student Affairs).

6.5.2.1 Registration for First-Year Seminars

Registration for First-Year Seminars is limited to students in their first year of study at McGill, i.e., newly admitted students in U0 or U1. These courses are designed to provide a closer interaction with professors and better working relations with peers than is available in large introductory courses. These seminars endeavour to teach the latest scholarly developments and expose participants to advanced research methods. Registration is on a first-come, first-served basis. The maximum number of students in any seminar is 25, although some are limited to even fewer than that.

Students may take only one First-Year Seminar. Students who register for more than one will be obliged to withdraw from all but one of them. For a complete listing, please see "First-Year Seminars" in section 6.12.1.

The First-Year Seminars offered by the Faculty of Science are also open to Arts students. For a complete listing, please see "Registration for First-Year Seminars" in section 14.5.2.1.

6.5.2.2 Registration in Multi-Term Courses

Students who select a multi-term course are making a commitment to that course for its entirety. Students MUST register in the same section in all terms of a multi-term course. Credit will be jeopardized if students deliberately register in different sections of a multi-term course. A drop of the Winter term portion of a multi-term course in order to change sections is considered a withdrawal from the course. In exceptional cases, when circumstances are beyond the student's control, Arts OASIS may grant permission to change sections mid-way through a multi-term course. Students must make their request in writing to the Associate Dean (Student Affairs), citing their reason for the request. The request must also have the written support of the instructors of the sections involved and of the coordinator of the course (if applicable).

6.5.3 Apply to Graduate

For information, see section 3.9.2, "Apply to Graduate".

6.6 Grading and Credit

During the first week of lectures, each instructor will provide students with a written course outline. This information should include, where appropriate:

- whether there will be a final examination in the course;
- how term work will affect the final mark in the course;
- how term work will be distributed through the term;
- whether there will be a supplemental examination in the course, and if so, whether the supplemental exam will be worth 100% of the supplemental grade, or whether term work will be included in the supplemental grade (courses with formal final examinations *must* have supplementals).

6.6.1 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of "K" (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to Arts OASIS are as follows:

- students graduating in June:

Fall, Winter, and multi-term courses	April 30

- non-graduating students:

Fall courses	April 30
Winter and multi-term courses	July 30
Summer courses	November 30

Students' deadlines for submitting their work must be sufficiently in advance of these dates to ensure that the work can be graded and the mark submitted on time.

It is important to note that instructors may impose earlier deadlines than those listed above.

If marks to clear K's have not been submitted to Arts OASIS by the following deadlines, the K is automatically changed to a KF and counts as an F in the GPA:

- Fall: April 30
- Winter: July 30
- Summer: November 30

Students with a grade of K who have serious extenuating circumstances may request an extension of the K deadline (KE) from the Associate Dean (Student Affairs).

Please see "Grading and Grade Point Averages (GPA)" in section 3.5.3 for more information.

6.7 Examinations

Students should refer to "Examinations" in section 3.6 for information about final examinations and deferred examinations.

The exam schedules are posted on the McGill website, www.mcgill.ca, normally one month after the start of classes for the Tentative Exam Schedule, and two months after the start of classes for the Final Examination Schedule. Students should also refer to Arts OASIS website at www.mcgill.ca/oasis for more information.

Students are warned not to make travel arrangements to leave Montreal prior to the scheduled end of any examination period.

6.8 Supplemental Assessments

6.8.1 Supplemental Examinations

Students who wish to write supplemental examinations for certain courses must apply to Arts OASIS for permission via the Minerva Supplemental Exam Application module. The following conditions apply:

- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- special permission is required if students wish to write supplemental exams totalling more than 8 credits in any supplemental exam period;
- only one supplemental examination is allowed in a course;
- the supplemental result may count for 100% of the final grade or may include the same proportion of class work as did the original grade; the instructor will announce the arrangements to be used for the course by the end of the course change period;
- the format and content of the supplemental examination will not necessarily be the same as for the final examination, so students should consult the instructor;
- the supplemental result will not erase the grade originally obtained; both the original mark and the supplemental result will be calculated in the CGPA;
- additional credit will not be given for a supplemental exam where the original grade for the course was a D and the student already received credit for the course;
- students must apply to write a supplemental exam; the deadline for submission of applications is March 1 for Fall courses and July 30 for Winter courses and courses spanning Fall/Winter; a non-refundable fee for each supplemental paper is payable at the time of application; supplemental examination applications are available on Minerva; the module is available as of January 29, 2008;
- students must write supplemental exams at the time of the next supplemental examination period (for Fall courses in May, and for Winter courses and courses spanning Fall/Winter in August for the Faculties of Arts and of Science);
- supplemental examinations in courses outside the Faculty of Arts are subject to the deadlines, rules, and regulations of the relevant faculty;
- no supplemental examinations are available for students who fail to achieve satisfactory grades in deferred examinations.

Students who register for a supplemental examination and subsequently find themselves unprepared for it should not write it; except for the loss of the registration fee, there is no penalty for not writing a supplemental examination. Students should consult Arts OASIS for further information.

6.8.2 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner.

The Faculty of Arts recognizes two types of reassessments or rereads:

- reassessment of coursework (term papers, mid-terms, assignments, quizzes, etc.);
- reread of a final exam.

In both cases, rather than recorrect the work and then grade it as they would have done themselves, reviewers assess the appropriateness of the original grade based, for example, on the application of the grading key to the student's work. If a grade is deemed unfair, it is changed, whether the new grade is higher or lower than the original - i.e., the reviewer's grade takes precedence over the original grade.

Reassessment of Coursework

These reassessments are administered and conducted solely by the units involved according to procedures specified by the units and made available to staff and students. Requests for such

reassessments must be made within 10 working days of the date of return of the graded materials. Reassessments should normally be completed within 20 working days of the request.

Rereads of Final Exams

These rereads are administered by Arts OASIS, but conducted by the units involved. Students must apply in writing to Arts OASIS by March 31 for courses in the Fall term and by September 30 for courses in the Winter or Summer terms (these deadlines are strictly enforced and no requests will be accepted past them). Students are assessed a fee of $35.00 for such rereads. It is strongly recommended, but not required, that students consult with the instructor of the course before requesting a reread of a final exam.

Reassessments and rereads in courses not in the Faculty of Arts are subject to the deadlines, rules, and regulations of the relevant faculty.

6.9 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing is assessed in January for the Fall term, in May for the Winter term, and in September for the Summer term. Academic standing in each term determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall-term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standings for the Fall term that are designated as "interim" should be interpreted as advisory. Note that interim standings will not appear on external transcripts. **Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.**

Interim Satisfactory/Satisfactory Standing

Students in interim satisfactory or satisfactory standing:

- may continue in their program;
- have a CGPA of 2.00 or greater.

Interim Probationary/Probationary Standing

Students in interim probationary standing (at the end of the Fall term):

- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- are strongly advised to consult a departmental adviser about their course selection, and their Faculty adviser to discuss degree planning.

Students in probationary standing:

- may continue in their program;
- must carry a reduced load (maximum 14 credits per term);
- must raise their CGPA to return to satisfactory standing (see above);
- should see their departmental adviser about their course selection, and their Faculty adviser to discuss degree planning.

Students will be placed in probationary standing:

- if their CGPA falls between 1.50 and 1.99 and if they were previously in satisfactory standing;
- if their CGPA falls between 1.50 and 1.99 and their TGPA in Fall or Winter is 2.50 or higher, and if they were previously in probationary or interim unsatisfactory standing;
- if they were previously in unsatisfactory readmitted standing and have satisfied the relevant conditions specified in their letter of readmission, but their CGPA is still less than 2.00.

Unsatisfactory Readmitted Standing

Students in unsatisfactory readmitted standing:

- were previously in unsatisfactory standing and were readmitted by the Associate Dean (Student Affairs) or the Committee on Student Standing;
- must meet the conditions specified in their letter of readmission to be allowed to continue in their program;
- should see their departmental adviser to discuss their course selection, and their Faculty adviser to discuss degree planning.

Interim Unsatisfactory/Unsatisfactory Standing

Students in interim unsatisfactory standing (at the end of the Fall term):

- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- are strongly advised to consult an academic adviser about their course selection and their Faculty adviser to discuss degree planning.

Students in unsatisfactory standing:

- have failed to meet the minimum standards set by the faculties;
- may not continue in their program, and their registration will be cancelled.

Students will be placed in unsatisfactory standing:

- if their CGPA falls or remains below 1.50;
- if their TGPA in the Fall or Winter falls below 2.50 and their CGPA is below 2.00 and if they were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing;
- if they were previously in unsatisfactory standing and were readmitted to the Faculty by the Associate Dean (Student Affairs) or the Committee on Student Standing but have not satisfied the conditions specified in the letter of readmission.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Associate Dean (Student Affairs) no later than July 15 for readmission to the Fall term and November 15 for the Winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students in unsatisfactory standing for the second time must withdraw permanently.

Normally, supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Associate Dean (Student Affairs) for permission to write a supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

Incomplete Standings

- Standing awaits deferred exam.
- Must clear K's, L's or Supplementals.
- Standing Incomplete.

Students with incomplete standings (in the Winter or Summer term):

- may register for the Fall term, but their standing must be resolved by the end of the course change period for that term;
- may continue in the program if incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing;
- may not continue in their program and their registration will be cancelled if standing changes to unsatisfactory standing.

Students whose standing changes to unsatisfactory:

- may ask for permission to continue in their program;

- must make a request for readmission to the Associate Dean (Student Affairs) as soon as they are placed in unsatisfactory standing;
- must provide proof of extenuating circumstances that affected academic performance (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of course change period should immediately consult with Arts OASIS.

At the end of the Winter term, students with a mark of K or L will be placed in the appropriate standing in June, if the outstanding mark in the course will not affect their standing. Otherwise, standing decisions will be made only once incomplete marks have been cleared. For more information about incomplete grades, please refer to "Incomplete Grades" in section 6.6.1.

6.10 Awards and Honorary Designations

6.10.1 Honours and First-Class Honours

Departments may recommend to the Faculty that graduating students registered in an Honours program be awarded *Honours* or *First-Class Honours* under the following conditions only:

- students must complete all requirements imposed by the department;
- for *Honours*, the CGPA at graduation must be at least 3.00;
- for *First-Class Honours,* the CGPA at graduation must be 3.50 or better*;*
- some departments have additional requirements which must be met before students are recommended for *Honours* or *First-Class Honours* (see the departmental entries).

Students in an Honours program whose program GPA or CGPA is below 3.00, or who did not satisfy certain additional program requirements, must consult their adviser to determine if they are eligible to graduate in a program other than Honours.

6.10.2 Dean's Honour List

For information on the designation of Dean's Honour List awarded at graduation, see section 3.9.1.1 "Dean's Honour List".

The designation *Dean's Honour List* may be awarded at the end of each academic year to continuing students under the following conditions:

- students must have completed at least 27 graded credits during the academic year to be considered;
- students must be among the top 10% of the Faculty. This calculation is based on the sessional GPA (i.e. the combined GPA for the Fall and Winter terms).

6.10.3 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 "Distinction".

6.10.4 Medals and Prizes

Various medals, scholarships, and prizes are open to continuing and graduating students. Full details of these are set out in the *Undergraduate Scholarships and Awards Calendar,* available at www.mcgill.ca/courses. Application may be required for some scholarships.

6.11 Programs in the Faculty

6.11.1 Major Concentrations

African Studies, page 127
Anthropology, page 129
Art History, page 132
Canadian Studies, page 135
Classics, page 138
Computer Science, page 140
East Asian Studies, page 143
Economics, page 147
English – Literature, page 151
English – Drama and Theatre, page 151
English – Cultural Studies, page 151
Geography, page 161
Geography (Urban Systems), page 161
German Language and Literature, page 165
German Literature and Culture, page 166
German Studies, Contemporary, page 165
Hispanic Languages, page 168
Hispanic Literature and Culture, page 168
History, page 170
Humanistic Studies, page 172
International Development Studies, page 173
Italian Civilization, page 176
Italian Language and Literature, page 176
Jewish Studies, page 178
Langue et littérature françaises – Études et pratiques littéraires, page 156
Langue et littérature françaises – Traduction, page 157
Latin-American Studies, page 181
Linguistics, page 183
Mathematics, page 186
Middle East Studies, page 187
Music, page 189
North American Studies, page 191
Philosophy, page 193
Philosophy and Western Religions, page 195
Political Science, page 201
Psychology, page 203
Quebec Studies, page 206
Russian, page 213
Scriptures and Interpretations – see Religious Studies (Arts), page 209
Sociology, page 221
Software Engineering – see Computer Science, page 140 – **new**
Women's Studies, page 223
World Religions – see Religious Studies (Arts), page 209

6.11.2 Faculty Programs

Industrial Relations, page 173
Environment – see McGill School of Environment, page 306

6.11.3 Honours Programs

Anthropology, page 129
Art History, page 132
Canadian Studies, page 135
Classics, page 139
East Asian Studies, page 144
Economics, page 147
English (Literature), page 152
English (Drama and Theatre), page 152
English (Cultural Studies), page 152

Environment – see McGill School of Environment, page 323
Geography, page 162
Geography – Urban Systems, page 162
German Studies, page 166
Hispanic Studies, page 168
History, page 170
International Development Studies, page 173
Italian Studies (Literature), page 176
Jewish Studies, page 178
Langue et littérature françaises – Études et pratiques littéraires, page 158
Langue et littérature françaises – Traduction, page 158
Latin American and Caribbean Studies – Area, page 182
Latin American and Caribbean Studies – Thematic, page 182
Linguistics, page 184
Mathematics, page 440
Middle East Studies, page 187
Philosophy, page 193
Philosophy and Western Religions, page 196
Political Science, page 201
Psychology, page 204
Religious Studies – Asian Religions, page 210
Religious Studies – Western Religions, page 210
Russian, page 213
Sociology, page 221
Women's Studies, page 225

6.11.4 Joint Honours Programs

There are two types of Joint Honours Programs available in the Faculty of Arts:

- fully integrated programs such as Mathematics and Computer Science.
- programs that are created by combining the Joint Honours program components from two Arts disciplines. Students must register for both Joint Honours program components. Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Students can choose Joint Honours program components from **any two** of the following disciplines:

Accounting (can only be combined with Economics), page 148
Anthropology, page 130
Art History, page 132
Canadian Studies, page 135
Classics, page 139
East Asian Studies, page 145
Economics, page 148
English – Cultural Studies, page 153
English – Drama and Theatre, page 153
English – Literature, page 153
Finance (can only be combined with Economics), page 148
Geography, page 163
German Studies, page 166
Hispanic Studies, page 169
History, page 170
International Development Studies, page 174
Italian Studies, page 176
Jewish Studies, page 179
Langue et littérature françaises – Études et pratiques littéraires, page 159
Langue et littérature françaises – Traduction, page 159
Linguistics, page 184
Mathematics, page 186
Middle East Studies, page 187
Philosophy, page 194
Philosophy and Western Religions, page 196
Political Science, page 202
Psychology, page 204
Religious Studies, page 211
Russian, page 214
Sociology, page 222
Women's Studies, page 226

6.11.5 Minor Concentrations

African Studies, page 127
Anthropology, page 129
Art History, page 132
Behavioural Science – see Psychology, page 203
Canadian Ethnic and Racial Studies, page 134
Canadian Studies, page 135
Catholic Studies, page 137
Classics, page 138
Communication Studies, page 133
Comparative Politics – see Political Science, page 200
Computer Science, page 140
East Asian Language and Literature, page 141
East Asian Cultural Studies, page 142
East Asian Studies, Advanced, page 143
Economics, page 146
Educational Psychology, page 149
Education for Arts Students, page 149
English – Literature, page 150
English – Drama and Theatre, page 150
English – Cultural Studies, page 151
Environment – see McGill School of Environment, page 306
Finance for Non-Management Students – see Desautels Faculty of Management, page 337
Geographical Information Systems, page 160
Geography, page 160
Geography (Urban Systems), page 161
German Language, page 164
German Literature, page 164
German Literature and Culture in Translation, page 164
Hispanic Languages, page 167
Hispanic Literature and Culture, page 168
History, page 170
History and Philosophy of Science, page 171
Humanistic Studies, page 172
International Development Studies, page 173
International Relations – see Political Science, page 200
Islamic Studies, page 175
Italian Language and Literature, page 176
Italian Civilization, page 176
Jewish Studies, page 178
Jewish Law, page 178
Langue et littérature françaises – Critique littéraire, page 156
Langue et littérature françaises – Études et pratiques littéraires, page 155
Langue et littérature françaises – Langue française, page 155
Langue et littérature françaises – Langue française et traduction, page 155
Langue et littérature françaises – Traduction, page 156
Linguistics, page 183
Management for Non-Management Students – see Desautels Faculty of Management, page 337
Marketing for Non-Management Students – see Desautels Faculty of Management, page 338
Mathematics, page 185
Middle East Studies, page 187
Middle East Languages, page 187
Music, page 189
Musical Applications of Technology – see Schulich School of Music, page 365 – **new**
Musical Science and Technology – see Schulich School of Music, page 365 – **new**
North American Studies, page 190

Operations Management for Non-Management Students – see Desautels Faculty of Management, page 338
Philosophy, page 192
Philosophy and Western Religions, page 195
Political Science, page 198
Political Science: Canada/Québec, page 199
Political Theory – see Political Science, page 200
Political Economy – see Political Science, page 201
Politics, Law and Society – see Political Science, page 201
Psychology, page 203
Quebec Studies, page 205
Russian, page 212
Russian Culture, page 213
Science for Arts Students, page 214
Scriptural Languages – see Religious Studies, page 208
Sexual Diversity Studies, page 217
Social Studies of Medicine, page 218
Sociology, page 221
South Asia – see Political Science, page 201
Statistics – see Mathematics and Statistics, page 186
Supplementary Minor Concentration in Computer Science, page 140
Supplementary Minor Concentration in Mathematics, page 185 – **new**
Women's Studies, page 222
World Religions – see Religious Studies, page 207

6.12 Academic Programs

6.12.1 First-Year Seminars

See Course section for descriptions.

FREN 199 FYS: Littérature française
GERM 197 FYS: Images of Otherness
HIST 195 FYS: Sources of World History
HIST 197 FYS: Race in Latin America
HIST 198 FYS: Nation Building and Nationalism
SSMD 199 FYS: Mind-Body Medicine

6.12.2 Faculty of Arts Internship Program

Several departments in the Faculty of Arts offer undergraduate students the opportunity to earn university credit while gaining experience in areas relevant to their fields of study. Open to U2 and U3 students, normally after completing 30 credits of a 90 credit program or 45 credits of a 96 to 120 credit program, normally with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. Arts internships involve a minimum of 150 hours of work with an approved host institution or organization. Students are required to submit a major topical paper that discusses an aspect of the internship from an academic perspective.

For more information about the Faculty of Arts Internship Program, please refer to www.mcgill.ca/arts-internships.

6.12.3 Field Studies and Study Abroad Programs

The Faculty of Arts offers students many field studies and study abroad opportunities. For more information, please refer to section 15, "Field Studies and Study Abroad" of this Calendar.

6.12.4 African Studies Program (AFRI)

General Inquiries:
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/africanstudies

Adviser: Monica Hotter

Program Chair — J. Galaty (*Anthropology*)

Program Committee:
G. Campbell (*History*); C. Chapman (*Anthropology/MSE*); K. Fallon (*Sociology*); J. Jorgensen (*Desautels Faculty of Management*); M. Lange (*Sociology*); K. Medani (*Political Science*); T. Meredith (*Geography*); M. Popescu (*English*); J. Unruh (*Geography*)

MINOR CONCENTRATION IN AFRICAN STUDIES
(Expandable) (18 credits)

A Minor Concentration in African Studies is available for those students majoring in a discipline of the Faculty of Arts who wish to acquire interdisciplinary knowledge of Africa.

Required Course (3 credits)
AFRI 598 Research Seminar in African Studies

Complementary Courses (15 credits)
To be selected from the courses listed below. Priority should be given to key African courses, designated with an asterisk (*), whenever they are offered.

MAJOR CONCENTRATION IN AFRICAN STUDIES (36 credits)

The Major Concentration in African Studies provides students with an interdisciplinary approach to the study of the African continent.

Students wishing to major in African Studies should consult the Program Adviser at the beginning of their first academic year. In the African Studies Major Concentration, students will be encouraged to identify an area within a discipline of the Faculty, taking as many relevant courses as possible in that field.

Required Course (3 credits)
AFRI 598 Research Seminar in African Studies

Complementary Courses (33 credits)
To be selected from the courses listed below. Priority should be given to key African courses, designated with an asterisk (*), whenever they are offered.

COMPLEMENTARY COURSE LIST

These courses are either on African subjects or have significant African content.
If courses listed below are not available in any particular year, modifications to the Programs may be made with the approval of the Program Adviser.

Students who wish to obtain program credit for other courses with African content, should seek approval from the Program Adviser. African content may be found in certain courses offered in Islamic Studies and Religious Studies.

African Studies
ARFI 401 (3) Swahili Language and Culture
AFRI 480 (3) Special Topics 01
AFRI 481 (3) Special Topics 02
AFRI 499 (3) Arts Internships: African Studies

Anthropology
ANTH 212 (3) Anthropology of Development
ANTH 301 (3) Nomadic Pastoralists
ANTH 321* (3) Peoples and Cultures of Africa
ANTH 322* (3) Social Change in Modern Africa
ANTH 335 (3) Ancient Egyptian Civilization
ANTH 345 (3) Prehistory of Africa

ANTH 412	(3)	Topics: Anthropological Theory
ANTH 439	(3)	Theories of Development
ANTH 445	(3)	Property and Land Tenure

Economics

ECON 208	(3)	Microeconomic Analysis and Applications
ECON 313	(3)	Economic Development 1
ECON 416	(3)	Topics in Economic Development 2

English

ENGL 352	(3)	Theories of Difference
ENGL 421*	(3)	African Literature

French

FREN 312	(3)	Francophonie 2

Geography

GEOG 216	(3)	Geography of the World Economy
GEOG 408	(3)	Geography of Development
GEOG 410	(3)	Geography of Underdevelopment: Current Problems

History

HIST 200*	(3)	Introduction to African History
HIST 201*	(3)	Modern African History
HIST 374	(3)	West Africa Since 1800
HIST 381	(3)	Colonial Africa: Health/Disease
HIST 382	(3)	History of South Africa
HIST 396	(3)	Disease in Africa Since 1960
HIST 486D1	(3)	Topics: African Social History
HIST 486D2	(3)	Topics: African Social History

Islamic Studies

ISLA 410	(3)	History: Middle-East 1798-1918
ISLA 521D1	(4.5)	Introductory Arabic
ISLA 521D2	(4.5)	Introductory Arabic

Political Science

POLI 227	(3)	Developing Areas/Introduction
POLI 300D1	(3)	Developing Areas/Revolution
POLI 300D2	(3)	Developing Areas/Revolution
POLI 471	(3)	Democracy in the Modern World
POLI 472	(3)	Developing Areas/Social Movements
POLI 522	(3)	Seminar: Developing Areas

Sociology

SOCI 370	(3)	Sociology: Gender & Development
SOCI 484	(3)	Emerging Democratic States
SOCI 550	(3)	Developing Societies

AFRICAN FIELD STUDY SEMSTER See "African Field Study Semester" in section 15.3.1 for details of the 15-credit interdisciplinary AFSS.

6.12.5 Anthropology (ANTH)

Stephen Leacock Building, Room 717
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-4300
Fax: 514-398-7476
Website: www.mcgill.ca/anthropology

Chair — Michael S. Bisson

Professors
Donald W. Attwood; B.A.(Calif.), Ph.D.(McG.) (*on sabbatical 2009-10*)
Laurel Bossen; B.A.(Barnard), M.A., Ph.D.(SUNY, Albany) (*on leave 2009*)
Colin Chapman; B.Sc., M.A., Ph.D.(Alta.) (*joint appoint. with McGill School of Environment*)
Ronald W. Niezen; B.A.(Br. Col.), M.Phil., Ph.D.(Camb.)
Jérôme Rousseau; B.Sc., M.A.(Montr.), Ph.D.(Camb.)
Philip Carl Salzman; B.A.(Antioch), M.A., Ph.D.(Chic.)
Allan Young; B.A.(Penn.), M.A.(Wash.), Ph.D.(Penn.) (*joint appoint. with Social Studies of Medicine*)

Associate Professors
Michael S. Bisson; B.A., Ph.D.(Calif.) (*on sabbatical 2009-10*)
André Costopoulos; B.A.(McG.), M.A.(Montr.), Ph.D.(Oulu)
John G. Galaty; B.A.(Trin. Coll., Hartford), M.A., Ph.D.(Chic.)
Sandra T. Hyde; B.A.(Calif., Santa Cruz), M.P.H.(Hawaii, Pac.), Ph.D.(Calif., Berk.)
Carmen Lambert; B.A.(Montr.), M.A., Ph.D.(McG.)
Kristin Norget; B.A.(Vic. (BC)), M.Phil., D.Phil.(Cant.)
James M. Savelle; B.Sc., M.Sc.(Ott.), M.A.(Ark.), Ph.D.(Alta.)
Colin H. Scott; B.A.(Regina), M.A., Ph.D.(McG.)

Assistant Professors
Nicole C. Couture; B.A.(Trent), M.A., Ph.D.(Chic.)
Eduardo Kohn; B.A.(Oberlin), M.A., Ph.D.(Wis.)
Setrag Manoukian; B.A.(Venice), M.A., Ph.D.(Mich.) (*joint appoint. with Islamic Studies*)
Margaret E. Stevenson; B.A.(N. Carolina), Ph.D.(Calif., Berk.)
Ismael Vaccaro; M.A., Ph.D.(Wash.) (*joint appoint. with MSE*)

Associate Member
Ellen Corin; Ph.D.(Louvain)
Tobias Rees; M.A.(Eberhard Karls-Universitat Tubingen), Diploma in Neuropharmacology(Inst. Pasteur, Paris, France), Ph.D.(Calif., Berk.)

Adjunct Member
Vinh-Kim Nguyen; B.Sc.(McG.), M.D.(Montr.), M.A., Ph.D.(McG.)
Nadia Ferrara; B.A.(C'dia), M.A.(Vermont College), M.Sc.(McG.), Ph.D.(Montr.)

The Honours Program and Major Concentration in Anthropology emphasize the similarity and diversity of human behaviour, understanding of social and cultural systems, and the processes of socio-cultural change from human origins to the present day. Within Anthropology, the Department concentrates on the fields of Archaeology and Socio-Cultural Anthropology.

Our programs serve as a useful background for those who are planning a career in law, medicine, foreign service, community organization, public administration, journalism, and teaching and research in social sciences and humanities. The Multi-track Major and Minor Concentrations provide students with a solid grounding in anthropology as a whole, or in selected topical or sub-disciplinary areas, while allowing students to follow programs in other departments that suit their needs and interests. The Honours program provides a greater focus on Anthropology with substantial breadth and depth. The completion of an Honours program is an asset when applying to graduate or professional schools.

Students should have a CGPA of at least 3.30 to register in an Honours or Joint Honours Program after their first year, and maintain it to graduate with an Honours Degree. Graduation with a First Class Honours or Joint Honours Degree requires a CGPA of 3.50 or better.

CORE COURSES

Core courses in Anthropology (350-level) provide students with essential knowledge of method and theory. They are more intensive than other 300-level courses, and are **restricted to Anthropology program students in U2 standing or above**.

ANTHROPOLOGY MINOR CONCENTRATIONS

The Minor Concentration in Anthropology consists of 18 credits (six 3-credit courses) in the discipline and is designed to complement students' study in related disciplines or in interdisciplinary programs. The degree may enhance the employment profile of graduating students wishing to work in social services, in multicultural or multiethnic settings, in international development, aboriginal history, museum work, or in educational or media related professions.

Students should register in the Minor Concentration prior to their second year of study at McGill. No credits taken in a Minor may overlap with another degree program. The Minor Concentration may be expanded into the single Anthropology Major Concentration.

The **Minor Concentration in Anthropological Archaeology** and the **Minor Concentration in Socio-Cultural Anthropology**

were retired at the end of 2004. Students enrolled in either one at that time should consult with a Departmental adviser.

MINOR CONCENTRATION IN ANTHROPOLOGY (Expandable) (18 credits)

The Minor Concentration in Anthropology permits students to explore the development and diversity of human beings and human society and culture through courses in human evolution, prehistoric archaeology and socio-cultural anthropology. Students may include courses in all of these fields, or may focus on one or two.

Complementary Courses (18 credits)

6 to 9 credits from the following list:

ANTH 201 (3) Prehistoric Archaeology
ANTH 202 (3) Comparative Cultures
ANTH 203 (3) Human Evolution
ANTH 204 (3) Anthropology of Meaning
ANTH 205 (3) Cultures of the World
ANTH 206 (3) Environment and Culture
ANTH 207 (3) Ethnography through Film
ANTH 208 (3) Evolutionary Anthropology
ANTH 209 (3) Anthropology of Religion
ANTH 212 (3) Anthropology of Development
ANTH 214 (3) Violence, Warfare, Culture
ANTH 221 (3) Introduction to Urban Anthropology
ANTH 222 (3) Legal Anthropology
ANTH 227 (3) Medical Anthropology

3 credits from either one of the following area groups:

Ethnography
ANTH 306 (3) Native Peoples' History in Canada
ANTH 315 (3) Society/Culture: East Africa
ANTH 321 (3) Peoples and Cultures of Africa
ANTH 322 (3) Social Change in Modern Africa
ANTH 326 (3) Peoples of Central and South America
ANTH 327 (3) Peoples of South Asia
ANTH 329 (3) Modern Chinese Society and Change
ANTH 337 (3) Mediterranean Society and Culture
ANTH 338 (3) Native Peoples of North America
ANTH 340 (3) Middle Eastern Society and Culture
ANTH 415 (3) Problems in African Anthropology
ANTH 416 (3) Environment/Development: Africa
ANTH 422 (3) Contemporary Latin American Culture & Society
ANTH 427 (3) Social Change in South Asia
ANTH 436 (3) North American Native Peoples
ANTH 500 (3) Chinese Diversity & Diaspora

Archaeology
ANTH 305 (3) Arctic Prehistory
ANTH 309 (3) Prehistory of Northern Europe
ANTH 317 (3) Prehistory of North America
ANTH 319 (3) Inka Arch. & Ethnohistory
ANTH 331 (3) Prehistory of East Asia
ANTH 335 (3) Ancient Egyptian Civilization
ANTH 345 (3) Prehistory of Africa
ANTH 347 (3) Paleolithic Cultures
ANTH 348 (3) Early Prehistory: New World

6 to 9 credits from any 300-, 400-, or 500-level Anthropology courses.

MAJOR CONCENTRATION

The Major Concentration is especially appropriate for students who aim to take courses across several sub-disciplinary or topical concentrations, and for whom specialization is premature. There are no prerequisites for admission to the Major Concentration in Anthropology. Students are encouraged to take a course in quantitative methods (listed under the Honours program below), but this course cannot count as part of this Concentration.

MAJOR CONCENTRATION IN ANTHROPOLOGY (36 credits)

Complementary Courses (36 credits)

6 credits selected from the 200-level courses in Anthropology.

6 credits, two Core courses (350-level) selected from:

ANTH 352 (3) History of Anthropological Theory
ANTH 355 (3) Theories of Culture and Society
ANTH 357 (3) Archaeological Methods
ANTH 358 (3) The Process of Anthropological Research
ANTH 359 (3) History of Archaeological Theory

6 credits, two Area courses selected from:

Ethnography
ANTH 306 (3) Native Peoples' History in Canada
ANTH 315 (3) Society/Culture: East Africa
ANTH 321 (3) Peoples and Cultures of Africa
ANTH 322 (3) Social Change in Modern Africa
ANTH 326 (3) Peoples of Central and South America
ANTH 327 (3) Peoples of South Asia
ANTH 329 (3) Modern Chinese Society and Change
ANTH 337 (3) Mediterranean Society and Culture
ANTH 338 (3) Native Peoples of North America
ANTH 340 (3) Middle Eastern Society and Culture
ANTH 415 (3) Problems in African Anthropology
ANTH 416 (3) Environment/Development: Africa
ANTH 422 (3) Contemporary Latin American Culture & Society
ANTH 427 (3) Social Change in South Asia
ANTH 436 (3) North American Native Peoples
ANTH 500 (3) Chinese Diversity & Diaspora

Archaeology
ANTH 305 (3) Arctic Prehistory
ANTH 309 (3) Prehistory of Northern Europe
ANTH 317 (3) Prehistory of North America
ANTH 319 (3) Inka Arch. & Ethnohistory
ANTH 331 (3) Prehistory of East Asia
ANTH 335 (3) Ancient Egyptian Civilization
ANTH 345 (3) Prehistory of Africa
ANTH 347 (3) Paleolithic Cultures
ANTH 348 (3) Early Prehistory: New World
ANTH 552 (3) Problems: Prehistory North Eastern America

6 credits, two 400-level Anthropology courses.

12 credits of additional Anthropology courses of which no more than 6 credits may be at the 200-level.

HONOURS IN ANTHROPOLOGY (60 credits)

The course selection for the program must satisfy the following requirements:	
300- and 400-level courses in other departments (subject to departmental approval)	max. 9 credits
Complementary courses (max. 21 credits at the 200-level)	max. 36 credits
Core courses (350-level)	min. 9 credits
400-level courses in Anthropology	min. 9 credits
Honours thesis	6 credits

Students can take a maximum of 9 credits at the 300-level or above given by other departments, if they are directly related to their focus of study within Anthropology and are approved by their adviser in the Anthropology Department.

Honours students must maintain a GPA of 3.30 in their program courses and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Complementary Courses (60 credits)

a. 300 and 400 LEVEL in up to 2 other departments - maximum 9 credits with departmental approval

b. 200-/300-LEVEL - maximum of 36 credits (of which a maximum of 21 credits can be at the 200-level) from the following:

ANTH 201 (3) Prehistoric Archaeology
ANTH 202 (3) Comparative Cultures
ANTH 203 (3) Human Evolution
ANTH 204 (3) Anthropology of Meaning
ANTH 205 (3) Cultures of the World
ANTH 206 (3) Environment and Culture
ANTH 207 (3) Ethnography through Film
ANTH 208 (3) Evolutionary Anthropology
ANTH 209 (3) Anthropology of Religion
ANTH 212 (3) Anthropology of Development
ANTH 214 (3) Violence, Warfare, Culture
ANTH 221 (3) Introduction to Urban Anthropology
ANTH 222 (3) Legal Anthropology
ANTH 227 (3) Medical Anthropology
ANTH 301 (3) Nomadic Pastoralists
ANTH 302 (3) New Horizons in Medical Anthropology
ANTH 303 (3) Ethnographies of Post-socialism
ANTH 305 (3) Arctic Prehistory
ANTH 306 (3) Native Peoples' History in Canada
ANTH 308 (3) Political Anthropology 01
ANTH 309 (3) Prehistory of Northern Europe
ANTH 310 (3) Anthropology of the Arts
ANTH 311 (3) Primate Behaviour and Ecology
ANTH 312 (3) Zooarchaeology
ANTH 313 (3) Early Civilizations
ANTH 314 (3) Psychological Anthropology 01
ANTH 315 (3) Society/Culture: East Africa
ANTH 316 (3) Anthropology of Complex Societies
ANTH 317 (3) Prehistory of North America
ANTH 319 (3) Inka Archaeology & Ethnohistory
ANTH 320 (3) Social Evolution
ANTH 321 (3) Peoples and Cultures of Africa
ANTH 322 (3) Social Change in Modern Africa
ANTH 324 (3) Economic Anthropology 01
ANTH 326 (3) Peoples of Central and South America
ANTH 327 (3) Peoples of South Asia
ANTH 329 (3) Modern Chinese Society and Change
ANTH 331 (3) Prehistory of East Asia
ANTH 333 (3) Class and Ethnicity
ANTH 334 (3) Kinship and Social Structure
ANTH 335 (3) Ancient Egyptian Civilization
ANTH 336 (3) Ethnohistory: North Eastern North America
ANTH 337 (3) Mediterranean Society and Culture
ANTH 338 (3) Native Peoples of North America
ANTH 339 (3) Ecological Anthropology
ANTH 340 (3) Middle Eastern Society and Culture
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 344 (3) Quantitative Approaches to Anthropology
ANTH 345 (3) Prehistory of Africa
ANTH 346 (3) Development in Agrarian Societies
ANTH 347 (3) Paleolithic Cultures
ANTH 348 (3) Early Prehistory: New World
ANTH 380 (3) Special Topic 1
ANTH 381 (3) Special Topic 2
ANTH 382 (3) Special Topic 3
ANTH 383 (3) Special Topic 4

c. CORE COURSES - minimum 9 credits from the following:
ANTH 352 (3) History of Anthropological Theory
ANTH 355 (3) Theories of Culture and Society
ANTH 357 (3) Archaeological Methods
ANTH 358 (3) The Process of Anthropological Research
ANTH 359 (3) History of Archaeological Theory

d. 400-/500-LEVEL - minimum 9 credits from the following:
ANTH 401 (3) Comparative Anthropology
ANTH 402 (3) Topics in Ethnography 1
ANTH 403 (3) Current Issues in Archaeology
ANTH 404 (3) Topics in Psychological Anthropology
ANTH 405 (3) Topics in Ethnography 2
ANTH 407 (3) Anthropology of the Body
ANTH 412 (3) Topics: Anthropological Theory
ANTH 413 (3) Gender in Archaeology
ANTH 416 (3) Environment/Development: Africa
ANTH 418 (3) Environment and Development
ANTH 419 (3) Archaeology of Hunter-Gatherers
ANTH 420 (3) Lithic Technology and Analysis
ANTH 422 (3) Contemporary Latin American Culture & Society
ANTH 430 (3) Symbolic Anthropology 01
ANTH 431 (3) Problems in East Asian Archaeology
ANTH 436 (3) North American Native Peoples
ANTH 438 (3) Topics in Medical Anthropology
ANTH 439 (3) Theories of Development
ANTH 440 (3) Cognitive Anthropology
ANTH 443 (3) Medical Anthropological Theory
ANTH 445 (3) Property and Land Tenure
ANTH 461 (3) Research Techniques
ANTH 480 (3) Special Topic 5
ANTH 481 (3) Special Topic 6
ANTH 482 (3) Special Topic 7
ANTH 483 (3) Special Topic 8
ANTH 484 (3) Special Topic 9
ANTH 485 (3) Special Topic 10
ANTH 500 (3) Chinese Diversity & Diaspora
ANTH 511 (3) Computational Approaches to Prehistory
ANTH 540 (3) Topics in Anthropological Theory
ANTH 551 (3) Advanced Topics: Archaeological Research
ANTH 555 (3) Advanced Topics in Ethnology
ANTH 575 (3) Concepts of Race

e. HONOURS THESIS - 6 credits from the following:
ANTH 490 (6) Honours Thesis 1
ANTH 491 (6) Honours Thesis 2
ANTH 492 (6) Honours Thesis
ANTH 492D1(3) Honours Thesis
ANTH 492D2(3) Honours Thesis
ANTH 492N1(3) Honours Thesis
ANTH 492N2(3) Honours Thesis

JOINT HONOURS – ANTHROPOLOGY COMPONENT (36 credits)

Joint Honours program (Anthropology portion)	36 credits
200-level courses in Anthropology	max. 12 credits
300-level courses in Anthropology	min. 6 credits
Core courses in Anthropology (350-level)	min. 9 credits
400- and 500-level courses in Anthropology	min. 6 credits
Honours project * of which 3 credits are normally in the other Joint Honours program	6* credits

Students interested in Joint Honours should consult an adviser in the other department for specific course requirements. A form will be supplied by the Anthropology Department to keep track of courses required by both departments for the program selected.

Students who wish to study at the Honours level in two disciplines can combine the Joint Honours Program component in Anthropology with one in any other Arts discipline; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

The Joint Honours thesis topic should be arranged by consultation with an adviser in Anthropology and the other discipline and supervisors be appointed in each department who will work together to guide the student.

Joint Honours students must maintain a GPA of 3.30 in their program courses and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Complementary Courses (36 credits)

a. 200-LEVEL - maximum 12 credits from the following:
ANTH 201 (3) Prehistoric Archaeology
ANTH 202 (3) Comparative Cultures
ANTH 203 (3) Human Evolution
ANTH 204 (3) Anthropology of Meaning
ANTH 205 (3) Cultures of the World
ANTH 206 (3) Environment and Culture
ANTH 207 (3) Ethnography through Film
ANTH 208 (3) Evolutionary Anthropology
ANTH 209 (3) Anthropology of Religion
ANTH 212 (3) Anthropology of Development
ANTH 222 (3) Legal Anthropology
ANTH 227 (3) Medical Anthropology

b. 300-LEVEL - minimum 6 credits from the following:
ANTH 301 (3) Nomadic Pastoralists
ANTH 302 (3) New Horizons in Medical Anthropology
ANTH 303 (3) Ethnographies of Post-socialism
ANTH 305 (3) Arctic Prehistory
ANTH 306 (3) Native Peoples' History in Canada
ANTH 308 (3) Political Anthropology 01
ANTH 309 (3) Prehistory of Northern Europe
ANTH 310 (3) Anthropology of the Arts
ANTH 311 (3) Primate Behaviour and Ecology
ANTH 312 (3) Zooarchaeology
ANTH 313 (3) Early Civilizations
ANTH 314 (3) Psychological Anthropology 01
ANTH 315 (3) Society/Culture: East Africa
ANTH 316 (3) Anthropology of Complex Societies
ANTH 317 (3) Prehistory of North America
ANTH 319 (3) Inka Archaeology & Ethnohistory
ANTH 320 (3) Social Evolution
ANTH 321 (3) Peoples and Cultures of Africa
ANTH 322 (3) Social Change in Modern Africa
ANTH 324 (3) Economic Anthropology 01
ANTH 326 (3) Peoples of Central and South America
ANTH 327 (3) Peoples of South Asia
ANTH 329 (3) Modern Chinese Society and Change
ANTH 331 (3) Prehistory of East Asia
ANTH 333 (3) Class and Ethnicity
ANTH 334 (3) Kinship and Social Structure
ANTH 335 (3) Ancient Egyptian Civilization
ANTH 336 (3) Ethnohistory: North Eastern North America
ANTH 337 (3) Mediterranean Society and Culture
ANTH 338 (3) Native Peoples of North America
ANTH 339 (3) Ecological Anthropology
ANTH 340 (3) Middle Eastern Society and Culture
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 344 (3) Quantitative Approaches to Anthropology
ANTH 345 (3) Prehistory of Africa
ANTH 346 (3) Development in Agrarian Societies
ANTH 347 (3) Paleolithic Cultures
ANTH 348 (3) Early Prehistory: New World
ANTH 380 (3) Special Topic 1
ANTH 381 (3) Special Topic 2
ANTH 382 (3) Special Topic 3
ANTH 383 (3) Special Topic 4

c. CORE COURSES - minimum 9 credits from the following:
ANTH 352 (3) History of Anthropological Theory
ANTH 355 (3) Theories of Culture and Society
ANTH 357 (3) Archaeological Methods
ANTH 358 (3) The Process of Anthropological Research
ANTH 359 (3) History of Archaeological Theory

d. 400-/500-LEVEL - minimum 6 credits from the following:
ANTH 401 (3) Comparative Anthropology
ANTH 402 (3) Topics in Ethnography 1
ANTH 403 (3) Current Issues in Archaeology
ANTH 404 (3) Topics in Psychological Anthropology
ANTH 405 (3) Topics in Ethnography 2
ANTH 407 (3) Anthropology of the Body
ANTH 412 (3) Topics: Anthropological Theory
ANTH 413 (3) Gender in Archaeology
ANTH 416 (3) Environment/Development: Africa
ANTH 418 (3) Environment and Development
ANTH 419 (3) Archaeology of Hunter-Gatherers
ANTH 420 (3) Lithic Technology and Analysis
ANTH 422 (3) Contemporary Latin American Culture & Society
ANTH 430 (3) Symbolic Anthropology 01
ANTH 431 (3) Problems in East Asian Archaeology
ANTH 436 (3) North American Native Peoples
ANTH 438 (3) Topics in Medical Anthropology
ANTH 439 (3) Theories of Development
ANTH 440 (3) Cognitive Anthropology
ANTH 443 (3) Medical Anthropological Theory
ANTH 445 (3) Property and Land Tenure
ANTH 461 (3) Research Techniques
ANTH 480 (3) Special Topic 5
ANTH 481 (3) Special Topic 6
ANTH 482 (3) Special Topic 7
ANTH 483 (3) Special Topic 8
ANTH 484 (3) Special Topic 9
ANTH 485 (3) Special Topic 10
ANTH 500 (3) Chinese Diversity & Diaspora
ANTH 511 (3) Computational Approaches to Prehistory
ANTH 540 (3) Topics in Anthropological Theory
ANTH 551 (3) Advanced Topics: Archaeological Research
ANTH 555 (3) Advanced Topics in Ethnology
ANTH 575 (3) Concepts of Race

e. HONOURS PROJECT - 3 credits from the following:
ANTH 480 (3) Special Topic 5
ANTH 481 (3) Special Topic 6
ANTH 482 (3) Special Topic 7
ANTH 483 (3) Special Topic 8
ANTH 484 (3) Special Topic 9
ANTH 485 (3) Special Topic 10

AFRICAN FIELD STUDY SEMESTER
The Department of Geography, Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester; see section 15.3.1 "African Field Study Semester".

6.12.6 Art History and Communication Studies (ARTH and COMS)

Arts Building, W-225 (West Wing, top floor)
853 Sherbrooke Street West
Montreal, QC H3A 2T6

Telephone: 514-398-1828
Fax: 514-398-7247
Website: www.mcgill.ca/ahcs

Chair — Jonathan Sterne

Director of Graduate Programs in Communication Studies — Jennifer Burman

Director of Graduate Programs in Art History — Angela Vanhaelen

Director of Undergraduate Programs in Art History — Richard Taws

Director of Undergraduate Programs in Communication Studies — Carrie Rentschler

Emeritus Professors
John M. Fossey; B.A.(Birm.), Des L.(Lyon II), F.S.A., R.P.A., F.R.S.C.
George Szanto; B.A.(Dart.), Ph.D.(Harv.)

Professors
Marc Raboy; B.Sc., M.A., Ph.D.(McG.)
Christine Ross; M.A.(C'dia), Ph.D.(Paris I)
Will Straw; B.A.(Car.), M.A., Ph.D.(McG.)

Associate Professors
Darin Barney; B.A., M.A.(S. Fraser), Ph.D.(Tor.)
David Crowley; B.A.(Johns H.), M.Sc.(Penn.), Ph.D.(McG.)
Charmaine Nelson; B.F.A., M.A.(C'dia), Ph.D.(Manc.)
Jonathan Sterne; B.A.(Minn.), A.M., Ph.D.(Ill.-Urbana-Champaign)
Angela Vanhaelen; B.A.(W. Ont.), M.A., Ph.D.(Br. Col.)

Assistant Professors
Jennifer Burman; B.A.(C'dia), M.A., Ph.D.(York)
Mary Hunter; B.A.(Qu.), M.A., Ph.D.(Lond.)
Becky Lentz; B.A.(Univ. of Arkansas), M.A.(Southern Illinois Univ.), M.A.(NYU Tisch School)
Hajime Nakatani; B.L.A.(Tokyo), M.A.(Lond.), Ph.D.(Chic.)
Carrie Rentschler; B.A.(Minn.), M.A., Ph.D.(Ill., Urbana-Champaign)
Richard, Taws; B.A., M.A., Ph.D.(Lond.)

Adjunct Professors
Cornelius Borck; M.A., M.D.(Free Univ., Berlin), Ph.D.(Lond.)
Johanne Lamoureux; B.A., M.A.(Montr.), Ph.D.(E.H.E.S.S., Paris)
Charles Levin; B.A., M.A.(McG.), Ph.D.(C'dia)
Bronwen Wilson; B.A., M.A.(Br. Col.), Ph.D.(N'western)

In the field of Art History, the Department offers comprehensive programs of courses and seminars on the history of the visual arts, material culture, and architecture from antiquity to the present, focusing primarily on Europe and North America. The works of art and architecture are discussed within their cultural, political, historical, religious, philosophical and social context.

Major and Minor Concentrations, and Honours, Joint Honours and graduate programs are available in Art History. For the most up-to-date information on Department requirements and detailed course descriptions, please visit our Department's website or consult an appropriate Undergraduate adviser through the Departmental Office, Arts Building, Room W-225, 514-398-1828.

The Department offers a new Minor Concentration in Communication Studies, as well as programs at the graduate level as described in the *Graduate and Postdoctoral Studies Calendar.*

Orientation Session for New Students

All new students entering the Art History and Communication Studies undergraduate programs are required to attend an information session prior to registration. In 2009, Orientation will be held on August 26, 1:00 to 3:00 p.m. in Arts W-220.

At the meeting, the Academic Adviser will explain the requirements of the Department's programs. Incoming students will have an opportunity to ask questions and receive advice on how to plan their courses. Afterwards, students will meet individually with an adviser in order to fill out their Minerva Course Selection Form for registration. Students should sign up for advising appointments after the orientation session.

MINOR CONCENTRATION IN ART HISTORY
(Expandable) (18 credits)

Required Course (3 credits)
ARTH 305 (3) Methods in Art History 01

Complementary Courses (15 credits)
3 credits in Art History at the 200 level

12 credits in Art History at the 300 level or above, selected in consultation with the departmental adviser.

Note: courses in studio practice cannot be counted towards the Minor Concentration.

MAJOR CONCENTRATION IN ART HISTORY (36 credits)

Required Course (3 credits)
ARTH 305 (3) Methods in Art History 01

Complementary Courses (33 credits)

a maximum of 12 credits can be at the 200 level

a minimum of 3 credits must be at the 400 level or above (except ARTH 490)

The complementary credits must be selected from at least six of the eight Art History course fields:
Theories and Methods (I)
Ancient to Medieval (II)
1400 - 1700 (Early Modern) (III)
1700 - 1945 (IV)
Contemporary Art (1945 to present) (V)
Sites of Visual Culture (VI)
Medium and Media (VII)
Selected Topics (VIII)

Note: courses in studio practice cannot be counted towards the Major Concentration.

HONOURS IN ART HISTORY (60 credits)

Students are encouraged to apply for this program after their first year of study at the University and after completion of no less than 12 credits in Art History. Admission is on a competitive basis. While the Faculty of Arts regulations require a minimum CGPA of 3.0 for Honours programs, the department requires in addition a program GPA of 3.30 for admission into the program and the awarding of Honours.

Required Courses (9 credits)
ARTH 305 (3) Methods in Art History 01
ARTH 400 (3) Selected Methods in Art History
ARTH 401 (3) Honours Research Paper

Complementary Courses (51 credits)

a maximum of 15 credits can be at the 200 level

a minimum of 6 credits must be at the 400 level or above

45 credits selected from at least six of the eight Art History course fields listed below:
Theories and Methods (I)
Ancient to Medieval (II)
1400 - 1700 (Early Modern) (III)
1700 - 1945 (IV)
Contemporary Art (1945 to present) (V)
Sites of Visual Culture (VI)
Medium and Media (VII)
Selected Topics (VIII)

6 credits in a language other than English or in courses in one or two related disciplines and selected with written approval of the academic adviser.

In addition to the completion of the Honours requirements, students must complete at least a Minor Concentration in an academic unit other than the one in which the Honours requirements are satisfied. (For students completing a second degree in the Faculty of Arts, this regulation is waived.)

JOINT HONOURS – ART HISTORY COMPONENT (36 credits)

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs”.

Prior to registering for each Joint Honours component, students should consult an adviser in each department for approval of their course selection.

Students are encouraged to apply for admission to the Joint Honours program after their first year of study at the University and after completion of no less than 12 credits in Art History. Admission is on a competitive basis. While the Faculty of Arts regulations require a minimum CGPA of 3.0 for Honours programs, the department requires in addition a program GPA of 3.30 for admission into the program and the awarding of Honours.

Required Courses (9 credits)
ARTH 305 (3) Methods in Art History 01
ARTH 400 (3) Selected Methods in Art History
ARTH 401 (3) Honours Research Paper

Complementary Courses (27 credits)

a maximum of 9 credits can be at the 200 level

a minimum of 3 credits must be at the 400 level or above

27 credits selected from at least six of the eight Art History course fields listed below:
Theories and Methods (I)
Ancient to Medieval (II)
1400 - 1700 (Early Modern) (III)
1700 - 1945 (IV)
Contemporary Art (1945 to present) (V)
Sites of Visual Culture (VI)
Medium and Media (VII)
Selected Topics (VIII)

ART HISTORY COURSE FIELDS
Art History courses are divided into eight fields:
I Theories and Methods
II Ancient to Medieval
III 1400 - 1700 (Early Modern)
IV 1700 - 1945
V Contemporary Art (1945 to present)
VI Sites of Visual Culture
VII Medium and Media
VIII Selected Topics

I. Theories and Methods
ARTH 305 (3) Methods in Art History 01
ARTH 310 (3) Postcolonialism
ARTH 351 (3) Vision and Visuality in Art History
ARTH 352 (3) Feminism in Art and Art History
ARTH 400 (3) Selected Methods in Art History
ARTH 401 (3) Honours Research Paper

II. Ancient to Medieval
ARTH 204 (3) Introduction to Medieval Art and Architecture
ARTH 209 (3) Introduction to Ancient Art and Architecture
ARTH 215 (3) Introduction to East Asian Art
ARTH 312 (3) Medieval Art
ARTH 314 (3) The Medieval City
ARTH 340 (3) The Gothic Cathedral
ARTH 341 (3) Romanesque Architecture
ARTH 415 (3) Late Medieval & Renaissance Architecture in Northern Europe
ARTH 416 (3) English Architecture

III. 1400 - 1700 (Early Modern)
ARTH 207 (3) Early Modern Art (1400-1700)
ARTH 223 (3) Introduction to Italian Renaissance Art
ARTH 320 (3) Seventeenth Century Art of Court and Church
ARTH 324 (3) Sixteenth-Century Art in Italy
ARTH 332 (3) Italian Renaissance Architecture
ARTH 333 (3) Italian Baroque Architecture
ARTH 343 (3) Northern Renaissance Art 01
ARTH 435 (3) Early Modern Visual Culture
ARTH 473 (3) Studies in 17th and Early 18th Century Art 04

IV. 1700 - 1945
ARTH 205 (3) Introduction to Modern Art
ARTH 323 (3) Realism and Impressionism
ARTH 334 (3) Eighteenth Century European Art
ARTH 335 (3) Art in the Age of Revolution
ARTH 337 (3) Modern Painting and Sculpture, Post-Impress to WWI
ARTH 338 (3) Modern Art and Theory: WWI - WWII
ARTH 347 (3) 19th Century Architecture
ARTH 348 (3) 20th Century Architecture
ARTH 374 (3) Studies in Later 18th and 19th Century Art 01
ARTH 379 (3) Studies: Modern Art and Theoretical Problems 02
ARTH 474 (3) Studies in Later 18th and 19th Century Art 03
ARTH 479 (3) Studies: Modern Art and Theoretical Problems 04

V. Contemporary Art (1945 to Present)
ARTH 336 (3) Art Now
ARTH 339 (3) Critical Issues - Contemporary Art
ARTH 356 (3) Modern & Contemporary Chinese Art
ARTH 510 (3) The Body and Visual Culture

VI. Sites of Visual Culture
ARTH 300 (3) Canadian Art to 1914
ARTH 301 (3) Canadian Art 1914 - Present
ARTH 302 (3) Aspects of Canadian Art
ARTH 321 (3) Visual Culture of the Dutch Republic
ARTH 325 (3) Visual Culture Renaissance Venice
ARTH 406 (3) German Architecture

VII. Medium and Media
ARTH 326 (3) Print Culture and the City
ARTH 360 (3) Photography and Art
ARTH 457 (3) Brushwork in Chinese Painting

VIII. Selected Topics
ARTH 353 (3) Selected Topics in Art History 1
ARTH 354 (3) Selected Topics in Art History 2
ARTH 420 (3) Selected Topics in Art and Architecture 1
ARTH 421 (3) Selected Topics in Art and Architecture 2
ARTH 422 (3) Selected Topics in Art and Architecture 3
ARTH 447 (3) Independent Research Course
ARTH 460 (3) Studies in Architectural History 1
ARTH 461 (3) Studies in Architectural History 2
ARTH 490 (3) Museum Internship

Note: In addition to architectural courses given by the Department, program students are encouraged to consider courses given in the School of Architecture and the Departments of East Asian Studies and Philosophy which may, upon consultation with the Department, be regarded as fulfilling part of the requirements.

ARCH 250 Architectural History 1
ARCH 251 Architectural History 2
EAST 303 Current Topics: Chinese Studies 1
PHIL 336 Aesthetics
PHIL 436 Aesthetics 2

MINOR CONCENTRATION IN COMMUNICATION STUDIES
(18 credits)
The Minor Concentration in Communication Studies will provide undergraduate students with a critical understanding of the role that communications media and communication technologies plays in a society. Specifically, the Minor Concentration will provide students with intellectually challenging and innovative instruction in key traditions of Communications and Media Studies and new theoretical and methodological practices being developed in the field. The courses offered in the Concentration will pay special attention to issues of the relationship between communication, democracy and urban life, the social life of communication technologies, the historical development and transformation of media and communication forms, institutions, practices and technologies, and the mass media representation and mobilization of social difference. The Minor Concentration draws from a small, revised core of undergraduate courses taught in Communication Studies ("History of Communication" and "Introduction to Communication Studies") in addition to eleven new undergraduate course offerings.

Required Course (3 credits)
COMS 210 (3) Introduction to Communication Studies

Complementary Courses (15 credits)
5 courses in Communication Studies from the list below:
COMS 200 (3) History of Communication
COMS 230 (3) Communication and Democracy
COMS 300 (3) Media and Modernity in the 20th Century
COMS 310 (3) Media and Feminist Studies

COMS 320 (3) Media and Empire
COMS 330 (3) Media in Cultural Life
COMS 340 (3) New Media
COMS 350 (3) Sound Culture
COMS 361 (3) Selected Topics Communication Studies 1
COMS 362 (3) Selected Topics Communication Studies 2
COMS 400 (3) Critical Theory Seminar
COMS 410 (3) Cultures of Visualization
COMS 425 (3) Urban Culture & Everyday Life
COMS 490 (3) History and Theory of Media
COMS 491 (3) Media, Communication & Culture
COMS 492 (3) Power, Difference and Justice
COMS 495 (3) Directed Reading
COMS 497 (3) Independent Study
COMS 510 (3) Canadian Broadcasting Policy

6.12.7 Canadian Ethnic and Racial Studies Minor Concentration

Department of Sociology
Leacock 714

Telephone: 514-398-6853
Email: morton.weinfeld@mcgill.ca

Chair — Morton Weinfeld

Advisory Committee
G. Burgos (*Sociology*), Ian H. Henderson (*Religious Studies*), A. Hsia (*German Studies*), *S.* T. Saideman (*Political Science*), J. Torczyner (*Social Work*), U. Turgay (*Islamic Studies*)

The Minor Concentration in Canadian Ethnic and Racial Studies is an interdisciplinary program administered by the Faculty of Arts. It is affiliated with the McGill Institute for the Study of Canada. The Concentration can be taken in conjunction with any primary program in Arts or Science. It offers to undergraduate students a structured framework in which to appreciate the range of social scientific approaches to the study of ethnic diversity in Canada.

The terms “ethnic” and “racial” are used in a very broad sense, to include the full spectrum of ethnic, cultural, aboriginal, linguistic, and racial groups in Canada.

The disciplines featured in the program are Sociology, Anthropology, Geography, History, and Political Science. In special cases, courses taken from other Arts departments, and other units at McGill, may be considered (e.g., Social Work, Education), with the consent of the Chair. The same is true of new relevant courses not yet listed below.

Apart from the intrinsic interest and importance of the subject, the Concentration may be of practical use. Students pursuing further graduate and professional training or employment in a variety of areas will find familiarity with issues relating to cultural diversity to be an asset. These include the fields of health, social services, education, law, law enforcement, human resources and personnel; occupations in government agencies, in ethnocultural and other non-governmental organizations; and graduate work in all the social sciences.

The Canadian Ethnic and Racial Studies Concentration will also sponsor programs of interest for the McGill Community during the course of the year. Students interested in registering in this program should contact the Chair.

MINOR CONCENTRATION IN CANADIAN ETHNIC AND RACIAL STUDIES (18 credits)

Required Courses (9 credits)
SOCI 210 (3) Sociological Perspectives
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 475 (3) Canadian Ethnic Studies Seminar

Of the 18 credits, selected with due regard to Faculty guidelines and course prerequisites, at least 9 must be above the 200-level.

Complementary Courses (9 credits)
9 credits, at least 6 of which must be 300-level or higher, selected from *two* of the following departmental lists:

Anthropology
ANTH 202 (3) Comparative Cultures
ANTH 205 (3) Cultures of the World
ANTH 306 (3) Native Peoples’ History in Canada
ANTH 320 (3) Social Evolution
ANTH 333 (3) Class and Ethnicity
ANTH 338 (3) Native Peoples of North America
ANTH 436 (3) North American Native Peoples

Geography
GEOG 301 (3) Geography of Nunavut
GEOG 331 (3) Urban Social Geography
GEOG 424 (3) Europe: Places and Peoples

History
HIST 203 (3) Survey: Canada since 1867
HIST 371 (3) American Civil Rights 1877-1940
HIST 408 (3) Colonialism and Native Peoples
HIST 423 (3) Topics: Migration and Ethnicity
HIST 424 (3) Asian Diaspora: Chinese Overseas
HIST 471D1 (3) Canadian Immigration History
HIST 471D2 (3) Canadian Immigration History

Political Science
POLI 226 (3) La vie politique québécoise
POLI 321 (3) Issues: Canadian Public Policy
POLI 336 (3) Le Québec et le Canada
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 412 (3) Canadian Voting/Public Opinion
POLI 431 (3) Nations and States/Developed World
POLI 478 (3) The Canadian Constitution

Sociology
SOCI 234 (3) Population and Society
SOCI 327 (3) Jews in North America
SOCI 333 (3) Social Stratification
SOCI 353 (3) Inequality and Social Conflict
SOCI 519 (3) Sociology of Ethnic Conflict
SOCI 520 (3) Migration and Immigrant Groups
SOCI 529 (3) Political Sociology 1

Social Work
SWRK 400 (3) Policy and Practice for Refugees

6.12.8 Canadian Studies Program (CANS)

McGill Institute for the Study of Canada
3463 Peel Street
Montreal, QC H3A 1W7

Telephone: 514-398-8346
Fax: 514-398-7336
Website: www.mcgill.ca/misc

Director — Antonia Maioni

Program Director — Elsbeth Heaman (*History*)

Canadian Studies will be of value to any student considering a career in education, law, business, government, social service, human resources, journalism and the media, and graduate work in the social sciences and humanities.

The Canadian Studies Major and Minor Concentrations seek to provide students with a comprehensive multidisciplinary view of the nature and growth of Canada. Students completing a Major Concentration in Canadian Studies are encouraged to complete a second Major Concentration in a discipline such as Anthropology, Economics, English Literature, History, Political Science or Sociology as a complement to their Canadian Studies requirements. The Minor Concentration may be taken in conjunction with any primary program in Arts or Science.

Students interested in pursuing Canadian Studies at the graduate level should consider the Joint Honours Concentration, which includes the Canadian Studies Component or the Honours Concentration.

MINOR CONCENTRATION IN CANADIAN STUDIES (Expandable) (18 credits)

The minor program enables students to take courses about Canada outside the areas of their other major or minor concentrations.

Required Course (3 credits)

CANS 200 (3) Introduction to the Study of Canada

Complementary Courses (15 credits)

6 credits to be chosen from:

ANTH 222 (3) Legal Anthropology
ECON 219 (3) Current Economic Problems: Topics
ENGL 228 (3) Canadian Literature 1
ENGL 229 (3) Canadian Literature 2
FREN 252 (3) Littérature québécoise
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
SOCI 230 (3) Sociology of Ethnic Relations

6 credits interdisciplinary Canadian Studies (CANS) courses.

3 credits chosen from the complementary course list at the 300-level or higher. The courses chosen must have relevance to the program.

NOTE: Students may not choose more than 3 credits in disciplines of their other major or minor concentrations.

MAJOR CONCENTRATION IN CANADIAN STUDIES (36 credits)

Normally students will complete CANS 200 and at least 6 credits of core courses in their U1 year, will complete all core courses and at least 3 credits of CANS courses by the end of their U2 year, and will complete CANS 501 in their U3 year.

Required Course (6 credits)

CANS 200 (3) Introduction to the Study of Canada
CANS 501 (3) Interdisciplinarity & Canadian Studies

Complementary Courses (30 credits)

12 credits to be chosen from:

ANTH 222 (3) Legal Anthropology
ECON 219 (3) Current Economic Problems: Topics
ENGL 228 (3) Canadian Literature 1
ENGL 229 (3) Canadian Literature 2
FREN 252 (3) Littérature québécoise
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
SOCI 230 (3) Sociology of Ethnic Relations

6 - 12 credits in interdisciplinary Canadian Studies (CANS) courses.

6 - 12 credits chosen from the complementary course list, at least 6 of which must be at the 300-level or higher. The courses chosen must all have relevance to the program.

3 credits must be taken in the French language (including language courses). A maximum of 3 credits may be chosen from French as a Second Language.

NOTE: Students may not choose more than 9 credits in disciplines of their other major or minor concentrations.

HONOURS IN CANADIAN STUDIES (57 credits)

Students planning to pursue an Honours Program option are reminded that they must complete a Minor Concentration (18 credits) in another Arts discipline to graduate.

Students with a GPA of 3.30 in their program courses and, in keeping with Faculty regulations, a minimum CGPA of 3.00 in general, are eligible to apply to the Honours Program in Canadian Studies. Application deadlines are December 15 and May 15. Forms are available from the McGill Institute for the Study of Canada (MISC) Office.

Required Courses (12 credits)

CANS 200 (3) Introduction to the Study of Canada
CANS 480 (3) Honours Thesis 1
CANS 481 (3) Honours Thesis 2
CANS 501 (3) Interdisciplinarity & Canadian Studies

Complementary Courses (45 credits)

12 credits to be chosen from:

ANTH 222 (3) Legal Anthropology
ECON 219 (3) Current Economic Problems: Topics
ENGL 228 (3) Canadian Literature 1
ENGL 229 (3) Canadian Literature 2
FREN 252 (3) Littérature québécoise
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
SOCI 230 (3) Sociology of Ethnic Relations

12 - 15 credits in interdisciplinary Canadian Studies (CANS) courses.

18 - 21 credits chosen from the complementary course list with a minimum of 6 credits at the 400-level or higher.

3 credits must be taken in the French language (including language courses). A maximum of 3 credits may be chosen from French as a Second Language.

NOTE: Students may not choose more than 9 credits in disciplines of their other major or minor concentrations.

JOINT HONOURS – CANADIAN STUDIES COMPONENT (36 credits)

Students with a minimum program GPA of 3.30 in their program courses and, in keeping with Faculty regulations, a minimum CGPA of 3.00 in general, are eligible to apply to the Joint Honours Program in Canadian Studies. Application deadlines are December 15 and May 15. Forms are available from the McGill Institute for the Study of Canada (MISC) Office.

Required Courses (9 credits)

CANS 200 (3) Introduction to the Study of Canada
CANS 492 (3) Joint Honours Thesis
CANS 501 (3) Interdisciplinarity & Canadian Studies

Complementary Courses (27 credits)

12 credits to be chosen from:

ANTH 222 (3) Legal Anthropology
ECON 219 (3) Current Economic Problems: Topics
ENGL 228 (3) Canadian Literature 1
ENGL 229 (3) Canadian Literature 2
FREN 252 (3) Littérature québécoise
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
SOCI 230 (3) Sociology of Ethnic Relations

6 - 9 credits in interdisciplinary Canadian Studies (CANS) courses.

6 - 9 credits chosen from the complementary course list with a minimum of 6 credits at the 400-level or higher.

3 credits must be taken in the French language (including language courses). A maximum of 3 credits may be chosen from French as a Second Language.

NOTE: Students may not choose more than 9 credits in disciplines of their other major or minor concentrations.

Joint Honours students must maintain a GPA of 3.30 in their program courses and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

CANADIAN STUDIES COMPLEMENTARY COURSE LIST

Anthropology

ANTH 222	(3)	Legal Anthropology
ANTH 305	(3)	Arctic Prehistory
ANTH 306	(3)	Native Peoples' History in Canada
ANTH 317	(3)	Prehistory of North America
ANTH 333	(3)	Class and Ethnicity
ANTH 336	(3)	Ethnohistory: North Eastern North America
ANTH 338	(3)	Native Peoples of North America
ANTH 436	(3)	North American Native Peoples

Art History

ARTH 300	(3)	Canadian Art to 1914
ARTH 301	(3)	Canadian Art 1914 - Present
ARTH 302	(3)	Aspects of Canadian Art
ARTH 479	(3)	Studies: Modern Art and Theoretical Problems 04

Biology

BIOL 240	(3)	Monteregian Flora

Economics

ECON 219	(3)	Current Economic Problems: Topics
ECON 223	(3)	Political Economy of Trade Policy
ECON 303	(3)	Canadian Economic Policy
ECON 305	(3)	Industrial Organization
ECON 306D1	(3)	Labour Economics and Institutions
ECON 306D2	(3)	Labour Economics and Institutions
ECON 308	(3)	Governmental Policy Towards Business
ECON 321	(3)	The Quebec Economy
ECON 405	(3)	Natural Resource Economics
ECON 406	(3)	Topics In Economic Policy
ECON 408D1	(3)	Public Sector Economics
ECON 408D2	(3)	Public Sector Economics
ECON 434	(3)	Current Economic Problems
ECON 440	(3)	Health Economics
ECON 480	(3)	Research Project
ECON 481	(3)	Research Project

English

ENGL 228	(3)	Canadian Literature 1
ENGL 229	(3)	Canadian Literature 2
ENGL 327	(3)	Canadian Prose Fiction 1
ENGL 328	(3)	Development of Canadian Poetry 1
ENGL 333	(3)	Development of Canadian Poetry 2
ENGL 339	(3)	Canadian Prose Fiction 2
ENGL 341	(3)	Canadian Radio and Television
ENGL 345	(3)	Literature and Society
ENGL 393	(3)	Canadian Cinema
ENGL 409	(3)	Studies in a Canadian Author
ENGL 410	(3)	Theme or Movement Canadian Literature
ENGL 411	(3)	Studies in Canadian Fiction
ENGL 415	(3)	Studies in 20th Century Literature 2
ENGL 419	(3)	Studies in 20th Century Literature
ENGL 499	(3)	Departmental Seminar
ENGL 527	(3)	Canadian Literature
ENGL 528	(3)	Canadian Literature

French as a Second Language

FRSL 101	(6)	Beginners' French
FRSL 101D1	(3)	Beginners' French
FRSL 101D2	(3)	Beginners' French
FRSL 103	(3)	Near Beginners' French
FRSL 105	(6)	Intensive Beginners' French
FRSL 206	(3)	Elementary French
FRSL 207	(6)	Elementary French 01
FRSL 207D1	(3)	Elementary French 01
FRSL 207D2	(3)	Elementary French 01
FRSL 208	(6)	Intensive Elementary French
FRSL 211	(6)	Oral and Written French 1
FRSL 211D1	(3)	Oral and Written French 1
FRSL 211D2	(3)	Oral and Written French 1
FRSL 212	(3)	Oral and Written French 1
FRSL 215	(6)	Oral and Written French 1 - Intensive
FRSL 216	(3)	Découvrons Montréal en français
FRSL 302	(3)	Listening Comprehension and Oral Expression 1
FRSL 303	(3)	Listening Comprehension and Oral Expression 2
FRSL 321	(6)	Oral and Written French 2
FRSL 321D1	(3)	Oral and Written French 2
FRSL 321D2	(3)	Oral and Written French 2
FRSL 322	(3)	Oral and Written French 2
FRSL 325	(6)	Oral and Written French 2 - Intensive
FRSL 326	(3)	Découvrons le Québec en français
FRSL 332	(3)	Intermediate French: Grammar 01
FRSL 333	(3)	Intermediate French: Grammar 02
FRSL 407	(3)	Compréhension et expression orales
FRSL 408	(3)	Français oral: Textes et expressions
FRSL 431	(6)	Français fonctionnel avancé
FRSL 431D1	(3)	Français fonctionnel avancé
FRSL 431D2	(3)	Français fonctionnel avancé
FRSL 432	(3)	Français fonctionnel
FRSL 445	(3)	Français fonctionnel, écrit 1
FRSL 446	(3)	Français fonctionnel, écrit 2
FRSL 449	(3)	Le Français des médias
FRSL 455	(3)	Grammaire et création

French Language and Literature

FREN 245	(3)	Grammaire avancée
FREN 252	(3)	Littérature québécoise
FREN 315	(3)	Le cinéma québécois
FREN 329	(3)	Civilisation québécoise
FREN 336	(3)	La langue française
FREN 372	(3)	Le roman québécois 1
FREN 375	(3)	Théâtre québécois
FREN 382	(3)	Le roman québécois 2
FREN 470	(3)	Poésie québécoise
FREN 480	(3)	Roman québécois 3
FREN 487	(3)	L'essai québécois

Geography

GEOG 217	(3)	The Canadian City
GEOG 272	(3)	Earth's Changing Surface
GEOG 301	(3)	Geography of Nunavut
GEOG 309	(3)	Geography of Canada
GEOG 311	(3)	Economic Geography
GEOG 494	(3)	Urban Field Studies
GEOG 495	(3)	Field Studies - Physical Geography
GEOG 497	(3)	Ecology of Coastal Waters
GEOG 499	(3	Subarctic Field Studies
GEOG 502	(3)	Geography of Northern Development

History

HIST 202	(3)	Survey: Canada to 1867
HIST 203	(3)	Survey: Canada since 1867
HIST 212	(3)	Science and Medicine in Canada
HIST 300	(3)	Nationalisms in Canada

HIST 303 (3) History of Quebec
HIST 322 (3) Canada: American Presence since 1939
HIST 332 (3) Constitutional History: Canada - 1867
HIST 333 (3) History of New France: Part 1
HIST 334 (3) History of New France: Part 2
HIST 342 (3) Canada: External Relations since 1867
HIST 343 (3) Women in Post-Confederation Canada
HIST 353 (3) History of Montreal
HIST 357 (3) Religion and Canadian Society in Historical Perspective
HIST 361 (3) The Canadian West to 1905
HIST 362 (3) The Canadian West since 1905
HIST 363 (3) Canada 1870-1914
HIST 364 (3) Canada 1914-1945
HIST 367 (3) Canada since 1945
HIST 370 (3) Canadian Party Politics 1867-2000
HIST 373 (3) Canadian Labour History
HIST 395 (3) Canadian Military Experience
HIST 397 (3) Canada: Ethnicity, Migration
HIST 403 (3) History of Quebec Institutions
HIST 414 (3) Canadian Cultural History
HIST 416 (3) British and French Identity
HIST 423 (3) Topics: Migration and Ethnicity
HIST 429 (3) Topics: Canadian Family History
HIST 432 (3) The Atlantic Provinces
HIST 434 (3) British North America 1760-1867
HIST 462D1 (3) Topics: Canadian Conservatism
HIST 462D2 (3) Topics: Canadian Conservatism
HIST 463D1 (3) Topics: History of Women in Canada
HIST 463D2 (3) Topics: History of Women in Canada
HIST 469D1 (3) Topics in Canadian Religious History
HIST 469D2 (3) Topics in Canadian Religious History
HIST 483D1 (3) History of Montreal
HIST 483D2 (3) History of Montreal
HIST 493D1 (3) Topics: Canadian Social History
HIST 493D2 (3) Topics: Canadian Social History

Linguistics
LING 320 (3) Sociolinguistics 1
LING 350 (3) Linguistic Aspects of Bilingualism
LING 520 (3) Sociolinguistics 2
LING 521 (3) Dialectology

Music
MUHL 391 (3) Canadian Music

Political Science
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
POLI 226 (3) La vie politique québécoise
POLI 320 (3) Issues in Canadian Democracy
POLI 321 (3) Issues: Canadian Public Policy
POLI 326 (3) Provincial Politics
POLI 336 (3) Le Québec et le Canada
POLI 337 (3) Canadian Public Administration
POLI 342 (3) Canadian Foreign Policy
POLI 371 (3) Challenge of Canadian Federalism
POLI 372 (3) Aboriginal Politics in Canada
POLI 378 (3) The Canadian Judicial Process
POLI 379 (3) Topics in Canadian Politics
POLI 410 (3) Canadian Political Parties
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 412 (3) Canadian Voting/Public Opinion
POLI 417 (3) Health Care in Canada
POLI 427 (3) Selected Topics: Canadian Politics
POLI 431 (3) Nations and States/Developed World
POLI 446 (3) Les politiques publiques au Québec
POLI 447 (3) Canadian Constitutional Politics
POLI 469 (3) Politics of Regulation
POLI 478 (3) The Canadian Constitution

Québec, Études sur le
QCST 300 (3) Quebec Culture and Society
QCST 440 (3) Contemporary Issues in Quebec

Sociology
SOCI 210 (3) Sociological Perspectives
SOCI 217 (3) Canadian Mass Communications
SOCI 225 (3) Medicine and Health in Modern Society
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 318 (3) Television in Society
SOCI 327 (3) Jews in North America
SOCI 475 (3) Canadian Ethnic Studies Seminar

6.12.9 Catholic Studies Program (CATH)

Office of Interdisciplinary Programs
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/catholicstudies

Adviser: Andrew Staples

Program Committee Chair — John Zucchi (*History*)

Program Committee
D. Farrow (*Faculty of Religious Studies*), J. Fumo (*English*), J. Hellman (*History*), T. Kirby (*Faculty of Religious Studies*), P. Kirkpatrick (*Religious Studies*), F. Sabetti (*Political Science*)

The Minor Concentration in Catholic Studies seeks to enrich the intellectual experience and academic options available to students, to broaden the course offerings across the disciplines, and to complement the visibility given to other programs such as Jewish Studies, Islamic Studies, and North American Studies.

The Minor Concentration consists of 18 credits. Core and complementary courses provide students an opportunity to deepen their understanding of Catholicism in an increasingly pluralistic world. The program offers a systematic and critical exploration of the diverse ways in which the Catholic tradition informs culture, institutions, and identity.

MINOR CONCENTRATION IN CATHOLIC STUDIES (18 credits)

Required Course (3 credits)
CATH 200 (3) Introduction to Catholicism

Complementary Courses (15 credits)
9 credits chosen from:
CATH 310 (3) Catholic Intellectual Traditions
CATH 315 (3) Catholicism and Moral Culture
CATH 320 (3) Scripture and Catholicism
CATH 325 (3) The Religious Sense
CATH 340 (3) Catholic Social Thought
CATH 370 (3) Topics in Catholic Studies
CATH 460 (3) Catholic Studies Seminar

6 credits chosen from the Complementary Course Lists below:
3 credits from Group I: Catholicism and the Arts
3 credits from Group II: Catholic Social and Intellectual Traditions

COMPLEMENTARY COURSE LISTS

Group I: Catholicism and the Arts

Art History and Communication Studies
ARTH 320 (3) Seventeenth Century Art of Court and Church
ARTH 340 (3) The Gothic Cathedral
ARTH 415 (3) Late Medieval & Renaissance Architecture in Northern Europe

Education
EDER 203 (3) Philosophy of Religion
EDER 204 (3) Man Before Reality

EDER 207 (3) 'Who is Christ?'
EDER 209 (3) Search for Authenticity
EDER 394 (3) Philosophy of God
EDER 396 (3) Seminar: Contemporary Theology
EDER 491 (3) Theological Themes
EDER 495 (3) The Eucharist

English
ENGL 204 (3) English Literature and the Bible
ENGL 357 (3) Chaucer - Canterbury Tales
ENGL 424 (3) Irish Literature

French Language and Literature
FREN 252 (3) Littérature québécoise
FREN 312 (3) Francophonie 2
FREN 329 (3) Civilisation québécoise 2
FREN 455 (3) La littérature médiévale 1

Hispanic Studies
HISP 432 (3) Literature - Discovery and Exploration Spain New World

Italian Studies
ITAL 320 (3) Manzoni: *Novel and Nationhood*
ITAL 355 (3) Dante and the Middle Ages
ITAL 410 (3) Modern Italian Literature

Music
MUHL 399 (3) Church Music

Religious Studies
RELG 203 (3) Bible and Western Culture
RELG 210 (3) Jesus of Nazareth
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 341 (3) Introduction: Philosophy of Religion
RELG 377 (3) Religious Controversies

Group II: Catholic Social and Intellectual Traditions

East Asian Studies
EAST 385 (3) Society and Community in Korea

Education
EDER 208 (3) Philosophy of Human Nature
EDER 394 (3) Philosophy of God
EDER 395 (3) Moral Values and Human Action
EDER 494 (3) Ethics in Practice

History
HIST 319 (3) The Scientific Revolution
HIST 320 (3) European Thought and Culture 1
HIST 321 (3) European Thought and Culture 2
HIST 324 (3) History of Ireland
HIST 325 (3) Renaissance-Reformation Europe
HIST 336 (3) France, 1789 to 1914
HIST 357 (3) Religion and Canadian Society in Historical Perspective
HIST 360 (3) Latin America since 1825
HIST 401 (3) Topics: Medieval Culture and Society
HIST 405 (3) European Cultural History 1
HIST 469D1 (3) Topics in Canadian Religious History
HIST 469D2 (3) Topics in Canadian Religious History

Philosophy
PHIL 334 (3) Ethics 1
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 474 (3) Phenomenology

Political Science
POLI 226 (3) La vie politique québécoise
POLI 318 (3) Comparative Local Government
POLI 319 (3) Politics of Latin America
POLI 321 (3) Issues: Canadian Public Policy
POLI 414 (3) Society and Politics in Italy

Religious Studies
RELG 322 (3) The Church in History 1
RELG 323 (3) The Church in History 2
RELG 340 (3) Religion and the Sciences
RELG 532 (3) History of Christian Thought 1
RELG 533 (3) History of Christian Thought 2

Sociology
SOCI 315 (3) Sociology of Religion

6.12.10 Classics Program (CLAS)

Stephen Leacock Building, Room 608
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-3975
Fax: 514-398-8365
Email: undergrad.history@mcgill.ca
Website: www.mcgill.ca/classics

Professors
Hans Beck, Director of Classical Studies; Ph.D.(Erlangen) (*John MacNaughton Professor of Classics*)

Assistant Professors
Michael Fronda; B.A.(C'nell), M.A., Ph.D.(Ohio St.)
Renaud Gagné; B.A., M.A.(Montr.), Ph.D.(Harv.)
Charles W. Gladhill; B.A.(Mich.), M.A.(Georgia South.), Ph.D.(Stan.)

Visiting Assistant Professor
Nikolaos Poulopoulos; Ph.D.(Harv.) (*Papachristidis Assistant Professor in Modern Greek Studies*)

Faculty Lecturer
Donald W. Baronowski; B.A.(McG.), M.A.(Br. Col.), Ph.D.(Tor.)
Margaret Palczynski; B.Sc.(McG.), M.A.(C'dia)

The Classics Program offers courses and the full range of degree concentrations and programs (Minor Concentration, Major Concentration, Joint Honours Component and Honours) in the study of the language, literature, history and culture of Ancient Greece and Rome. In general the Minor and Major concentrations provide an intellectual background in humanist perspectives for the enrichment of the undergraduate degree, while the Joint Honours and Honours programs in addition offer students in highest standing the prospect of favourable consideration for graduate and professional schools (such as Law), and other relevant career training. All the Classics concentrations and programs require regular advising for course selection and degree audit. Modern Greek Language and Literature courses bear the CLAS designation and are included in the listings for Classics (Group C).

Complementary courses in Classics are divided into four groups and are listed in the CLAS Complementary Course List.
Group A: Ancient Greek Language
Group B: Latin Language
Group C: Classical Civilization, Modern Greek, Ancient History
Group D: Related Courses in Other Departments

The following outlines represent Classics Program requirements only. Each student's program must also satisfy the regulations imposed by the Faculty of Arts. Please consult the Faculty General Information section.

MINOR CONCENTRATION IN CLASSICS (Expandable)
(18 credits)

Complementary Courses (18 credits)
6 - 18 credits from Ancient Greek Language (Group A) and/or Latin Language (Group B)
0 - 12 credits from Classical Civilization, Modern Greek, Ancient History (Group C)
0 - 6 credits from Related Courses in Other Departments (Group D)
Maximum of 12 credits at the 200-level.

MAJOR CONCENTRATION IN CLASSICS (36 credits)

Complementary Courses (36 credits)
15 credits from Ancient Greek Language (Group A) and/or Latin Language (Group B)

21 credits chosen from the four groups (A, B, C, & D)
Maximum of 21 credits in any one group.
Maximum of 12 credits at the 200-level.
Minimum of 3 credits at the 400-level.

HONOURS IN CLASSICS (60 credits)

Complementary Courses (60 credits)

Either: 21 credits in Ancient Greek Language (Group A) and 12 - 21 credits in Latin Language (Group B)
Or: 21 credits in Latin Language (Group B) and 12 - 21 credits in Ancient Greek Language (Group A)

12 - 21 credits in Classical Civilization, Modern Greek, Ancient History (Group C)
0 - 9 credits in Related Courses in Other Departments (Group D)
Maximum of 18 credits at the 200-level
Minimum of 3 credits at the 400-level
One of the following 6-credit courses:
CLAS 515D1/D2 (6) Latin Authors and Texts
CLAS 525D1/D2 (6) Ancient Greek Authors & Texts

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

JOINT HONOURS – CLASSICS COMPONENT (36 credits)

Complementary Courses (36 credits)
18 credits in either Ancient Greek Language (Group A) or Latin Language (Group B)
12 credits chosen from the four groups (A, B, C, or D)
Maximum of 18 credits in any one group (A, B, C, or D)
Maximum of 18 credits at the 200-level
One of the following 6-credit courses:
CLAS 515D1/D2 (6) Latin Authors and Texts
CLAS 525D1/D2 (6) Ancient Greek Authors & Texts
Minimum of 3 credits at the 400-level

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable). For Classics, see the Undergraduate Adviser, L821, 514-398-6206.

Notes:

1. Students who intend to pursue graduate studies in Classics are advised to follow an Honours or Joint Honours program.
2. Honours students must maintain a CGPA of 3.00 or higher.
3. Courses considered to be related to Classics are those given by the Departments of Art History, English, French, Philosophy, and Political Science.

Complementary Course Lists:

Group A: Ancient Greek Language

CLAS 220	(6)	Introductory Ancient Greek
CLAS 321	(3)	Intermediate Greek: Plato/Xenophon
CLAS 322	(3)	Intermediate Greek: Orators
CLAS 323	(3)	Intermediate Greek: Homer
CLAS 324	(3)	Intermediate Greek: Poetry
CLAS 325	(3)	Intermediate Greek: Later Prose
CLAS 326	(3)	Intermediate Greek: Selections
CLAS 421	(3)	Advanced Ancient Greek: Epic
CLAS 422	(3)	Advanced Ancient Greek: Lyric
CLAS 423	(3)	Advanced Ancient Greek: Drama
CLAS 424	(3)	Advanced Greek: History
CLAS 425	(3)	Advanced Greek: Oratory
CLAS 426	(3)	Advanced Greek: Philosophy
RELG 280	(6)	Elementary New Testament Greek
RELG 381	(3)	Advanced New Testament Greek

Group B: Latin Language

CLAS 210	(6)	Introductory Latin 1
CLAS 212	(3)	Introductory Latin 2
CLAS 311	(3)	Catullus/Ovid
CLAS 312	(3)	Intermediate Latin: Poetry
CLAS 313	(3)	Intermediate Latin: Cicero
CLAS 314	(3)	Intermediate Latin: Historians
CLAS 315	(3)	Intermediate Latin: Selections
CLAS 316	(3)	Intermediate Latin: Medieval
CLAS 411	(3)	Advanced Latin: Epic
CLAS 412	(3)	Advanced Latin: Lyric
CLAS 413	(3)	Advanced Latin: Satire
CLAS 414	(3)	Advanced Latin: History
CLAS 415	(3)	Advanced Latin: Oratory
CLAS 416	(3)	Advanced Latin: Philosophy

Group C: Classical Civilization, Modern Greek, Ancient History

CLAS 200	(3)	Introduction to Ancient Greek Literature
CLAS 202	(3)	Greek Civilization: Classical
CLAS 203	(3)	Greek Mythology
CLAS 208	(3)	Roman Literature and Society
CLAS 300	(3)	Greek Drama and the Theatre
CLAS 309	(3)	The Greek and Roman Novel
CLAS 370	(3)	Women in Greek Drama
CLAS 404	(3)	Classical Tradition
CLAS 449	(3)	Seminar: Natural Law
CLAS 490	(3)	Greek and Roman Historiography
CLAS 230	(6)	Introductory Modern Greek
CLAS 331	(3)	Intermediate Modern Greek Language
CLAS 332	(3)	The Modern Greek Novel
CLAS 333	(3)	Modern Greek Poetry
CLAS 335	(3)	Language and Civilization/Modern Greece 2
HIST 205	(3)	Ancient Mediterranean History
HIST 231	(3)	Archaeology of the Ancient World
HIST 305	(3)	Ancient Warfare and Imperialism
HIST 323	(3)	History and Sexuality 1
HIST 368	(3)	Greek History: Classical Period
HIST 369	(3)	Greek History: Early Greece
HIST 375	(3)	Roman History: Early Empire
HIST 376	(3)	Roman History: Later Empire
HIST 378	(3)	Roman & Greek Social History
HIST 379	(3)	Greek History: Hellenistic Period
HIST 391	(3)	Roman History: Republic
HIST 407	(3)	Topics in Ancient History
HIST 449	(3)	Medicine in the Ancient World
HIST 450	(3)	Ancient History Methods
HIST 451	(3)	The Ancient Mediterranean City

Group D: Related Courses in Other Departments

Art History

ARTH 209	(3)	Introduction to Ancient Art and Architecture

English

ENGL 347	(3)	Great Writings of Europe 1
ENGL 370	(3)	History of the Theatre 1
ENGL 447	(3)	Crosscurrents/English Literature and European Literature 1

French Language and Literature

FREN 481	(3)	Littérature et antiquité

Philosophy

PHIL 345	(3)	Greek Political Theory
PHIL 353	(3)	The Presocratic Philosophers
PHIL 354	(3)	Plato
PHIL 355	(3)	Aristotle
PHIL 452	(3)	Later Greek Philosophy
PHIL 453	(3)	Ancient Metaphysics and Natural Philosophy
PHIL 454	(3)	Ancient Moral Theory
PHIL 551	(3)	Seminar: Ancient Philosophy 2

Political Science
POLI 333 (3) Western Political Theory 1

6.12.11 Minor in Cognitive Science

Students with an interest in cognition may want to consider the Minor in "Cognitive Science" in section 14.13.8, under Science.

6.12.12 Computer Science (COMP)

McConnell Engineering Building, Room 318

Telephone: 514-398-7071
Fax: 514-398-3883
Email: liette.chin@mcgill.ca
Website: www.cs.mcgill.ca

For a list of teaching staff, an outline of the nature of computer science and the opportunities for study in this discipline, see the Science entry "Computer Science (COMP)" in section 14.13.9. The School also offers a program in the Faculty of Engineering and a Major Concentration for the Bachelor of Arts and Science.

Students must have completed MATH 133, MATH 140, MATH 141 or equivalents in order to begin taking courses in this program.

MINOR CONCENTRATION IN COMPUTER SCIENCE
(18 credits)

The Minor Concentration in Computer Science is designed for students who want to gain a basic understanding of computer science principles. Basic computer science skills are important in many domains. Thus, the Minor Concentration in Computer Science is useful for students majoring in any discipline.

This Minor Concentration may be taken in conjunction with any program in the Faculty of Arts with the approval of the adviser of the student's main program and the School of Computer Science. At the time of registration in the penultimate year, students must declare their intent to receive the Minor. Students are strongly encouraged to talk to an adviser of the School before choosing the complementary courses. Approval must be given by the School for the particular sequence of courses the student wishes to use for the Minor Concentration.

Required Courses (9 credits)

COMP 202* (3) Introduction to Computing 1
COMP 203 (3) Introduction to Computing 2
or COMP 250 (3) Introduction to Computer Science
COMP 206 (3) Introduction to Software Systems

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 but can replace it with an additional computer science complementary course.

Complementary Courses (9 credits)

Selected from:
COMP 230 (3) Logic and Computability
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
COMP 280 (3) History and Philosophy of Computing
MATH 222 (3) Calculus 3
MATH 240 (3) Discrete Structures 1

and computer science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431).

SUPPLEMENTARY MINOR CONCENTRATION IN COMPUTER SCIENCE (18 credits)

This Supplementary Minor Concentration may be taken only by students registered in the Major Concentration in Computer Science. There may be no overlap in credits taken for this Supplementary Minor Concentration and the Major Concentration in Computer Science. Taken together, these constitute a program very close to the Major in Computer Science offered by the Faculty of Science.

Students with two programs in the same department must have a third in a different discipline to be eligible to graduate. Please refer to the Faculty of Arts Degree Requirements, see section 6.3.5.2 "Departmental Programs".

Complementary Courses (18 credits)

Selected from Computer Science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431) and ECSE 508.

At most 3 credits can be selected from:
MATH 223 (3) Linear Algebra
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 340 (3) Discrete Structures 2

MAJOR CONCENTRATION IN COMPUTER SCIENCE
(36 credits)

This major concentration represents an in-depth introduction to computer science and its sub-areas.

Students that are interested in further study in Computer Science can combine the Major Concentration in Computer Science with the Supplementary Minor in Computer Science to constitute a program very close to the Major in Computer Science offered by the Faculty of Science. For further information, please consult the program adviser.

Students with two programs in the same department must have a third in a different discipline to be eligible to graduate. Please refer to the Faculty of Arts Degree Requirements, see section 6.3.5.2 "Departmental Programs".

Required Courses (21 credits)

COMP 202* (3) Introduction to Computing 1
COMP 203 (3) Introduction to Computing 2
or COMP 250 (3) Introduction to Computer Science
COMP 206 (3) Introduction to Software Systems
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
MATH 222 (3) Calculus 3
MATH 240 (3) Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 but can replace it with an additional computer science complementary course.

Complementary Courses (15 credits)

3 - 6 credits from:
MATH 223 (3) Linear Algebra
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 340 (3) Discrete Structures 2

At least 3 credits from:
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 350 (3) Numerical Computing
COMP 360 (3) Algorithm Design Techniques

At least 3 credits from:
COMP 302 (3) Programming Languages and Paradigms
COMP 303 (3) Software Development

The remaining credits selected from:
COMP 230 (3) Logic and Computability

and computer science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431) and ECSE 508.

MAJOR CONCENTRATION IN SOFTWARE ENGINEERING
(36 - 37 credits)

The Major Concentration in Software Engineering focuses on the techniques and methodology required to design and develop complex software systems.

This major concentration provides a program of study that covers the subject commonly known as "Software Engineering". This may be used to satisfy part of the requirements for a B.A. degree. This program does **not** lead to certification as a Professional Engineer.

Required Courses (30 credits)

COMP 202*	(3)	Introduction to Computing 1
COMP 206	(3)	Introduction to Software Systems
COMP 250	(3)	Introduction to Computer Science
COMP 251	(3)	Data Structures and Algorithms
COMP 302	(3)	Programming Languages and Paradigms
COMP 303	(3)	Software Development
COMP 304	(3)	Object-Oriented Design
COMP 421	(3)	Database Systems
MATH 223	(3)	Linear Algebra
MATH 240	(3)	Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 and can replace it with additional Computer Science complementary course credits.

Complementary Courses (6 - 7 credits)

COMP 335	(3)	Software Engineering Methods
or ECSE 321	(3)	Introduction to Software Engineering
COMP 322	(1)	Introduction to C++
COMP 361	(3)	Systems Development Project
COMP 529	(4)	Software Architecture
COMP 533	(3)	Object-Oriented Software Development

or any Computer Science course at the 300-level or above, excluding COMP 364, COMP 396, and COMP 431.

JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE, see "Mathematics and Statistics (MATH)" in section 14.13.21, Faculty of Science. Admission to the program is based on a strong performance in CEGEP-level mathematics courses. Students must consult an Honours adviser in both departments.

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

6.12.13 East Asian Studies (EAST)

3434 McTavish Street
Montreal, QC H3A 1X9

Telephone: 514-398-6742
Fax: 514-398-1882
Email: asian.studies@mcgill.ca
Website: www.mcgill.ca/eas

Acting Chair — Grace S. Fong

Professors
Kenneth Dean; B.A.(Brown), M.A., Ph.D.(Stan.)
Thomas LaMarre; B.A.(G'town), M.A., Ph.D.(Chic.), D.Sc.(d'Aix-Marseille II)
Robin D.S. Yates; B.A., M.A.(Oxf.), M.A.(Calif.), Ph.D.(Harv.)

Associate Professors
Grace S. Fong; B.A., M.A.(Tor.), Ph.D.(Br. Col.)
Griet Vankeerberghen; Licence(Louvain), Ph.D.(Prin.)

Assistant Professors
Yuriko Furuhata; B.A.(Int'l. Christian), M.A.(N. Mexico), Ph.D.(Brown)
Adrienne Hurley; B.A.(Colo.), M.A.(Mich.), Ph.D.(Calif.)
Hajime Nakatani; B.L.A.(Univ. Tokyo), M.A.(Lond.), Ph.D.(Chic.)

Lecturers
Jennie Chang; B.A.(Taiwan), M.A.(Harv.)
Sumi Hasegawa; M.A.(Montr.)
Myung Hee Kim; B.A., M.A.(Montr.)
Miwako Uesaka; B.Sc.(Kyoto Univ.), M.A.(McG.)
B. Wang; B.A.(Heilongjiang), M.A.(Calg.)

Associate Members
Laurel Bossen (*Anthropology*)
Lara Braitstein (*Religious Studies*)
Christopher Green (*Economics*)
Sandra Hyde (*Anthropology*)
Victor Hori (*Religious Studies*)
Erik Kuhonta (*Political Science*)
John Kurien (*Economics*)
Catherine Lu (*Political Science*)
Lorenz Lüthi (*History*)
Mark Manger (*Political Science*)
Junko Shimoyama (*Linguistics*)
Yuzo Ota (*History*)
Sarah Turner (*Geography*)

Heirs to ancient cultures and traditions that are rich and complex, East Asian societies are among the most dynamic and rapidly developing in the world today and are having an increasing impact on the global scene, economically, politically and culturally. The study of the languages and cultures of East Asia, whether at the Major or Minor Concentration or Honours level, offers the student an intellectually challenging and personally stimulating educational experience. While offering a different perspective on the human condition, East Asian Studies provides excellent preparation for a future career in the professions, international business management, education, law, journalism and communications, in addition to the necessary training for advanced study at the graduate level.

For complementary courses in the East Asian field, please refer to the Departmental listing and the list of courses offered by other departments and in other faculties.

MINOR CONCENTRATION IN EAST ASIAN LANGUAGE AND LITERATURE (Expandable) (18 credits)

Complementary Courses (18 credits)

3 credits, one of the following introductory culture courses:

EAST 211	(3)	Introduction: East Asian Culture: China
EAST 212	(3)	Introduction: East Asian Culture: Japan
EAST 213	(3)	Introduction: East Asian Culture: Korea

9 credit Language Component:

Students may meet this requirement by passing with a grade of "C" the First level language (EAST 220D1/EAST 220D2, EAST 230D1/EAST 230D2, EAST 240D1/EAST 240D2); students with prior knowledge of an Asian language may substitute a Second level language (EAST 320D1/EAST 320D2, EAST 330D1/EAST 330D2, EAST 340D1/EAST 340D2);

or with 6 credits of either Classical Chinese (EAST 533; EAST 534), or Classical Japanese (EAST 543; EAST 544); or with Third or Fourth level language (EAST 420, EAST 421; EAST 430D1/EAST 430D2; EAST 440D1/EAST 440D2; EAST 520, EAST 521; EAST 530D1/EAST 530D2; EAST 540D1/EAST 540D2); or with 6 credits of Chinese for Business (EAST 535; EAST 536) or China Today through Translation (EAST 537D1/EAST 537D2) and an additional 3-credit course in East Asian Area Studies. (Admission to language courses is subject to placement tests.)

6 credits at the 300-level or above in the Department of East Asian Studies course offerings:

EAST 303	(3)	Current Topics: Chinese Studies 1
EAST 304	(3)	Current Topics: Chinese Studies 2
EAST 305	(3)	Current Topics: Japanese Studies 1
EAST 306	(3)	Current Topics: Japanese Studies 2
EAST 307	(3)	Topics: Chinese Language and Literature 1
EAST 308	(3)	Topics: Chinese Language and Literature 2
EAST 313	(3)	Current Topics: Korean Studies 1
EAST 314	(3)	Current Topics: Korean Studies 2
EAST 315	(3)	Survey: Modern Korean Literature in Translation
EAST 350	(3)	Gender and Sexuality in Chinese Literature
EAST 351	(3)	Women Writers of China
EAST 352	(3)	Critical Approaches to Chinese Literature

EAST 353 (3) Approaches to Chinese Cinema
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 356 (3) Modern & Contemporary Chinese Art
EAST 362 (3) Japanese Cinema
EAST 363 (3) Aesthetics and Politics of Vision Premodern Japan
EAST 364 (3) Mass Culture and Postwar Japan
EAST 370 (3) History of Sexuality in Japan
EAST 385 (3) Society and Community in Korea
EAST 390 (3) The Chinese Family in History
EAST 453 (3) Topics: Chinese Literature
EAST 454 (3) Topics: Chinese Cinema
EAST 456 (3) Chinese Drama and Popular Culture
EAST 457 (3) Brushwork in Chinese Painting
EAST 461 (3) Inventing Modern Japanese Novel
EAST 462 (3) Japan in Asia
EAST 464 (3) Image, Text, Performance
EAST 466 (3) Feminism and Japan
EAST 467 (3) Topics: Japanese Cinema
EAST 490 (3) Confucius and the Classics
EAST 491 (3) Tutorial: East Asian Languages and Literatures 1
EAST 492 (3) Tutorial: East Asian Languages and Literatures 2
EAST 493 (3) Special Topics: East Asian Studies 1
EAST 494 (3) Special Topics: East Asian Studies 2
EAST 501 (3) Advanced Topics in Japanese Studies 1
EAST 502 (3) Advanced Topics in Japanese Studies 2
EAST 503 (3) Advanced Topics in Chinese Studies 1
EAST 504 (3) Advanced Topics in Chinese Studies 2
EAST 515 (3) Seminar: Beyond Orientalism
EAST 550 (3) Classical Chinese Poetry Themes and Genres
EAST 551 (3) Technologies of Self in Early China
EAST 552 (3) The *Yijing* (Book of Changes)
EAST 559 (3) Advanced Topics: Chinese Literature
EAST 562 (3) Japanese Literary Theory and Practice
EAST 563 (3) Images, Ideograms, Aesthetics
EAST 564 (3) Structures of Modernity: Japan
EAST 569 (3) Advanced Topics: Japanese Literature
EAST 582 (3) Japanese Culture and Society

MINOR CONCENTRATION IN EAST ASIAN CULTURAL STUDIES (Expandable) (18 credits)

Complementary Courses (18 credits)

6 credits in Introduction to East Asian Culture courses:

EAST 211 (3) Introduction: East Asian Culture: China
EAST 212 (3) Introduction: East Asian Culture: Japan
EAST 213 (3) Introduction: East Asian Culture: Korea

12 credits chosen from the following East Asian Literature, Culture and Society courses:

EAST 214 (3) Japanese Animation and New Media
EAST 215 (3) Introduction to East Asian Art
EAST 303 (3) Current Topics: Chinese Studies 1
EAST 304 (3) Current Topics: Chinese Studies 2
EAST 305 (3) Current Topics: Japanese Studies 1
EAST 306 (3) Current Topics: Japanese Studies 2
EAST 307 (3) Topics: Chinese Language and Literature 1
EAST 308 (3) Topics: Chinese Language and Literature 2
EAST 313 (3) Current Topics: Korean Studies 1
EAST 314 (3) Current Topics: Korean Studies 2
EAST 315 (3) Survey: Modern Korean Literature in Translation
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 352 (3) Critical Approaches to Chinese Literature
EAST 353 (3) Approaches to Chinese Cinema
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 356 (3) Modern & Contemporary Chinese Art
EAST 362 (3) Japanese Cinema
EAST 363 (3) Aesthetics and Politics of Vision Premodern Japan
EAST 364 (3) Mass Culture and Postwar Japan
EAST 370 (3) History of Sexuality in Japan
EAST 385 (3) Society and Community in Korea
EAST 390 (3) The Chinese Family in History
EAST 453 (3) Topics: Chinese Literature
EAST 454 (3) Topics: Chinese Cinema
EAST 456 (3) Chinese Drama and Popular Culture
EAST 457 (3) Brushwork in Chinese Painting
EAST 461 (3) Inventing Modern Japanese Novel
EAST 462 (3) Japan in Asia
EAST 464 (3) Image, Text, Performance
EAST 466 (3) Feminism and Japan
EAST 467 (3) Topics: Japanese Cinema
EAST 490 (3) Confucius and the Classics
EAST 491 (3) Tutorial: East Asian Languages and Literatures 1
EAST 492 (3) Tutorial: East Asian Languages and Literatures 2
EAST 493 (3) Special Topics: East Asian Studies 1
EAST 494 (3) Special Topics: East Asian Studies 2
EAST 501 (3) Advanced Topics in Japanese Studies 1
EAST 502 (3) Advanced Topics in Japanese Studies 2
EAST 503 (3) Advanced Topics in Chinese Studies 1
EAST 504 (3) Advanced Topics in Chinese Studies 2
EAST 515 (3) Seminar: Beyond Orientalism
EAST 550 (3) Classical Chinese Poetry Themes and Genres
EAST 551 (3) Technologies of Self in Early China
EAST 552 (3) The *Yijing* (Book of Changes)
EAST 559 (3) Advanced Topics: Chinese Literature
EAST 562 (3) Japanese Literary Theory and Practice
EAST 563 (3) Images, Ideograms, Aesthetics
EAST 564 (3) Structures of Modernity: Japan
EAST 569 (3) Advanced Topics: Japanese Literature
EAST 582 (3) Japanese Culture and Society

Anthropology

ANTH 329 (3) Modern Chinese Society and Change
ANTH 331 (3) Prehistory of East Asia
ANTH 431 (3) Problems in East Asian Archaeology
ANTH 500 (3) Chinese Diversity and Diaspora

Economics

ECON 335 (3) The Japanese Economy
ECON 411 (3) Economic Development: A World Area

History

HIST 208 (3) Introduction to East Asian History
HIST 218 (3) Modern East Asian History
HIST 308 (3) Formation of Chinese Tradition
HIST 318 (3) History of Japan 1
HIST 328 (3) China in Revolution 1: 1840-1921
HIST 337 (3) Japanese Intellectual History 1
HIST 338 (3) China in Revolution 2: 1921-1997
HIST 348 (3) China: Science-Medicine-Technology
HIST 352 (3) Japanese Intellectual History 2
HIST 358 (3) Medieval to Early Modern China
HIST 359 (3) History of Japan 2
HIST 439 (3) History of Women in China
HIST 441 (3) Topics: Culture and Ritual in China
HIST 442 (3) Asian Diaspora: Chinese Overseas
HIST 443 (3) China in the Modern World
HIST 445 (3) Late Imperial China
HIST 485D1 (3) Seminar in Japanese History
HIST 485D2 (3) Seminar in Japanese History
HIST 497D1 (3) Topics in Chinese History
HIST 497D2 (3) Topics in Chinese History
HIST 579 (3) The Arts of Healing in China
HIST 581 (3) The Art of War in China

Management
ORGB 380 (3) Cross Cultural Management

Political Science
POLI 323 (3) Developing Areas/China and Japan
POLI 349 (3) Foreign Policy-Asia Pacific

Religious Studies
RELG 253 (3) Religions of East Asia
RELG 264 (3) Introductory Tibetan 1
RELG 265 (3) Introductory Tibetan 2
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 344 (3) Mahayana Buddhism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 364 (3) Intermediate Tibetan 1
RELG 365 (3) Intermediate Tibetan 2
RELG 442 (3) Pure Land Buddhism
RELG 443 (3) Japanese Esoteric Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 464 (3) Advanced Tibetan 1
RELG 465 (3) Advanced Tibetan 2
RELG 549 (3) Japanese Buddhist Philosophy
RELG 557 (3) Asian Ethical Systems

MINOR CONCENTRATION IN ADVANCED EAST ASIAN STUDIES (Non-expandable) (18 credits)

Complementary Courses (18 credits)
18 credits in Second, Third or Fourth level language or a combination of advanced language and other courses in East Asian culture, literature, or area studies, at the 400-level or above chosen in consultation with the Minors adviser.

MAJOR CONCENTRATION IN EAST ASIAN STUDIES (36 credits)

Complementary Courses (36 credits)
6 credits, two of the following introductory East Asian courses:
EAST 211 (3) Introduction: East Asian Culture: China
EAST 212 (3) Introduction: East Asian Culture: Japan
EAST 213 (3) Introduction: East Asian Culture: Korea

6 - 9 credits to be chosen from the following East Asian language courses:
EAST 220D1 (4.5) First Level Korean
EAST 220D2 (4.5) First Level Korean
EAST 230D1 (4.5) First Level Chinese
EAST 230D2 (4.5) First Level Chinese
EAST 240D1 (4.5) First Level Japanese
EAST 240D2 (4.5) First Level Japanese
EAST 320D1 (4.5) Second Level Korean
EAST 320D2 (4.5) Second Level Korean
EAST 330D1 (4.5) Second Level Chinese
EAST 330D2 (4.5) Second Level Chinese
EAST 340D1 (4.5) Second Level Japanese
EAST 340D2 (4.5) Second Level Japanese
EAST 420 (3) Third Level Korean 1
EAST 421 (3) Third Level Korean 2
EAST 430D1 (3) Third Level Chinese
EAST 430D2 (3) Third Level Chinese
EAST 440D1 (3) Third Level Japanese
EAST 440D2 (3) Third Level Japanese
EAST 520 (3) Fourth Level Korean 1
EAST 521 (3) Fourth Level Korean 2
EAST 530D1 (3) Fourth Level Chinese
EAST 530D2 (3) Fourth Level Chinese
EAST 533 (3) Classical Chinese 1
EAST 534 (3) Classical Chinese 2
EAST 535 (3) Chinese for Business 1
EAST 536 (3) Chinese for Business 2
EAST 537D1 (3) China Today Through Translation
EAST 537D2 (3) China Today Through Translation
EAST 540D1 (3) Fourth Level Japanese
EAST 540D2 (3) Fourth Level Japanese
EAST 543 (3) Classical Japanese 1
EAST 544 (3) Classical Japanese 2
EAST 547 (3) Advanced Translation in Japanese

(Admission to language courses is subject to placement tests.)

21 - 24 credits chosen from the following East Asian Literature, Culture and Society courses. At least 6 credits must be at the 400- or 500-level:
EAST 214 (3) Japanese Animation and New Media
EAST 215 (3) Introduction to East Asian Art
EAST 303 (3) Current Topics: Chinese Studies 1
EAST 304 (3) Current Topics: Chinese Studies 2
EAST 305 (3) Current Topics: Japanese Studies 1
EAST 306 (3) Current Topics: Japanese Studies 2
EAST 307 (3) Topics: Chinese Language and Literature 1
EAST 308 (3) Topics: Chinese Language and Literature 2
EAST 313 (3) Current Topics: Korean Studies 1
EAST 314 (3) Current Topics: Korean Studies 2
EAST 315 (3) Survey: Modern Korean Literature in Translation
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 352 (3) Critical Approaches to Chinese Literature
EAST 353 (3) Approaches to Chinese Cinema
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 356 (3) Modern & Contemporary Chinese Art
EAST 362 (3) Japanese Cinema
EAST 363 (3) Aesthetics and Politics of Vision Premodern Japan
EAST 364 (3) Mass Culture and Postwar Japan
EAST 370 (3) History of Sexuality in Japan
EAST 385 (3) Society and Community in Korea
EAST 390 (3) The Chinese Family in History
EAST 453 (3) Topics: Chinese Literature
EAST 454 (3) Topics: Chinese Cinema
EAST 456 (3) Chinese Drama and Popular Culture
EAST 457 (3) Brushwork in Chinese Painting
EAST 461 (3) Inventing Modern Japanese Novel
EAST 462 (3) Japan in Asia
EAST 464 (3) Image, Text, Performance
EAST 466 (3) Feminism and Japan
EAST 467 (3) Topics: Japanese Cinema
EAST 490 (3) Confucius and the Classics
EAST 491 (3) Tutorial: East Asian Languages and Literatures 1
EAST 492 (3) Tutorial: East Asian Languages and Literatures 2
EAST 493 (3) Special Topics: East Asian Studies 1
EAST 494 (3) Special Topics: East Asian Studies 2
EAST 501 (3) Advanced Topics in Japanese Studies 1
EAST 502 (3) Advanced Topics in Japanese Studies 2
EAST 503 (3) Advanced Topics in Chinese Studies 1
EAST 504 (3) Advanced Topics in Chinese Studies 2
EAST 515 (3) Seminar: Beyond Orientalism
EAST 550 (3) Classical Chinese Poetry Themes and Genres
EAST 551 (3) Technologies of Self in Early China
EAST 552 (3) The *Yijing* (Book of Changes)
EAST 559 (3) Advanced Topics: Chinese Literature
EAST 562 (3) Japanese Literary Theory and Practice
EAST 563 (3) Images, Ideograms, Aesthetics
EAST 564 (3) Structures of Modernity: Japan
EAST 569 (3) Advanced Topics: Japanese Literature
EAST 582 (3) Japanese Culture and Society

Anthropology
ANTH 329 (3) Modern Chinese Society and Change
ANTH 331 (3) Prehistory of East Asia
ANTH 431 (3) Problems in East Asian Archaeology
ANTH 500 (3) Chinese Diversity and Diaspora

Economics
ECON 335 (3) The Japanese Economy
ECON 411 (3) Economic Development: A World Area

Geography
GEOG 408 (3) Geography of Development
GEOG 508 (3) Resources, People and Power

History
HIST 208 (3) Introduction to East Asian History
HIST 218 (3) Modern East Asian History
HIST 308 (3) Formation of Chinese Tradition
HIST 318 (3) History of Japan 1
HIST 328 (3) China in Revolution 1: 1840-1921
HIST 337 (3) Japanese Intellectual History 1
HIST 338 (3) China in Revolution 2: 1921-1997
HIST 348 (3) China: Science-Medicine-Technology
HIST 352 (3) Japanese Intellectual History 2
HIST 358 (3) Medieval to Early Modern China
HIST 359 (3) History of Japan 2
HIST 439 (3) History of Women in China
HIST 441 (3) Topics: Culture and Ritual in China
HIST 442 (3) Asian Diaspora: Chinese Overseas
HIST 443 (3) China in the Modern World
HIST 445 (3) Late Imperial China
HIST 485D1 (3) Seminar in Japanese History
HIST 485D2 (3) Seminar in Japanese History
HIST 497D1 (3) Topics in Chinese History
HIST 497D2 (3) Topics in Chinese History
HIST 579 (3) The Arts of Healing in China
HIST 581 (3) The Art of War in China

Management
ORGB 380 (3) Cross Cultural Management

Political Science
POLI 323 (3) Developing Areas/China and Japan
POLI 349 (3) Foreign Policy-Asia Pacific

Religious Studies
RELG 253 (3) Religions of East Asia
RELG 264 (3) Introductory Tibetan 1
RELG 265 (3) Introductory Tibetan 2
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 344 (3) Mahayana Buddhism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 364 (3) Intermediate Tibetan 1
RELG 365 (3) Intermediate Tibetan 2
RELG 442 (3) Pure Land Buddhism
RELG 443 (3) Japanese Esoteric Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 464 (3) Advanced Tibetan 1
RELG 465 (3) Advanced Tibetan 2
RELG 549 (3) Japanese Buddhist Philosophy
RELG 557 (3) Asian Ethical Systems

HONOURS IN EAST ASIAN STUDIES (60 credits)

Required Courses (6 credits)
EAST 498D1 (3) Honours Thesis: East Asian Studies
EAST 498D2 (3) Honours Thesis: East Asian Studies

Complementary Courses (54 credits)

24 credits of an East Asian language chosen from:
EAST 220D1 (4.5) First Level Korean
EAST 220D2 (4.5) First Level Korean
EAST 230D1 (4.5) First Level Chinese
EAST 230D2 (4.5) First Level Chinese
EAST 240D1 (4.5) First Level Japanese
EAST 240D2 (4.5) First Level Japanese
EAST 320D1 (4.5) Second Level Korean
EAST 320D2 (4.5) Second Level Korean
EAST 330D1 (4.5) Second Level Chinese
EAST 330D2 (4.5) Second Level Chinese
EAST 340D1 (4.5) Second Level Japanese
EAST 340D2 (4.5) Second Level Japanese
EAST 420 (3) Third Level Korean 1
EAST 421 (3) Third Level Korean 2
EAST 430D1 (3) Third Level Chinese
EAST 430D2 (3) Third Level Chinese
EAST 440D1 (3) Third Level Japanese
EAST 440D2 (3) Third Level Japanese
EAST 520 (3) Fourth Level Korean 1
EAST 521 (3) Fourth Level Korean 2
EAST 530D1 (3) Fourth Level Chinese
EAST 530D2 (3) Fourth Level Chinese
EAST 533 (3) Classical Chinese 1
EAST 534 (3) Classical Chinese 2
EAST 535 (3) Chinese for Business 1
EAST 536 (3) Chinese for Business 2
EAST 537D1 (3) China Today Through Translation
EAST 537D2 (3) China Today Through Translation
EAST 540D1 (3) Fourth Level Japanese
EAST 540D2 (3) Fourth Level Japanese
EAST 543 (3) Classical Japanese 1
EAST 544 (3) Classical Japanese 2
EAST 547 (3) Advanced Translation in Japanese

(Admission to language courses is subject to placement tests.)

30 credits in East Asian Culture, Literature and Society courses.
6 credits from:
EAST 211 (3) Introduction: East Asian Culture: China
EAST 212 (3) Introduction: East Asian Culture: Japan
EAST 213 (3) Introduction: East Asian Culture: Korea

24 credits chosen from the following courses, of which 6 credits must be at the 400-level or above, one 400-level course must be taken before commencing the thesis.
EAST 214 (3) Japanese Animation and New Media
EAST 215 (3) Introduction to East Asian Art
EAST 303 (3) Current Topics: Chinese Studies 1
EAST 304 (3) Current Topics: Chinese Studies 2
EAST 305 (3) Current Topics: Japanese Studies 1
EAST 306 (3) Current Topics: Japanese Studies 2
EAST 307 (3) Topics: Chinese Language and Literature 1
EAST 308 (3) Topics: Chinese Language and Literature 2
EAST 313 (3) Current Topics: Korean Studies 1
EAST 314 (3) Current Topics: Korean Studies 2
EAST 315 (3) Survey: Modern Korean Literature in Translation
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 352 (3) Critical Approaches to Chinese Literature
EAST 353 (3) Approaches to Chinese Cinema
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 356 (3) Modern & Contemporary Chinese Art
EAST 362 (3) Japanese Cinema
EAST 363 (3) Aesthetics and Politics of Vision Premodern Japan
EAST 364 (3) Mass Culture and Postwar Japan
EAST 370 (3) History of Sexuality in Japan
EAST 385 (3) Society and Community in Korea
EAST 390 (3) The Chinese Family in History
EAST 453 (3) Topics: Chinese Literature
EAST 454 (3) Topics: Chinese Cinema
EAST 456 (3) Chinese Drama and Popular Culture

EAST 457 (3) Brushwork in Chinese Painting
EAST 461 (3) Inventing Modern Japanese Novel
EAST 462 (3) Japan in Asia
EAST 464 (3) Image, Text, Performance
EAST 466 (3) Feminism and Japan
EAST 467 (3) Topics: Japanese Cinema
EAST 490 (3) Confucius and the Classics
EAST 491 (3) Tutorial: East Asian Languages and Literatures 1
EAST 492 (3) Tutorial: East Asian Languages and Literatures 2
EAST 493 (3) Special Topics: East Asian Studies 1
EAST 494 (3) Special Topics: East Asian Studies 2
EAST 501 (3) Advanced Topics in Japanese Studies 1
EAST 502 (3) Advanced Topics in Japanese Studies 2
EAST 503 (3) Advanced Topics in Chinese Studies 1
EAST 504 (3) Advanced Topics in Chinese Studies 2
EAST 515 (3) Seminar: Beyond Orientalism
EAST 550 (3) Classical Chinese Poetry Themes and Genres
EAST 551 (3) Technologies of Self in Early China
EAST 552 (3) The *Yijing* (Book of Changes)
EAST 562 (3) Japanese Literary Theory and Practice
EAST 559 (3) Advanced Topics: Chinese Literature
EAST 563 (3) Images, Ideograms, Aesthetics
EAST 564 (3) Structures of Modernity: Japan
EAST 569 (3) Advanced Topics: Japanese Literature
EAST 582 (3) Japanese Culture and Society

Anthropology
ANTH 329 (3) Modern Chinese Society and Change
ANTH 331 (3) Prehistory of East Asia
ANTH 431 (3) Problems in East Asian Archaeology
ANTH 500 (3) Chinese Diversity and Diaspora

Economics
ECON 335 (3) The Japanese Economy
ECON 411 (3) Economic Development: A World Area

Geography
GEOG 408 (3) Geography of Development
GEOG 508 (3) Resources, People and Power

History
HIST 208 (3) Introduction to East Asian History
HIST 218 (3) Modern East Asian History
HIST 308 (3) Formation of Chinese Tradition
HIST 318 (3) History of Japan 1
HIST 328 (3) China in Revolution 1: 1840-1921
HIST 337 (3) Japanese Intellectual History 1
HIST 338 (3) China in Revolution 2: 1921-1997
HIST 348 (3) China: Science-Medicine-Technology
HIST 352 (3) Japanese Intellectual History 2
HIST 358 (3) Medieval to Early Modern China
HIST 359 (3) History of Japan 2
HIST 439 (3) History of Women in China
HIST 441 (3) Topics: Culture and Ritual in China
HIST 442 (3) Asian Diaspora: Chinese Overseas
HIST 443 (3) China in the Modern World
HIST 445 (3) Late Imperial China
HIST 485D1 (3) Seminar in Japanese History
HIST 485D2 (3) Seminar in Japanese History
HIST 497D1 (3) Topics in Chinese History
HIST 497D2 (3) Topics in Chinese History
HIST 579 (3) The Arts of Healing in China
HIST 581 (3) The Art of War in China

Management
ORGB 380 (3) Cross Cultural Management

Political Science
POLI 323 (3) Developing Areas/China and Japan
POLI 349 (3) Foreign Policy-Asia Pacific

Religious Studies
RELG 253 (3) Religions of East Asia
RELG 264 (3) Introductory Tibetan 1
RELG 265 (3) Introductory Tibetan 2
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 344 (3) Mahayana Buddhism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 364 (3) Intermediate Tibetan 1
RELG 365 (3) Intermediate Tibetan 2
RELG 442 (3) Pure Land Buddhism
RELG 443 (3) Japanese Esoteric Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 464 (3) Advanced Tibetan 1
RELG 465 (3) Advanced Tibetan 2
RELG 549 (3) Japanese Buddhist Philosophy
RELG 557 (3) Asian Ethical Systems

Honours students are required to maintain a CGPA of 3.00 or above and a program GPA of 3.00 or above.

JOINT HONOURS – EAST ASIAN STUDIES COMPONENT
(36 credits)

Required Courses (3 credits)
EAST 495D1 (1.5) Joint Honours Thesis: East Asian Studies
EAST 495D2 (1.5) Joint Honours Thesis: East Asian Studies

Complementary Courses (33 credits)

6 credits of introductory courses, two of:
EAST 211 (3) Introduction to East Asian Culture: China
EAST 212 (3) Introduction to East Asian Culture: Japan
EAST 213 (3) Introduction to East Asian Culture: Korea

18 credits in an East Asian language above the introductory level.

9 credits chosen from the following East Asian Studies courses, at least 3 credits must be at the 400-level or above:
EAST 303 (3) Current Topics: Chinese Studies 1
EAST 304 (3) Current Topics: Chinese Studies 2
EAST 305 (3) Current Topics: Japanese Studies 1
EAST 306 (3) Current Topics: Japanese Studies 2
EAST 307 (3) Topics: Chinese Language and Literature 1
EAST 308 (3) Topics: Chinese Language and Literature 2
EAST 313 (3) Current Topics: Korean Studies 1
EAST 314 (3) Current Topics: Korean Studies 2
EAST 315 (3) Survey: Modern Korean Literature in Translation
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 352 (3) Critical Approaches to Chinese Literature
EAST 353 (3) Approaches to Chinese Cinema
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 356 (3) Modern & Contemporary Chinese Art
EAST 362 (3) Japanese Cinema
EAST 363 (3) Aesthetics and Politics of Vision Premodern Japan
EAST 364 (3) Mass Culture and Postwar Japan
EAST 370 (3) History of Sexuality in Japan
EAST 385 (3) Society and Community in Korea
EAST 390 (3) The Chinese Family in History
EAST 453 (3) Topics: Chinese Literature
EAST 454 (3) Topics: Chinese Cinema
EAST 456 (3) Chinese Drama and Popular Culture
EAST 457 (3) Brushwork in Chinese Painting
EAST 461 (3) Inventing Modern Japanese Novel
EAST 462 (3) Japan in Asia
EAST 464 (3) Image, Text, Performance
EAST 466 (3) Feminism and Japan
EAST 467 (3) Topics: Japanese Cinema
EAST 490 (3) Confucius and the Classics

EAST 491	(3)	Tutorial: East Asian Languages and Literatures 1
EAST 492	(3)	Tutorial: East Asian Languages and Literatures 2
EAST 493	(3)	Special Topics: East Asian Studies 1
EAST 494	(3)	Special Topics: East Asian Studies 2
EAST 501	(3)	Advanced Topics in Japanese Studies 1
EAST 502	(3)	Advanced Topics in Japanese Studies 2
EAST 503	(3)	Advanced Topics in Chinese Studies 1
EAST 504	(3)	Advanced Topics in Chinese Studies 2
EAST 515	(3)	Seminar: Beyond Orientalism
EAST 550	(3)	Classical Chinese Poetry Themes and Genres
EAST 551	(3)	Technologies of Self in Early China
EAST 552	(3)	The *Yijing* (Book of Changes)
EAST 559	(3)	Advanced Topics: Chinese Literature
EAST 562	(3)	Japanese Literary Theory and Practice
EAST 563	(3)	Images, Ideograms, Aesthetics
EAST 564	(3)	Structures of Modernity: Japan
EAST 569	(3)	Advanced Topics: Japanese Literature
EAST 582	(3)	Japanese Culture and Society

Students who wish to study at the Honours level in two disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

6.12.14 Economics (ECON)

Room 443, Stephen Leacock Building
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-4850
Fax: 514-398-4938
Email: undergraduate.economics@mcgill.ca
Website: www.mcgill.ca/economics

Chair — William Watson

Emeritus Professor
Kari Levitt; B.Sc.(Lond.), M.A.(Tor.)

Professors
Robert B. Cairns; B.Sc.(Tor.), Ph.D.(MIT)
Russell Davidson; B.Sc., Ph.D.(Glas.), Ph.D.(Br. Col.) *(Canada Research Chair)*
Antal Deutsch; B.Com.(Sir G. Wms.), Ph.D.(McG.)
Jean-Marie Dufour; B.Sc.(McG.), M.Sc.(Montr.), M.A.(C'dia.), M.A.(Chic.), Ph.D.(Chic.)
John Galbraith; B.A.(Qu.), M.Phil., D.Phil.(Oxf.) *(James McGill Professor)*
George Grantham; B.A.(Antioch), M.A., Ph.D.(Yale)
Christopher Green; M.A.(Conn.), Ph.D.(Wis.)
Jagdish Handa; B.Sc.(Lond.), Ph.D.(Johns H.)
Jennifer Hunt; I.B.(International School of Geneva), S.B.(MIT), Ph.D.(Harv.)
Ngo Van Long; B.Ec.(LaT.), Ph.D.(A.N.U.) (*James McGill Professor*)
Mary E. Mackinnon; B.A.(Qu.), M.Phil., D.Phil.(Oxf.)
Robin Thomas Naylor; B.A.(Tor.), M.Sc.(Lond.), Ph.D.(Cant.)
J.C. Robin Rowley; B.Sc., M.Sc., Ph.D.(Lond.)
Victoria Zinde-Walsh; M.A.(Wat.), M.Sc., Ph.D.(Moscow St.)

Associate Professors
Hassan Benchekroun; Diplôme d'ingénieur d'état(École Mohamedia des Ingénieurs, Morocco), Ph.D.(Laval)
James Engle-Warnick; B.S.(Akron), M.B.A.(Carnegie), Ph.D.(Pitts.)
Myron Frankman; B.Mgt.E.(Renss.), Ph.D.(Texas)
Franque Grimard; B.A.(York), Ph.D.(Prin.)
C. John Kurien; B.A.(Kerala), M.A., Ph.D.(Vanderbilt)
Daniel Parent; B.A., M.A.(Laval), Ph.D.(Montr.) (*William Dawson Scholar*)
Christopher T.S. Ragan; B.A.(Vic. (BC)), M.A.(Qu.), Ph.D.(MIT)
Thomas Velk; M.S., Ph.D.(Wis.)
William Watson; B.A.(McG.), Ph.D.(Yale)
Licun Xue; B.Eng., M.Eng.(Tianjin), M.A., Ph.D.(McG.)

Assistant Professors
Francisco Alvarez-Cuadrado; B.Sc.(Pontifica Comillas), M.A., Ph.D.(Wash.)
Leah Brooks; B.A.(Chic.), Ph.D.(Calif.-LA)
Takashi Kunimoto; B.A.(Doshisha), M.A.(Kyoto), M.A., Ph.D.(Brown)
Sonia Laszlo; B.A.(Ott.), M.A.(W. Ont.), Ph.D.(Tor.)
Markus Poschke; M.Sc.(Maastricht), M.A.(Institut d'Études Politiques, Paris), M.Res., Ph.D.(European University Institute, Italy)
Maxim Sinitsyn; B.A.(Central Methodist), M.S.(Southern Illinois), M.A., Ph.D.(N'western)
Erin Strumpf; B.A.(Smith), Ph.D.(Harv.)
Dhanoos Sutthiphisal; B.Eng.(Chulalonghorn), M.B.A., M.S.(Lehigh), Ph.D.(Calif.-LA)

Lecturers
Paul Dickinson, Kenneth MacKenzie

GENERAL

For more up-to-date, detailed information about the Department and its programs, please visit our websites as follows: www.mcgill.ca/economics/undergraduates/majorminor for information on the Major and Minor programs and www.mcgill.ca/economics/undergraduates/honours for information on the Honours programs.

U0 students interested in economics should take ECON 208 and ECON 209. These courses provide good preparation for the Honours and Major programs, although neither course is a prerequisite for either program. The first year of microeconomics courses for the Honours Program (ECON 250D1/ECON 250D2) and for the Majors Program (ECON 230D1/ECON 230D2) should not be taken in the U0 year.

Please see the following website to access the document on credit for economics courses taken elsewhere: www.mcgill.ca/economics/undergraduates/courses. For information on Economics Internships, please see this website: www.mcgill.ca/arts-internships/departments/economics.

PROGRAMS IN ECONOMICS

MINOR CONCENTRATION IN ECONOMICS

The Minor Concentration in Economics is offered in four streams:

- Stream I – Expandable
- Stream II – Non-expandable
- Stream III – for Management students
- Stream IV – Combinable, for students already registered in a Major Concentration in Economics

In general, 200-level courses have no prerequisites, ECON 208 and ECON 209 (substitutable by the combination of MGCR 293 and ECON 295 or the more advanced course ECON 230D1/ ECON 230D2 or ECON 250D1/ ECON 250D2) are prerequisites for 300-level courses, ECON 230D1/ECON 230D2 or ECON 250D1/ ECON 250D2 are prerequisite for 400-level courses.

MINOR CONCENTRATION IN ECONOMICS – STREAM I

(Expandable) (18 credits)

For students whose primary interest is in a field other than Economics but who wish to keep the option of upgrading to a Major Concentration in future.

Required Course (6 credits)

ECON 230D1	(3)	Microeconomic Theory
ECON 230D2	(3)	Microeconomic Theory

Complementary Courses (12 credits)
12 credits in Economics (with numbers above 209). At least 6 of these credits must be in 300- or 400-level courses.

MINOR CONCENTRATION IN ECONOMICS – STREAM II
(Non-expandable) (18 credits)

Required Courses (6 credits)
ECON 208 (3) Microeconomic Analysis and Applications
ECON 209 (3) Macroeconomic Analysis and Applications

Complementary Courses (12 credits)
12 credits in Economics (with numbers above 209). At least 6 of these credits must be in 300- or 400-level courses.

MINOR CONCENTRATION IN ECONOMICS – STREAM III
For Management Students (18 credits)

Complementary Courses (18 credits)
18 credits in Economics (with numbers above 209). At least 6 of these credits must be in 300- or 400-level courses.
Note: ECON 295 **will not** count as part of this Minor Concentration.

Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

MINOR CONCENTRATION IN ECONOMICS – STREAM IV
(Combinable – for students already registered in a Major Concentration in Economics) (18 credits)

Prerequisites: None

Students who are registered in a Major Concentration in Economics and a Minor Concentration in another unit may complete a second Minor Concentration in Economics with the following structure.

Complementary Courses (18 credits)
18 credits of approved courses in Economics above 209 of which at least 6 credits are of 400- or 500-level and of which not more than 3 credits are at 200-level.

Students should also consult the section on the Minor Concentration at the beginning of the Faculty of Arts section for detailed rules on Minor Concentrations.

MINORS IN MANAGEMENT
Economics students can also do one of the four minors offered by the Desautels Faculty of Management for non-Management students. Please refer to the Desautels Faculty of Management section of the Calendar for detailed information about program requirements and applying.

Finance for Non-Management Students, page 337

Management for Non-Management Students, page 337

Marketing for Non-Management Students, page 338

Operations Management for Non-Management Students, page 338

MAJOR CONCENTRATION IN ECONOMICS (36 credits)

The Major Concentration in Economics is a planned sequence of courses designed to permit the student a degree of specialization in economics. It consists of 36 credits in courses approved by the Economics Department.

All students who wish to begin (or continue) a Major Concentration in Economics should see a Majors adviser in the Department of Economics in **each** of their university years. Further information may be obtained from the Department's website, or from any Major adviser; consult the Departmental office for a list of advisers.

Students who are registering for the first time with the Department should attend the orientation meeting (check the website for details) before seeing an adviser.

A student choosing a Major Concentration in Economics must take 36 credits in Economics. The Economics courses will normally be taken at McGill and will be selected from the courses shown below. Economics Major Concentration students entering University at the U1 year in September should directly proceed to ECON 230D1/ECON 230D2 without taking ECON 208 and ECON 209.

Required Courses (18 credits)
ECON 227D1 (3) Economic Statistics
ECON 227D2 (3) Economic Statistics
ECON 230D1 (3) Microeconomic Theory
ECON 230D2 (3) Microeconomic Theory
ECON 330D1 (3) Macroeconomic Theory
ECON 330D2 (3) Macroeconomic Theory

Complementary Courses (18 credits)
18 credits in Economics selected from other 200- (with numbers above 209), 300-, 400- and 500-level courses. At least 6 of these credits must be in 400- or 500-level courses. No more than 6 credits may be at the 200 level.

Prerequisites: in general 200-level courses have no prerequisites; 300-level courses have ECON 230D1/ECON 230D2 (or the lower level courses ECON 208 and ECON 209, or the combination of MGCR 293 and ECON 295) as prerequisites; and 400-level courses have ECON 230D1/ECON 230D2 as a prerequisite.

Please note that all students taking the Major Concentration in Economics (whether in the B.A. or B.Com.) must take 6 credits of approved statistics courses. Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

Mathematics: Mastery of high school mathematics is required for all economics courses. For Majors and Minors in Economics, it is recommended, but not required, that students acquire mastery of elementary calculus and matrix algebra in their undergraduate years. (See courses listed under the Honours section.)

Students who wish to switch from Majors to Honours in Economics must complete all the requirements of the Honours program.

HONOURS PROGRAM

The Economics Honours program is offered to both B.A. and B.Com. students. All Honours students should consult the handout describing the Honours programs in Economics, available in the Economics Department Office, 443 Leacock Building, and on the website at: www.mcgill.ca/economics/undergraduates/honours. All Honours students must meet with a Department Honours adviser in **each** year of their Honours program.

HONOURS IN ECONOMICS (42 credits)

The Honours program in Economics (B.A. and B.Com.) consists of 30 specified credits of Honours courses and a further 12 credits of approved Economics courses. Honours students are also required to complete courses in basic calculus and linear algebra.

Required Courses (27 credits)
ECON 250D1 (3) Introduction to Economic Theory: Honours
ECON 250D2 (3) Introduction to Economic Theory: Honours
ECON 257D1 (3) Economic Statistics - Honours
ECON 257D2 (3) Economic Statistics - Honours
ECON 352D1 (3) Macroeconomics - Honours
ECON 352D2 (3) Macroeconomics - Honours
ECON 450D1 (3) Advanced Economic Theory - Honours
ECON 450D2 (3) Advanced Economic Theory - Honours
ECON 468 (3) Econometrics 1 - Honours

Complementary Courses (15 credits)
3 credits selected from:
ECON 460 (3) History of Thought 1 - Honours
ECON 461 (3) History of Thought 2 - Honours
ECON 469 (3) Econometrics 2 - Honours

12 credits of Economics courses at the 300-, 400- or 500-level, approved by an Honours adviser. Normally at least 9 of the 12 will be at the 400- or 500-level. (Note: Honours students are not permitted to register for general Economics courses where an Honours course in the same field is offered.)

Normally, ECON 250D1/ECON 250D2 is taken in the U1 year, ECON 352D1/ECON 352D2 in U2, and ECON 450D1/ ECON 450D2 in U3. ECON 257D1/ECON 257D2 can be taken in U1 or U2; ECON 460, ECON 461, ECON 468, ECON 469 can be taken in U2 or U3. Students who have taken an equivalent statistics course prior to entering the program may be waived from the ECON 257D1/ECON 257D2 requirement. These students will normally be required to take ECON 468,ECON 469. The remaining 12 credits of Economics courses are usually taken in U2 or U3.

Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

Mathematics Prerequisite Courses for Honours

All Honours students must complete the following two courses with a grade of C or higher prior to entering the Honours Program:

MATH 139 Calculus (students without high school calculus) or MATH 140 Calculus 1 (students with high school calculus)

MATH 141 Calculus 2

The following course is required and should be taken prior to U2:

MATH 133 Vectors, Matrices and Geometry

These requirements can be met by having passed equivalent courses at CEGEP or elsewhere. Honours students are encouraged, but not required, to take MATH 222 Calculus 3.

JOINT HONOURS – ECONOMICS COMPONENT (30 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable) in **each** year of their program.

All Joint Honours students should consult the handout describing the Honours and Joint Honours Programs available in the Economics Department Office, 443 Leacock Building, and on the website at: www.mcgill.ca/economics/undergraduates/honours.

According to Faculty of Arts regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Required Courses (27 credits)

ECON 250D1	(3)	Introduction to Economic Theory: Honours
ECON 250D2	(3)	Introduction to Economic Theory: Honours
ECON 257D1	(3)	Economic Statistics - Honours
ECON 257D2	(3)	Economic Statistics - Honours
ECON 352D1	(3)	Macroeconomics - Honours
ECON 352D2	(3)	Macroeconomics - Honours
ECON 450D1	(3)	Advanced Economic Theory - Honours
ECON 450D2	(3)	Advanced Economic Theory - Honours
ECON 468	(3)	Econometrics 1 - Honours

Complementary Courses (3 credits)

3 credits selected from:

ECON 460	(3)	History of Thought 1 - Honours
ECON 461	(3)	History of Thought 2 - Honours
ECON 469	(3)	Econometrics 2 - Honours

Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

Mathematics Prerequisite Courses for Joint Honours

All Joint Honours students must complete the following two courses with a grade of C or higher prior to entering the Joint Honours Program:

MATH 139 Calculus (students without high school calculus) or MATH 140 Calculus 1 (students with high school calculus)

MATH 141 Calculus 2

The following course is required and should be taken prior to U2:

MATH 133 Vectors, Matrices and Geometry

These requirements can be met by having passed equivalent courses at CEGEP or elsewhere.

JOINT HONOURS PROGRAMS OFFERED WITH THE DESAUTELS FACULTY OF MANAGEMENT

Two Joint Honours programs are offered with the Desautels Faculty of Management, the B.Com. and B.A. Joint Honours in Economics and Accounting, and Joint Honours in Economics and Finance.

Mathematics Prerequisite Courses required for the Joint Honours in Economics (listed above) are also required for the Joint Honours in Economics and Accounting and the Joint Honours in Economics and Finance.

JOINT HONOURS IN ECONOMICS AND ACCOUNTING
(60 credits)

Please note that the following information on program requirements is for B.A. students. Students in the B.Com. program should check with the Desautels Faculty of Management.

Required Courses (45 credits)

27 credits of Economics courses:

ECON 250D1	(3)	Introduction to Economic Theory: Honours
ECON 250D2	(3)	Introduction to Economic Theory: Honours
ECON 257D1	(3)	Economic Statistics - Honours
ECON 257D2	(3)	Economic Statistics - Honours
ECON 352D1	(3)	Macroeconomics - Honours
ECON 352D2	(3)	Macroeconomics - Honours
ECON 450D1	(3)	Advanced Economic Theory - Honours
ECON 450D2	(3)	Advanced Economic Theory - Honours
ECON 468	(3)	Econometrics 1 - Honours

18 credits of Management courses:

ACCT 351	(3)	Intermediate Financial Accounting 1
ACCT 352	(3)	Intermediate Financial Accounting 2
ACCT 361	(3)	Intermediate Management Accounting 1
ACCT 455	(3)	Development of Accounting Thought
MGCR 211	(3)	Introduction to Financial Accounting
MGCR 341	(3)	Finance 1

Complementary Courses (15 credits)

3 credits of Economics courses selected from:

ECON 460	(3)	History of Thought 1 - Honours
ECON 461	(3)	History of Thought 2 - Honours
ECON 469	(3)	Econometrics 2 - Honours

12 credits of Accounting courses selected from:

ACCT 354	(3)	Financial Statement Analysis
ACCT 362	(3)	Intermediate Management Accounting 2
ACCT 385	(3)	Principles of Taxation
ACCT 452	(3)	Financial Reporting Valuation
ACCT 453	(3)	Advanced Financial Accounting
ACCT 463	(3)	Advanced Management Accounting
ACCT 475	(3)	Principles of Auditing
ACCT 486	(3)	Business Taxation 2

Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

Students in this Joint Honours program should see an Economics adviser and a Management adviser.

JOINT HONOURS IN ECONOMICS AND FINANCE
(60 credits)

Please note that the following information on program requirements is for B.A. students. Students in the B.Com. program should check with the Desautels Faculty of Management.

Required Courses (45 credits)

27 credits of Economics courses:
ECON 250D1 (3) Introduction to Economic Theory: Honours
ECON 250D2 (3) Introduction to Economic Theory: Honours
ECON 257D1 (3) Economic Statistics - Honours
ECON 257D2 (3) Economic Statistics - Honours
ECON 352D1 (3) Macroeconomics - Honours
ECON 352D2 (3) Macroeconomics - Honours
ECON 450D1 (3) Advanced Economic Theory - Honours
ECON 450D2 (3) Advanced Economic Theory - Honours
ECON 468 (3) Econometrics 1 - Honours

18 credits of Management courses:
FINE 342 (3) Finance 2
FINE 441 (3) Investment Management
FINE 443 (3) Applied Corporate Finance
FINE 547 (3) Advanced Finance Seminar
MGCR 211 (3) Introduction to Financial Accounting
MGCR 341 (3) Finance 1

Complementary Courses (15 credits)

3 credits of Economics courses selected from:
ECON 460 (3) History of Thought 1 - Honours
ECON 461 (3) History of Thought 2 - Honours
ECON 469 (3) Econometrics 2 - Honours

12 credits of Finance courses selected from:
FINE 434 (3) Topics in Finance
FINE 448 (3) Financial Derivatives
FINE 449 (3) Market Risk Models
FINE 451 (3) Fixed Income Analysis
FINE 482 (3) International Finance 1
FINE 492 (3) International Finance 2
FINE 541D1 (1.5) Applied Investments
FINE 541D2 (1.5) Applied Investments

Please refer to the departmental rules on credit for statistics courses, including ECON 227 and ECON 257 found at www.mcgill.ca/files/economics/Rules_on_Stats_Courses_for_Economics_Students_20_Aug_2008.pdf.

Students in this Joint Honours program should see an Economics adviser and a Management adviser.

STANDING IN HONOURS AND JOINT HONOURS PROGRAMS

Normally, to be awarded an Honours Degree a student must obtain a 3.00 program GPA in the required and complementary credits in Economics, and a CGPA of 3.00. For a First Class Honours degree, the minimum requirements are normally a 3.50 program GPA in the required and complementary credits in Economics, and a CGPA of 3.50. For additional requirements for the B.Com. Honours in Economics, Joint Honours in Economics and Finance, and Joint Honours in Economics and Accounting, please consult the Desautels Faculty of Management's section of the undergraduate calendar for their program grade and GPA requirements. In particular, these programs also require a minimum grade of B- in all Management courses.

6.12.15 Education for Arts Students Minor Concentration

Student Affairs Office —
Faculty of Education, 3700 McTavish Street
Email: sao.education@mcgill.ca
Website: www.mcgill.ca/edu-sao/minors

This Minor Concentration allows Arts students to develop and explore an interest in education. It will give students a solid footing in the basics of pedagogy and may provide a starting point towards a B.Ed. degree.

Completion of the Minor Concentration **does not** qualify a student for certification to teach in the province of Quebec. Students interested in a teaching career should consult the Faculty of Education, "Faculty Programs" in section 8.2.

MINOR CONCENTRATION IN EDUCATION FOR ARTS STUDENTS (18 credits)

Required Courses (12 credits)
EDEC 262 (3) Media, Technology and Education
EDEM 220 (3) Contemporary Issues in Education
EDPE 300 (3) Educational Psychology
EDPI 309 (3) Exceptional Students

Complementary Courses (6 credits)
3 credits, one of:
EDEC 260 (3) Philosophical Foundations
EDEC 261 (3) Philosophy of Catholic Education

3 credits, one of:
EDEC 233 (3) First Nations and Inuit Education
EDEC 248 (3) Multicultural Education

6.12.16 Educational Psychology Minor Concentration

Program Director — Professor Alenoush Saroyan, Department of Educational and Counselling Psychology, Faculty of Education
514-398-4248

Program Coordinator — Mr. Dean Thomson
Faculty of Education, 3700 McTavish Street, Room 614
514-398-4248

Fax: 514-398-6968
Website: www.mcgill.ca/edu-ecp

Educational Psychology encompasses: (a) the theoretical and applied study of learning, cognition, and instruction in a variety of educational settings across ages and domains; (b) instructional technology and computers as cognitive tools in learning; (c) cognitive and social processes in learning; (d) evaluation and enhancement of learning and teaching; (e) education of learners with special needs or difficulties; (f) relationships of these or related phenomena to issues in human development, especially for children and adolescents; and (g) the impact of family and community on children's learning and development.

Completion of this Minor Concentration **does not** qualify a student to enter the teaching profession. Students interested in a teaching career should consult the Faculty of Education, "Faculty Programs", see section 8.2.

In respect of Faculty of Arts multi-track regulations, students registering for the Major Concentration in Psychology and the Minor Concentration in Educational Psychology *must* complete an additional Minor Concentration in Arts in a unit other than Psychology.

Students should consult section 6.3.5, "Program Requirements" for additional information on course restrictions, credit counting, etc.

For further information on the Department of Educational and Counselling Psychology, see section 8.5.

MINOR CONCENTRATION IN EDUCATIONAL PSYCHOLOGY
(18 credits - Non-expandable)

Required Course (3 credits)
EDPE 335 (3) Instructional Psychology
This required course has a prerequisite of an introductory course in psychology taken at either CEGEP or university level (e.g., PSYC 100 or EDPE 300). Students who do not have this prerequisite prior to entry into this Minor Concentration may take either PSYC 100 or EDPE 300 and count EDPE 300 as one of the complementary courses for this Minor Concentration.

Complementary Courses (15 credits)
3 credits (to be taken near the end of the sequence), one of:
EDPE 355* (3) Cognition and Education
or EDPE 555 (3) Applied Cognitive Science

12 credits selected from:
EDPI 309 (3) Exceptional Students
EDPI 526 (3) Talented and Gifted Students
EDPI 527 (3) Creativity and its Cultivation
EDPI 543 (3) Family, School and Community
EDPE 208** (3) Personality and Social Development
EDPE 304 (3) Measurement and Evaluation
EDPE 355 (3) Cognition and Education
EDPE 377 (3) Adolescence and Education
EDPE 510 (3) Learning and Technology
EDPE 515*** (3) Gender Identity Development
EDPE 535 (3) Instructional Design
EDPE 555 (3) Applied Cognitive Science

* Students with a background in psychology should normally select EDPE 355.

Note: EDPE 355 has a prerequisite, either PSYC 213 or permission of the instructor.

** Students may not receive credit for both EDPE 208 and PSYC 304. EDPE 208 is not open to students registered in a Major or Minor Concentration in Psychology.

*** EDPE 515 is also a complementary course in the B.A. Minor Concentration in Women's Studies (Social Sciences Option).

6.12.17 English (ENGL)

Departmental Office: Room 155, Arts Building
853 Sherbrooke Street West
Montreal, QC H3A 2T6

Telephone: 514-398-6550
Fax: 514-398-8146
Website: www.mcgill.ca/english

Chair — P. Yachnin

Emeritus Professors
M. Bristol; B.A.(Yale), Ph.D.(Prin.)
M. Puhvel; B.A., M.A.(McG.), Ph.D.(Harv.)
J. Ripley; B.A., M.A.(New. Br.), Ph.D.(Birm.)
D. Suvin; B.A., M.Sc., Ph.D.(Zagreb), F.R.S.C.
W.C. Wees; B.A.(N'western), M.A.(Roch.), Ph.D.(N'western)
D. Williams; B.A.(Boston), M.A., Ph.D.(Tor.)

Professors
K. Borris; B.A.(Vic. (BC)), Ph.D.(Edin.)
M.A. Kilgour; B.A.(Tor.), Ph.D.(Yale)
R. Lecker; B.A., M.A., Ph.D.(York)
K. McSweeney; B.A., Ph.D.(Tor.) *(Molson Professor of English)*
P. Sabor; B.A.(Camb.), M.A.(Qu.), Ph.D.(Lond.) (*Canada Research Chair in 18th Century Studies*)
M. Stenbaek; B.A.(Copen.), M.A., Ph.D.(Montr.)
B. Trehearne; B.A., M.A., Ph.D.(McG.)
P. Yachnin; B.A.(McG.), M.Litt.(Edin.), Ph.D.(Tor.) (*Tomlinson Chair in Shakespeare Studies*)

Associate Professors
D.A. Bray; B.A.(McG.), Ph.D.(Edin.)
S. Carney; B.A.(Manit.), M.A.(Alta.), Ph.D.(York)
M.N. Cooke; B.A.(Qu.), M.A.(C'nell), M.A., Ph.D.(Tor.)
T.W. Folkerth; B.A.(CSU Chico), M.A., Ph.D.(McG.)
P. Gibian; B.A.(Yale), M.A.(NYU), M.A., Ph.D.(Stan.)
Y. Halevi-Wise; B.A.(Hebrew), M.A.(G'town), Ph.D.(Prin.)
D.C. Hensley; B.A., M.A.(Cant.), B.A., Ph.D.(Yale)
A. Hepburn; B.A., M.A.(W. Ont.), Ph.D.(Prin.)
M. Hickman; B.A.(Brown), M.A., Ph.D.(Mich.)
B. Kaite; B.A.(C'dia), M.A.(McM.), Ph.D.(Carl.)
P. Neilson; B.A.(Bishop's), M.F.A.(Calg.)
T. Ponech; B.A.(McG.), Ph.D.(N'western)
D. Salter; B.A.(Br. Col.), M.A., Ph.D.(Tor.)
M.W. Selkirk; B.A.(Alta.), M.F.A.(Ill.)

Assistant Professors
J. Fumo; B.A.(Mass.), M.A., Ph.D.(Prin.)
T. Heise; B.A.(Flor. St.), M.A.(Calif., Davis), Ph.D.(NYU)
E. Hurley; B.A.(McG.), A.M.(Brown), Ph.D.(CUNY)
T. Mole; B.A., M.A., Ph.D.(Bristol)
M. Morgan; B.A.(Harv.), Ph.D.(Stan.)
D. Nystrom; B.A.(Wis.), M.A.(Virg.), Ph.D.(Virg., Charlottesville)
M. Popescu; B.A., M.A.(Bucharest), Ph.D.(Windsor), Ph.D.(Penn.)
F. Ritchie; B.A., M.A.(Durh.), Ph.D.(Lond.)
E. Schantz; B.A.(Stan.), M.A., Ph.D.(S. Calif.)
S. Sobecki; B.A., M.Phil., M.A., Ph.D.(Camb.)
T. Sparks; B.A.(Bates College), M.A., Ph.D.(Wash.)
A. Thain; B.A.(McG.), Ph.D.(Duke)

The Department of English offers a wide variety of courses covering three linked and overlapping areas: literature written in English; drama, including both courses in dramatic literature and courses that introduce the student to the basic elements of theatrical performance; and cultural studies, including analysis of a variety of visual and verbal media. These three areas are integrally related, and all students in English Department programs are invited to do work in all three, while concentrating in one of them.

The Literature option provides a grounding in the basic texts and methods of the discipline as well as wide acquaintance with substantial areas of the field.

The Drama and Theatre option tries to place its subject in as broad a social and philosophical context as possible. *The Drama and Theatre program is not designed to provide professional theatre training. The aim is rather to encourage students to explore the subject as a liberal arts discipline.*

The Cultural Studies option concentrates on analysis of forms of cultural expression and symbolic interaction, and of the various media through which these may be disseminated and transformed. Such study concerns symbolic form, aesthetically based forms of analysis, and the various modes of criticism and theory relevant to media which contain both verbal and non-verbal elements. The aim is above all to hone students' analytical and interpretive skills while introducing them to specific critical approaches to cultural studies. This is not a major in journalism or communications; and while many of our graduates go on to do creative work in a variety of media, instruction in film and video production is not part of the curriculum.

Department Handbook on the Web
For the most up-to-date information on Department requirements and detailed course descriptions, please see the English Department Handbook at www.mcgill.ca/english.

MINOR CONCENTRATIONS
For the current lists of complementary courses in the categories referred to in the Minor Concentrations:

- Major Authors/Major Figures
- Pre-1800 courses/Courses with a historical dimension

see the Department's website or consult the Departmental office.

MINOR CONCENTRATION IN ENGLISH – LITERATURE
(18 credits) (Expandable to the Major Concentration in English - Literature)

Required Courses (6 credits)
ENGL 202 (3) Departmental Survey of English Literature 1
ENGL 203 (3) Departmental Survey of English Literature 2

Complementary Courses (12 credits)
3 credits from a list of courses on Major Authors
3 credits from a list of pre-1800 courses
6 additional credits from the option's offerings

MINOR CONCENTRATION IN ENGLISH – DRAMA AND THEATRE (18 credits) (Expandable to the Major Concentration in English - Drama and Theatre)

Required Courses (6 credits)
ENGL 230 (3) Introduction to Theatre Studies
ENGL 269 (3) Introduction to Performance

Complementary Courses (12 credits)
3 credits from a list of courses on Major Figures in Drama/Theatre
3 credits from a list of courses in Drama and/or Theatre with an historical dimension
6 additional credits from the option's offerings

MINOR CONCENTRATION IN ENGLISH – CULTURAL STUDIES (18 credits) (Expandable to the Major Concentration in English - Cultural Studies)

Required Courses (6 credits)
ENGL 275 (3) Introduction to Cultural Studies
ENGL 276 (3) Methods of Cultural Analysis

Complementary Courses (12 credits)
3 credits from a list of courses on Major Figures in Cultural Studies
3 credits from a list of courses in Cultural Studies with an historical dimension
6 additional credits from the option's offerings

MAJOR CONCENTRATIONS

Major Concentration students are required to take a 36-credit program, the specific content of which differs in the three options available. Each student must choose one of these options.

Faculty policy states that, after or while taking a 36-credit Major Concentration in the English Department and an 18-credit Minor Concentration in another department, students may take an additional 18-credit Minor Concentration in English.

For the current lists of complementary courses referred to in the Major Concentrations:

- Major Authors/Major Figures,
- Courses with Canadian content,
- Period courses/Courses with a historical dimension

see the Department's website or consult the Departmental Office.

MAJOR CONCENTRATION IN ENGLISH – LITERATURE (36 credits)

Required Courses (9 credits)
ENGL 202* (3) Departmental Survey of English Literature 1
ENGL 203* (3) Departmental Survey of English Literature 2
ENGL 311* (3) Poetics
* to be taken in the first two terms of the program

Complementary Courses (27 credits)
3 credits from a list of Canadian Literature courses
3 credits in Theory or Criticism:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits each from two of the following areas: Backgrounds of English Literature, Old English, Medieval, Renaissance
3 credits each from two of the following areas: Restoration, 18th Century, Romantic, Victorian, 19th-Century American
3 credits from one of the following areas: Early 20th Century, Modernist, Post-modern, Contemporary
6 additional credits from the option's offerings
Note: At least 3 of the 27 complementary credits must be from a list of courses on a "Major Author."

MAJOR CONCENTRATION IN ENGLISH – DRAMA AND THEATRE (36 credits)

Required Courses (9 credits)
ENGL 230* (3) Introduction to Theatre Studies
ENGL 269* (3) Introduction to Performance
ENGL 355* (3) The Poetics of Performance
* to be taken in the first two terms of the program

Complementary Courses (27 credits)
3 credits from a list of courses on Major Figures in Drama and/or Theatre
3 credits from a list of courses in Drama and/or Theatre with a Canadian component
3 credits in Theory or Criticism:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
6 credits from a list of courses in Drama and/or Theatre with an historical dimension
12 additional credits from the option's offerings

Students are normally permitted to count 6 credits from other departments toward their English programs. In exceptional circumstances an adviser, approached by a student with strong academic grounds for including a third such course, may grant permission, to a maximum of 9 extra-departmental credits, and must so indicate in advance by signing the departmental program Audit Sheet.

MAJOR CONCENTRATION IN ENGLISH – CULTURAL STUDIES (36 credits)

Required Courses (12 credits)
ENGL 275* (3) Introduction to Cultural Studies
ENGL 276* (3) Methods of Cultural Analysis
ENGL 277* (3) Introduction to Film Studies
ENGL 359* (3) The Poetics of the Image
* to be taken in the first two terms of the program

Complementary Courses (24 credits)
3 credits from a list of courses on Major Figures in Cultural Studies
3 credits from a list of courses in Cultural Studies with a Canadian component
3 credits in Theory or Criticism:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
6 credits from a list of courses in Cultural Studies with an historical dimension
9 additional credits from the option's offerings

Students are normally permitted to count 6 credits from other departments towards their English programs. In exceptional circumstances an adviser, approached by a student with strong academic grounds for including a third such course, may grant permission, to a maximum of 9 extra-departmental credits, and must so indicate in advance by signing the departmental program Audit Sheet.

HONOURS PROGRAMS IN ENGLISH (each 60 credits)

Entry to Honours is by application, normally after two terms in a Departmental program, including at least 18 credits of English. Students intending to apply for Honours or already accepted should consult an Honours adviser regarding their course selections throughout their program. The Faculty of Arts requires that all students admitted to Honours programs complete a second-program Minor in addition to their Honours program.

Admission to the Honours program is limited to a small number of students with excellent records. The minimum CGPA for application to the Honours program is 3.50; students meeting the 3.50 minimum in English Department courses alone (although not in CGPA) may also apply and make a case for their acceptance. In

neither instance is admission guaranteed. After admission into the Honours program, the student is required to maintain a CGPA at a level set by the Faculty for graduation with Honours and a program GPA at the level set by the Department. (See requirements for graduation with Honours listed below.)

The Honours program in English requires 60 credits. Students intending to apply for Honours should plan to complete as many of the specific requirements of their option as possible within the first two years. With the written approval of an adviser, up to nine credits may be taken outside the department. All Honours students must complete at least 6 of their complementary credits at the 500 level. Ideally, 500-level seminars chosen will be relevant to the area of the student's independent study in the Honours Essay course (ENGL 491D1/ENGL 491D2), taken without exception in the final year of the program. The Honours Essay is first planned in consultation with a supervisor at the time of application to the Honours program; it is then guided and evaluated by that supervisor during the completion of ENGL 491. Graduation with Honours requires 60 credits of English, a minimum mark of B+ on the Honours Essay, a minimum CGPA of 3.00, and a minimum program GPA of 3.50. Graduation with First Class Honours requires a mark of A on the Honours Essay, a minimum CGPA of 3.50, and a minimum program GPA of 3.70.

HONOURS IN ENGLISH (LITERATURE) (60 credits)

Required Courses (18 credits)

ENGL 202* (3) Departmental Survey of English Literature 1
ENGL 203* (3) Departmental Survey of English Literature 2
ENGL 311* (3) Poetics
ENGL 360** (3) Literary Criticism
ENGL 491D1 (3) Honours Essay
ENGL 491D2 (3) Honours Essay

* to be taken in the first two terms in the program
** normally taken in the second year of the program

Complementary Courses (42 credits)

15 credits, 3 credits each, of Shakespeare, Canadian Literature, American Literature, Cultural Studies, Drama/Theatre.
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits each from two of the following areas: Backgrounds of English Literature, Old English, Medieval, Renaissance
3 credits each from two of the following areas: Restoration, 18th Century, Romantic, Victorian, 19th-Century American
3 credits from one of the following areas: Early 20th Century, Modernist, Post-modern, Contemporary
9 credits chosen from among other Department offerings

At least 6 complementary credits must be at the 500 level.
A maximum of 9 credits may be from another department with the signed permission of the adviser.

HONOURS IN ENGLISH (DRAMA AND THEATRE) (60 credits)

Required Courses (15 credits)

ENGL 230* (3) Introduction to Theatre Studies
ENGL 269* (3) Introduction to Performance
ENGL 355* (3) The Poetics of Performance
ENGL 491D1 (3) Honours Essay
ENGL 491D2 (3) Honours Essay

* must have been taken by the end of the first two terms of the program

Complementary Courses (45 credits)

3 credits from a list of courses on Major Figures in Drama and/or Theatre
3 credits from a list of courses in Drama and/or Theatre with a Canadian component
6 credits from a list of courses in Drama and/or Theatre with an historical dimension
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits from a list of courses with a theoretical component, from the option's offerings at the 400 level or above
9 credits from a list of performance-oriented courses
6 credits chosen from Departmental offerings in English Literature and/or Cultural Studies
12 credits in English selected in consultation with an academic adviser

At least 6 complementary credits must be at the 500 level.
A maximum of 9 credits may be from other departments with the signed permission of the adviser.

HONOURS IN ENGLISH (CULTURAL STUDIES) (60 credits)

Required Courses (18 credits)

ENGL 275* (3) Introduction to Cultural Studies
ENGL 276* (3) Methods of Cultural Analysis
ENGL 277* (3) Introduction to Film Studies
ENGL 359* (3) The Poetics of the Image
ENGL 491D1 (3) Honours Essay
ENGL 491D2 (3) Honours Essay

* must have been taken by the end of the first two terms of the program

Complementary Courses (42 credits)

3 credits from a list of courses on Major Figures in Cultural Studies
3 credits from a list of courses in Cultural Studies with a Canadian component
6 credits from a list of courses in Cultural Studies with an historical dimension
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits from a list of courses in theory, from the option's offerings at the 400 level or above
12 credits in English Literature and/or Drama and Theatre, of which 6 credits are at the 300 level or higher
12 credits in additional courses in Cultural Studies

At least 6 complementary credits must be at the 500 level.
A maximum of 9 credits may be from other departments with the signed permission of the adviser.

JOINT HONOURS PROGRAM – ENGLISH COMPONENT (36 credits)

Students who wish to study at the Honours level in two Arts disciplines may apply to combine Joint Honours Program components from two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Applications to do a Joint Honours Program in English and another subject in the Faculty of Arts should be submitted once a minimum of 9 credits, and no more than 18 credits, have been completed in English. There are normally two possible application dates for Joint Honours in English: either by the end of January (by which time first-term courses are completed and the grades are available), or at the same time as the Honours application date, typically in mid-April. (Only students who will have completed more than 18 credits in English by the end of January may apply in the Fall.)

Applications will be considered by the Department's Honours Committee on the basis of the student's program GPA, at a minimum of 3.50. The application form is available in the Department's General Office (Arts 155), and the specific submission requirements are described by that form. The application will take some time to prepare, and allowance for such preparation (at least several weeks) must be made in order to meet the application deadline. **Incomplete applications will not be considered.**

Acceptance into Joint Honours English may be conditional on particular revisions to the Program Course Proposal to be submitted with the application form. This proposal goes on file in the General Office with the other submissions. Only course choices that are appropriate, given the nature of the Joint Honours program proposed, including the Honours Essay if applicable, will be approved. In order to graduate with Joint Honours, all subsequent course substitutions in the initially approved Joint Honours English program must be endorsed by the Joint Honours adviser when they are made (i.e., at the start of each term) and entered on the Program Course Proposal with the adviser's initialled approval.

The maintenance of a 3.50 program GPA is required for continuation in Joint Honours. Graduation with Joint Honours requires a minimum CGPA of 3.00, a minimum program GPA of 3.50, and a minimum mark of B+ on the Honours Essay. Graduation with First Class Joint Honours in English requires a minimum CGPA of 3.50, a minimum program GPA of 3.70, and a minimum mark of A on the Honours Essay.

Each academic year there is a special adviser for Joint Honours students, and the receptionist in the General Office can provide his or her name and contact information. The Department's website provides additional information on the Joint Honours program and applications, and this website should also be consulted prior to contacting the adviser.

Joint Honours Program Descriptions

400 Level
All Joint Honours students' programs of study shall include 6 credits of study at the 400 level or above.

Advanced Study
In addition, Joint Honours students shall undertake at least 6 further credits of advanced study, in one of the following two forms, in order of preference:

a. ENGL 491D1/ENGL 491D2, an Honours Essay, or
b. Two 500-level courses

(In very rare cases, a third alternative may be approved at the discretion of the Joint Honours adviser, but only when it is formally recommended for the joint subject according to the description of that Joint Honours program in the University Calendar. For example, Joint Honours with Anthropology allows the option of combining 3 credits of essay work with 3 credits in the joint subject to create a joint essay.)

JOINT HONOURS IN ENGLISH (LITERATURE) (36 credits)

Required Courses (6 credits)
ENGL 311 (3) Poetics
ENGL 360 (3) Literary Criticism

Complementary Courses (30 credits)
9 credits of pre-1800 English literature
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits of English courses at the 500 level
6 credits of advanced study as specified above
9 credits chosen from among Department offerings

JOINT HONOURS IN ENGLISH (DRAMA AND THEATRE) (36 credits)

Required Courses (9 credits)
ENGL 230 (3) Introduction to Theatre Studies
ENGL 269 (3) Introduction to Performance
ENGL 355 (3) The Poetics of Performance

Complementary Courses (27 credits)
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits in dramatic literature
3 credits in history of the theatre
6 credits of advanced study as specified above
12 credits chosen from among Department offerings

JOINT HONOURS IN ENGLISH (CULTURAL STUDIES) (36 credits)

Required Courses (9 credits)
ENGL 275 (3) Introduction to Cultural Studies
ENGL 276 (3) Methods of Cultural Analysis
ENGL 359 (3) The Poetics of the Image

Complementary Courses (27 credits)
3 credits of theory:
ENGL 317 (3) Theory of English Studies 1
or ENGL 318 (3) Theory of English Studies 2
or ENGL 319 (3) Theory of English Studies 3
or ENGL 322 (3) Theories of the Text
or ENGL 346 (3) Materiality and Sociology of Text
or ENGL 352 (3) Theories of Difference
3 credits from a list of courses in Cultural Studies with an historical dimension
3 credits from a list of courses on Major Figures in Cultural Studies
6 credits of advanced study as specified above
12 credits chosen from among Department offerings

Department of English Student Association (DESA)
DESA is the representative body for the students of the English Department at McGill. Any student taking one or more courses in the Department is automatically a member. For more information, please read the description on the Department's website.

6.12.18 English as a Second Language (ESLN)

English and French Language Centre
688 Sherbrooke Street West, 2nd Floor
Montreal, QC H3A 3R1

Telephone: 514-398-4172
Fax: 514-398-5449
Website: www.mcgill.ca/eflc

Director — Geneviève Leidelinger

Lecturers
Robert Myles; B.A., M.A.(Car.), Ph.D.(McG.)
Carolyn Samuel; B.A., Dip.Ed.(McG.), M.Ed.(OISE, Tor.)

Full-time, non-anglophone students whose secondary education (high school and CEGEP) has been in institutions where the primary language of instruction was not English, or who have attended English language secondary institutions (high school and CEGEP) for four years or less, are eligible to take up to 12 credits in English as a Second Language (ESL).

With certain exceptions courses require placement tests, followed by advising and an electronic permit given at the English and French Language Centre. (Exceptions: foreign graduate students registering in ESLN 590 who have met McGill University

English language entry requirements, register directly on Minerva. Graduate students registering for ESLN 650, placement confirmation on first day of class, register directly on Minerva.)

Placement tests will be held on Monday, August 24, Wednesday, August 26, Thursday, August 27, Friday, August 28, Monday, August 31 at 10:00 a.m., 12:00 p.m. and 2:00 p.m., and on a drop-in basis from Tuesday, September 2 until Friday, September 11 or until places are filled. Placement tests are held in the Arts Multimedia Language Facility (AMLF) in the basement of the McLennan-Redpath Library, 3459 McTavish Street.

All students are required to attend class without fail during the first two weeks in order to retain their places.

6.12.19 English for Academic Purposes (EAPR)

English and French Language Centre
688 Sherbrooke Street West, 2nd Floor
Montreal, QC H3A 3R1

Telephone: 514-398-4172
Fax: 514-398-5449
Website: www.mcgill.ca/eflc

Director — Geneviève Leidelinger

Lecturers
Sue Laver; B.A.(S. Fraser), M.A.(East Anglia, Norwich, Eng.), Ph.D.(McG.)

The English for Academic Purposes (EAP) course, EAPR 250 Research Essay & Rhetoric, develops *academic* writing and critical thinking skills.

The course is for native speakers of English. Near-native English speakers may also take the course, but students with less than advanced English Second Language (ESL) skills are advised to take the academic writing courses listed under ESLN (English as a Second Language) in this Calendar.

Entrance Test: Short composition first day of class. Students with less than advanced ESL skills and students with serious writing problems will be advised on other courses they might take.

6.12.20 Environment

Arts students who are interested in studying the environment should refer to the McGill School of Environment section where they will find information concerning the "Minor Concentration in Environment" in section 10.5.1 and the "B.A. Faculty Program in Environment" in section 10.6.

6.12.21 French as a Second Language (FRSL)

English and French Language Centre
688 Sherbrooke Street West, 2nd Floor
Montreal, QC H3A 3R1

Telephone: 514-398-4172
Fax: 514-398-5449
Website: www.mcgill.ca/eflc

Director — Geneviève Leidelinger

Lecturers
Loretta Hyrat; B.A., M.A.(McG.)
Denyse Laniel; B.A.(Montr.), M.A.(McG.), Cert. Ed.(C'dia)
Geneviève Leidelinger; L. ès L.(Nice), B.Ed.(Qu.), M.A.(Vermont)
Natallia Liakina; B.A.(Minsk Linguistic University), M.A.(W. Ont.)
Suzanne Pellerin; B.A., M.A.(Laval), D.E.A.(Metz)
Hélène Riel-Salvatore; B.A.(McG.), M.A.(Harv.)
Jean-Yves Richard; B.A., M.A.(Laval)
Marion Vergues; B.A., M.A., D.E.A.(Montpellier University)

Courses in French as a Second Language are open to students in any program who need to develop their oral and written skills in the French language either for use in their future professional career or as preparation for more advanced studies in French linguistics, literature, civilization, translation or in Canadian studies.

Arts Freshman students enrolled in the Option 3: En français may select up to a maximum of 18 credits from FRSL courses.

ADMISSION AND REGISTRATION

A Placement Test is required before admission to any FRSL course, including Beginners' French. *All students should bring a photocopy of their transcript from high school or CEGEP. Departmental permission will be given after the student's level has been determined by a placement test.* Where students' levels in French make admission to this Department inappropriate, they will be directed to the Département de langue et littérature françaises.

No auditors are accepted.

Placement tests and registration take place at the Arts Multimedia Language Facility (AMLF), in the basement of the McLennan Library, 3459 McTavish on August 26 from 9:00 to 11:00 a.m. and from 2:00 to 3:30 p.m., on August 27 from 9:00 to 11:00 a.m. and from 2:00 to 3:30 p.m., on August 28 from 10:00 to 11:15 a.m., and on August 31 from 9:00 to 11:00 a.m. and from 2:00 to 3:30 p.m.

Students must bring a headset or earbuds, the kind used with iPods, MP3 players, etc. Only a limited number of students can be tested and they will be served on a first come basis.

Registration is limited and Departmental permission is absolutely required. *As numbers are limited in all courses, students who meet the required standard for any given course are admitted on a first-come, first-served basis, until the day before classes start. As of the first day of class, if places open, the department will accept students who have not yet registered based upon the date their permit was issued with priority being given to the earliest date.*

The Department reserves the right to transfer a student to another course if the level is inappropriate. Any absence from class during the Course Change period may lead to losing one's place to another student.

6.12.22 French Language and Literature (FREN)

Pavillon des Arts
853, rue Sherbrooke ouest
Montréal, QC H3A 2T6

Téléphone : 514-398-6885
Télécopieur : 514-398-8557
Site web : www.arts.mcgill.ca/french

Emeritus Professor
Jean-Pierre Duquette; L. ès. L.(Montr.), Dr. 3e Cy.(Paris X)

Professor
Marc Angenot; L.Phil. & Lett., Dr.Phil. & Lett.(Brussels), F.R.S.C. (*James McGill Professor*)

Associate Professors
Michel Biron; M.A.(Montr.), Dr.Phil. & Lett.(Belgique) (*Canada Research Chair*)
Chantal Bouchard; M.A.(Montr.), Dr. 3e Cy.(Paris VII-Jussieu)
Annick Chapdelaine; M.A., D.E.A., Dr. 3e Cy.(Paris VII-Jussieu)
Frédéric Charbonneau; M.A., Ph.D.(Montr.) (*William Dawson Scholar*)
Isabelle Daunais; M.A., Ph.D.(McG.)
Diane Desrosiers-Bonin; M.A., Ph.D.(Montr.) (*William Dawson Scholar*)
Normand Doiron; B.A., Ph.D.(Montr.)
Jane Everett; M.A.(Car.), Ph.D.(McG.);
Gillian Lane-Mercier; M.A.(Montpellier), Ph.D.(McG.)

Assistant Professor
Isabelle Arseneau; M.A., Ph.D.(W. Ont.), Ph.D.(Montr.)
Pascal Brissette; M.A.(Montr.), Ph.D.(McG.)
Catherine Leclerc; M.A.(UQAM), Ph.D.(C'dia)

GÉNÉRALITÉS

Le Département de langue et littérature françaises offre un programme de cours qui couvre l'ensemble des littératures française et québécoise ainsi que d'autres aspects des études françaises : civilisation et langue (linguistique, stylistique, traduction).

Le français est la seule langue de travail au Département. Tous les cours sont donnés en français. Les francophones constituent une proportion importante de notre clientèle, ce qui représente un avantage appréciable pour les étudiants qui ne sont pas de langue française, leur permettant de faire leurs études dans un milieu essentiellement français.

Pour ce qui est de la traduction, le programme offert à McGill a comme principale caractéristique de comporter un grand nombre de cours de culture générale.

La plupart des cours peuvent être suivis par tout étudiant ayant les connaissances et les capacités voulues: le professeur jugera en dernier ressort. Il existe toutefois quelques restrictions.

1. L'admission aux cours pratiques de langue (Composition 1 et 2, Grammaire avancée, Traduction) est subordonnée à la réussite d'un test qui a pour but de déterminer le niveau de connaissance de l'étudiant et d'assurer que celui-ci sera dirigé vers un cours correspondant à ses besoins. Si la préparation de l'étudiant s'avère insuffisante pour lui permettre de suivre un cours au Département, un cours au Centre d'enseignement du français et de l'anglais (French as a Second Language) lui sera conseillé.
2. L'admission aux programmes de Traduction (pour les étudiants en Spécialisation) est subordonnée à la réussite d'un test.
3. Les étudiants extérieurs au Département peuvent s'inscrire à tous les cours offerts au Département sauf exceptions indiquées dans le libellé des cours.

ASSOCIATION GÉNÉRALE DES ÉTUDIANTS DE LANGUE ET LITTÉRATURE FRANÇAISES (AGELF)
Association regroupant les étudiants de 1er cycle (inscrits à au moins 6 crédits en français) qui a pour but de promouvoir les intérêts de tous ses membres.

CONCENTRATION MINEURE LANGUE ET LITTÉRATURE FRANÇAISES – LANGUE FRANÇAISE (18 crédits)
(Concentration mineure qui ne peut pas être convertie en Concentration majeure)
Conditions d'admission : Aucune.

Cours complémentaires (18 crédits)
6 à 12 crédits au Centre d'enseignement du français et de l'anglais parmi :
FRSL 321D1 (3) Oral and Written French 2
FRSL 321D2 (3) Oral and Written French 2
FRSL 325 (6) Oral and Written French 2 - Intensive
FRSL 326 (3) Découvrons le Québec en français
FRSL 431D1 (3) Français fonctionnel avancé
FRSL 431D2 (3) Français fonctionnel avancé
FRSL 445 (3) Français fonctionnel, écrit 1
FRSL 446 (3) Français fonctionnel, écrit 2
FRSL 449 (3) Le Français des médias
FRSL 455 (3) Grammaire et création

6 à 12 crédits au Département de langue et littérature françaises parmi :
3 à 9 crédits choisis parmi les cours suivants :
FREN 201 (3) Composition 1
FREN 203 (3) Composition 2
FREN 239 (3) Stylistique comparée
FREN 245 (3) Grammaire avancée
3 crédits choisis parmi les cours suivants :
FREN 250 (3) Littérature française avant 1800
FREN 251 (3) Littérature française depuis 1800
FREN 252 (3) Littérature québécoise

CONCENTRATION MINEURE LANGUE ET LITTÉRATURE FRANÇAISES – LANGUE FRANÇAISE ET TRADUCTION
(18 crédits)
(Concentration mineure qui ne peut pas être convertie en Concentration majeure)
Conditions d'admission : Aucune.

Cours complémentaires (18 crédits)
9 crédits choisis parmi les cours suivants :
FREN 201 (3) Composition 1
FREN 203 (3) Composition 2
FREN 231 (3) Linguistique française
FREN 245 (3) Grammaire avancée

9 crédits choisis parmi les cours suivants :
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 346 (3) Traduction 2
FREN 349 (3) Traduction 3
FREN 431 (3) Traduction 4
FREN 441 (3) Traduction français-anglais

CONCENTRATION MINEURE LANGUE ET LITTÉRATURE FRANÇAISES – ÉTUDES ET PRATIQUES LITTÉRAIRES
(18 crédits)
(Concentration mineure convertible en Concentration majeure option Études et pratiques littéraires)
Conditions d'admission : Bonne connaissance du français lu, écrit et parlé; pour les étudiants n'ayant pas reçu une éducation secondaire ou collégiale en français, cette connaissance pourra être vérifiée à l'aide d'un test.

Cours obligatoire (3 crédits)
FREN 222 (3) Littérature française : Introduction

Cours complémentaires (15 crédits)

L'étudiant(e) doit choisir entre deux orientations (streams) soit : « Études littéraires », ou « Pratiques littéraires ». Suivant l'orientation choisie, les 15 crédits de cours complémentaires se répartiront comme suit :

Études littéraires
12 crédits choisis parmi les cours du bloc « Études littéraires » (au moins
3 de ces 12 crédits doivent porter sur la littérature avant 1800 et 3 autres sur la littérature depuis 1800)
3 crédits choisis parmi les cours du bloc « Pratiques littéraires »

Pratiques littéraires
12 crédits choisis dans au moins deux séries différentes du bloc « Pratiques littéraires »
3 crédits choisis parmi les cours du bloc « Études littéraires »

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littèrature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2

FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

CONCENTRATION MINEURE LANGUE ET LITTÉRATURE FRANÇAISES – TRADUCTION (18 crédits) (Convertible en Concentration majeure Traduction)

Conditions d'admission : Bonne connaissance du français et de l'anglais lus et écrits; cette connaissance est vérifiée à l'aide d'un test, à la suite duquel l'étudiant(e) peut se voir imposer de suivre le cours FREN 239 Stylistique comparée au trimestre d'automne de U1.

Cours obligatoire (15 crédits)
FREN 222 (3) Littérature française : Introduction
FREN 244 (3) Traduction 1
FREN 346 (3) Traduction 2
FREN 349 (3) Traduction 3
FREN 431 (3) Traduction 4

Cours complémentaires (3 crédits)
FREN 239 (3) Stylistique comparée

ou
3 crédits choisis parmi les cours du bloc « Études littéraires »

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littèrature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

CONCENTRATION MINEURE LANGUE ET LITTÉRATURE FRANÇAISES – CRITIQUE LITTÉRAIRE (18 crédits)
Concentration mineure qui ne peut pas être convertie en Concentration majeure

Conditions d'admission : Connaissance suffisante du français lu, écrit et parlé; pour les étudiants n'ayant pas reçu une éducation secondaire ou collégiale en français, cette connaissance pourra être vérifiée à l'aide d'un test.

Cours obligatoire (3 crédits)
FREN 222 (3) Littérature française : lntroduction

Cours complémentaires (15 crédits)

3 crédits choisis parmi les cours de niveau 300 ou 400 du bloc « Études littéraires » (voir liste dessous)
12 crédits choisis parmi les cours suivants :
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 394 (3) Théorie de la traduction
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littèrature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE FRANÇAISES – ÉTUDES ET PRATIQUES LITTÉRAIRES (36 crédits)

Conditions d'admission : Bonne connaissance du français lu, écrit et parlé; pour les étudiants n'ayant pas reçu une éducation secondaire ou collégiale en français, cette connaissance pourra être vérifiée à l'aide d'un test.

Cours obligatoire (12 crédits)
FREN 222 (3) Littérature française : lntroduction
FREN 333 (3) Thème de littérature d'Ancien Régime
FREN 444 (3) Thème de littérature moderne
FREN 450 (3) Thème de littérature québécoise

Cours complémentaires (24 crédits)

L'étudiant(e) doit choisir entre deux orientations (streams) soit : « Études littéraires », ou « Pratiques littéraires ». Suivant l'orientation choisie, les 24 crédits de cours complémentaires se répartiront comme suit :

Études littéraires
18 crédits choisis parmi les cours du bloc « Études littéraires », comme suit :
6 crédits de la série Théorie littéraire
12 crédits de la série Œuvres et courants
(au moins 3 de ces 18 crédits doivent porter sur la littérature avant 1800
et 3 autres sur la littérature depuis 1800.)
6 crédits choisis parmi les cours du bloc « Pratiques littéraires »

Pratiques littéraires
18 crédits choisis parmi les cours du bloc « Pratiques littéraires », comme suit :
au moins 3 crédits de la série Traduction
au moins 3 crédits de la série Création
au moins 3 crédits de la série Édition
6 crédits choisis parmi les cours du bloc « Études littéraires » (au moins 3 de ces crédits doivent porter sur la littérature avant 1800)

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littérature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE FRANÇAISES – TRADUCTION (36 crédits)

Conditions d'admission : Bonne connaissance du français et de l'anglais lus et écrits; cette connaissance est vérifiée à l'aide d'un test, à la suite duquel l'étudiant(e) peut se voir imposer de suivre le cours FREN 239 Stylistique comparée au trimestre d'automne de U1.

Cours obligatoire (24 crédits)
FREN 222 (3) Littérature française : Introduction
FREN 231 (3) Linguistique française
FREN 244 (3) Traduction 1
FREN 346 (3) Traduction 2
FREN 347 (3) Terminologie générale
FREN 349 (3) Traduction 3
FREN 431 (3) Traduction 4
FREN 494 (3) Traduction spécialisée

Cours complémentaires (12 crédits)
3 crédits choisis parmi les cours suivants :
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction

6 crédits choisis parmi les cours du bloc « Études littéraires »
3 crédits choisis parmi les cours du bloc « Pratiques littéraires » (à l'exclusion de la série Traduction)

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littèrature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

CONCENTRATION MAJEURE LANGUE ET LITTÉRATURE FRANÇAISES – LINGUISTIQUE DU FRANÇAIS (36 crédits)
(Automne 2009 : Suppression du programme)

Ce programme est aboli à partir de septembre 2009. Les étudiants inscrits à ce programme avant cette date doivent consulter la directrice des Études de 1er cycle qui les guidera sur la manière de compléter leur programme.

PROGRAMMES DE SPÉCIALISATION ("HONOURS") ET DE DOUBLE SPÉCIALISATION ("JOINT HONOURS")
L'obtention d'un baccalauréat avec Spécialisation ou Double Spécialisation est obligatoire pour l'admission dans les programmes de 2e et 3e cycles (maîtrise et doctorat).

En Spécialisation, les étudiants doivent conserver au minimum une moyenne de 3.00 pour l'ensemble des cours du programme et maintenir un CGPA de 3.00.

En plus des cours du programme de Spécialisation, les étudiants doivent faire une Concentration mineure (18 crédits) dans un département autre que celui de leur programme de Spécialisation.

Les étudiants qui souhaitent poursuivre leurs études en spécialisation dans deux domaines distincts peuvent s'inscrire dans deux départements de la Faculté des Arts (consulter l'Annuaire de la Faculté section 6.11.4, "Joint Honours Programs"). Ces étudiants devraient rencontrer un conseiller dans chacun des deux départements concernés, pour établir leur choix de cours et formuler leur projet de recherche interdisciplinaire, le cas échéant.

PROGRAMME DE SPÉCIALISATION, OPTION ÉTUDES ET PRATIQUES LITTÉRAIRES (54 crédits)
Conditions d'admission : Bonne connaissance du français lu, écrit et parlé; pour les étudiants n'ayant pas reçu une éducation secondaire ou collégiale en français, cette connaissance pourra être vérifiée à l'aide d'un test.

Cours obligatoire (21 crédits)
FREN 222 (3) Littérature française : Introduction
FREN 333 (3) Thème de littérature d'Ancien Régime
FREN 444 (3) Thème de littérature moderne
FREN 450 (3) Thème de littérature québécoise
FREN 464D1 (3) Projet de recherche individuel
FREN 464D2 (3) Projet de recherche individuel
FREN 595 (3) Séminaire avancé lettres française

Cours complémentaires (33 crédits)

18 crédits choisis parmi les cours du bloc « Études littéraires », comme suit :
6 crédits de la série Théorie littéraire
12 crédits de la série Œuvres et courants
(au moins 3 de ces 18 crédits doivent porter sur la littérature avant 1800
et 3 autres sur la littérature depuis 1800.)
15 crédits choisis parmi les cours du bloc « Pratiques littéraires », comme suit :
au moins 3 crédits de la série Traduction
au moins 3 crédits de la série Création
au moins 3 crédits de la série Édition

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littérature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

PROGRAMME DE SPÉCIALISATION, OPTION TRADUCTION (54 crédits)
Bonne connaissance du français et de l'anglais lus et écrits; cette connaissance est vérifiée à l'aide d'un test; en cas de note insuffisante lors de ce test, l'étudiant(e) s'inscrira plutôt au programme de Concentration majeure (option Traduction) et suivra le cours FREN 239 Stylistique comparée au trimestre d'automne de U1. L'étudiant(e) pourra demander de nouveau l'autorisation de s'inscrire au programme de Spécialisation (option Traduction) à la fin de U1; cette autorisation lui sera accordée si ses notes dans chacun de ses cours de programme suivis en U1 sont égales ou supérieures à 75 % (B+).

Cours obligatoire (33 crédits)
FREN 222 (3) Littérature française : Introduction
FREN 231 (3) Linguistique française
FREN 244 (3) Traduction 1
FREN 346 (3) Traduction 2
FREN 347 (3) Terminologie générale
FREN 349 (3) Traduction 3
FREN 394 (3) Théorie de la traduction
FREN 431 (3) Traduction 4
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 494 (3) Traduction spécialisée

Cours complémentaires (12 crédits)
3 crédits choisis parmi les cours suivants :
FREN 336 (3) La langue française
FREN 434 (3) Sociolinguistique du français
FREN 492 (3) Histoire de la traduction

12 crédits choisis parmi les cours du bloc « Études littéraires »
(au moins 3 de ces 12 crédits doivent porter sur la littérature avant 1800
et 3 autres sur la littérature depuis 1800.)
6 crédits choisis parmi les cours du bloc « Pratiques littéraires »
(à l'exclusion de la série Traduction)

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littèrature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

DOUBLE SPÉCIALISATION, OPTION ÉTUDES ET PRATIQUES LITTÉRAIRES (36 crédits)

Conditions d'admission : Bonne connaissance du français lu, écrit et parlé; pour les étudiants n'ayant pas reçu une éducation secondaire ou collégiale en français, cette connaissance pourra être vérifiée à l'aide d'un test.

Cours obligatoire (21 crédits)
FREN 222 (3) Littérature française : Introduction
FREN 333 (3) Thème de littérature d'Ancien Régime
FREN 444 (3) Thème de littérature moderne
FREN 450 (3) Thème de littérature québécoise
FREN 464D1(3) Projet de recherche individuel
FREN 464D2(3) Projet de recherche individuel
FREN 595 (3) Séminaire avancé lettres française

Cours complémentaires (15 crédits)

6 crédits choisis parmi les cours du bloc « Études littéraires », comme suit :
3 crédits de la série Théorie littéraire
3 crédits de la série Œuvres et courants
9 crédits choisis parmi les cours du bloc « Pratiques littéraires », comme suit :
3 crédits de la série Traduction
3 crédits de la série Création
3 crédits de la série Édition

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*
FREN 337 (3) Analyse et interprétation littéraires
FREN 391 (3) Doctrines et idées littéraires 1
FREN 490 (3) Théorie littéraire contemporaine
FREN 496 (3) Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*
FREN 355 (3) Littérature du 20e siècle 1
FREN 360 (3) La littérature du 19e siècle 1
FREN 362 (3) La littérature du 17e siècle 1
FREN 364 (3) La littérature du 18e siècle 1
FREN 366 (3) Littérature de la Renaissance 1
FREN 372 (3) Littérature québécoise 1
FREN 380 (3) Littérature de la francophonie
FREN 382 (3) Littérature québécoise 2
FREN 453 (3) Littérature du 20e siècle 2
FREN 455 (3) La littérature médiévale 1
FREN 456 (3) La littérature médiévale 2
FREN 457 (3) La littérature de la Renaissance 2
FREN 458 (3) La littérature du 17e siècle 2
FREN 459 (3) La littérature du 18e siècle 2
FREN 480 (3) Littérature québécoise contemporaine
FREN 482 (3) La littérature du 19e siècle 2
FREN 485 (3) Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*
FREN 239 (3) Stylistique comparée
FREN 244 (3) Traduction 1
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 443 (3) Traduction littéraire
FREN 492 (3) Histoire de la traduction
FREN 494 (3) Traduction spécialisée

(b) Série *Création*
FREN 240 (3) Atelier d'écriture poétique
FREN 340 (3) Atelier d'écriture narrative
FREN 440 (3) Atelier d'écriture dramatique

(c) Série *Édition*
FREN 376 (3) Correction et révision
FREN 377 (3) Pratiques de l'édition littéraire
FREN 476 (3) Le livre

DOUBLE SPÉCIALISATION, OPTION TRADUCTION
(36 crédits)

Bonne connaissance du français et de l'anglais lus et écrits; cette connaissance est vérifiée à l'aide d'un test; en cas de note insuffisante lors de ce test, l'étudiant(e) s'inscrira plutôt au programme de Concentration majeure (option Traduction) et suivra le cours FREN 239 Stylistique comparée au trimestre d'automne de U1. L'étudiant(e) pourra demander de nouveau l'autorisation de s'inscrire au programme de Spécialisation (option Traduction) à la fin de U1; cette autorisation lui sera accordée si ses notes dans chacun de ses cours de programme suivis en U1 sont égales ou supérieures à 75 % (B+).

Cours obligatoire (21 crédits)
FREN 222 (3) Littérature française : lntroduction
FREN 244 (3) Traduction 1
FREN 346 (3) Traduction 2
FREN 349 (3) Traduction 3
FREN 431 (3) Traduction 4
FREN 443 (3) Traduction littéraire
FREN 494 (3) Traduction spécialisée

Cours complémentaires (15 crédits)
6 crédits choisis parmi les cours suivants :
FREN 347 (3) Terminologie générale
FREN 394 (3) Théorie de la traduction
FREN 441 (3) Traduction français-anglais
FREN 492 (3) Histoire de la traduction

6 crédits choisis parmi les cours du bloc « Études littéraires »
(au moins 3 de ces crédits doivent porter sur la littérature avant 1800 et
3 autres sur la littérature depuis 1800.)
3 crédits choisis parmi les cours du bloc « Pratiques littéraires »
(à l'exclusion de la série Traduction)

Liste des cours complémentaires

I. Bloc : « Études littéraires »

(a) Série *Théorie littéraire*

FREN 337	(3)	Analyse et interprétation littéraires
FREN 391	(3)	Doctrines et idées littéraires 1
FREN 490	(3)	Théorie littéraire contemporaine
FREN 496	(3)	Doctrines et ideés littéraires 2

(b) Série *Œuvres et courants*

FREN 355	(3)	Littérature du 20e siècle 1
FREN 360	(3)	La littérature du 19e siècle 1
FREN 362	(3)	La littérature du 17e siècle 1
FREN 364	(3)	La littérature du 18e siècle 1
FREN 366	(3)	Littérature de la Renaissance 1
FREN 372	(3)	Littérature québécoise 1
FREN 380	(3)	Littérature de la francophonie
FREN 382	(3)	Littérature québécoise 2
FREN 453	(3)	Littèrature du 20e siècle 2
FREN 455	(3)	La littérature médiévale 1
FREN 456	(3)	La littérature médiévale 2
FREN 457	(3)	La littérature de la Renaissance 2
FREN 458	(3)	La littérature du 17e siècle 2
FREN 459	(3)	La littérature du 18e siècle 2
FREN 480	(3)	Littérature québécoise contemporaine
FREN 482	(3)	La littérature du 19e siècle 2
FREN 485	(3)	Littérature française contemporaine

II. Bloc : « Pratiques littéraires »

(a) Série *Traduction*

FREN 239	(3)	Stylistique comparée
FREN 244	(3)	Traduction 1
FREN 394	(3)	Théorie de la traduction
FREN 441	(3)	Traduction français-anglais
FREN 443	(3)	Traduction littéraire
FREN 492	(3)	Histoire de la traduction
FREN 494	(3)	Traduction spécialisée

(b) Série *Création*

FREN 240	(3)	Atelier d'écriture poétique
FREN 340	(3)	Atelier d'écriture narrative
FREN 440	(3)	Atelier d'écriture dramatique

(c) Série *Édition*

FREN 376	(3)	Correction et révision
FREN 377	(3)	Pratiques de l'édition littéraire
FREN 476	(3)	Le livre

6.12.23 Geography (GEOG)

Burnside Hall, Room 705
805 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-4951 (or leave message 514-398-4111)
Fax: 514-398-7437
Website: www.geog.mcgill.ca

The Geography Department offers programs in both Arts and Science. Consult the Science entry "Geography (GEOG)" in section 14.13.16 for B.Sc. Geography programs, a list of teaching staff, an outline of the nature of Geography and the opportunities for study in this discipline.

Geography is a broad, holistic discipline - both a natural and a social science because it examines people and their environment and serves as a bridge between physical and cultural processes. Human Geography (a social science, thus B.A. programs) is concerned especially with the political, economic, social, and cultural processes and resource practices that create spatial patterns and that define particular places. Physical Geography (B.Sc. programs) integrates disciplines such as climatology, geomorphology, geology, biology, hydrology, ecology, soil science and even marine science. Whether considering greenhouse gas emissions, the spread of disease, or threats to biodiversity, in all cases, geographers are interested in where things happen, why, and with what consequences.

Our graduates go on to careers in environmental consulting, social agencies or non-governmental organizations. Skills in Geographic Information Science (GIS) are very marketable. Students are well prepared for graduate work in social sciences, urban planning and environmental studies at leading schools.

Prerequisites
There are no departmental prerequisites for entrance to the B.A. Major Concentrations or Honours programs in Geography. It is helpful for Arts students to include 6 credits of Mathematics in their CEGEP or preuniversity programs. A student who has completed college or preuniversity geography courses fully equivalent to those of first year university may, with the adviser's approval, substitute other courses as part of the Major Concentrations or Honours programs. B.A. students in U0 are invited to take GEOG 205 for science credit and GEOG 200 for social science credit.

MINOR CONCENTRATION IN GEOGRAPHY (18 credits)
(Expandable into the Major Concentration in Geography, but not into the Major Concentration in Geography (Urban Systems).)

The Minor Concentration in Geography is designed to provide students in the Faculty of Arts with an overview of basic elements of human geography at the introductory and advanced level.

Complementary Courses (18 credits)
9 credits (3 courses) from:

GEOG 201	(3)	Introductory Geo-Information Science
GEOG 203	(3)	Environmental Systems
GEOG 210	(3)	Global Places and Peoples
GEOG 216	(3)	Geography of the World Economy
GEOG 217	(3)	The Canadian City
GEOG 272	(3)	Earth's Changing Surface

9 credits (3 courses) from any Geography courses at the 300- or 400-level.

MINOR CONCENTRATION IN GEOGRAPHIC INFORMATION SYSTEMS (18 credits)
(Expandable into the Major Concentration in Geography, but not into the Major Concentration in Geography (Urban Systems).)

This Minor is designed to provide students in the Faculty of Arts who have an interest in GIS with a basic, but comprehensive knowledge of concepts and methods relating to the analysis of geospatial data.

Required Courses (15 credits)

GEOG 201	(3)	Introductory Geo-Information Science
GEOG 306	(3)	Raster Geo-Information Science
GEOG 307	(3)	Socioeconomic Applications of GIS
GEOG 308	(3)	Principles of Remote Sensing
GEOG 506	(3)	Advanced Geographic Information Science

Complementary Courses (3 credits)
One course to be chosen from:

ATOC 309	(3)	Weather Radars and Satellites
COMP 420	(3)	Secondary Storage Algorithms and Data Structures
COMP 557	(3)	Fundamentals of Computer Graphics (Note prerequisites)
GEOG 535	(3)	Remote Sensing and Interpretation
GEOG 551	(3)	Environmental Decisions
URBP 505	(3)	Geographic Information Systems

MINOR CONCENTRATION IN GEOGRAPHY (URBAN SYSTEMS) (18 credits)
(Expandable into the Major Concentration in Geography (Urban Systems).)

Complementary Courses (18 credits)
Group A (9 or 12 credits)
GEOG 210 (3) Global Places and Peoples
GEOG 217 (3) The Canadian City
GEOG 303 (3) Health Geography
GEOG 311 (3) Economic Geography
GEOG 315 (3) Urban Transportation Geography
GEOG 331 (3) Urban Social Geography
GEOG 494 (3) Urban Field Studies

Group B (6 or 9 credits)
Architecture (Faculty of Engineering)*
ARCH 378 (3) Site Usage (U2)
ARCH 515 (3) Sustainable Design (U3)
ARCH 527 (3) Civic Design (U3)
ARCH 528 (3) History of Housing (U3)
ARCH 529 (3) Housing Theory (U3)
ARCH 550 (4) Urban Planning and Development (U3)
(permission of Geography Adviser required)
* Although Architecture courses have prerequisites, they are waived for Urban Systems students, but the course may not be taken before the year indicated.
Civil Engineering
CIVE 433 (3) Urban Planning
- limited enrolment, departmental permission required, call 514-398-6345
CIVE 540 (3) Urban Transportation Planning
Economics
ECON 348 (3) Urban Economics
Geography
GEOG 307 (3) Socioeconomic Applications of GIS
History
HIST 353 (3) History of Montreal
Law
PUB1 004 (3) Land Use Planning
Political Science
POLI 318 (3) Comparative Local Government
POLI 337 (3) Canadian Public Administration
Urban Planning
URBP 201 (3) Planning the 21st Century City
URBP 501 (2) Principles and Practice 1
URBP 506 (3) Environmental Policy and Planning

B.A. MAJOR CONCENTRATION IN GEOGRAPHY (36 credits)
This program is designed to cover the main elements of human geography.

Required Courses (6 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 210 (3) Global Places and Peoples

Complementary Courses (30 credits)
3 credits of introductory physical geography, one of:
GEOG 203 (3) Environmental Systems
GEOG 272 (3) Earth's Changing Surface

3 credits of statistics*, one of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research
* Credit given for statistics courses is subject to certain restrictions; see Faculty Degree Requirements, section 6.3.6.2, "Course Overlap".

3 credits from field courses (field course availability is determined each year in February):
GEOG 290 (1) Local Geographical Excursion (In 2009, reserve Oct. 2 - 4)
GEOG 398 (3) Field Studies in Human Geography
GEOG 494 (3) Urban Field Studies
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters
GEOG 499 (3) Subarctic Field Studies

3 credits of analysis and methodology:
GEOG 306 (3) Raster Geo-Information Science
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 308 (3) Principles of Remote Sensing
GEOG 351 (3) Quantitative Methods
GEOG 506 (3) Advanced Geographic Information Science

18 credits in Geography (excluding GEOG 200, GEOG 205), at least 3 of these 18 to be at the 400 level or above.

MAJOR CONCENTRATION IN GEOGRAPHY (URBAN SYSTEMS) (36 credits)

This interdisciplinary Concentration exposes students to the various approaches to urban studies in many disciplines. Students who wish to retain the option of entering a Geography honours program should include GEOG 201, GEOG 203, GEOG 216 and GEOG 272 as well as the 9 credits of Required Courses listed below.

Students should observe the levels indicated by course numbers: 200-level are first year; 300-level, second year; 400- or 500-level, third year.

For further information on the Urban Systems Concentration telephone 514-398-4951 or leave a message at 514-398-4111.

For Urban Systems Majors, the total number of credits permitted outside Arts and Science is 30; see section 6.3.6.3 "Courses Outside the Faculties of Arts and of Science".

Required Courses (12 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 217 (3) The Canadian City
GEOG 331 (3) Urban Social Geography
GEOG 351 (3) Quantitative Methods

Complementary Courses (24 credits)

3 credits of statistics*, one of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research
* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 6.3.6.2, "Course Overlap".

15 - 21 credits selected from the following courses:

Geography
GEOG 210 (3) Global Places and Peoples
GEOG 303 (3) Health Geography
GEOG 311 (3) Economic Geography
GEOG 315 (3) Urban Transportation Geography
GEOG 380 (3) Adaptive Environmental Management
GEOG 494 (3) Urban Field Studies

Architecture (Faculty of Engineering)*
ARCH 378 (3) Site Usage (U2)
ARCH 515 (3) Sustainable Design (U3)
ARCH 520 (3) Montreal: Urban Morphology (U3)
ARCH 527 (3) Civic Design (U3)
ARCH 528 (3) History of Housing (U3)
ARCH 529 (3) Housing Theory (U3)

ARCH 550 (4) Urban Planning and Development (U3) (same as CIVE 433 but extra project) (permission of Geography Adviser required)

* Although Architecture courses have prerequisites, they are waived for Urban Systems Majors, but the course may not be taken before the year indicated. Limited enrolment, early registration recommended.

Art History
ARTH 314 (3) The Medieval City

Civil Engineering
CIVE 433 (3) Urban Planning (same course as ARCH 550) - limited enrolment, departmental permission required, call 514-398-6345
CIVE 540 (3) Urban Transportation Planning

Economics
ECON 348 (3) Urban Economics

History
HIST 353 (3) History of Montreal

Jewish Studies
JWST 371D1/D2 (6) Jews and the Modern City

Law
PUB1 004 (3) Land Use Planning

Management (Desautels Faculty of Management)
FINE 445 (3) Real Estate Finance (prereq.)

Political Science
POLI 318 (3) Comparative Local Government

Urban Planning (Faculty of Engineering)
URBP 201 (3) Planning the 21st Century City
URBP 501 (2) Principles and Practice 1 (6-week intensive)
URBP 506 (3) Environmental Policy and Planning

Balance (up to 6 credits) selected from the following courses:

Geography
GEOG 290 (1) Local Geographical Excursion (In 2009, reserve Oct. 2 - 4)
GEOG 306 (3) Raster Geo-Information Science
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 316 (3) Political Geography
GEOG 504 (3) Industrial Restructuring - Geographic Implications

Political Science
POLI 337 (3) Canadian Public Administration
POLI 411 (3) Immigration and Multiculturalism in Canada

Sociology
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 333 (3) Social Stratification
SOCI 388 (3) Crime

B.A. HONOURS IN GEOGRAPHY (60 credits)

The B.A. Honours program is more concentrated and focused than the Major Concentration. Students must maintain a minimum program GPA of 3.30 as well as a CGPA of 3.00 and complete a 6-credit Honours thesis. Honours students are encouraged to participate in 500-level seminars with graduate students.

Required Courses (15 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 351 (3) Quantitative Methods
GEOG 381 (3) Geographic Thought and Practice
GEOG 491D1 (3) Honours Research
GEOG 491D2 (3) Honours Research

Complementary Courses (45 credits)
12 credits of introductory courses, four of:
GEOG 203 (3) Environmental Systems
GEOG 210 (3) Global Places and Peoples
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 272 (3) Earth's Changing Surface

3 credits of statistics*, one of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research

* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 6.3.6.2, "Course Overlap".

3 credits from field courses:
GEOG 290 (1) Local Geographical Excursion (In 2009, reserve Oct. 2 - 4)
GEOG 398 (3) Field Studies in Human Geography
GEOG 494 (3) Urban Field Studies
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters
GEOG 499 (3) Subarctic Field Studies

18 additional credits in Geography in consultation with the adviser.

9 credits at the 300 or 400-level or above outside Geography. Courses outside Geography, at the 300-level or higher, are selected from the humanities, social and physical sciences, or engineering and approved by the adviser as related to the focus within Geography.

In addition to the Faculty requirement that Honours students maintain a minimum CGPA of 3.00, students in a Geography Honours Program must maintain a program GPA of at least 3.30.

B.A. HONOURS IN URBAN SYSTEMS (60 credits)

The B.A. Honours in Urban Systems program is more concentrated and focused than the Major Concentration. Students must maintain a minimum program GPA of 3.30 as well as a CGPA of 3.00 and complete a 6-credit Honours thesis. Honours students are encouraged to participate in 500-level seminars with graduate students.

Students should observe the levels indicated by course numbers: 200-level are first year; 300-level, second year; 400- or 500-level, third year.

For further information on programs in Urban Systems, telephone 514-398-4951 or leave a message at 514-398-4111.

For students in the Honours in Urban Systems, the total number of credits permitted outside Arts and Science is 30; see section 6.3.6.3 "Courses Outside the Faculties of Arts and of Science".

Required Courses (21 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 217 (3) The Canadian City
GEOG 351 (3) Quantitative Methods
GEOG 381 (3) Geographic Thought and Practice
GEOG 491D1 (3) Honours Research
GEOG 491D2 (3) Honours Research
GEOG 494 (3) Urban Field Studies

Complementary Courses (39 credits)

3 credits of statistics*, one of or equivalent of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics

* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 6.3.6.2, "Course Overlap".

12 credits selected from the following Geography courses:
GEOG 203 (3) Environmental Systems
GEOG 210 (3) Global Places and Peoples

GEOG 221 (3) Environment and Health
GEOG 303 (3) Health Geography
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 311 (3) Economic Geography
GEOG 331 (3) Urban Social Geography

12 credits of courses in one of three categories: Urban History and Theory, Urban Design, or Urban Policy and Governance.

Urban History and Theory:*
ARCH 528 (3) History of Housing
ARCH 529 (3) Housing Theory
ARTH 314 (3) The Medieval City
GEOG 503 (3) Location & Spatial Development
GEOG 504 (3) Industrial Restructuring - Geographic Implications
HIST 353 (3) History of Montreal
JWST 371D1 (3) Jews and the Modern City
JWST 371D2 (3) Jews and the Modern City
SOCI 222 (3) Urban Sociology
URBP 501 (2) Principles and Practice 1 (6-week intensive)

Urban Design:*
ARCH 378 (3) Site Usage
ARCH 515 (3) Sustainable Design
ARCH 520 (3) Montreal: Urban Morphology
ARCH 521 (3) Structure of Cities
ARCH 527 (3) Civic Design
ARCH 550 (4) Urban Planning and Development (permission of Geography Adviser required)
CIVE 433 (3) Urban Planning (same course as ARCH 550) - limited enrolment, departmental permission required, call 514-398-6345
CIVE 540 (3) Urban Transportation Planning
GEOG 315 (3) Urban Transportation Geography
URBP 201 (3) Planning the 21st Century City
URBP 505 (3) Geographic Information Systems

* Note: Although Architecture courses have prerequisites, they are waived for Urban Systems students, but the course may not be taken before the year indicated. Limited enrolment, early registration recommended.

Urban Policy and Governance:
ECON 348 (3) Urban Economics
FINE 445 (3) Real Estate Finance (prereq.)
POLI 318 (3) Comparative Local Government
POLI 337 (3) Canadian Public Administration
PUB1 004 (3) Land Use Planning
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 333 (3) Social Stratification
SOCI 388 (3) Crime
URBP 506 (3) Environmental Policy and Planning

12 additional credits chosen as follows:
6 credits must be chosen from the above lists;
6 credits may be courses at or above the 300-level selected from outside of the program in conjunction with the student's program adviser.

In addition to the Faculty requirement that Honours students maintain a minimum CGPA of 3.00, students in the Honours in Urban Systems program must maintain a program GPA of at least 3.30.

B.A. JOINT HONOURS – GEOGRAPHY COMPONENT
(36 credits)

Required Courses (9 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 351 (3) Quantitative Methods
GEOG 381 (3) Geographic Thought and Practice

Complementary Courses (27 credits)
12 credits of introductory courses, four of:
GEOG 203 (3) Environmental Systems
GEOG 210 (3) Global Places and Peoples
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 272 (3) Earth's Changing Surface

3 credits of statistics*, one of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research
* Credit given for statistics courses is subject to certain restrictions; see Faculty Degree Requirements, section 6.3.6.2, "Course Overlap".

6 to 9 credits from a coherent set of Geography courses approved by the student's adviser. A field course is desirable.

3 or 6 credits from:
GEOG 491D1*(3) Honours Research
GEOG 491D2*(3) Honours Research
or, for those who submit the thesis in the other department,
GEOG 492D1 (1.5) Joint Honours Research
GEOG 492D2 (1.5) Joint Honours Research
* Where both departments require an Honours Thesis, the student has the option of submitting the thesis to either department. If the thesis is submitted to the other department, then the student must register for GEOG 492D1/GEOG 492D2. In some cases, it is required that the thesis be jointly supervised by faculty of both departments.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

In addition to the Faculty requirement that Joint Honours students maintain a minimum CGPA of at least 3.00, students in a Geography Joint Honours Program must maintain a program GPA of at least 3.30.

AFRICAN FIELD STUDY SEMESTER
The Department of Geography (Prof. Thom Meredith), Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester. For further information please contact Martine Dolmière, Internship & Field Studies Officer, 514-398-1063; see section 15.3.1 "African Field Study Semester".

PANAMA FIELD STUDY SEMESTER
The program is a joint venture between McGill University and the Smithsonian Tropical Research Institute (STRI) in Panama. For more information; see section 15.3.4 "Panama Field Study Semester".

GEOGRAPHY COURSES OF MOST INTEREST TO ARTS STUDENTS:
GEOG 199 (3) FYS: Geo-Environments
GEOG 200 (3) Geographical Perspectives: World Environmental Problems
GEOG 201 (3) Introductory Geo-Information Science
GEOG 205 (3) Global Change: Past, Present and Future
GEOG 210 (3) Global Places and Peoples
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 221 (3) Environment and Health
GEOG 290 (1) Local Geographical Excursion
GEOG 300 (3) Human Ecology in Geography
GEOG 301 (3) Geography of Nunavut
GEOG 302 (3) Environmental Management 1
GEOG 303 (3) Health Geography
GEOG 306 (3) Raster Geo-Information Science
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 308 (3) Principles of Remote Sensing

GEOG 309 (3) Geography of Canada
GEOG 311 (3) Economic Geography
GEOG 315 (3) Urban Transportation Geography
GEOG 316 (3) Political Geography
GEOG 331 (3) Urban Social Geography
GEOG 351 (3) Quantitative Methods
GEOG 370 (3) Protected Areas
GEOG 381 (3) Geographic Thought and Practice
GEOG 398 (3) Field Studies in Human Geography
GEOG 404 (3) Environmental Management 2
GEOG 408 (3) Geography of Development
GEOG 410 (3) Geography of Underdevelopment: Current Problems
GEOG 416 (3) Africa South of the Sahara
GEOG 424 (3) Europe: Places and Peoples
GEOG 490 (3) Geography: Independent Studies
GEOG 494 (3) Urban Field Studies
GEOG 496 (3) Geographical Excursion
GEOG 498 (3) Humans in Tropical Environments
GEOG 500 (3) Geography of Regional Identity
GEOG 501 (3) Modelling Environmental Systems
GEOG 502 (3) Geography of Northern Development
GEOG 504 (3) Industrial Restructuring - Geographic Implications
GEOG 506 (3) Advanced Geographic Information Science
GEOG 508 (3) Resources, People, and Power
GEOG 510 (3) Humid Tropical Environments
GEOG 551 (3) Environmental Decisions

6.12.24 German Studies (GERM)

688 Sherbrooke Street West, Suite 425
Montreal, QC H3A 3R1

Telephone: 514-398-3650
Fax: 514-398-1748
Email: german.studies@mcgill.ca
Website: www.mcgill.ca/german

Chair — Karin Bauer

Emeritus Professor
Peter M. Daly; B.A.(Brist.), Ph.D.(Zur.)

Professor
Paul Peters; B.A.(Man.), Ph.D.(Free Univ., Berlin)

Associate Professor
Karin Bauer; M.A., Ph.D.(Wash.)

Assistant Professors
Andrew Piper; B.A.(Prin.), Ph.D.(Col.)
Michael Cowan; B.A., Ph.D.(Calif., Berk.)

Faculty Lecturer
Sylvia Rieger; M.A.(Regensburg), M.A.(Vanderbilt), Ph.D.(Wash., Seattle)

Undergraduate Program Director
Professor Michael Cowan

Advisers

Minor, Major, Honours, Joint Honours Programs:
Professor Paul Peters, 514-398-5050

Major in Contemporary German Studies:
Professor Michael Cowan, 514-398-3648

Non-program students:
Professor Michael Cowan, 514-398-3648

Note: Students may begin at the intermediate or advanced level in their first year if they have taken German courses in high school or in CEGEP or through McGill Summer Studies. The courses GERM 202 or GERM 307 may be offered through Summer Studies.

MINOR CONCENTRATION IN GERMAN LANGUAGE
(Expandable to the Major Concentration in German Language and Literature) (18 credits)

Complementary Courses (18 credits)
chosen from:
GERM 200 (6) German Language, Intensive Beginners'
or GERM 202D1 (3) German Language, Beginners'
and GERM 202D2 (3) German Language, Beginners'
GERM 300 (6) German Language Intensive Intermediate
or GERM 307D1 (3) German Language - Intermediate
and GERM 307D2 (3) German Language - Intermediate
GERM 325 (6) German Language - Intensive Advanced
GERM 336 (3) German Grammar Review
GERM 341 (3) Essay Writing
GERM 342 (3) Translation
GERM 345 (3) Business German 1
GERM 346 (3) Business German 2

MINOR CONCENTRATION IN GERMAN LITERATURE
(Expandable to the Major Concentration in German Language and Literature) (18 credits)

This is offered as a special program for students who already possess the necessary language skills before coming to McGill, or have acquired the competence by completing the intensive sequence (GERM 200 and GERM 300) as elective courses in their first year.

Required Course (6 credits)
GERM 325 (6) German Language - Intensive Advanced

Complementary Courses (12 credits)
12 credits of courses in German literature or culture, given in German, such as:
GERM 330 (3) Landeskunde
GERM 331 (3) Germany after Reunification
GERM 352 (3) German Literature - 19th Century 3
GERM 353 (3) 19th Century Literary Topics
GERM 360 (3) German Literature 1890 to 1918
GERM 361 (3) German Literature 1918 to 1945
GERM 362 (3) 20th Century Literature Topics
GERM 363 (3) German Postwar Literature
GERM 380 (3) 18th Century German Literature
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies
GERM 412 (3) Heroes, Lovers and Crusaders
GERM 450 (3) Classical Period in German Literature
GERM 451 (3) German Romanticism
GERM 455 (3) Women of the Romantic Era
GERM 511 (3) Middle High German Literature
GERM 561 (3) German Literature: Baroque
GERM 580 (3) Topics in 18th Century Literature

MINOR CONCENTRATION IN GERMAN LITERATURE AND CULTURE IN TRANSLATION (18 credits) (Non-expandable)

Complementary Courses (18 credits)
18 credits chosen from courses in German literature or culture in translation, such as:
GERM 259 (3) Introduction to German Literature 1
GERM 260 (3) Introduction to German Literature 2
GERM 354 (3) Literary Approach to Song
GERM 355 (3) Nietzsche and Wagner
GERM 357 (3) German Culture in European Context
GERM 358 (3) Franz Kafka
GERM 359 (3) Bertolt Brecht
GERM 364 (3) German Culture: Gender and Society
GERM 365 (3) Language of Media from Manuscript to Hypertext
GERM 366 (3) Postwar German Literature/Film
GERM 367 (3) Topics in German Thought
GERM 368 (3) Fin-de-Siècle Vienna
GERM 371 (3) Cultural Change and Evolution of German

GERM 382 (3) Faust: Chapbook to Horror Film
GERM 580 (3) Topics in 18th Century Literature

MAJOR CONCENTRATION IN CONTEMPORARY GERMAN STUDIES (36 credits)

The Major Concentration in Contemporary German Studies is open to students with a sound knowledge of German as acquired in GERM 325 or equivalent. Those students who do not have the required competence in German may take the Major Concentration in Contemporary German Studies **only** if they also take a Minor Concentration in German Language. Proficiency, equivalency and placement will be determined by the program adviser.

Required Courses (9 credits)
HIST 234 (3) German History to 1648
HIST 235 (3) German History since 1648
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies

Complementary Courses (27 credits)
a) 6 credits in German Literature and Culture, chosen from:
GERM 330 (3) Landeskunde
GERM 331 (3) Germany after Reunification
GERM 357 (3) German Culture in European Context
GERM 362 (3) 20th Century Literature Topics
GERM 363 (3) German Postwar Literature
GERM 365 (3) Media Studies
GERM 366 (3) Postwar German Literature/Film
GERM 367 (3) Topics in German Thought
GERM 368 (3) Fin-de-Siècle Vienna

b) 12 credits in German Society chosen from three disciplines including History, or from two disciplines excluding History.
Please contact the department(s) in question for pre/corequisites and availability of the following courses:

Economics:
ECON 340 (3) Ex-Socialist Economies
ECON 345 (3) The International Economy since 1914
ECON 423D1 (3) International Trade and Finance
ECON 423D2 (3) International Trade and Finance

History:
HIST 355D1 (3) Germany 1806-1918
HIST 355D2 (3) Germany 1806-1918
HIST 435D1 (3) Germany in the 20th Century
HIST 435D2 (3) Germany in the 20th Century

Management:
BUSA 391 (3) International Business Law
MGCR 382 (3) International Business
MGPO 383 (3) International Business Policy
MRKT 483 (3) International Marketing Management
ORGB 380 (3) Cross Cultural Management

Political Science:
POLI 212 (3) Government and Politics - Developed World
POLI 328 (3) Modern Politics in Western Europe
POLI 331 (3) Politics in East Central Europe
POLI 344 (3) Foreign Policy: Europe
POLI 357 (3) Politics: Contemporary Europe
POLI 358 (3) Comparative State-Society Relations
POLI 431 (3) Nations and States/Developed World
POLI 463 (3) Politics of Germany
POLI 466 (3) Public Policy Analysis

Sociology:
SOCI 330 (3) Sociological Theory
SOCI 354 (3) Dynamics of Industrial Societies

c) 9 credits taken from the following categories:

German Studies:
GERM 345 (3) Business German 1
GERM 346 (3) Business German 2

Any advanced course in German language, German literature, German literature in translation.

Any of the courses listed above in b) not already chosen.
Other courses offered in Art History, Geography, Jewish Studies, Music, Philosophy, etc., can be substituted for some of the above courses with the permission of the program adviser.

Please contact the department(s) in question for pre/corequisites and availability of the following courses:

Jewish Studies:
JWST 371D1 (3) Jews and the Modern City
JWST 371D2 (3) Jews and the Modern City
JWST 383 (3) Holocaust Literature
JWST 384 (3) Images of Jewish Identities

Philosophy:
PHIL 367 (3) 19th Century Philosophy
PHIL 474 (3) Phenomenology

MAJOR CONCENTRATION IN GERMAN LANGUAGE AND LITERATURE (36 credits)

Required Courses (18 credits*)
GERM 200 (6) German Language, Intensive Beginners'
or GERM 202D1 (3) German Language, Beginners'
and GERM 202D2 (3) German Language, Beginners'
GERM 300 (6) German Language Intensive Intermediate
or GERM 307D1 (3) German Language - Intermediate
and GERM 307D2 (3) German Language - Intermediate
GERM 325 (6) German Language - Intensive Advanced

* Students with advanced standing in the language will substitute language courses with more advanced courses in language, culture or literature.

Complementary Courses (18 credits)
18 credits of courses in literature distributed across different periods chosen from the courses listed below*:

at least one 3-credit course in 20th Century:
GERM 354 (3) Literary Approach to Song
GERM 357 (3) German Culture in European Context
GERM 360 (3) German Literature 1890 to1918
GERM 361 (3) German Literature 1918 to 1945
GERM 362 (3) 20th Century Literature Topics
GERM 363 (3) German Postwar Literature
GERM 364 (3) German Culture: Gender and Society
GERM 365 (3) Language of Media from Manuscript to Hypertext
GERM 366 (3) Postwar German Literature/Film
GERM 367 (3) Topics in German Thought
GERM 368 (3) Fin-de-Siècle Vienna

at least one 3-credit course in Classicism or Romanticism:
GERM 450 (3) Classical Period in German Literature
GERM 451 (3) German Romanticism
GERM 455 (3) Women of the Romantic Era
GERM 580 (3) Topics in 18th Century Literature

at least one 3-credit course from any other period:
GERM 352 (3) German Literature - 19th Century 3
GERM 353 (3) 19th Century Literary Topics
GERM 380 (3) 18th Century German Literature
GERM 382 (3) Faust: Chapbook to Horror Film
GERM 412 (3) Heroes, Lovers and Crusaders
GERM 511 (3) Middle High German Literature
GERM 561 (3) German Literature: Baroque

9 credits selected from any of the literature courses above not already taken or from:
GERM 330 (3) Landeskunde
GERM 331 (3) Germany after Reunification
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies

* Courses on German literature or culture given in English may be substituted for any courses in the above lists, to a maximum of 6 credits.

MAJOR CONCENTRATION IN GERMAN LITERATURE AND CULTURE (36 credits)

Note: All German literature courses given in German have as prerequisite a linguistic competence as acquired in GERM 325 *or equivalent*. Such equivalence will be established by the program adviser.

Complementary Courses (36 credits)
9 credits chosen from:
GERM 330 (3) Landeskunde
GERM 331 (3) Germany after Reunification
GERM 360 (3) German Literature 1890 to 1918
GERM 361 (3) German Literature 1918 to 1945
GERM 362 (3) 20th Century Literature Topics
GERM 363 (3) German Postwar Literature

15 credits chosen from:
GERM 352 (3) German Literature - 19th Century 3
GERM 353 (3) 19th Century Literary Topics
GERM 380 (3) 18th Century German Literature
GERM 412 (3) Heroes, Lovers and Crusaders
GERM 450 (3) Classical Period in German Literature
GERM 451 (3) German Romanticism
GERM 455 (3) Women of the Romantic Era
GERM 511 (3) Middle High German Literature
GERM 561 (3) German Literature: Baroque

12 credits chosen from:
GERM 259 (3) Introduction to German Literature 1
GERM 260 (3) Introduction to German Literature 2
GERM 354 (3) Literary Approach to Song
GERM 355 (3) Nietzsche and Wagner
GERM 358 (3) Franz Kafka
GERM 359 (3) Bertolt Brecht
GERM 364 (3) German Culture: Gender and Society
GERM 365 (3) Language of Media from Manuscript to Hypertext
GERM 366 (3) Postwar German Literature/Film
GERM 367 (3) Topics in German Thought
GERM 371 (3) Cultural Change and Evolution of German
GERM 382 (3) Faust: Chapbook to Horror Film
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies

HONOURS IN GERMAN STUDIES (60 credits)

The Honours Program in German Studies consists of 60 credits in German. Literature courses provide an introduction to the major periods from the Middle Ages to the present.

Admission to the Honours Program in German Studies requires departmental approval. Students may begin Honours in German Studies in their first year. Honours students must maintain a GPA of 3.30 in their program courses, and, according to Faculty regulations, a minimum CGPA of 3.00 in general. In addition to the above requirements, Honours students, according to Faculty regulations, also must complete at least a Minor Concentration (18 credits) in another academic unit.

Required Courses (42 credits)
GERM 200 (6) German Language, Intensive Beginners'
GERM 300 (6) German Language Intensive Intermediate
GERM 325 (6) German Language - Intensive Advanced
GERM 352 (3) German Literature - 19th Century 3
GERM 360 (3) German Literature 1890 to 1918
GERM 363 (3) German Postwar Literature
GERM 450 (3) Classical Period in German Literature
GERM 451 (3) German Romanticism
GERM 511 (3) Middle High German Literature
GERM 575 (6) Honours Thesis

With permission of the adviser, students with advanced standing in German language will replace language courses for more advanced courses in language, culture or literature.

Complementary Courses (18 credits)
12 credits selected from:
GERM 330 (3) Landeskunde
GERM 331 (3) Germany after Reunification
GERM 353 (3) 19th Century Literary Topics
GERM 361 (3) German Literature 1918 to 1945
GERM 362 (3) 20th Century Literature Topics
GERM 365 (3) Language of Media from Manuscript to Hypertext
GERM 380 (3) 18th Century German Literature
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies
GERM 580 (3) Topics in 18th Century Literature
Note: In the event that there are not enough courses offered in German, substitution with courses from the list below is allowed only with permission of the adviser.

6 credits selected from:
GERM 259 (3) Introduction to German Literature 1
GERM 260 (3) Introduction to German Literature 2
GERM 336 (3) German Grammar Review
GERM 354 (3) Literary Approach to Song
GERM 355 (3) Nietzsche and Wagner
GERM 357 (3) German Culture in European Context
GERM 358 (3) Franz Kafka
GERM 359 (3) Bertolt Brecht
GERM 364 (3) German Culture: Gender and Society
GERM 367 (3) Topics in German Thought
GERM 368 (3) Fin-de-Siècle Vienna
GERM 371 (3) Cultural Change and Evolution of German
GERM 382 (3) Faust: Chapbook to Horror Film
GERM 397 (3) Individual Reading Course 01
GERM 398 (3) Individual Reading Course 02
GERM 561 (3) German Literature: Baroque
or other suitable courses in the Department or in other related disciplines and departments with the approval of the adviser.

JOINT HONOURS – GERMAN STUDIES COMPONENT (36 credits)

Admission to the Joint Honours Program in German Studies requires Departmental approval.

Required Courses (21 credits)
GERM 200 (6) German Language, Intensive Beginners'
GERM 300 (6) German Language Intensive Intermediate
GERM 325 (6) German Language - Intensive Advanced
GERM 570 (3) Joint Honours Thesis
With permission of the adviser, students with advanced standing in German language will replace language courses for more advanced courses in language, culture or literature.

Complementary Courses (15 credits)
Selected from 400- to 500-level German literature and culture courses, from at least three centuries, with the approval of the adviser.

Joint Honours students must maintain a GPA of 3.30 in their program courses, and, according to Faculty regulations, a minimum CGPA of 3.00 in general.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Prerequisites for Literature Courses – The prerequisite for all literature courses taught in German is GERM 325, or equivalent, or permission of the Department.

TOPICAL LISTINGS

Language

a) General courses

GERM 200 (6) German Language, Intensive Beginners'
GERM 202 (6) German Language, Beginners'
GERM 203 (6) German for Reading
GERM 300 (6) German Language Intensive Intermediate
GERM 307 (6) German Language - Intermediate
GERM 325 (6) German Language - Intensive Advanced

b) Special courses

GERM 316 (3) German: Analytic Study of Texts
GERM 330 (3) Landeskunde
GERM 336 (3) German Grammar Review
GERM 341 (3) Essay Writing
GERM 342 (3) Translation
GERM 345 (3) Business German 1
GERM 346 (3) Business German 2

Literature and Culture

GERM 331 (3) Germany after Reunification
GERM 349 (3) Methods of Literary Analysis
GERM 352 (3) German Literature - 19th Century 3
GERM 353 (3) 19th Century Literary Topics
GERM 360 (3) German Literature 1890 to 1918
GERM 361 (3) German Literature 1918 to 1945
GERM 362 (3) 20th Century Literature Topics
GERM 363 (3) German Postwar Literature
GERM 380 (3) 18th Century German Literature
GERM 450 (3) Classical Period in German Literature
GERM 451 (3) German Romanticism
GERM 511 (3) Middle High German Literature
GERM 561 (3) German Literature: Baroque
GERM 580 (3) Topics in 18th Century Literature

Literature and Culture in Translation

GERM 197 (3) FYS: Images of Otherness
GERM 259 (3) Introduction to German Literature 1
GERM 260 (3) Introduction to German Literature 2
GERM 355 (3) Nietzsche and Wagner
GERM 357 (3) German Culture in European Context
GERM 358 (3) Franz Kafka
GERM 359 (3) Bertolt Brecht
GERM 364 (3) German Culture: Gender and Society
GERM 365 (3) Language of Media from Manuscript to Hypertext
GERM 366 (3) Postwar German Literature/Film
GERM 367 (3) Topics in German Thought
GERM 368 (3) Fin-de-Siècle Vienna
GERM 371 (3) Cultural Change and Evolution of German
GERM 382 (3) Faust: Chapbook to Horror Film
GERM 400 (3) Interdisciplinary Seminar: Contemporary German Studies

6.12.25 Hispanic Studies (HISP)

688 Sherbrooke Street West, Room 425
Montreal, QC H3A 3R1

Telephone: 514-398-6683
Fax: 514-398-1748
Email: hispanic.studies@mcgill.ca
Website: www.mcgill.ca/hispanic

Chair — Amanda Holmes

Professors

K.M. Sibbald; M.A.(Cant.), M.A.(Liv.), Ph.D.(McG.)
Jesús Pérez-Magallón; Lic.Fil.(Barcelona), Ph.D.(Penn.)

Associate Professors

David A. Boruchoff; A.B., A.M., Ph.D.(Harv.)
Amanda Holmes; B.A.(McG.), M.A., Ph.D.(Ore.)

Assistant Professors

José Jouve-Martin; Lic.Phil.(Madrid), Ph.D.(G'town) (*on leave, Fall 2009*)
Fernanda Macchi; Lic.Lit.(Buenos Aires), M.A.(Ore.), Ph.D.(Yale)

Faculty Lecturer

Lucia Chamanadjian; M.A.(Car.)

The Department of Hispanic Studies offers courses on literature, intellectual history and the civilization of Spain and Hispanic America, as well as in the Spanish and Portuguese languages. The Department and its programs are committed to expanding the liberal arts background of students by helping to develop the skills of communication and critical reasoning, and by providing insight into the culture of other regional, linguistic and national groups.

McGill University has bilateral exchange agreements with the Universidad de Salamanca (Spain), the Universidad Nacional Autónoma de México, and the Universidad de las Américas, Puebla (Mexico), as well as with other leading universities in the Spanish and Portuguese-speaking world which allow student and faculty exchanges, and other collaborative ventures. Further information about these exchanges may be obtained from the Department. Application forms are available from the Student Exchange Officer in Enrolment Services, James Administration Building.

The Department collaborates closely with the Program in Latin-American and Caribbean Studies, and students are encouraged to consult that program listing.

UNDERGRADUATE PROGRAMS

Adviser: José Jouve-Martin, 688 Sherbrooke, Room 379, 514-398-6657 / 6683

The Department of Hispanic Studies offers the following undergraduate programs and concentrations, which permit students to pursue a variety of intellectual and preprofessional options:

Minor Concentration in Hispanic Languages (Expandable)

Minor Concentration in Hispanic Literature and Culture (Expandable)

Major Concentration in Hispanic Languages

Major Concentration in Hispanic Literature and Culture

Honours Program in Hispanic Studies

Joint Honours Program in Hispanic Studies

Students who envision graduate studies upon completion of the B.A. are strongly advised to pursue a program of Honours or Joint Honours. (Honours students must submit their thesis by March 15). Although the Major and Minor Concentrations form an important part of the multi-track B.A. in Arts, this general degree does not provide the specialized training called for by most graduate programs in the Humanities and Social Sciences.

Note: Advanced Placement (AP) credits and courses taken at other universities in Quebec will not be accredited towards the Minor.

MINOR CONCENTRATION IN HISPANIC LANGUAGES
(18 credits) (Expandable to the Major Concentration in Hispanic Languages)

Note: Advanced Placement (AP) credits and courses taken at other universities in Quebec will **not** be accredited towards the Minor.

Complementary Courses (18 credits)
selected from:

HISP 202D1 (3) Portuguese Language: Beginners
HISP 202D2 (3) Portuguese Language: Beginners
HISP 204D1 (3) Portuguese Language: Intermediate
HISP 204D2 (3) Portuguese Language: Intermediate
HISP 210D1 (3) Spanish Language: Beginners
HISP 210D2 (3) Spanish Language: Beginners
HISP 218 (6) Spanish Language Intensive - Elementary
HISP 219 (6) Spanish Language Intensive - Intermediate
HISP 220D1 (3) Spanish Language: Intermediate

HISP 220D2 (3) Spanish Language: Intermediate
HISP 225 (3) Hispanic Civilization 1
HISP 226 (3) Hispanic Civilization 2
Students with advanced standing in the language will replace language courses with more advanced courses in language, culture or literature at the 200 level or above, selected from Departmental offerings.

MINOR CONCENTRATION IN HISPANIC LITERATURE AND CULTURE (18 credits) (Expandable to the Major Concentration in Hispanic Literature and Culture)

Note: Advanced Placement (AP) credits and courses taken at other universities in Quebec will **not** be accredited towards the Minor.

Required Courses (6 credits)
HISP 225 (3) Hispanic Civilization 1
HISP 226 (3) Hispanic Civilization 2

Complementary Courses (12 credits)
6 credits selected from:
HISP 241 (3) Survey of Spanish Literature 1
HISP 242 (3) Survey of Spanish Literature 2
HISP 243 (3) Survey of Spanish-American Literature 1
HISP 244 (3) Survey of Spanish-American Literature 2

6 credits in literature and/or culture at the 300 level or above, selected from the following:
HISP 321 (3) Spanish Literature - 18th Century
HISP 324 (3) 20th Century Drama
HISP 325 (3) Spanish Novel of the 19th Century
HISP 326 (3) Spanish Romanticism
HISP 327 (3) Literature of Ideas: Spain
HISP 328 (3) Literature of Ideas: Spanish America
HISP 332 (3) Spanish-American Literature of 19th Century
HISP 333 (3) Spanish-American Theatre
HISP 350 (3) The Generation of 1898
HISP 351 (3) Spanish-American Novel 1
HISP 352 (3) Spanish-American Novel 2
HISP 356 (3) Spanish-American Short Story
HISP 358 (3) Women Writers Fiction Spanish-America
HISP 423 (3) Modern Lyric Poetry
HISP 424 (3) Spanish Novel since Civil War
HISP 432 (3) Literature - Discovery and Exploration Spain New World
HISP 437 (3) Viceregal Spanish America
HISP 438 (3) Topics: Spanish Literature
HISP 439 (3) Topics: Spanish-American Literature
HISP 442 (3) Modernismo
HISP 451D1 (3) Cervantes
HISP 451D2 (3) Cervantes
HISP 453 (3) 20th Century Spanish-American Poetry
HISP 454 (3) Major Figures: Spanish Literature
HISP 455 (3) Major Figures: Spanish-American Literature
HISP 457 (3) Medieval Literature
HISP 458 (3) Golden Age Literature: Renaissance
HISP 460 (3) Golden Age Literature: Baroque
HISP 501 (3) History of the Spanish Language
HISP 505 (3) Seminar in Hispanic Studies 01
HISP 506 (3) Seminar in Hispanic Studies 02
HISP 507 (3) Seminar in Hispanic Studies 03

The **Minor Concentration in Spanish Literature and Culture** and the **Minor Concentration in Spanish-American Literature and Culture** were retired at the end of the 2003-04 academic year. Students enrolled in either program at that time should consult with a Departmental adviser.

MAJOR CONCENTRATION IN HISPANIC LANGUAGES
(36 credits)
Complementary Courses
(36 credits)
0 - 18 credits in language and civilization
6 credits in Survey of Literature
12 - 30 credits in Hispanic literature at the 300 level or above, at least 6 credits of which must be in literature of the pre-1700 period (courses marked with an asterisk *), selected from the Complementary course list given under the Major Concentration in Hispanic Literature and Culture.

MAJOR CONCENTRATION IN HISPANIC LITERATURE AND CULTURE (36 credits)

Required Courses (18 credits)
HISP 241 (3) Survey of Spanish Literature 1
HISP 242 (3) Survey of Spanish Literature 2
HISP 243 (3) Survey of Spanish-American Literature 1
HISP 244 (3) Survey of Spanish-American Literature 2
HISP 451D1 (3) Cervantes
HISP 451D2 (3) Cervantes

Complementary Courses (18 credits)
0 - 3 credits from:
HISP 250 (3) Reading Hispanic Literature

at least 15 credits in Hispanic literature at the 300 level or above, at least 3 credits of which must be in literature of the pre-1700 period (courses marked with an asterisk *), selected from the following:
HISP 321 (3) Spanish Literature - 18th Century
HISP 324 (3) 20th Century Drama
HISP 325 (3) Spanish Novel of the 19th Century
HISP 326 (3) Spanish Romanticism
HISP 327 (3) Literature of Ideas: Spain
HISP 328 (3) Literature of Ideas: Spanish America
HISP 332 (3) Spanish-American Literature of 19th Century
HISP 333 (3) Spanish-American Drama
HISP 350 (3) The Generation of 1898
HISP 351 (3) Spanish-American Novel 1
HISP 352 (3) Spanish-American Novel 2
HISP 356 (3) Spanish-American Short Story
HISP 358 (3) Women Writers Fiction Spanish-America
HISP 423 (3) Modern Lyric Poetry
HISP 424 (3) Spanish Novel since Civil War
HISP 432* (3) Literature - Discovery and Exploration Spain New World
HISP 437* (3) Viceregal Spanish America
HISP 438 (3) Topics: Spanish Literature
HISP 439 (3) Topics: Spanish-American Literature
HISP 442 (3) Modernismo
HISP 453 (3) 20th Century Spanish-American Poetry
HISP 454 (3) Major Figures: Spanish Literature
HISP 455 (3) Major Figures: Spanish-American Literature
HISP 457* (3) Medieval Literature
HISP 458* (3) Golden Age Literature: Renaissance
HISP 460* (3) Golden Age Literature: Baroque
HISP 501* (3) History of the Spanish Language
HISP 505 (3) Seminar in Hispanic Studies 01
HISP 506 (3) Seminar in Hispanic Studies 02
HISP 507 (3) Seminar in Hispanic Studies 03

HONOURS IN HISPANIC STUDIES (60 credits)

Prerequisite for admission into Honours: A first-year Spanish course with a final grade of B+. Honours students are expected to maintain a program GPA of 3.30 and an overall CGPA of 3.00.

Students must take an 18-credit Minor Concentration in another area.

Required Courses (24 credits)
HISP 241 (3) Survey of Spanish Literature 1
HISP 242 (3) Survey of Spanish Literature 2
HISP 243 (3) Survey of Spanish-American Literature 1
HISP 244 (3) Survey of Spanish-American Literature 2
HISP 451D1 (3) Cervantes
HISP 451D2 (3) Cervantes
HISP 490D1 (3) Honours Thesis
HISP 490D2 (3) Honours Thesis

Complementary Courses (36 credits)
at least 6 credits selected from:
HISP 432 (3) Literature - Discovery and Exploration Spain New World
HISP 437 (3) Viceregal Spanish America
HISP 458 (3) Golden Age Literature: Renaissance
HISP 460 (3) Golden Age Literature: Baroque

All remaining credits may be selected from courses given in Spanish in the Department at or above the Intermediate Spanish language level (HISP 219 OR HISP 220D1/HISP 220D2).

JOINT HONOURS – HISPANIC STUDIES COMPONENT
(36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines. See section 6.11.4, "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Joint Honours students are expected to maintain a program GPA of 3.30 and an overall CGPA of 3.00.

Required Courses (12 credits)
HISP 451D1 (3) Cervantes
HISP 451D2 (3) Cervantes
HISP 490D1 (3) Honours Thesis
HISP 490D2 (3) Honours Thesis

Complementary Courses (24 credits)
6 credits selected from:
HISP 241 (3) Survey of Spanish Literature 1
HISP 242 (3) Survey of Spanish Literature 2
HISP 243 (3) Survey of Spanish-American Literature 1
HISP 244 (3) Survey of Spanish-American Literature 2
at least 6 credits selected from:
HISP 432 (3) Literature - Discovery and Exploration Spain New World
HISP 437 (3) Viceregal Spanish America
HISP 458 (3) Golden Age Literature: Renaissance
HISP 460 (3) Golden Age Literature: Baroque
All remaining credits may be selected from courses given in Spanish in the Department above the Intermediate Spanish language level (HISP 219 OR HISP 220D1/HISP 220D2).

6.12.26 History (HIST)

General Office, Room 608
Sixth Floor, Stephen Leacock Building
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-3975
Fax: 514-398-8365
Email: undergrad.history@mcgill.ca
Website: www.mcgill.ca/history

Chair — TBD

Emeritus Professors
Michael P. Maxwell; B.A.(Sir G. Wms.), M.A., Ph.D.(McG.)
Desmond Morton; B.A.(RMC), B.A., M.A.(Oxf.), Ph.D.(Lond.) (*Hiram Mills Emeritus Professor of History*)
Albert Schachter; B.A.(McG.), D.Phil.(Oxf.) (*Hiram Mills Emeritus Professor of Classics*)

Professors
Hans Beck; Ph.D.(Erlangen) (*John MacNaughton Professor of Classics*)
Valentin J. Boss; B.A.(Cant.), Ph.D.(Harv.)
Gwyn Campbell; B.Soc.Sc., M.Soc.Sc.(Birm.), Ph.D.(Wales)
John W. Hellman; B.A.(Marquette), M.A., Ph.D.(Harv.)
Peter Hoffmann; Ph.D.(Munich), F.R.S.C. (*William Kingsford Professor of History*)
Gershon D. Hundert; B.A., M.A.(Ohio St.), Ph.D.(Col.) (*Leanor Segal Professor of Jewish Studies*) (*joint appoint. with Jewish Studies*)
Carman I. Miller; B.A., B.Ed.(Acad.), M.A.(Dal.), Ph.D.(Lond.)
Suzanne Morton; B.A.(Trent), M.A., Ph.D.(Dal.)
Yuzo Ota; B.A., M.A., Ph.D.(Tokyo)
Nancy F. Partner; B.A., M.A., Ph.D.(Calif.)
Andrea Tone: B.A.(Qu.), M.A., Ph.D.(Emory) (*joint appoint. with Social Studies of Medicine*)
Gil E. Troy; A.B., A.M., Ph.D.(Harv.)
Robin D.S. Yates; B.A., M.A.(Oxf.), M.A.(Calif.), Ph.D.(Harv.) (*James McGill Professor) (joint appoint. with East Asian Studies*)
John Zucchi; B.A., M.A., Ph.D.(Tor.)

Associate Professors
Paula Clarke; B.A.(Oxf. and Nfld.), M.A.(Tor.), Ph.D.(Lond.)
Brian Cowan; B.A.(Reed), M.A., Ph.D.(Prin.)
Catherine Desbarats; B.A.(Qu.), D.Phil.(Oxf.), Ph.D.(McG.)
Elizabeth Elbourne; B.A, M.A.(Tor.), D.Phil.(Oxf.)
Elsbeth Heaman; B.A., M.A.(McG.), Ph.D.(Tor.)
Catherine C. LeGrand; B.A.(Reed), M.A., Ph.D.(Stan.)
Brian Lewis; B.A., M.A.(Oxf.), A.M., Ph.D.(Harv.)
Leonard Moore; A.B., M.A., Ph.D.(Calif.)
Laila Parsons; B.A.(Exe.), D.Phil.(Oxf.) (*joint appoint. with Islamic Studies*)
Daviken Studnicki-Gizbert; BAC Spécialisé(Montr.), Ph.D.(Yale)
Griet Vankeerberghen; B.A., M.A.(Louvain), Ph.D.(Prin.) (*joint appoint. with East Asian Studies*)
Faith Wallis; B.A., M.A.(McG.), Ph.D.(Tor.) (*joint appoint. with Social Studies of Medicine)*

Assistant Professors
Malek Abisaab; B.A.(Beirut), M.A.(CUNY), Ph.D.(SUNY) (*joint appoint. with Islamic Studies*)
Nicholas Dew: B.A., M.A., Ph.D.(Oxf.)
Michael Fronda; B.A.(C'nell), M.A., Ph.D.(Ohio St.)
Renaud Gagné; B.A., M.A.(Montr.), Ph.D.(Harv.)
Charles W. Gladhill; B.A.(Mich.), M.A.(Georgia South.), Ph.D.(Stan.)
James Krapfl; A.B.(Stan.), M.A.(Central European Univ. Budapest), Ph.D.(Calif.)
Lorenz Lüthi; lic. phil. I(Zürich), Ph.D.(Yale)
Jarrett Rudy; B.A., M.A.(Ott), Ph.D.(McG.)

Assistant Professor, Special Category
Johanna Ransmeier; B.A.(Amh.), M.A.(Yale)

Faculty Lecturer
Judith Szapor; B.A., M.A., Ph.D.(York (Can.))

In today's world, people who can research thoroughly, write effectively, speak eloquently, and think clearly are in great demand. Recent graduates of our programs are currently pursuing careers in a variety of professions, including law, business, journalism, academia, finance, government, the arts, science, education, and medicine. All have benefited as professionals, individuals, and citizens from their study of history. The study of history develops skills in research, writing, and critical thinking and provides a context for understanding the present world. History requires and develops flexible thinking as it normally employs inductive reasoning. Historians usually begin with a specific, temporally and spatially defined issue and try to determine a pattern or cause for change over time. They move from the particular to the general and since historians usually begin with an open-ended question, they often find themselves drawing on other disciplines to understand the problem.

PROGRAMS IN HISTORY

The Department offers three kinds of undergraduate programs: Honours, Major Concentration and Minor Concentration. Courses in History fall into one of the following FOUR areas: The Americas; Europe; Asia/Africa/Middle East; Global/thematic. In each program, a specified number of credits may be selected from any single area. Each student's program is worked out with an adviser to suit the student's specific needs within the general framework of the program.

Courses within each area are listed in the History Department's website. Please refer to our website for a listing of courses being offered in 2009-10 in each area.

Candidates entering University as U0 or U1 students may, during their first year, take all courses at the 200 level as well as courses at the 300 level for which they have prerequisites. First-Year Seminars are also available in History; see section 6.5.2.1 "Registration for First-Year Seminars".

MINOR CONCENTRATION IN HISTORY (18 credits)
(Expandable)

Director: TBD

Complementary Courses (18 credits)

A minimum of 15 credits to be taken in one of the following areas:
The Americas
Europe
Asia/Africa/Middle East
Global/thematic

12 credits minimum at the 300-level or higher.
Students should see an adviser to plan a program that suits their needs

MAJOR CONCENTRATION IN HISTORY (36 credits)

Director: TBD

Complementary Courses (36 credits)
Within the 36 credits, a maximum of 24 credits from any one of the following areas:
The Americas
Europe
Asia/Africa/Middle East
Global/thematic

A maximum of 12 credits at the 200-level.

3 credits in history of the pre-1800 period.

3 credits in history of the post-1800 period.

HONOURS IN HISTORY (60 credits)

Director: TBD

Required Course (3 credits)
HIST 399 (3) History and Historical Methods

Complementary Courses (57 credits)

A minimum of 12 credits of Honours seminars.

A maximum of 15 credits at the 200-level or lower.

A maximum of 42 credits in any one of the following areas:
The Americas
Europe
Asia/Africa/Middle East
Global/thematic

Students must maintain a 3.30 grade point average in their program courses and must have no less than a "B" in any program course. In addition, and in accordance with Faculty of Arts rules, students must maintain an overall CGPA of 3.00.

12 credits of Honours seminars:
Students must complete 12 credits worth of work in seminars designated by the Department of History as Honours Seminars. Each Honours seminar comprises a 6-credit course with a D1/D2 course number or two 3-credit courses to be taken consecutively. The second term component includes the completion of a major research paper based substantially on primary-source research. Both parts of a D1/D2 seminar must be completed to receive credit. The first course of a two-part seminar may be taken alone in exceptional circumstances, but in that case will be counted towards the complementary course component of the program only and will not be counted as an honours seminar.

The Honours seminars are listed following the description of the Joint Honours - History Component. Please consult the internet version of the undergraduate Calendar for updates and the departmental web page for the topics of honours seminars, which vary from year to year. Not all seminars are offered each year.

JOINT HONOURS – HISTORY COMPONENT (36 credits)

Required Course (3 credits)
HIST 399 (3) History and Historical Methods

Complementary Courses (33 credits)

A minimum of 6 credits of Honours seminars.

A maximum of 12 credits at the 200-level or lower.

A maximum of 27 credits in any one of the following areas:
The Americas
Europe
Asia/Africa/Middle East
Global/thematic

Students must maintain a 3.30 grade point average in their program courses and must have no less than a "B" in any program course. In addition, and in accordance with Faculty of Arts rules, students must maintain an overall CGPA of 3.00.

6 credits of Honours seminars:
Students must complete 6 credits worth of work in seminars designated by the Department of History as Honours seminars. Each Honours seminar comprises a 6-credit course with a D1/D2 course number or two 3-credit courses to be taken consecutively. The second term component includes the completion of a major research paper based substantially on primary-source research. Both parts of a D1/D2 seminar must be completed to receive credit. The first course of a two-part seminar may be taken alone in exceptional circumstances, but in that case will be counted towards the complementary course component of the program only and will not be counted as an honours seminar.

The Honours seminars are listed below. Please consult the internet version of the undergraduate Calendar for updates and the departmental web page for the topics of honours seminars, which vary from year to year. Not all seminars are offered each year.

List of Honours seminars open to Honours and Joint Honours students:

HIST 458 (3) Modern Medicine: Seminar
and HIST 459 (3) Modern Medicine: Research
(To be taken consecutively)
HIST 461D1/D2 (6) Topics in Modern U.S. History
HIST 462D1/D2 (6) Topics: Canadian Conservatism
HIST 463D1/D2 (6) Topics: History of Women in Canada
HIST 464D1/D2 (6) Topics: Latin American History
HIST 465D1/D2 (6) Seminar: Italian Renaissance
HIST 466 (3) Seminar: Medieval Medicine
and HIST 496 (3) Research: Medieval Medicine
(To be taken consecutively)
HIST 468D1/D2 (6) Topics: 19th Century U.S. History
HIST 469D1/D2 (6) Topics in Canadian Religious History

HIST 470D1/D2 (6) Topics: Historical Interpretation
HIST 476D1/D2 (6) Seminar: Topics in Russian History
HIST 477D1/D2 (6) Seminar in Jewish History
HIST 480D1/D2 (6) Capitalism and Empire: European Domination
HIST 483D1/D2 (6) History of Montreal
HIST 485D1/D2 (6) Seminar in Japanese History
HIST 486D1/D2 (6) Topics: African Social History
HIST 489D1/D2 (6) Topics: Germany
HIST 490D1/D2 (6) Honours Tutorial 1
HIST 491D1/D2 (6) Honours Tutorial 2
HIST 493D1/D2 (6) Topics: Canadian Social History
HIST 497D1/D2 (6) Topics in Chinese History
HIST 498D1/D2 (6) Seminar in Eastern Europe
HIST 550 (3) Ancient History: Seminar
and HIST 551 (3) Ancient History: Research
(To be taken consecutively)
HIST 552 (3) International Relations: Seminar
and HIST 553 (3) International Relations: Research
(To be taken consecutively)
HIST 556 (3) Colonial America: Seminar 1
and HIST 557 (3) Colonial America: Seminar 2
(To be taken consecutively)
HIST 560 (3) World History: Seminar
and HIST 561 (3) World History: Research
(To be taken consecutively)
HIST 565 (3) Modern Britain: Seminar 1
and HIST 566 (3) Modern Britain: Seminar 2
(To be taken consecutively)
HIST 580D1/D2 (6) European and Native-American Encounters
HIST 594D1/D2 (6) Seminar in Early Modern Britain
HIST 595D1/D2 (6) Seminar: Early Modern Western Europe

The following course(s) may be chosen by History Major Concentration and Honours students as part of their programs.

Anthropology
ANTH 306 (3) Native Peoples' History in Canada

Canadian Studies
Please consult with advisers.

Islamic Studies
Please consult with advisers.

Jewish Studies
JWST 305 (3) American Jewish History/Colonial Era to WWI
JWST 306 (3) The American Jewish Community
JWST 356 (3) Jewish Labour Movement/Eastern Europe
JWST 357 (3) Jewish Labour Movement/North America

6.12.27 History and Philosophy of Science (HPSC)

Peterson Hall, Room 126
3460 McTavish Street
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/hpsc

Adviser — Monica Hotter

Program Chair — Nicholas Dew (*History*)

Acting Program Committee Chair — T.Schlick (*Social Studies of Medicine*)

Program Committee
Darin Barney (*Art History and Communication Studies*), Emily Carson (*Philosophy*), Stephen Menn (*Philosophy*), Jonathan Sterne (*Art History and Communication Studies*), Greg Mikkelson (*Philosophy*)

History and Philosophy of Science at McGill is an interdisciplinary program that aims to provide students with an understanding of science through the study of both its historical development and of some of the fundamental philosophical principles upon which it rests. In addition, there is an ongoing seminar series of talks by visiting speakers: Please visit www.mcgill.ca/hpsc/seminars and www.mcgill.ca/hpsc/lectures.

MINOR CONCENTRATION IN HISTORY AND PHILOSOPHY OF SCIENCE (18 credits)

Complementary Courses (18 credits)
18 credits, with a maximum of 9 credits at the 200-level, distributed as follows:

GROUP A: PHILOSOPHY OF SCIENCE
6 - 12 credits, no more than 6 credits of which may be at the 200-level, chosen from the following:

Communication Studies
COMS 210 (3) Introduction to Communication Studies
COMS 410 (3) Cultures in Visualization
History and Philosophy of Science
HPSC 300 (3) Independent Studies: History and Philosophy of Science
HPSC 500 (3) Interdisciplinary Seminar: History & Philosophy of Science
Philosophy
PHIL 210 (3) Introduction to Deductive Logic 1
or PHIL 310 (3) Intermediate Logic
PHIL 220 (3) Introduction to History and Philosophy of Science 1
PHIL 221 (3) Introduction to History and Philosophy of Science 2
PHIL 306 (3) Philosophy of Mind
PHIL 340 (3) Philosophy of the Social Sciences 1
PHIL 341 (3) Philosophy of Science 1
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 411 (3) Topics in Philosophy of Logic and Mathematics
PHIL 440 (3) Philosophy of Social Sciences 2
PHIL 441 (3) Philosophy of Science 2
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 511 (3) Seminar: Philosophy of Logic and Mathematics
PHIL 541 (3) Seminar: Philosophy of Science
PHIL 580 (3) Seminar: Problems of Philosophy 1
Psychology
PSYC 401 (3) Theories of Cognition
PSYC 472 (3) Scientific Thinking and Reasoning
Religious Studies
RELG 340 (3) Religion and the Sciences
Sociology
SOCI 338 (3) Introduction to Biomedical Knowledge

GROUP B: HISTORY OF SCIENCE
6 - 12 credits, no more than 6 credits of which may be at the 200-level, chosen from the following:
Anthropology
ANTH 359 (3) History of Archaeological Theory
Biology
BIOL 210 (3) Perspectives of Science
Geography
GEOG 381 (3) Geographic Thought and Practice
History
HIST 212 (3) Science and Medicine in Canada
HIST 249 (3) Health and the Healer in Western History
HIST 319 (3) The Scientific Revolution
HIST 335 (3) Science from Greeks to Newton
HIST 348 (3) China: Science-Medicine-Technology
HIST 350 (3) Science and the Enlightenment
HIST 356 (3) Medicine in the Medieval West
HIST 381 (3) Colonial Africa: Health/Disease
HIST 410 (3) Topics in History of Science
HIST 447 (3) The Natural History of America
HIST 452 (3) Medicine in Europe 1500-1700
HIST 457 (3) Topics in Medical History

HIST 458 (3) Modern Medicine: Seminar
HIST 459 (3) Modern Medicine: Research
HIST 466 (3) Seminar: Medieval Medicine
HIST 496 (3) Research: Medieval Medicine
History and Philosophy of Science
HPSC 300 (3) Independent Studies: History and Philosophy of Science
HPSC 500 (3) Interdisciplinary Seminar: History & Philosophy of Science
Islamic Studies
ISLA 345 (3) Science and Civilization in Islam
Mathematics
MATH 338 (3) History and Philosophy of Mathematics
MATH 339 (3) Foundations of Mathematics
Psychology
PSYC 403 (3) Modern Psychology in Historical Perspective

6.12.28 Humanistic Studies (HMST)

Peterson Hall, Room 126
3460 McTavish Street
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: humanisticstudies.arts@mcgill.ca
Website: www.mcgill.ca/humanistic

Director — Robert Myles *(English and French Language Centre)*

Humanistic Studies Committee
Chair: Myrna Wyatt Selkirk (*English*), Committee: Malek Abisaab (*Islamic Studies*), Hans Beck (*Classics*), Laura Beraha (*Russian and Slavic Studies*), Charles Boberg (*Linguistics*), Storrs McCall (*Philosophy*), Carman Miller (*History*), Robert Myles (*English and French Language Centre*)

Humanistic Studies provides a broad liberal arts education that is personally enriching. It is also practical in its goal of developing the analytical, critical, and contextual thinking skills that are vital for the creation, expression, and transmission of ideas. Humanistic Studies is not a department, but a program wherein students are advised and guided by professors from each of the disciplines involved. It has been designed so that students can devise individual interdisciplinary concentrations or explore one of the core humanistic subjects in more depth. The fundamental assumption of Humanistic Studies is that human knowledge as acquired and developed in the university is cumulative and interconnected. A historical sense is crucial for an understanding of the continuity and changes in human thinking and other human activity. Students are encouraged to seek links between and among subjects in the arts – for example, literature, history, philosophy, religion, music, history of fine arts – the social sciences, and natural sciences.

Advising
Students are strongly encouraged to seek advising. Courses should be "clustered" so that different fields complement each other or are interconnected. Students are strongly advised to take this program in tandem with concentrations in language and literature. Telephone 514-398-4804 to set up an appointment.

MINOR CONCENTRATION IN HUMANISTIC STUDIES
(Expandable) (18 credits)

Required Courses (6 credits)
HMST 296 (3) Western Humanistic Tradition 1
HMST 297 (3) Western Humanistic Tradition 2

Complementary Courses (12 credits)
Courses from the list published on the Humanistic Studies website will be taken in the following manner:
3 credits History of Fine Arts
3 credits Social Science
and 6 credits, all of which must be at the 300 level or above as follows:
(a) to acquire a more extensive knowledge of any ONE of the areas listed above;
(b) to be used to construct individual interdisciplinary concentrations **with the permission of the Humanistic Studies Office**.

It is strongly recommended that this Minor Concentration be accompanied by Major and/or Minor Concentrations in literature and/or languages.

MAJOR CONCENTRATION IN HUMANISTIC STUDIES
(36 credits)

Required Courses (6 credits)
HMST 296 (3) Western Humanistic Tradition 1
HMST 297 (3) Western Humanistic Tradition 2

Complementary Courses (30 credits)
Courses from the list published on the Humanistic Studies website will be taken in the following manner:
6 credits from the Humanities
6 credits History of Fine Arts
6 credits Social Science
3 credits Natural Science
and 9 credits, all of which must be at the 300 level or above as follows:
(a) to be used to acquire a more extensive knowledge of any ONE of the areas listed above;
(b) to be used to construct individual interdisciplinary concentrations **with the permission of the Humanistic Studies Office**.

It is strongly recommended that this Major Concentration be accompanied by Major and/or Minor Concentrations in literature and/or languages.

6.12.29 Industrial Relations Faculty Program

Peterson Hall, Room 126
3460 McTavish Street
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/indr

The Faculty of Arts Faculty Program in Industrial Relations provides students with a basic knowledge of industrial relations institutions and practices as well as the principal social and economic forces that underlie them. The program is composed of 54 credits of courses drawn from the Departments of Economics and Sociology within the Faculty of Arts and from labour-management relations within the Desautels Faculty of Management.

Further Information
Changes may be made in the program after this Calendar was prepared. For the most up-to-date information on the program, new and returning students should refer to the website.

Advisers
For a list of advisers, new and returning students should refer to the website.

Continuance in the Program
To remain in the program beyond the first year, students must take the six "U1 Required Courses" listed below during their first year and earn a 2.50 GPA in ECON 208, ECON 209, SOCI 235, SOCI 312 and INDR 294.

Continuing Education Courses
Courses in Continuing Education may **not** be used to fulfil IR program requirements. Similarly, courses in Continuing Education taken before entering the program may **not** be used to fulfil program requirements.

B.A. FACULTY PROGRAM IN INDUSTRIAL RELATIONS
(54 credits)

U1 Required Courses (18 credits)

ECON 208	(3)	Microeconomic Analysis and Applications (or equivalent)
ECON 209	(3)	Macroeconomic Analysis and Applications (or equivalent)
SOCI 235	(3)	Technology and Society
SOCI 312	(3)	Sociology of Work and Industry
INDR 294	(3)	Introduction to Labour-Management Relations
MGCR 222	(3)	Introduction to Organizational Behaviour

U2 Required Courses (18 credits)

ECON 306D1	(3)	Labour Economics and Institutions
ECON 306D2	(3)	Labour Economics and Institutions
SOCI 304	(3)	Sociology of the Welfare State
SOCI 420	(3)	Organizations
INDR 494	(3)	Labour Law
ORGB 423	(3)	Human Resources Management

U2 Complementary Courses (6 credits)
either Economics

ECON 227D1	(3)	Economic Statistics
ECON 227D2	(3)	Economic Statistics

or Sociology

SOCI 350	(3)	Statistics in Social Research
SOCI 461	(3)	Quantitative Data Analysis

U3 Required Courses (6 credits)

INDR 492	(3)	Public Policy in Industrial Relations
INDR 496	(3)	Collective Bargaining

U3 Complementary Courses (6 credits)

ECON 426	(3)	Labour Economics
INDR 449	(3)	Occupational Health and Safety
INDR 459	(3)	International Labour Relations
INDR 495	(3)	Labour Relations: Public Sector
INDR 497	(3)	Contract Administration
INDR 499	(3)	Internship in Industrial Relations

Credits outside Arts and Science
Students in the Faculty Program in Industrial Relations may take no more than 30 credits in courses outside of the Faculties of Arts and of Science. This total includes required and complementary courses taken for the IR Program and elective courses. Moreover, in the U1 year a student should take at most only one 3-credit elective course in the Desautels Faculty of Management in addition to the required courses, INDR 294 and MGCR 222.

6.12.30 International Development Studies (INTD)

Interdisciplinary Studies Office
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: ids@mcgill.ca
Website: www.mcgill.ca/ids

Program Chair — P. Oxhorn, Political Science (*Director, Centre for Developing Area Studies*)

Program Advisers:
Andrew Staples and Monica Hotter

Program Committee
Oliver Coomes (*Geography*), Kathleen Fallon (*Sociology*), Myron Frankman (*Economics*), Franque Grimard (*Economics*), John Kurien (*Economics*), Sonia Laszlo (*Economics*), Matthew Lange *(Sociology)*, Daviken Studnicki-Gizbert (*History*), Jon Unruh (*Geography*)

Faculty Lecturer
P. Pushkar; B.A.(Delhi), M.A., M.Phil.(JNU), Ph.D.(McG.)

The International Development Studies (IDS) programs are designed for those students who wish to take advantage of the resources available at McGill to pursue an interdisciplinary program of study focusing on the problems of the developing countries.

Most courses above the 200 level have prerequisites. Although these may be waived by instructors in some cases, students are urged to confirm their eligibility for courses when they prepare their programs of study. Note that certain courses (especially those in Management) may not be available owing to space limitations. Students should check the Class Schedule for confirmation as to which term courses are offered.

Please note that changes are planned for the IDS program in 2009-10. Consult the IDS program website for up-to-date details of the program structure.

MINOR CONCENTRATION IN INTERNATIONAL DEVELOPMENT STUDIES (18 credits) (Expandable)

Required Courses (9 credits)

ECON 208	(3)	Microeconomic Analysis and Applications
ECON 313	(3)	Economic Development 1
INTD 200	(3)	Introduction to International Development

Complementary Courses (9 credits)
3 credits selected from the IDS Complementary Course List Group A.

The remaining credits to be selected from the IDS Complementary Course List Group B.

At least 9 of the 18 credits must be at the 300 level or above.

MAJOR CONCENTRATION IN INTERNATIONAL DEVELOPMENT STUDIES (36 credits)

Required Courses (15 credits)

ECON 208	(3)	Microeconomic Analysis and Applications
ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
INTD 200	(3)	Introduction to International Development
INTD 497	(3)	Research Seminar on International Development

Complementary Courses (21 credits)
A minimum of 6 credits selected from the IDS Complementary Course List Group A. Only one course from each discipline can be counted.

The remaining credits to be selected from the IDS Complementary Course List Group B; at least 12 credits must be taken from one of the three categories. Students must take courses from at least three disciplines in Group B.

At least 18 of the 36 credits must be at the 300 level or above.

HONOURS IN INTERNATIONAL DEVELOPMENT STUDIES
(57 credits)

Honours students must maintain a program GPA of 3.30 and an overall CGPA of 3.00.

Required Courses (15 credits)

ECON 208	(3)	Microeconomic Analysis and Applications
ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
INTD 200	(3)	Introduction to International Development
INTD 497	(3)	Research Seminar on International Development

Complementary Courses (42 credits)
No more than 21 credits can be taken in any one discipline.

Thesis or research project, 3 to 6 credits, one of:

INTD 491	(3)	Research Project
INTD 492	(6)	Honours Thesis

A minimum of 6 credits selected from the IDS Complementary Course List Group A. Only one course from each discipline can be counted.

21 to 33 credits to be selected from the IDS Complementary Course List Group B; at least 12 credits must be taken from one of the three categories. Students must take courses from at least three disciplines.
Group C – 0 to 9 credits of Introductory and/or Intermediate Language Training.

Students are strongly encouraged to master a language appropriate to an area of the developing world in which they have a particular interest.

Among the languages that are included in this option are Arabic, Chinese, French, Korean, Portuguese, Spanish, and Urdu. Other language options can be approved by the Honours Adviser.

Students who already have appropriate language capability, or who have distinct interests not likely to necessitate such training, may substitute an additional 9 credits from the Group B Complementary Courses.

At least 30 of the 57 credits must be at the 300 level or above; 9 credits of these must be at the 400 level or above.

JOINT HONOURS – INTERNATIONAL DEVELOPMENT STUDIES COMPONENT (36 credits)

Joint Honours students must maintain a program GPA of 3.30 and an overall CGPA of 3.00.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Required Courses (15 credits)

ECON 208 (3) Microeconomic Analysis and Applications
ECON 313 (3) Economic Development 1
ECON 314 (3) Economic Development 2
INTD 200 (3) Introduction to International Development
INTD 497 (3) Research Seminar on International Development

Complementary Courses (21 credits)

No more than 15 credits can be taken in any one discipline.

Thesis or research project, 3 to 6 credits; one of:

INTD 491 (3) Research Project
INTD 492 (6) Honours Thesis

6 credits selected from the IDS Complementary Course List Group A. Only one course from each discipline can be counted.

9 to 12 credits to be selected from the IDS Complementary Course List Group B.

At least 24 of the 36 credits must be at the 300 level or above; 6 of these must be at the 400 level or above.

IDS Complementary Course Lists for Minor Concentration, Major Concentration, Honours, Joint Honours

GROUP A

ANTH 202 (3) Comparative Cultures
or ANTH 212 (3) Anthropology of Development
GEOG 210 (3) Global Places and Peoples
or GEOG 216 (3) Geography of the World Economy
POLI 227 (3) Developing Areas/Introduction
SOCI 254 (3) Development and Underdevelopment

GROUP B

Development Theory and World View

ANTH 209 (3) Anthropology of Religion
ANTH 341 (3) Women in Cross-Cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 439 (3) Theories of Development
ISLA 501 (3) The Qur'an: Text and History
ISLA 505 (3) Islam: Origin and Early Development
ISLA 506 (3) Islam: Later Developments
RELG 204 (3) Judaism, Christianity and Islam
RELG 207 (3) The Study of World Religions 1
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia
RELG 254 (3) Introduction to Sikhism
RELG 337 (3) Themes in Buddhist Studies
RELG 354 (3) Chinese Religions
RELG 371 (3) Ethics of Violence/Non-Violence
RELG 452 (3) East Asian Buddhism
RELG 454 (3) Modern Hindu Thought
RELG 557 (3) Asian Ethical Systems

Up to 6 credits of Group A courses (not previously counted) may be used in this category. (Applies only to the Major Concentration and Honours Program.)

Regions

ANTH 315 (3) Society/Culture: East Africa (Field Study in Africa only)
ANTH 321 (3) Peoples and Cultures of Africa
ANTH 322 (3) Social Change in Modern Africa
ANTH 326 (3) Peoples of Central and South America
ANTH 327 (3) Peoples of South Asia
ANTH 329 (3) Modern Chinese Society and Change
ANTH 340 (3) Middle Eastern Society and Culture
ANTH 416 (3) Environment/Development: Africa (Field Study in Africa only)
ANTH 422 (3) Contemporary Latin American Culture & Society
ANTH 427 (3) Social Change in South Asia
EAST 211 (3) Introduction: East Asian Culture: China
EAST 213 (3) Introduction: East Asian Culture: Korea
EAST 303 (3) Current Topics: Chinese Studies 1
EAST 304 (3) Current Topics: Chinese Studies 2
EAST 313 (3) Current Topics: Korean Studies 1
EAST 314 (3) Current Topics: Korean Studies 2
EAST 353 (3) Approaches to Chinese Cinema
EAST 515 (3) Seminar: Beyond Orientalism
ECON 411 (3) Economic Development: A World Area
ENGL 321 (3) Caribbean Fiction
FREN 313 (3) Francophonie 3
GEOG 416 (3) Africa South of the Sahara
HIST 197 (3) FYS: Race in Latin America
HIST 200 (3) Introduction to African History
HIST 201 (3) Modern African History
HIST 208 (3) Introduction to East Asian History
HIST 213 (3) World History, 1300-2000
HIST 218 (3) Modern East Asian History
HIST 309 (3) History of Latin America to 1825
HIST 338 (3) China in Revolution 2: 1921-1997
HIST 348 (3) China: Science-Medicine-Technology
HIST 360 (3) Latin America since 1825
HIST 374 (3) West Africa since 1800
HIST 381 (3) Colonial Africa: Health/Disease
HIST 382 (3) History of South Africa
HIST 396 (3) Disease in Africa Since 1960
HIST 419 (3) Central America
HIST 441 (3) Topics: Culture and Ritual in China
HIST 443 (3) China in the Modern World
ISLA 411 (3) History of the Middle East, 1918-1945
POLI 319 (3) Politics of Latin America
POLI 322 (3) Political Change in South Asia
POLI 323 (3) Developing Areas/China and Japan
POLI 324 (3) Developing Areas/Africa
POLI 340 (3) Developing Areas/Middle East
POLI 341 (3) Foreign Policy: The Middle East
POLI 347 (3) Arab-Israel Conflict, Crisis, Peace
POLI 349 (3) Foreign Policy-Asia Pacific
POLI 352 (3) International Policy/Foreign Policy: Africa

Development Policies and Practices

AGEC 430*	(3)	Agriculture, Food and Resource Policy
AGEC 442*	(3)	Economics of International Agricultural Development
AGRI 305	(3)	Barbados Agro-Ecosystems (Field course)
AGRI 411*	(3)	International Agriculture
AGRI 550	(3)	Sustained Tropical Agriculture (Panama Program only)
ANTH 227	(3)	Medical Anthropology
ANTH 324	(3)	Economic Anthropology 01
ANTH 339	(3)	Ecological Anthropology
ANTH 346	(3)	Development in Agrarian Societies
ANTH 418	(3)	Environment and Development
ANTH 445	(3)	Property and Land Tenure
ECON 209	(3)	Macroeconomic Analysis and Applications
ECON 314	(3)	Economic Development 2 (Minor Concentration only)
ECON 412	(3)	Topics in Economic Development 1
ECON 416	(3)	Topics in Economic Development 2
GEOG 302	(3)	Environmental Management 1
GEOG 390	(3)	Managing Field Research
GEOG 404	(3)	Environmental Management 2 (Panama and Africa programs only)
GEOG 408	(3)	Geography of Development
GEOG 410	(3)	Geography of Underdevelopment: Current Problems
GEOG 498	(3)	Humans in Tropical Environments (Panama and Africa Programs only)
GEOG 504	(3)	Industrial Restructuring - Geographic Implications
GEOG 508	(3)	Resources, People and Power
GEOG 510	(3)	Humid Tropical Environments
INTD 490	(3)	Development Field Research
INTD 499	(3)	Internship: International Development Studies
MGCR 382	(3)	International Business
MIME 524	(3)	Mineral Resources Economics
NRSC 340*	(3)	Global Perspectives on Food
NRSC 540*	(3)	Socio-Cultural Issues in Water
NUTR 501*	(3)	Nutrition in Developing Countries
ORGB 380	(3)	Cross Cultural Management
POLI 300D1	(3)	Developing Areas/Revolution
POLI 300D2	(3)	Developing Areas/Revolution
POLI 338	(3)	Developing Areas/Topics 1
POLI 345	(3)	International Organizations
POLI 348	(3)	Foreign Policy: Third World
POLI 422	(3)	Developing Areas/Topics 2
POLI 423	(3)	Politics of Ethno-Nationalism
POLI 445	(3)	International Political Economy: Monetary Relations
POLI 450	(3)	Peacebuilding
POLI 471	(3)	Democracy in the Modern World
POLI 472	(3)	Developing Areas/Social Movements
POLI 473	(3)	Democracy and the Market
POLI 474	(3)	Inequality and Development
POLI 522	(3)	Seminar: Developing Areas
SOCI 222	(3)	Urban Sociology
SOCI 234	(3)	Population and Society
SOCI 370	(3)	Sociology: Gender and Development
SOCI 520	(3)	Migration and Immigrant Groups
SOCI 550	(3)	Developing Societies
SWRK 400	(3)	Policy and Practice for Refugees
SWRK 532	(3)	International Social Work

* These courses are normally offered only at Macdonald Campus.

6.12.31 Islamic Studies (ISLA)

Morrice Hall, Room 319
3485 McTavish Street
Montreal, QC H3A 1Y1

Telephone: 514-398-6077
Fax: 514-398-6731
Email: info.islamics@mcgill.ca
Website: www.mcgill.ca/islamicstudies

Director — F. Jamil Ragep

Emeritus and Retired Professors
Donald P. Little; B.A.(Vanderbilt), M.A.(Stan.), Ph.D.(Calif.) (*emeritus*)
Issa J. Boullata; Ph.D.(Lond.) (*post-retirement*)

Professors
Sajida S. Alvi; B.A., M.A., Ph.D.(Punj.)
Wael B. Hallaq; B.A.(Haifa), Ph.D.(Wash.)
F. Jamil Ragep; B.A., M.A.(Mich.), Ph.D.(Harv.)

Associate Professors
Rula J. Abisaab; B.A.(Amer. U. Beirut), M.A.(Calif. St.), M.Phil., Ph.D.(Yale)
Michelle L. Hartman; B.A.(Col.), D.Phil.(Oxf.)
Laila Parsons; B.A.(Exe.), D.Phil.(Oxf.)
A. Uner Turgay; B.A.(Robert Coll., Istanbul), M.A., Ph.D.(Mich. Wis.)
Robert Wisnovsky; B.A.(Yale), M.A., Ph.D.(Prin.)

Assistant Professors
Malek Abisaab; B.A.(Beirut), M.A.(CUNY), Ph.D.(SUNY)
Setrag Manoukian; B.A.(Venice), M.A., Ph.D.(Mich.)
Khalid Medani; B.A.(Brown), M.A.(G'town), M.A.(Calif., Berk.)

Faculty Lecturers
Shoukry Gohar; B.A.(Cairo)
David Nancekivell; B.A., M.A.(Laval)
Pouneh Shabani-Jadidi; B.A., M.S., Ph.D.(Azad)

The Institute of Islamic Studies offers graduate programs and courses in history, civilization and languages (Arabic, Turkish, Persian and Urdu) at the 200-, 300-, 400- and 500-level.

MINOR CONCENTRATION IN ISLAMIC STUDIES (18 credits)

This Minor Concentration permits students to explore the development and diversity of Islam through courses that focus on Islamic history, religion and civilization in the premodern period (pre-19th century) as well as through courses that focus on the dynamics of modern and contemporary (19th and 20th centuries) Muslim societies and cultures.

Required Courses (6 credits)

ISLA 200	(3)	Islamic Civilization
ISLA 210	(3)	Muslim Societies

Complementary Courses (12 credits)

Chosen from:

ISLA 345	(3)	Science and Civilization in Islam
ISLA 350	(3)	From Tribe to Dynasty
ISLA 355	(3)	Modern History of the Middle East
ISLA 360	(3)	Islam and Politics
ISLA 365	(3)	Middle East Since the 1970's
ISLA 380	(3)	Islamic Philosophy and Theology
ISLA 383	(3)	Central Questions in Islamic Law
ISLA 385	(3)	Poetics & Politics in Arabic Literature
ISLA 388	(3)	Persian Literature
ISLA 392	(3)	Arabic Literature as World Literature
ISLA 415	(3)	Modern Iran: Anthropological Approach
ISLA 420	(3)	Indo-Islamic Civilization: Medieval
ISLA 421	(3)	Islam in South Asia: 1757 to Present
ISLA 511D1/D2	(6)	History: Islamic Civilization - Mediaeval Era
ISLA 585	(3)	Arab Women's Literature

6.12.32 Italian Studies (ITAL)

688 Sherbrooke Street West, Room 425
Montreal, QC H3A 3R1

Telephone: 514-398-3953
Fax: 514-398-1748
Email: italian.studies@mcgill.ca
Website: www.mcgill.ca/italian

Chair — Lucienne Kroha

Emeritus Professor
Pamela D. Stewart; B.A.(Montr.), M.A.(McG.), F.R.S.C.

Associate Professor
Lucienne Kroha; B.A., M.A.(McG.), Ph.D.(Harv.)

Assistant Professors
Eugenio Bolongaro; B.A., L.LB.(Br. Col.), Ph.D.(McG.) (*on leave, Winter 2010*)
Matteo Soranzo; M.A., Ph.D.(Wisc.)

Lecturers
Enrica Quaroni; B.A., Ph.D.(McG.) (*on leave 2009-2010*)
Jen Wienstein; B.A., M.A., Ph.D.(McG.)

Associate Members
Paula Clarke *(History)*
Anthony Masi *(Sociology)*
Filippo Sabetti (*Political Science)*

Adjunct Professors
Dario Brancato (*C'dia*)
Tobias F. Gittes (*Liberal Arts College, C'dia*)
Silvestra Mariniello (*Histoire de l'art et d'études cinématographiques, Montr.*)
Rosanna Maule (*C'dia*)

Advisers:

Minor – Dr. Jen Wienstein, 514-398-3955

Majors, Honours and Joint Honours –
Prof. Eugenio Bolongaro, 514-398-4400 (ext. 09454)

MINOR CONCENTRATION IN ITALIAN LANGUAGE AND LITERATURE (18 credits) (Expandable)
Students with advanced standing in the language must replace language courses with courses from groups B and C.

Complementary Courses (18 credits)
chosen from the following three groups:
0 - 12 credits Group A – Basic Language Courses.
6 - 18 credits Group B – Courses taught in Italian.
0 - 6 credits Group C – Courses taught in English.

MINOR CONCENTRATION IN ITALIAN CIVILIZATION
(18 credits) (Expandable)

Students with advanced standing in the language must replace language courses with courses from groups B, C and D.

Complementary Courses (18 credits)
0 - 12 credits chosen from Group A – Basic Language Courses.
0 - 12 credits chosen from Group B – Courses taught in Italian.
3 - 18 credits chosen from Group C – Courses taught in English.
0 - 6 credits chosen from Group D – Courses offered in other departments.

MAJOR CONCENTRATION IN ITALIAN LANGUAGE AND LITERATURE (36 credits)

All students wishing to register for the Major Concentration in Italian Language and Literature are strongly urged to meet with a departmental adviser.

Complementary Courses (36 credits)
0 - 12 credits chosen from Group A – Basic Language Courses.
18 - 36 credits (at least 6 of which must be at the 350-level or above) chosen from courses at the 300-level or above as listed in Group B – Courses taught in Italian.
Note: ITAL 300 may not be taken by students who have taken 132-306, and vice-versa.
0 - 18 credits chosen from courses at the 300-level or above as listed in Group C – Courses taught in English.
0 - 6 credits chosen from Group D – Courses offered in other departments.

MAJOR CONCENTRATION IN ITALIAN CIVILIZATION
(36 credits)

This program is designed to enable students with no previous knowledge of Italian to pursue a Major Concentration by allowing them to take some literature and culture courses in English translation while acquiring language competency in other courses (including some literature courses taught in the original). All students wishing to register for the Major Concentration in Italian Civilization are strongly urged to meet with a Departmental adviser.

Complementary Courses (36 credits)
6 - 12 credits chosen from Group A – Basic Language Courses.
Students with no knowledge of the Italian language must take 12 credits.
Students arriving with some knowledge of the language may take 6 credits (ITAL 210D1/ITAL 210D2 or ITAL 215D1/ ITAL 215D2 or ITAL 216).
Students arriving with competency in the language may substitute courses from Groups B, C, and D for Basic Language Courses.
All students with some background must consult with the Department for proper placement.
18 - 30 credits chosen from courses at the 300-level or above as listed in Group B – Courses taught in Italian and Group C – Courses taught in English.
0 - 6 credits chosen from Group D – Courses offered in other departments.

HONOURS IN ITALIAN STUDIES (54 credits)

Students with advanced standing in the language must replace language courses with courses from groups B, C, and D.

Required Courses (6 credits)

One of the two honours thesis courses below:

ITAL 471D1	(3)	Honours Thesis
ITAL 471D2	(3)	Honours Thesis
ITAL 472	(6)	Honours Thesis (Intensive)

Complementary Courses (48 credits)
48 credits, 9 of which must be at the 400 level or above.
0 - 12 credits from Group A – Basic Language Courses.
30 - 48 credits Group B – Courses taught in Italian.
0 - 9 credits combined from Group C – Courses taught in English and Group D – Courses offered in other departments.

Students must maintain a minimum CGPA of 3.00 and a GPA of 3.30 in the program courses.

Admission to the Honours program in Italian requires Departmental approval. Students wishing to register should consult with the Department as early as possible.

Students may begin Honours in Italian Studies in the first year, instead of the second, if in the opinion of the Department they are found to be qualified.

JOINT HONOURS – ITALIAN STUDIES COMPONENT
(36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Admission to Joint Honours requires departmental approval. Students wishing to register in the program should consult with the Department as early as possible.

Students may register for Joint Honours in the first year, instead of the second year, if in the opinion of the departments they are found to be qualified.

Students with advanced standing in the language must replace language courses with courses from groups B, C, and D.

Required Courses (6 credits)

ITAL 355 (3) Dante and the Middle Ages
ITAL 470 (3) Joint Honours Thesis

Complementary Courses (30 credits)

30 credits, 6 of which must be at the 400 level or above:
0 - 12 credits from Group A – Basic Language Courses.
12 - 30 credits from Group B – Courses taught in Italian.
0 - 18 credits combined from Group C – Courses taught in English and Group D – Courses offered in other departments.

Students must maintain a minimum CGPA of 3.00 and a GPA of 3.30 in the program courses.

ITALIAN STUDIES COURSE GROUPS

Group A – Basic Language Courses:

ITAL 205D1 (3) Italian for Beginners'
ITAL 205D2 (3) Italian for Beginners'
ITAL 206 (6) Beginners' Italian Intensive
ITAL 210D1 (3) Elementary Italian (may not be taken by students who have taken ITAL 205D1/ITAL 205D2 or ITAL 206)
ITAL 210D2 (3) Elementary Italian (may not be taken by students who have taken ITAL 205D1/ITAL 205D2 or ITAL 206)
ITAL 215D1 (3) Intermediate Italian (may not be taken by students who have taken ITAL 210D1/ITAL 210D2)
ITAL 215D2 (3) Intermediate Italian (may not be taken by students who have taken ITAL 210D1/ITAL 210D2)
ITAL 216 (6) Intermediate Italian Intensive (may not be taken by students who have taken ITAL 210D1/ITAL 210D2)

Group B – Courses taught in Italian:

ITAL 300* (3) Italian Literary Composition
ITAL 306* (6) Advanced Reading and Composition
* only one of ITAL 300 or ITAL 306 can count towards all programs
ITAL 307 (3) Topics in Italian Culture
ITAL 308 (3) Business Italian 1
ITAL 311 (3) Twentieth Century Texts
ITAL 320 (3) Manzoni: Novel and Nationhood
ITAL 325 (3) Masterpieces of Italian Literature 1
ITAL 326 (3) Masterpieces of Italian Literature 2
ITAL 327 (3) A Literary Map of Italy
ITAL 328 (3) Contemporary Italy
ITAL 330 (3) Commedia dell'Arte
ITAL 331 (3) Drama from Goldoni to Pirandello
ITAL 341 (3) The Art of Essay Writing
ITAL 356 (3) Medieval Discourses on Love
ITAL 360 (3) Contemporary Italian Prose
ITAL 368 (3) Literature of the Renaissance
ITAL 370 (3) Italian Poetry and Music
ITAL 376 (3) Medieval Romance in Italy
ITAL 380 (3) Neorealism: Roots and Development
ITAL 383 (3) Women's Writing since 1880
ITAL 410 (3) Modern Italian Literature
ITAL 411 (3) Pirandello
ITAL 415 (3) Italian Poetry 20th Century
ITAL 420 (3) Leopardi and Italian Romanticism
ITAL 435 (3) Ariosto's "Orlando Furioso"
ITAL 436 (3) Tasso's "Gerusalemme Liberata"
ITAL 461 (3) Dante: "The Divine Comedy"
ITAL 530 (3) 17th - 18th Century Culture
ITAL 542 (3) History of Italian Language
ITAL 551 (3) Boccaccio and the Italian Novella
ITAL 560 (3) Topics in 19th & 20th C Literature
ITAL 562 (3) Petrarch and Petrarchism
ITAL 563 (3) 13th-16th Century Literature
ITAL 590 (3) Italian Literary Criticism

Group C – Courses taught in English:

ITAL 199 (3) FYS: Italy's Literature in Context
ITAL 355 (3) Dante and The Middle Ages
ITAL 361 (3) Italian Prose after 1945
ITAL 363 (3) Gender, Literature and Society
ITAL 365 (3) The Italian Renaissance
ITAL 375 (3) Cinema and Society in Modern Italy
ITAL 385 (3) Italian Futurist Movement
ITAL 395 (3) Interdisciplinary Seminar
ITAL 412 (3) Pirandello and European Theatre
ITAL 416 (3) The Twentieth Century
ITAL 464 (3) Machiavelli
ITAL 477 (3) Italian Cinema and Video

Group D – Courses offered in other departments:

Please contact the department(s) in question for pre/corequisites and availability of the following courses:

ANTH 337 (3) Mediterranean Society and Culture
ARTH 223 (3) Introduction to Italian Renaissance Art
ARTH 324 (3) Sixteenth-Century Art in Italy
ARTH 325 (3) Visual Culture Renaissance Venice
ARTH 332 (3) Italian Renaissance Architecture
CLAS 208 (3) Roman Literature and Society
CLAS 307 (3) Roman Comedy
CLAS 404 (3) Classical Tradition
ENGL 447 (3) Crosscurrents/English Literature and European Literature 1
HIST 345 (3) History of Italian Renaissance
HIST 380 (3) Western Europe: The Middle Ages
HIST 398 (3) Topics in Italian History
HIST 401 (3) Topics: Medieval Culture and Society
MUHL 387 (3) Opera from Mozart to Puccini
POLI 414 (3) Society and Politics in Italy

6.12.33 Jewish Studies (JWST)

3438 McTavish Street, Room 202
Montreal, QC H3A 1X9

Telephone: 514-398-6543
Fax: 514-398-5158
Website: www.mcgill.ca/jewishstudies

Chair — Eric Caplan

Professors

David Aberbach; B.A.(Univ. Coll. Lond.), M.Litt., D.Phil.(Oxf.)
Gershon D. Hundert; B.A.(Col.), M.A.(Ohio St.), Ph.D.(Col.) (*Leanor Segal Professor of Jewish Studies*)
B. Barry Levy; B.A., M.A., B.R.E.(Yeshiva), Ph.D.(NYU)

Associate Professors

Eric Caplan; B.A.(McG.), M.A.(Tor.), Ph.D.(McG.)
Carlos Fraenkel; B.A., M.A., Ph.D.(Free Univ., Berlin)
Yael Halevi-Wise; B.A.(Hebrew), M.A.(G'town), Ph.D.(Prin.)
Lawrence Kaplan; B.A.(Yeshiva), M.A., Ph.D.(Harv.)
Eugene Orenstein; B.A.(CCNY), M.A., Ph.D.(Col.)

Lecturers

Karen Bauer; B.Ed., M.A.(McG.)
Lea Fima; B.Ed.(Beit Berl College), M.A.(McG.)
Esther Frank; B.A., M.A.(McG.)

Anna Gonshor; B.A., M.L.S., M.A.(McG.)

Adjunct Professors
Ruth Wisse; M.A.(Col.), Ph.D.(McG.)
Magdalena Opalski; M.A.(Warsaw), Ph.D.(Ott.)

The Department of Jewish Studies, established in 1968, offers an interdisciplinary approach to the study of Judaica. It includes:

- a selection of courses that will enable students not taking a Concentration in Jewish Studies to broaden their knowledge of Jewish history and culture;
- elementary, intermediate and advanced courses in Jewish languages – Hebrew, Yiddish, and Aramaic. In the case of the first two, this includes attention to both spoken idiom and written texts;
- specialized courses in the various disciplines that comprise Jewish Studies for students who have specific academic interests;
- a Minor Concentration for students who wish to add competence in Jewish Studies to their major field of study;
- a comprehensive Major Concentration, and an Honours program culminating in advanced seminars and tutorials for students contemplating careers in the various fields of Judaica. The Honours Program in Jewish Studies will give students the necessary linguistic, textual and bibliographical knowledge to enable them to pursue graduate work in Jewish Studies.

MINOR CONCENTRATION IN JEWISH LAW (18 credits)
(Expandable)

Adviser: Professor Lawrence Kaplan, 514-398-5008

This Minor Concentration in Jewish Law is designed to provide students with a special interest in Law, and particularly students from the Faculty of Law who are now permitted a Minor in the Faculty of Arts, a basic but comprehensive knowledge of the concepts and methods related to Jewish Law.

Complementary Courses (18 credits)
0-3 credits from:
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
HIST 207 (3) Jewish History: 400 B.C.E. - 1000

15-18 credits from:
JWST 201 (3) Jewish Law
JWST 316 (3) Social and Ethical Issues Jewish Law 1
JWST 374 (3) Talmud and Law 1: Bava Kamma
JWST 375 (3) Talmud and Law 2: Bava Metzia
JWST 474 (3) Maimonides' Mishneh Torah
JWST 475 (3) The Responsa Literature
JWST 576 (3) Jewish Family Law

MINOR CONCENTRATION IN JEWISH STUDIES (18 credits)
(Expandable)

Advisers: Eric Caplan, 514-398-6544
Eugene Orenstein, 514-398-6545
Lawrence Kaplan, 514-398-5008

In order to permit students flexibility within their chosen area, all courses in the Jewish Studies Concentrations are placed into the category "Complementary Courses." There is no language requirement for a minor in Jewish Studies.

Complementary Courses (18 credits)
18 credits in Jewish Studies:
9 credits are normally taken at the 300 level and up.
At least 9 credits will normally be taken at the 300 level and above in a single area. (See the list of courses, divided by areas of study, at the end of the Department section.) Consultation with the Adviser is strongly recommended.

Note: Major and Honours students are encouraged to acquire a general background in Jewish Studies, fluency in at least one Jewish language, and expertise in one aspect of the field. While many areas of specialization exist, the groupings which follow the course descriptions represent Departmental strengths and are usually chosen by students.

MAJOR CONCENTRATION IN JEWISH STUDIES (36 credits)

Advisers: Eric Caplan, 514-398-6544
Eugene Orenstein, 514-398-6545

In order to permit students flexibility within their chosen area, all courses in the Jewish Studies Concentrations are placed into the category "Complementary Courses."

Complementary Courses (36 credits)
36 credits in Jewish Studies, 24 of which are normally taken at the 300 level or above.

6 credits (minimum) in the history of Jewish Civilization to be chosen from:
JWST 211 (3) Jewish Studies 1: Biblical Period
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
JWST 217 (3) Jewish Studies 3: 1000 - 2000
HIST 207 (3) Jewish History: 400 B.C.E. - 1000
HIST 219 (3) Jewish History: 1000 - 2000

24 credits in Jewish Studies of which at least 12 are devoted to a single area of study. (See the list of courses, divided by areas of study, at the end of the Department section.) Students without the background necessary to complete the advanced language requirement may substitute up to 12 credits in language.

6 credits reflecting an advanced level of competence in either Hebrew or Yiddish chosen from the following: JWST 327, JWST 328, JWST 329, JWST 330, JWST 331, JWST 332, JWST 333, JWST 340D1/JWST 340D2, JWST 367, JWST 368, JWST 369, JWST 370 or any course at the 400 level (except JWST 404 and JWST 405).

Consultation with the Adviser is strongly recommended.

HONOURS IN JEWISH STUDIES (60 credits)

Honours Advisers: Eric Caplan, 514-398-6544
Lawrence Kaplan, 514-398-5008

Required Courses (9 credits)
JWST 211 (3) Jewish Studies 1: Biblical Period
JWST 491 (3) Honours Thesis 1
JWST 492 (3) Honours Thesis 2

Complementary Courses (51 credits)
3 credits, one of:
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
HIST 207 (3) Jewish History: 400 B.C.E. - 1000
3 credits, one of:
JWST 217 (3) Jewish Studies 3: 1000 - 2000
HIST 219 (3) Jewish History: 1000 - 2000
0 - 18 credits: Language
Each Honours student will complete at least one Jewish language at the advanced level of instruction. A student who can demonstrate competence in a Jewish language may be permitted to substitute other courses for all or part of the language requirement.
JWST 220D1 (3) Introductory Hebrew
JWST 220D2 (3) Introductory Hebrew
JWST 320D1 (3) Intermediate Hebrew
JWST 320D2 (3) Intermediate Hebrew
JWST 340D1 (3) Advanced Hebrew
JWST 340D2 (3) Advanced Hebrew

JWST 280D1 (3) Introductory Yiddish
JWST 280D2 (3) Introductory Yiddish
JWST 380D1 (3) Intermediate Yiddish
JWST 380D2 (3) Intermediate Yiddish
JWST 480 (3) Advanced Yiddish 1
JWST 481 (3) Advanced Yiddish 2

27 - 45 credits, planned with an adviser and normally chosen to reflect progress to the advanced level in two of the areas of study: Biblical Studies, Rabbinic Studies, Literature, Jewish Thought, Jewish History, Modern Jewish Studies, and East European Studies.

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and a Program GPA of 3.00 or higher.

JOINT HONOURS – JEWISH STUDIES COMPONENT
(36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Required Courses (9 credits)
JWST 211 (3) Jewish Studies 1: Biblical Period
JWST 491 (3) Honours Thesis 1
JWST 492 (3) Honours Thesis 2

Complementary Courses (27 credits)
3 credits, one of:
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
HIST 207 (3) Jewish History: 400 B.C.E. - 1000

3 credits, one of:
JWST 217 (3) Jewish Studies 3: 1000 - 2000
HIST 219 (3) Jewish History: 1000 - 2000

0 - 6 credits: Language
Each Joint Honours student will complete at least one Jewish language at the advanced level of instruction. A student who can demonstrate competence in a Jewish language may be permitted to substitute other courses for all or part of the language requirement.
JWST 340D1 (3) Advanced Hebrew
JWST 340D2 (3) Advanced Hebrew
JWST 480 (3) Advanced Yiddish 1
JWST 481 (3) Advanced Yiddish 2

15 - 21 credits, planned with an adviser and normally chosen to reflect progress to the advanced level in one of the areas of study: Biblical Studies, Rabbinic Studies, Literature, Jewish Thought, Jewish History, Modern Jewish Studies, and East European Studies.

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

JEWISH TEACHER TRAINING PROGRAM

Established in 1973 in the Faculty of Education in conjunction with the Department of Jewish Studies, this program prepares students to teach at the elementary and secondary school levels.

Students are encouraged to acquire a strong general background in Bible, Jewish liturgy, traditions and history prior to registering in the program. Students lacking the ability to teach in Hebrew should consider spending a term at an Israeli university.

Further information can be obtained by contacting the Director, Dr. Eric Caplan, at 514-398-6544; by consulting the Faculty of Education "Bachelor of Education Kindergarten and Elementary Program (Jewish Studies Option)" in section 8.6.1.7; and from the web: www.mcgill.ca/edu-jttp.

Interdepartmental Programming

Many of the courses in Jewish Studies are related to other departments, e.g., History, Religious Studies. There are also related courses in other departments which students specializing in certain areas of Jewish Studies might be encouraged to include in their programs, e.g., Classical Greek, Arabic, theories of literature, etc.

The following History department courses may be used as Jewish Studies courses in the Department of Jewish Studies programs:
HIST 207 (3) Jewish History: 400 B.C.E. - 1000
HIST 219 (3) Jewish History: 1000 - 2000
HIST 307 (3) Jews in Poland
HIST 327 (3) Jews in the Orbit of Islam
HIST 427 (3) The Hasidic Movement
HIST 477D1 (3) Seminar In Jewish History
HIST 477D2 (3) Seminar In Jewish History

AREAS OF STUDY
It is possible to group the course offerings in Jewish Studies into a number of areas of study. The following is a representative but not exhaustive list.

Biblical Studies

JWST 211 (3) Jewish Studies 1: Biblical Period
JWST 310 (3) Believers, Heretics and Critics
JWST 324 (3) Biblical Interpretation - Antiquity
JWST 327 (3) A Book of the Bible
JWST 328 (3) A Book of the Bible
JWST 329 (3) A Book of the Bible
JWST 330 (3) A Book of the Bible
JWST 331 (3) Bible Interpretation/Medieval Ashkenaz
JWST 332 (3) Bible Interpretation/Sefardic Tradition
JWST 333 (3) The Hebrew Liturgy
JWST 428 (3) Jewish Interpretation of Bible
JWST 429 (3) Biblical Poetry
JWST 456 (3) Studies in the Hebrew Bible
JWST 457 (3) Studies in the Hebrew Bible
JWST 458 (3) Studies in the Hebrew Bible
JWST 459 (3) Studies in the Hebrew Bible
JWST 510 (3) Jewish Bible Interpretation 1
JWST 511 (3) Jewish Bible Interpretation 2
JWST 520 (3) Bible Interpretation in Antiquity
JWST 521 (3) Bible in Dead Sea Scrolls
JWST 523 (3) Ancient Bible Interpretation
JWST 532 (3) Narrative Midrash
JWST 533 (3) Halakhic Midrash
JWST 534 (3) Homiletical Midrash
JWST 535 (3) Exegetical Midrash
JWST 536 (3) Readings: Aramaic Bible Translation
JWST 537 (3) The Bible in the Talmud Bavli
JWST 538 (3) Early Rabbinic Parshanut 1
JWST 541 (3) Medieval Ashkenazi Parshanut
JWST 542 (3) Abraham ibn Ezra as Parshan
JWST 543 (3) Maimonides as Parshan
JWST 544 (3) Nachmanides as Parshan
JWST 545 (3) Parshanut in Renaissance Italy
JWST 546 (3) Innovative Medieval Parshanut
JWST 547 (3) Mystical Biblical Interpretation
JWST 548 (3) Medieval Parshanut
JWST 550 (3) The Bible in Hebrew Literature
JWST 551 (3) 20th Century Parshanut
JWST 554 (3) Modern Jewish Biblical Scholarship
JWST 555 (3) The Bible in Jewish Philosophy
JWST 556 (3) Modern Parshanut 1
JWST 571 (3) Biblical Literature
JWST 572 (3) Aggadah in Modern Scholarship
JWST 573 (3) History of Hebrew Bible Text
JWST 574 (3) Bible in Responsa Literature
JWST 575 (3) Topics in Parshanut
JWST 581 (3) Aramaic Language
JWST 582 (3) Hebrew and Aramaic Philology
RELG 307 (3) Bible, Quran & Interpretations

Rabbinic Studies

JWST 201 (3) Jewish Law
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
JWST 217 (3) Jewish Studies 3: 1000 - 2000
JWST 316 (3) Social and Ethical Issues in Jewish Law 1
JWST 319 (3) Judaism and the Occult
JWST 333 (3) The Hebrew Liturgy
JWST 345 (3) Introduction to Rabbinic Literature
JWST 358 (3) Topics in Jewish Philosophy 1
JWST 359 (3) Topics in Jewish Philosophy 2
JWST 374 (3) Talmud and Law 1: Bava Kamma
JWST 375 (3) Talmud and Law 2: Bava Metzia
JWST 402 (3) Readings in Rabbinic Literature
JWST 474 (3) Maimonides' Mishneh Torah
JWST 532 (3) Narrative Midrash
JWST 533 (3) Halakhic Midrash
JWST 534 (3) Homiletical Midrash
JWST 535 (3) Exegetical Midrash
JWST 537 (3) The Bible in the Talmud Bavli
JWST 538 (3) Early Rabbinic Parshanut 1
JWST 541 (3) Medieval Ashkenazi Parshanut
JWST 542 (3) Abraham ibn Ezra as Parshan
JWST 543 (3) Maimonides as Parshan
JWST 544 (3) Nachmanides as Parshan
JWST 572 (3) Aggadah in Modern Scholarship
JWST 574 (3) Bible in Responsa Literature
JWST 576 (3) Jewish Family Law
HIST 207 (3) Jewish History: 400 B.C.E. - 1000
HIST 219 (3) Jewish History: 1000 - 2000

Language and Literature

1. Hebrew Language and Literature

JWST 199 (3) Images - Jewish Identities
JWST 200 (12) Hebrew Language (Intensive)
JWST 220D1 (3) Introductory Hebrew
JWST 220D2 (3) Introductory Hebrew
JWST 225 (3) Literature and Society
JWST 300 (3) Charisma and Social Change
JWST 301 (3) Hebrew Empire and Crisis
JWST 320D1 (3) Intermediate Hebrew
JWST 320D2 (3) Intermediate Hebrew
JWST 323 (3) The Israeli Novel
JWST 325 (3) Israeli Literature in Translation
JWST 340D1 (3) Advanced Hebrew
JWST 340D2 (3) Advanced Hebrew
JWST 367 (3) Studies in Hebrew Language and Literature
JWST 368 (3) Studies in Hebrew Language and Literature
JWST 369 (3) Studies in Hebrew Language and Literature
JWST 370 (3) Studies in Hebrew Language and Literature
JWST 383 (3) Holocaust Literature
JWST 403 (3) Contemporary Hebrew Literature
JWST 404 (3) Literary Response to Loss/Separation
JWST 411 (3) Topics: Modern Hebrew Literature 1881-1948
JWST 412 (3) Topics: Modern Hebrew Literature 2
JWST 429 (3) Biblical Poetry
JWST 438 (3) Survey of Hebrew Literature 1
JWST 439 (3) Survey of Hebrew Literature 2
JWST 445 (3) The Poetry of Nationalism
JWST 502 (3) Modern Israeli Literature
JWST 550 (3) The Bible in Hebrew Literature
JWST 582 (3) Hebrew and Aramaic Philology

2. Yiddish Language and Literature

JWST 206 (3) Introduction to Yiddish Literature
JWST 280D1 (3) Introductory Yiddish
JWST 280D2 (3) Introductory Yiddish
JWST 351 (3) Studies in Modern Jewish Literature
JWST 355 (3) The Yiddish Canon
JWST 361 (3) The Shtetl: 1500-1897
JWST 362 (3) The Shtetl: 1897-1939
JWST 380D1 (3) Intermediate Yiddish
JWST 380D2 (3) Intermediate Yiddish
JWST 381 (3) Modern Yiddish Literature
JWST 383 (3) Holocaust Literature
JWST 387 (3) Modern Jewish Authors
JWST 480 (3) Advanced Yiddish 1
JWST 481 (3) Advanced Yiddish 2
JWST 485 (3) Tutorial in Yiddish Literature
JWST 486 (3) Tutorial in Yiddish Literature
JWST 487 (3) Tutorial in Yiddish Literature
JWST 488 (3) Tutorial in Yiddish Literature
JWST 498D1 (3) Tutorial in Yiddish Literature
JWST 498D2 (3) Tutorial in Yiddish Literature
JWST 530 (3) Topics in Yiddish Literature
JWST 531 (3) Topics in Yiddish Literature
JWST 587 (3) Tutorial in Yiddish Literature
JWST 588 (3) Tutorial in Yiddish Literature

Jewish Thought

JWST 201 (3) Jewish Law
JWST 216 (3) Jewish Studies 2: 400 B.C.E. -1000
JWST 217 (3) Jewish Studies 3: 1000 to 2000
JWST 261 (3) History of Jewish Philosophy and Thought
JWST 301 (3) Hebrew Empire and Crisis
JWST 310 (3) Believers, Heretics and Critics
JWST 314 (3) Denominations in North American Judaism
JWST 315 (3) Modern Liberal Jewish Thought
JWST 337 (3) Jewish Philosophy and Thought 1
JWST 338 (3) Jewish Philosophy and Thought 2
JWST 358 (3) Topics in Jewish Philosophy 1
JWST 359 (3) Topics in Jewish Philosophy 2
JWST 365 (3) Modern Jewish Ideologies
JWST 366 (3) History of Zionism
JWST 474 (3) Maimonides' Mishneh Torah
JWST 542 (3) Abraham ibn Ezra as Parshan
JWST 543 (3) Maimonides as Parshan
JWST 544 (3) Nachmanides as Parshan
JWST 558 (3) Topics: Modern Jewish Thought
EDER 318 (3) Teaching the Jewish Liturgy
HIST 207 (3) Jewish History: 400 B.C.E. to 1000
HIST 219 (3) Jewish History: 1000-2000
HIST 427 (3) The Hasidic Movement

Jewish History

JWST 211 (3) Jewish Studies 1: Biblical Period
JWST 216 (3) Jewish Studies 2: 400 B.C.E. - 1000
JWST 217 (3) Jewish Studies 3: 1000 - 2000
JWST 240 (3) The Holocaust
JWST 305 (3) American Jewish History/Colonial Era to WWI
JWST 306 (3) The American Jewish Community
JWST 314 (3) Denominations in North American Judaism
JWST 315 (3) Modern Liberal Jewish Thought
JWST 356 (3) Jewish Labour Movement/Eastern Europe
JWST 357 (3) Jewish Labour Movement/North America
JWST 361 (3) The Shtetl: 1500-1897
JWST 362 (3) The Shtetl: 1897-1939
JWST 365 (3) Modern Jewish Ideologies
JWST 366 (3) History of Zionism
JWST 371D1 (3) Jews and the Modern City
JWST 371D2 (3) Jews and the Modern City
HIST 207 (3) Jewish History: 400 B.C.E. - 1000
HIST 219 (3) Jewish History: 1000 - 2000
HIST 307 (3) Jews in Poland
HIST 327 (3) Jews in the Orbit of Islam
HIST 427 (3) The Hasidic Movement
HIST 477D1 (3) Seminar in Jewish History
HIST 477D2 (3) Seminar in Jewish History

Modern Jewish Studies

JWST 217	(3)	Jewish Studies 3: 1000 - 2000
JWST 240	(3)	The Holocaust
JWST 301	(3)	Hebrew Empire and Crisis
JWST 309	(3)	Jews in Film
JWST 346	(3)	Modern Jewish Studies
JWST 347	(3)	Modern Jewish Studies
JWST 348	(3)	Modern Jewish Studies
JWST 349	(3)	Modern Jewish Studies
JWST 351	(3)	Studies in Modern Jewish Literature
JWST 356	(3)	Jewish Labour Movement/Eastern Europe
JWST 357	(3)	Jewish Labour Movement/North America
JWST 359	(3)	Topics in Jewish Philosophy 2
JWST 361	(3)	The Shtetl: 1500-1897
JWST 362	(3)	The Shtetl: 1897-1939
JWST 365	(3)	Modern Jewish Ideologies
JWST 366	(3)	History of Zionism
JWST 371D1	(3)	Jews and the Modern City
JWST 371D2	(3)	Jews and the Modern City
JWST 383	(3)	Holocaust Literature
JWST 386	(3)	American Jewish Literature
JWST 387	(3)	Modern Jewish Authors
JWST 404	(3)	Literary Response to Loss/Separation
JWST 445	(3)	The Poetry of Nationalism
JWST 502	(3)	Modern Israeli Literature
JWST 556	(3)	Modern Parshanut 1
JWST 558	(3)	Topics: Modern Jewish Thought
JWST 585	(3)	Tutorial: Eastern European Studies 1
JWST 586	(3)	Tutorial: Eastern European Studies 2
HIST 219	(3)	Jewish History: 1000 - 2000
HIST 427	(3)	The Hasidic Movement
HIST 477D1	(3)	Seminar in Jewish History
HIST 477D2	(3)	Seminar in Jewish History
POLI 347	(3)	Arab-Israel Conflict, Crisis, Peace
SOCI 327	(3)	Jews in North America

East European Studies

JWST 206	(3)	Introduction to Yiddish Literature
JWST 217	(3)	Jewish Studies 3: 1000 - 2000
JWST 240	(3)	The Holocaust
JWST 351	(3)	Studies in Modern Jewish Literature
JWST 356	(3)	Jewish Labour Movement/Eastern Europe
JWST 357	(3)	Jewish Labour Movement/North America
JWST 361	(3)	The Shtetl: 1500-1897
JWST 362	(3)	The Shtetl: 1897-1939
JWST 365	(3)	Modern Jewish Ideologies
JWST 366	(3)	History of Zionism
JWST 371D1	(3)	Jews and the Modern City
JWST 371D2	(3)	Jews and the Modern City
JWST 381	(3)	Modern Yiddish Literature
JWST 383	(3)	Holocaust Literature
JWST 404	(3)	Literary Response to Loss/Separation
JWST 411	(3)	Topics: Modern Hebrew Literature 1881-1948
JWST 412	(3)	Topics: Modern Hebrew Literature 2
JWST 438	(3)	Survey of Hebrew Literature 1
JWST 439	(3)	Survey of Hebrew Literature 2
JWST 445	(3)	The Poetry of Nationalism
JWST 485	(3)	Tutorial in Yiddish Literature
JWST 486	(3)	Tutorial in Yiddish Literature
JWST 487	(3)	Tutorial in Yiddish Literature
JWST 488	(3)	Tutorial in Yiddish Literature
JWST 498D1	(3)	Tutorial in Yiddish Literature
JWST 498D2	(3)	Tutorial in Yiddish Literature
JWST 585	(3)	Tutorial: Eastern European Studies 1
JWST 586	(3)	Tutorial: Eastern European Studies 2
HIST 307	(3)	Jews in Poland
HIST 427	(3)	The Hasidic Movement

6.12.34 Latin-American and Caribbean Studies (LACS)

Office of Interdisciplinary Programs
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/lacs

Adviser: Andrew Staples

Program Committee Chair — D. Studnicki-Gizbert (*History*)

Program Committee — O. Coomes *(Geography),* J. Jouve-Martin *(Hispanic Studies),* C. LeGrand *(History),* T. Meredith *(Geography),* P. Oxhorn *(Political Science),* K. Sibbald (*Hispanic Studies*), I. Vaccaro *(Anthropology)*

Established in 1971, the interdisciplinary Program in Latin-American and Caribbean Studies offers a comprehensive array of courses on the peoples, cultures, history, literature, politics, economy and geography of Latin America and the Caribbean, providing students with a broad-based understanding of this geographic region, and with the language and research skills required for advanced scholarship. The program in Latin-American and Caribbean Studies encourages the free exchange of ideas and perspectives in order to foster an environment suitable for serious reflection and critical analysis.

Students in the Program in Latin-American and Caribbean Studies are encouraged to consider the opportunities for foreign study and research made available by bilateral exchange agreements with leading universities in the Spanish and Portuguese-speaking world. These exchanges are open to all members of the McGill University community. Further information may be obtained from the Student Exchange and Study Abroad Office, James Administration Building.

An agreement of cooperation with the Center for Latin American Studies at Georgetown University (Washington, D.C.) permits Honours students in Latin-American and Caribbean Studies at McGill to count a portion of their undergraduate coursework toward the degree requirements for Georgetown's M.A. in Latin American Studies, thus permitting completion of the M.A. in one calendar year. See the Program Adviser for additional information.

Undergraduate Degree Programs

The program in Latin-American and Caribbean Studies offers an interdisciplinary Honours degree and an interdisciplinary Major Concentration as part of the Multi-track B.A. in Arts. Given the constraints of the Multi-track B.A. and our belief that an interdisciplinary program of area studies must include within it the language(s) used by the peoples and cultures under examination, there is at present no interdisciplinary Minor Concentration in Latin-American and Caribbean Studies.

MAJOR CONCENTRATION IN LATIN-AMERICAN STUDIES
(36 credits)

Required Courses (18 credits)

HISP 243*	(3)	Survey of Spanish-American Literature 1
HISP 244*	(3)	Survey of Spanish-American Literature 2
HIST 309	(3)	History of Latin America to 1825
HIST 360	(3)	Latin America since 1825
LACS 497	(3)	Research Seminar: Latin America and the Caribbean
POLI 319	(3)	Politics of Latin America

* Please note that successful completion of Intermediate Spanish Language (HISP 220D1/HISP 220D2, HISP 219 or the equivalent) is required for admission to HISP 243 and HISP 244.

Complementary Courses (18 credits)

18 credits selected from the Complementary Course List in consultation with the Program Adviser.

Courses from at least two disciplines or departments must be included; at least 6 of the 18 credits must be at the 300 level or above.

No more than 6 credits in Spanish or Portuguese language (HISP 202D1/HISP 202D2, HISP 204D1/HISP 204D2, HISP 210D1/HISP 210D2, HISP 218, HISP 219, HISP 220D1/HISP 220D2, HISP 222) shall count for the Major Concentration.

HONOURS IN LATIN-AMERICAN AND CARIBBEAN STUDIES
The Honours Program in Latin-American and Caribbean Studies is designed to meet the needs of students who plan to attend graduate or professional school upon completion of the B.A. Both options provide a comprehensive interdisciplinary understanding of Latin America and the Caribbean, upon which more specialized coursework and research may be based.

Students pursuing Honours in Latin-American and Caribbean Studies must normally maintain a B+ (3.30) average in all Program courses, and must meet all additional Faculty of Arts requirements for graduation with Honours.

Please note that successful completion of Intermediate Spanish Language (HISP 220D1/HISP 220D2 or HISP 219 or equivalent) is required for admission to HISP 243 and HISP 244, courses required in both options.

HONOURS IN LATIN-AMERICAN AND CARIBBEAN STUDIES – AREA OPTION (60 credits)

The Area Option, with its disciplinary clusters, is recommended for students who envision graduate study in a specific discipline, such as History or Political Science.

Required Courses (21 credits)

HISP 243	(3)	Survey of Spanish-American Literature 1
HISP 244	(3)	Survey of Spanish-American Literature 2
HIST 309	(3)	History of Latin America to 1825
HIST 360	(3)	Latin America since 1825
LACS 497	(3)	Research Seminar: Latin America and the Caribbean
LACS 498	(3)	Independent Research Project
POLI 319	(3)	Politics of Latin America

Complementary Courses (39 credits)
12 credits in Spanish or Portuguese.

27 additional credits on Latin America and the Caribbean, exclusive of language courses, selected from the Complementary Course List in consultation with the Program Adviser.

At least 15 of these 27 credits must be taken in one of the following disciplinary clusters, which may also include up to 6 credits of theoretical and/or methodological courses of particular relevance to the student's research interests:
Literature and Culture;
History, Economics and Political Science;
Anthropology and Geography.

HONOURS IN LATIN-AMERICAN AND CARIBBEAN STUDIES – THEMATIC OPTION (60 credits)

This option permits highly motivated students to combine the study of Latin America and the Caribbean with a theme or intellectual focus whose roots extend beyond the geographic confines of this area, and for which a high level of methodological and/or theoretical expertise is required.

Themes of study may include, but are not limited to: ethnography and ethnohistory; the age of European expansion; transnationalism; the concepts and practice of law and justice; nationalism and nation-building; ecology and the management of human and natural resources.

Required Courses (21 credits)

HISP 243	(3)	Survey of Spanish-American Literature 1
HISP 244	(3)	Survey of Spanish-American Literature 2
HIST 309	(3)	History of Latin America to 1825
HIST 360	(3)	Latin America since 1825
LACS 497	(3)	Research Seminar: Latin America and the Caribbean
LACS 498	(3)	Independent Research Project
POLI 319	(3)	Politics of Latin America

Complementary Courses (39 credits)
12 credits in Spanish or Portuguese.

12 credits on Latin America and the Caribbean, exclusive of language courses, selected from the Complementary Course List in consultation with the Program Adviser.

15 credits from outside the Complementary Course List, within a coherent theme of specialization, selected in consultation with the Program Adviser.

LACS Complementary Course List
Consult the Courses section for course descriptions and information on prerequisites. Not all courses listed are offered in any given year. Note: no credit will be given for multi-term courses unless all components are successfully completed as specified; for example, D1 and D2 components must both be successfully completed in consecutive terms.

Anthropology

ANTH 212	(3)	Anthropology of Development
ANTH 326	(3)	Peoples of Central and South America
ANTH 439	(3)	Theories of Development

Economics

ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
ECON 410	(3)	Economic Development: Selected World Area

English

ENGL 321	(3)	Caribbean Fiction

Geography

GEOG 408	(3)	Geography of Development
GEOG 410	(3)	Geography of Underdevelopment: Current Problems
GEOG 510	(3)	Humid Tropical Environments

Hispanic Studies

HISP 202D1	(3)	Portuguese Language: Beginners
HISP 202D2	(3)	Portuguese Language: Beginners
HISP 204D1	(3)	Portuguese Language: Intermediate
HISP 204D2	(3)	Portuguese Language: Intermediate
HISP 210D1	(3)	Spanish Language: Beginners
HISP 210D2	(3)	Spanish Language: Beginners
HISP 218	(6)	Spanish Language Intensive - Elementary
HISP 219	(6)	Spanish Language Intensive - Intermediate
HISP 220D1	(3)	Spanish Language: Intermediate
HISP 220D2	(3)	Spanish Language: Intermediate
HISP 225	(3)	Hispanic Civilization 1
HISP 226	(3)	Hispanic Civilization 2
HISP 243	(3)	Survey of Spanish-American Literature 1
HISP 244	(3)	Survey of Spanish-American Literature 2
HISP 302	(3)	Hispanic Literature - English Translation 2
HISP 328	(3)	Literature of Ideas: Spanish America
HISP 332	(3)	Spanish-American Literature of 19th Century
HISP 333	(3)	Spanish-American Drama
HISP 351	(3)	Spanish-American Novel 1
HISP 352	(3)	Spanish-American Novel 2
HISP 356	(3)	Spanish-American Short Story
HISP 358	(3)	Women Writers Fiction Spanish-America
HISP 432	(3)	Literature - Discovery and Exploration Spain New World
HISP 437	(3)	Viceregal Spanish America
HISP 442	(3)	Modernismo
HISP 453	(3)	20th Century Spanish-American Poetry
HISP 505	(3)	Seminar in Hispanic Studies 01
HISP 506	(3)	Seminar in Hispanic Studies 02
HISP 507	(3)	Seminar in Hispanic Studies 03

History

HIST 197	(3)	FYS: Race in Latin America
HIST 217	(3)	A Survey of Spanish History
HIST 309	(3)	History of Latin America to 1825
HIST 360	(3)	Latin America since 1825
HIST 419	(3)	Central America
HIST 464D1	(3)	Topics: Latin American History
HIST 464D2	(3)	Topics: Latin American History
HIST 480D1	(3)	Capitalism and Empire: European Domination
HIST 480D2	(3)	Capitalism and Empire: European Domination
HIST 580D1	(3)	European and Native-American Encounters
HIST 580D2	(3)	European and Native-American Encounters

Political Science

POLI 227	(3)	Developing Areas/Introduction
POLI 300D1	(3)	Developing Areas/Revolution
POLI 300D2	(3)	Developing Areas/Revolution
POLI 319	(3)	Politics of Latin America
POLI 471	(3)	Democracy in the Modern World
POLI 472	(3)	Developing Areas/Social Movements
POLI 473	(3)	Democracy and the Market

6.12.35 Linguistics (LING)

1085 Dr. Penfield Avenue
Montreal, QC H3A 1A7

Telephone: 514-398-4222
Website: www.mcgill.ca/linguistics

Chair — Glyne L. Piggott

Emeritus Professors
C. Douglas Ellis; B.A.(Camb.), B.A.(McG.), M.A.(Tor.), M.A.(Yale), Ph.D.(McG.)
Myrna Gopnik; M.A., Ph.D.(Penn.)
Michel Paradis; B.A.(Montr.), M.A., Ph.D.(McG.), Ph.D.(Montr.), F.R.S.C.

Professors
Yosef Grodzinsky; B.Sc.(Hebrew), Ph.D.(Brandeis) (*Canada Research Chair*)
Glyne L. Piggott; B.A.(W.I.), M.A., Ph.D.(Tor.)
Lydia White; M.A.(Cant.), Ph.D.(McG.) (*James McGill Professor*)

Associate Professors
Charles Boberg; B.A.(Alta.), Ph.D.(Penn.)
Brendan Gillon; B.A., M.A.(Mich.), M.A.(Tor.), Ph.D.(MIT)
Heather Goad; B.A.(Br. Col.), M.A., Ph.D.(S. Calif.)
Bernhard Schwarz; M.A.(Tübingen), Ph.D.(Mass.)
Lisa de M. Travis; B.A.(Yale), Ph.D.(MIT)

Assistant Professors
Jonathan Nissenbaum; B.A.(Oberlin), Ph.D.(MIT)
Junko Shimoyama; B.A., M.A.(Ochanomizu), Ph.D.(Mass.)
Michael Wagner; M.A.(Humboldt), Ph.D.(MIT)

Linguistics is the scientific study of human language. Topics include: the structure of the world's languages at the level of sounds (phonetics and phonology), words (morphology), sentences (syntax), and meaning (semantics); how people learn languages (acquisition); how people use two languages (bilingualism); how language is processed and represented in the brain (psycho- and neurolinguistics); how languages change over time (historical linguistics); and how languages vary in relation to region and social identity (dialectology and sociolinguistics). In addition to preparing students for advanced academic work in linguistics and related disciplines (e.g., anthropology, cognitive neuroscience, computer science, philosophy, or psychology), courses in linguistics provide a useful background for many careers, for example, language teaching, translation, child psychology, speech-language pathology, communication, and speech technology.

The Linguistics Department offers a Minor Concentration, a Major Concentration, an Honours program, and a Joint Honours program with other departments in the Faculty of Arts.

New Students
Students who are registering with the Department for the first time must attend the Department orientation meeting before seeing an adviser. (www.mcgill.ca/linguistics/undergraduate)

Requirements
Linguistics students must do at least two-thirds of their Linguistics courses at McGill. Honours students must also do their Honours thesis at McGill.

Inquiries may be addressed to the departmental office or the advisers for undergraduate studies.

MINOR CONCENTRATION IN LINGUISTICS
(Expandable) (18 credits)

Required Courses (9 credits)

LING 201	(3)	Introduction to Linguistics
LING 330	(3)	Phonetics
LING 371	(3)	Syntax 1

Complementary Courses (9 credits)

9 credits in Linguistics: 3 credits must be at the 400/500 level, 3 credits must be selected from the following list, and 3 credits can be chosen according to the student's interests. (If a 400/500 level course is chosen from the following list, the remaining 6 credits can be chosen according to the student's interests.)

LING 320	(3)	Sociolinguistics 1
LING 350	(3)	Linguistic Aspects of Bilingualism
LING 355	(3)	Language Acquisition 1
LING 390	(3)	Neuroscience of Language
LING 425	(3)	Historical Linguistics
LING 440	(3)	Morphology
LING 451	(3)	Acquisition of Phonology
LING 455	(3)	Second Language Syntax
LING 520	(3)	Sociolinguistics 2
LING 521	(3)	Dialectology
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown

Students who take LING 360 as one of the complementary courses may also count PHIL 210 as a complementary course, but must take a 400/500 level course from the above list.

MAJOR CONCENTRATION IN LINGUISTICS (36 credits)

Required Courses (18 credits)

LING 201	(3)	Introduction to Linguistics
LING 330	(3)	Phonetics
LING 331	(3)	Phonology 1
LING 360	(3)	Introduction to Semantics
LING 371	(3)	Syntax 1
PHIL 210	(3)	Introduction to Deductive Logic 1

Complementary Courses (18 credits)

9 credits in Linguistics at the 400/500-level,
3 credits from the list below, and
6 credits in Linguistics chosen according to the student's interests.

Note: If a 400/500 level course is chosen from the list below, it may be included as part of the 9 credits in Linguistics at the 400/500 level, and the remaining 9 credits can be chosen according to the student's interests.

LING 320	(3)	Sociolinguistics 1
LING 350	(3)	Linguistic Aspects of Bilingualism
LING 355	(3)	Language Acquisition 1
LING 390	(3)	Neuroscience of Language
LING 425	(3)	Historical Linguistics
LING 440	(3)	Morphology
LING 451	(3)	Acquisition of Phonology
LING 455	(3)	Second Language Syntax
LING 520	(3)	Sociolinguistics 2
LING 521	(3)	Dialectology
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown

HONOURS IN LINGUISTICS (60 credits)

Required Courses (24 credits)

LING 201	(3)	Introduction to Linguistics
LING 330	(3)	Phonetics
LING 331	(3)	Phonology 1
LING 360	(3)	Introduction to Semantics
LING 371	(3)	Syntax 1
LING 480D1	(3)	Honours Thesis
LING 480D2	(3)	Honours Thesis
PHIL 210	(3)	Introduction to Deductive Logic 1

Complementary Courses (36 credits)

24 credits in Linguistics and 12 credits in related fields.

24 Linguistics credits are selected as follows:

15 credits at the 400/500 level, 3 of which must be selected from the following list:

LING 425	(3)	Historical Linguistics
LING 440	(3)	Morphology
LING 451	(3)	Acquisition of Phonology
LING 455	(3)	Second Language Syntax
LING 520	(3)	Sociolinguistics 2
LING 521	(3)	Dialectology
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown

9 other credits in Linguistics, usually at the 200/300 level.

12 credits in related fields to be selected from the following list:

Computer Science

COMP 202	(3)	Introduction to Computing 1
COMP 203	(3)	Introduction to Computing 2

French Language and Literature

FREN 231	(3)	Linguistique française
FREN 336	(3)	La langue française
FREN 434	(3)	Sociolinguistique du français

Language

Any course in language (other than the student's native language) - literature courses are not acceptable.

Mathematics

MATH 240	(3)	Discrete Structures 1
MATH 328	(3)	Computability and Mathematical Linguistics

Philosophy

Any course in logic or philosophy of science.

PHIL 304	(3)	Chomsky
PHIL 306	(3)	Philosophy of Mind
PHIL 415	(3)	Philosophy of Language
PHIL 515	(3)	Seminar: Philosophy of Language

Psychology

PSYC 311	(3)	Human Cognition and the Brain
PSYC 316	(3)	Psychology of Deafness
PSYC 340	(3)	Psychology of Language
PSYC 341	(3)	The Psychology of Bilingualism
PSYC 343	(3)	Language Learning in Children
PSYC 530	(3)	Applied Topics in Deafness
PSYC 532	(3)	Cognitive Science
PSYC 561	(3)	Methods: Developmental Psycholinguistics

Statistics

Any course in statistics (from any department).

A B+ average (program GPA 3.30) is required to maintain Honours standing in Linguistics and a minimum grade of B+ must be obtained in three out of four of the following courses: LING 330, LING 331, LING 360, LING 371, as well as in the Honours Thesis, LING 480D1/LING 480D2.

As per Faculty of Arts rules, a minimum CGPA of 3.00 must be maintained. The requirement for First Class Honours is a CGPA of 3.50 and a minimum grade of A- in the Honours Thesis. Inquiries may be addressed to the departmental office or to the adviser for undergraduate studies.

Minor in Cognitive Science

Students following Major or Honours programs in Linguistics with an interest in cognition may want to consider the Minor in Cognitive Science, described in the Faculty of Science section.

JOINT HONOURS – LINGUISTICS COMPONENT (36 credits)

Required Courses (21 credits)

LING 201	(3)	Introduction to Linguistics
LING 330	(3)	Phonetics
LING 331	(3)	Phonology 1
LING 360	(3)	Introduction to Semantics
LING 371	(3)	Syntax 1
LING 481D1	(1.5)	Joint Honours Thesis
LING 481D2	(1.5)	Joint Honours Thesis
PHIL 210	(3)	Introduction to Deductive Logic 1

Complementary Courses (15 credits)

9 credits at the 400/500 level, 3 of which must be selected from the following list:

LING 425	(3)	Historical Linguistics
LING 440	(3)	Morphology
LING 451	(3)	Acquisition of Phonology
LING 455	(3)	Second Language Syntax
LING 520	(3)	Sociolinguistics 2
LING 521	(3)	Dialectology
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown

6 other credits in Linguistics, usually at the 200/300 level.

A B+ average (program GPA 3.30) is required to maintain Joint Honours standing in Linguistics and a minimum grade of B+ must be obtained in three out of four of the following courses LING 330, LING 331, LING 360, LING 371, as well as in the Joint Honours Thesis, LING 481D1/LING 481D2.

As per Faculty of Arts rules, a minimum CGPA of 3.00 must be maintained. The requirement for First Class Honours is a CGPA of 3.50 and a minimum grade of A- in the Joint Honours Thesis. Inquiries may be addressed to the departmental office or to the adviser for undergraduate studies.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

6.12.36 Mathematics and Statistics (MATH)

Burnside Hall, Room 1005

Telephone: 514-398-3800
Website: www.math.mcgill.ca

The Department of Mathematics and Statistics offers programs in both Arts and Science. For a list of teaching staff and an outline of the nature of the discipline refer to the Science entry "Mathematics and Statistics (MATH)" in section 14.13.21. A Desautels Faculty of Management B.Com. degree with a Major in Mathematics and a Schulich School of Music B.Mus. degree with Honours in Theory with Mathematics option are also available.

Students entering a Mathematics program are normally expected to have completed MATH 133, MATH 139 or MATH 140, MATH 141, or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the program credits.

The programs specifically for Arts students are described in this section. The following programs, which are fully described in the

Faculty of Science section, may be taken by students in either Arts or Science:

Honours in Mathematics
Honours in Applied Mathematics
Honours in Probability and Statistics
Joint Honours in Mathematics and Computer Science

Students entering one of the Minor or Major Concentrations listed below who have successfully completed a course equivalent to MATH 222 (Calculus 3) prior to coming to McGill are given exemption from taking MATH 222, but must replace it with a Complementary Mathematics course in the program of at least 3 credits.

MINOR CONCENTRATION IN MATHEMATICS (18 credits)
(Expandable **and** Non-expandable Versions)

Students entering the Minor Concentration in Mathematics are normally expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 18 credits required by the program.

The Minor Concentration in Mathematics may be taken in conjunction with a Major Concentration in some other discipline under option A of the Multi-track Program, or together with a Major Concentration and a Minor Concentration in other disciplines under option C.

The Minor Concentration in Mathematics is offered in two versions: an expandable version, for students who wish to leave open the option of expanding the program into a Major Concentration in Mathematics, and a non-expandable version for students who know on entry into the Minor that they do not wish to expand it into a Major.

All courses counted towards the Minor Concentration must be passed with a grade of C or better.

No overlap is permitted with other programs.

MINOR CONCENTRATION IN MATHEMATICS (Expandable) (18 credits)

Program prerequisites: MATH 133, MATH 140 and MATH 141 or their equivalents.

Required Courses (12 credits)
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236* (3) Algebra 2
MATH 315 (3) Ordinary Differential Equations
* credit cannot be received for both MATH 223 and MATH 236

Complementary courses (6 credits)
6 credits to be selected from the Complementary Course list below (MATH 323 strongly recommended).

MINOR CONCENTRATION IN MATHEMATICS
(Non-Expandable) (18 credits)

Program prerequisites: MATH 133, MATH 140 and MATH 141 or their equivalents.

Required Courses (9 credits)
MATH 222 (3) Calculus 3
MATH 223* (3) Linear Algebra
MATH 315 (3) Ordinary Differential Equations
* credit cannot be received for both MATH 223 and MATH 236

Complementary courses (9 credits)
9 credits to be selected from the Complementary Course list below (MATH 323 strongly recommended).

Complementary Course List –
Mathematics Minor Concentrations
MATH 314 (3) Advanced Calculus
MATH 316 (3) Complex Variables
or MATH 249 (3) Honours Complex Variables
MATH 317 (3) Numerical Analysis
MATH 318 (3) Mathematical Logic
MATH 319 (3) Introduction to Partial Differential Equations
MATH 320 (3) Differential Geometry
MATH 323* (3) Probability
MATH 324 (3) Statistics
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 327 (3) Matrix Numerical Analysis
MATH 328 (3) Computability and Mathematical Linguistics
MATH 339 (3) Foundations of Mathematics
MATH 340 (3) Discrete Structures 2
MATH 346 (3) Number Theory
MATH 348 (3) Topics in Geometry
MATH 407 (3) Dynamic Programming
MATH 417 (3) Mathematical Programming
* It is strongly recommended that students in this program take MATH 323.

SUPPLEMENTARY MINOR CONCENTRATION IN MATHEMATICS (18 credits)

This Minor Concentration is open only to students registered in the Major Concentration in Mathematics. Taken together, these two concentrations constitute a program equivalent to the Major in Mathematics offered by the Faculty of Science.

No course overlap between the Major Concentration in Mathematics and the Supplementary Minor Concentration in Mathematics is permitted.

Note that according to the Faculty of Arts Multi-Track System degree requirements, option C, students registered in the Supplementary Minor Concentration in Mathematics must also complete another Minor concentration in a discipline other than Mathematics.

Required Courses (3 credits)
MATH 315 (3) Ordinary Differential Equations

Complementary Courses (15 credits)

3 credits from the following:
MATH 316 (3) Complex Variables
or MATH 249 (3) Honours Complex Variables

12 credits from the following list:
MATH 204 (3) Principles of Statistics 2
MATH 317 (3) Numerical Analysis
MATH 318 (3) Mathematical Logic
MATH 319 (3) Introduction to Partial Differential Equations
MATH 320 (3) Differential Geometry
MATH 324 (3) Statistics
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 327 (3) Matrix Numerical Analysis
MATH 329 (3) Theory of Interest
MATH 335 (3) Computational Algebra
MATH 338 (3) History and Philosophy of Mathematics
MATH 339 (3) Foundations of Mathematics
MATH 340 (3) Discrete Structures 2
MATH 346 (3) Number Theory
MATH 348 (3) Topics in Geometry
MATH 352 (1) Problem Seminar
MATH 407 (3) Dynamic Programming
MATH 410 (3) Majors Project
MATH 417 (3) Mathematical Programming
MATH 423 (3) Regression and Analysis of Variance
MATH 430 (3) Mathematical Finance
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications

* If MATH 315, MATH 316, or MATH 249 have already been taken as part of the Major Concentration in Mathematics, they must be replaced by a 3-credit course from the list of complementary courses above.

MINOR CONCENTRATION IN STATISTICS
(Non-expandable) (18 credits)

Students entering the Minor Concentration in Statistics are expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents.

The Minor Concentration in Statistics may be taken in conjunction with a Major Concentration in some other discipline under option A of the Multi-track Program, or together with a Major Concentration (which may be in Mathematics or some other discipline) and a Minor Concentration (which must be in some other discipline) under option C.

It is not possible to combine this program with the Minor Concentration in Mathematics under option C. Students wishing to do this should instead take the Major Concentration in Mathematics under option B and select a large number of Statistics complementaries.

The Minor Concentration in Statistics is offered only in a non-expandable version, that is, one that cannot be expanded into the Major Concentration in Mathematics. While it is not possible to expand the Minor Concentration, it is possible for students taking the Major Concentration in Mathematics to adopt this program as one of their Minor Concentrations under option C.

Credit cannot be received for both MATH 223 and MATH 236.

All courses counted towards the Minor Concentration must be passed with a grade of C or better.

No overlap is permitted with other programs.

Program prerequisites: MATH 133, MATH 140 and MATH 141 or their equivalents.

Required Courses (15 credits)
MATH 222 (3) Calculus 3
MATH 223* (3) Linear Algebra
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 423 (3) Regression and Analysis of Variance
* credit cannot be received for both MATH 223 and MATH 236
Note: If this Minor Concentration is combined with the Major Concentration in Mathematics, the required courses MATH 222, MATH 223, and MATH 323 must be replaced by courses on the list of Complementary Statistics courses.

Complementary Course (3 credits)
one of the following:
COMP 202 (3) Introduction to Computing 1
MATH 204 (3) Principles of Statistics 2
MATH 317 (3) Numerical Analysis
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications

MAJOR CONCENTRATION IN MATHEMATICS (36 credits)

Students entering the Major Concentration are normally expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 36 credits required by the program. Students who have done well in MATH 242 and MATH 235 at the end of their first term should consider, in consultation with their adviser and the instructors of the courses involved, the possibility of entering into an Honours program in Mathematics, in Applied Mathematics, in Probability and Statistics, or a Joint Honours program in Mathematics and another discipline.

Guidelines for the selection of courses in the Major Concentration

Where appropriate, Honours-level courses may be substituted for their Majors-level counterparts. Students planning to undertake graduate studies in mathematics are urged to make such substitutions.

Students interested in computer science should consider the courses MATH 317, MATH 318, MATH 327, MATH 328, MATH 340, MATH 407, MATH 417 and take a Minor Concentration in computer science.

Students interested in probability and statistics should consider either taking the Minor Concentration in statistics under option C, or else including some or all of the courses MATH 423, MATH 447, MATH 523, MATH 524, and MATH 525.

Students interested in applied mathematics should consider the courses MATH 317, MATH 319, MATH 324, MATH 326, MATH 327, MATH 407 and MATH 417.

Students interested in careers in business, industry or government should consider the courses MATH 317, MATH 319, MATH 327, MATH 407, MATH 417, MATH 423, MATH 447, MATH 523, and MATH 525.

Program prerequisites: MATH 133, MATH 140, and MATH 141 or their equivalents.

Required Courses (21 credits)
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
MATH 242 (3) Analysis 1
MATH 243 (3) Analysis 2
MATH 314 (3) Advanced Calculus
MATH 323 (3) Probability

Complementary Courses (15 credits)
at least 9 credits selected from:
MATH 315 (3) Ordinary Differential Equations
MATH 316 (3) Complex Variables
or MATH 249 (3) Honours Complex Variables
MATH 317 (3) Numerical Analysis
MATH 324 (3) Statistics
MATH 340 (3) Discrete Structures 2
MATH 423 (3) Regression and Analysis of Variance

the remaining credits to be selected from the following list:
MATH 204 (3) Principles of Statistics 2
MATH 318 (3) Mathematical Logic
MATH 319 (3) Introduction to Partial Differential Equations
MATH 320 (3) Differential Geometry
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 327 (3) Matrix Numerical Analysis
MATH 328 (3) Computability and Mathematical Linguistics
MATH 339 (3) Foundations of Mathematics
MATH 346 (3) Number Theory
MATH 348 (3) Topics in Geometry
MATH 352 (1) Problem Seminar
MATH 407 (3) Dynamic Programming
MATH 410 (3) Majors Project
MATH 417 (3) Mathematical Programming
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications
Where appropriate, Honours courses may be substituted for their Majors equivalents.

JOINT HONOURS – MATHEMATICS COMPONENT (36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

A student who has not completed the equivalent of MATH 222 will need to take that course in addition to the 36-credit program outlined below.

To remain in the Joint Honours program and receive the Joint Honours degree, a student must maintain the standards set by each discipline, as well as by the Faculty. In the Mathematics courses of the program a GPA of 3.00 and a CGPA of 3.00 must

be maintained. Students who have difficulty in maintaining the required level should change to another program before entering their final year.

Required Courses (15 credits)
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248 (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
MATH 255 (3) Honours Analysis 2

Complementary Courses (21 credits)
at least 15 credits selected from the following:
MATH 325 (3) Honours Ordinary Differential Equations
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356 (3) Honours Probability
MATH 357 (3) Honours Statistics
MATH 366 (3) Honours Complex Analysis
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 380 (3) Honours Differential Geometry

The remaining credits to be chosen from the full list of available Honours courses in Mathematics and Statistics.

6.12.37 Middle East Studies Program (MEST)

Website: www.mcgill.ca/mes

Program Adviser — Professor Laila Parsons, Department of History and Institute of Islamic Studies, 514-398-7108

Program Committee Chair — L. Parsons

Program Committee:
S. Alvi (*Islamic Studies*), R. Brynen (*Political Science*),M. Hartman (*Islamic Studies*), S. Manoukian (*Anthropology*), K. Medani (*Political Science*), L. Parsons (*History*)

The Middle East Studies Program is designed for students who wish to pursue an interdisciplinary program of study focusing on the Middle East since the rise of Islam. Courses offered include language, history, religion and philosophy, political science and anthropology. From these are drawn combinations which make up the Major and Minor Concentrations, Honours and Joint Honours in Middle East Studies.

Students wishing to pursue a program in Middle East Studies must consult a Program Adviser each year to devise a suitable program. Before doing so, students should consult the Middle East Studies' website at www.mcgill.ca/mes for a full description of each program. Failure to consult an adviser could lead to a delay in completing program requirements. Students wishing to have courses taken at other universities counted as satisfying program requirements must bring copies of their transcripts and course syllabi to the Program Adviser.

MINOR CONCENTRATION IN MIDDLE EAST STUDIES (Expandable) (18 credits)

Complementary Courses (18 credits)

A total of 18 credits, consisting of:

6 credits in History core courses

6 credits in Religion and Philosophy (including at least 3 credits in core courses)

6 credits in Social Sciences

Note: see the Middle East Studies Course List for courses in each of the above categories.

MINOR CONCENTRATION IN MIDDLE EAST LANGUAGES (Expandable) (18 credits)

Complementary Courses (18 credits)

18 credits of Middle Eastern language (Arabic, Hebrew, Persian, Turkish), either:

all 18 credits (3 levels) in one language

or 12 credits (2 levels) in one language and 6 credits (1 level) in another language

Note: see the Middle East Studies Course List for courses in each language.

MAJOR CONCENTRATION IN MIDDLE EAST STUDIES (36 credits)

Required Course (3 credits)
MEST 495 (3) Middle East Studies: Research Seminar

Complementary Courses (33 credits)

12 credits (2 levels) in one Middle East language – Arabic, Hebrew, Persian, Turkish.
(In the case of Arabic, the first two levels involve 15 credits. The extra 3 credits will be counted towards the remainder of the program requirements.)

21 credits in Middle East Studies distributed as follows (18 credits if Arabic has been chosen):

6 - 9 credits listed under the heading of History (including at least 6 credits in core courses);

6 - 9 credits listed under the heading of Religion and Philosophy (including at least 6 credits in core courses);

3 - 6 credits listed under the heading of Social Sciences.

Note: see the Middle East Studies Course List for courses in each of the above categories.

HONOURS IN MIDDLE EAST STUDIES (60 credits)

The Honours program involves 60 credits in Middle East Studies.

Required Courses (6 credits)
MEST 495 (3) Middle East Studies: Research Seminar
MEST 496 (3) Independent Reading and Research
Complementary Courses (54 credits)

18 - 21 credits (3 levels) in one Middle Eastern language

9 - 15 credits listed under the heading of History (including at least 9 credits in core courses)

9 - 15 credits listed under the heading of Religion and Philosophy (including at least 6 credits in core courses)

6 - 12 credits listed under the heading of Social Sciences

Note: see the Middle East Studies Course List for courses in each of the above categories.

Honours students must maintain a program GPA of 3.30 in their Middle East Studies courses.

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00.

JOINT HONOURS – MIDDLE EAST STUDIES COMPONENT (36 credits)

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Required Course (3 credits)
MEST 495 (3) Middle East Studies: Research Seminar

Complementary Courses (33 credits)

Language:
12 credits (2 levels) in one Middle East language (in the case of Arabic, the first two levels involve 15 credits. The extra 3 credits will be counted toward the remainder of the program).

Middle East Studies:
21 credits (18 if Arabic has been chosen), distributed as follows:

6 - 9 credits listed under the heading of History (including at least 6 credits in core courses)

6 - 9 credits listed under the heading of Religion and Philosophy (including at least 6 credits in core courses)

3 - 6 credits listed under the heading of Social Sciences

Note: see the Middle East Studies Course List for courses in each of the above categories.

At least 6 credits must be at the 400 level or above.

Joint Honours students must maintain a program GPA of 3.30 in their Middle East Studies courses.

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00.

MIDDLE EAST STUDIES COURSE LIST

For the most up-to-date list of eligible courses, see www.mcgill.ca/mes.

Students wishing to take upper-level courses in Anthropology and Political Science are expected to take the necessary prerequisites.

Languages

Arabic (Islamic Studies)
ISLA 521D1 (4.5) Introductory Arabic
ISLA 521D2 (4.5) Introductory Arabic
ISLA 522D1 (3) Lower Intermediate Arabic
ISLA 522D2 (3) Lower Intermediate Arabic
ISLA 523D1 (3) Higher Intermediate Arabic
ISLA 523D2 (3) Higher Intermediate Arabic

Hebrew (Jewish Studies)
JWST 200 (12) Hebrew Language (Intensive)
JWST 220D1 (3) Introductory Hebrew
JWST 220D2 (3) Introductory Hebrew
JWST 320D1 (3) Intermediate Hebrew
JWST 320D2 (3) Intermediate Hebrew
JWST 340D1 (3) Advanced Hebrew
JWST 340D2 (3) Advanced Hebrew
JWST 367 (3) Studies in Hebrew Language and Literature
JWST 368 (3) Studies in Hebrew Language and Literature
JWST 369 (3) Studies in Hebrew Language and Literature
JWST 370 (3) Studies in Hebrew Language and Literature
JWST 411 (3) Topics: Modern Hebrew Literature 1881-1948
JWST 412 (3) Topics: Modern Hebrew Literature 2
JWST 438 (3) Topics in Hebrew Literature 1
JWST 439 (3) Topics in Hebrew Literature 2

Persian (Islamic Studies)
ISLA 541D1 (3) Introductory Persian
ISLA 541D2 (3) Introductory Persian
ISLA 542D1 (3) Lower Intermediate Persian
ISLA 542D2 (3) Lower Intermediate Persian

Turkish (Islamic Studies)
ISLA 532D1 (3) Introductory Turkish
ISLA 532D2 (3) Introductory Turkish
ISLA 533D1 (3) Lower Intermediate Turkish
ISLA 533D2 (3) Lower Intermediate Turkish

History

*Islamic Studies (*Core Course)*
ISLA 350* (3) From Tribe to Dynasty
ISLA 355* (3) Modern History of the Middle East
ISLA 410* (3) History: Middle-East 1798-1918
ISLA 411* (3) History of the Middle East 1918-1945
ISLA 510D1* (3) History: Islamic Civilization - Classical
ISLA 510D2* (3) History: Islamic Civilization - Classical
ISLA 511D1* (3) History: Islamic Civilization - Mediaeval Era
ISLA 511D2* (3) History: Islamic Civilization - Mediaeval Era

(500-level courses can only be taken in U2 or U3)

History
HIST 240 (3) Modern History of Islamic Movements
HIST 327 (3) Jews in the Orbit of Islam
HIST 339* (3) Arab-Israeli Conflict
HIST 448 (3) Women, Gender and Sexuality in the Middle East

Jewish Studies
JWST 323 (3) The Israeli Novel
JWST 366 (3) History of Zionism

Religion/Philosophy

*Islamic Studies (*Core Course)*
ISLA 200* (3) Islamic Civilization
ISLA 345* (3) Science and Civilization in Islam
ISLA 380* (3) Islamic Philosophy and Theology
ISLA 383* (3) Central Questions in Islamic Law
ISLA 505* (3) Islam: Origin and Early Developments
ISLA 506* (3) Islam: Later Developments
ISLA 531D1* (3) Survey Development of Islamic Thought
ISLA 531D2* (3) Survey Development of Islamic Thought

(500-level courses can only be taken in U2 or U3)

Jewish Studies
JWST 562 (3) Medieval Islamic and Jewish Philosophy

Philosophy
PHIL 356 (3) Early Medieval Philosophy

Philosophy and Western Religions
PHWR 300 (3) Philosophy & Western Religions 1
PHWR 301 (3) Philosophy & Western Religions 2

Religious Studies
RELG 204** (3) Judaism, Christianity and Islam
RELG 256** (3) Women in Judaism and Islam

** RELG 204 and RELG 256 can only be taken for program credit prior to any Core courses.

Social Sciences

Anthropology
ANTH 340 (3) Middle Eastern Society and Culture

Islamic Studies
ISLA 210 (3) Muslim Societies
ISLA 360 (3) Islam and Politics
ISLA 385 (3) Poetics & Politics in Arabic Literature
ISLA 388 (3) Persian Literature
ISLA 392 (3) Arabic Literature as World Literature
ISLA 415 (3) Modern Iran: Anthropological Approach
ISLA 585 (3) Arab Women's Literature

Political Science
POLI 340 (3) Developing Areas/Middle East
POLI 341 (3) Foreign Policy: The Middle East
POLI 347 (3) Arab-Israel Conflict, Crisis, Peace
POLI 437 (3) Politics in Israel

Middle East Studies
MEST 375 (3) Topics in Middle East Studies
MEST 496 (3) Independent Reading and Research

6.12.38 Music (MUAR)

Strathcona Music Building
555 Sherbrooke Street West
Montreal, QC H3A 1E3

Telephone: 514-398-4535
Fax: 514-398-8061
Website: www.mcgill.ca/music

Department of Music Research Chair — Peter Schubert

Department of Performance Chair — André Roy

Adviser (B.A./B.Sc. Music programs) — B. Minorgan
514-398-4535, ext. 6333

Music Programs in Arts

Available within the Faculty of Arts are a Major and a Minor Concentration in Music. Arts students may also apply to the Minor in Musical Applications of Technology and the Minor in Musical Science and Technology.

Admission to the B.A. program is granted according to criteria established by the Faculty of Arts.

Students in the B.A. Freshman Program who are considering a Music Concentration should see the Freshman Adviser in Arts OASIS in Dawson Hall. They should also see the Music Adviser in order to ensure that they include any necessary prerequisite Music courses (based on the results of placement examinations) in their first-year selection.

Students interested in a more intensive music program, including practical instruction on an instrument or in voice and additional ensemble participation, should consider the B.Mus. degree or the diplomas offered by the Schulich School of Music; "Degrees and Diplomas Offered" in section 12.3.1.

MINOR CONCENTRATION IN MUSIC (18 credits) (Expandable)

Required Courses (6 credits)

MUTH 210 (3) Tonal Theory and Analysis 1*
MUTH 211 (3) Tonal Theory and Analysis 2*

* Students must take a diagnostic placement examination before registering for this course. If the appropriate level is not achieved on the examination, students will be required to register for Melody and Counterpoint MUTH 110 (3 credits) and/or Elementary Harmony and Analysis MUTH 111 (3 credits). These courses may *not* be counted toward the 18-credit Music Minor Concentration.

Complementary Courses (12 credits)

9 credits in Music History, Literature or Performance Practice, from any courses with an MUHL prefix at the 300 level – see list of courses in the Schulich School of Music section; an historical performance practice course with an MUPP prefix may be taken with Departmental permission.

3 credits in Music Theory, any course with an MUTH prefix at the 300-level.

MINOR CONCENTRATION IN MUSIC TECHNOLOGY

(18 credits) (Non-Expandable)
The Minor Concentration in Music Technology retired effective Fall 2008. Students currently registered in the program should consult their program adviser for guidance.

MINOR IN MUSICAL APPLICATIONS OF TECHNOLOGY

(18 credits) (Non-Expandable)
[Program registration cannot be done via Minerva.]

Detailed information about this program is found in section 12.6.2.11, "Minor in Musical Applications of Technology".

MINOR IN MUSICAL SCIENCE AND TECHNOLOGY

(18 credits) (Non-Expandable)
[Program registration cannot be done via Minerva.]

Detailed information about this program is found in section 12.6.2.12, "Minor in Musical Science and Technology".

MAJOR CONCENTRATION IN MUSIC (36 credits)

This Concentration studies music as a vital art form in contemporary society and in the history of Western civilization. Its central purpose emphasizes music within broader intellectual and cultural contexts; the Concentration's premise is that, as a product of culture, music must be considered in relation to the other humanistic disciplines. This degree could be an excellent preparation for graduate work in music (musicology, music theory, music librarianship, music journalism, arts administration) or for professional studies in other fields.

Students in the Major Concentration MUST consult the Adviser PRIOR to registration each year. Questions regarding the requirements of the B.A. Major Concentration and especially elective courses should be addressed to Arts OASIS in Dawson Hall.

Required Courses (13 credits)

MUTH 210 (3) Tonal Theory and Analysis 1*
MUTH 211 (3) Tonal Theory and Analysis 2*
MUSP 229 (2) Musicianship 3**
MUSP 231 (2) Musicianship 4**
MUHL 570 (3) Research Methods in Music

* Students must take a diagnostic placement examination before registering for this course. If the appropriate level is not achieved on the examination, students will be required to register for Melody and Counterpoint MUTH 110 (3 credits) and/or Elementary Harmony and Analysis MUTH 111 (3 credits). These courses may *not* be counted toward the 36-credit Music Major Concentration.

** Students must take a diagnostic placement examination in both Musicianship and Keyboard Proficiency before registering for this course. If the appropriate level is not achieved on these examinations, students will be required to register for Musicianship 1 MUSP 129 (2 credits) and/or Musicianship 2 MUSP 131 (2 credits) and/or Keyboard Proficiency MUSP 170 (1 credit) and/or Keyboard Lab 1 MUSP 171(1 credit) and/or Keyboard Lab 2 MUSP 172 (1 credit). These courses may *not* be counted toward the 36-credit Music Major Concentration.

Complementary Courses (23 credits)

9 credits in Music History, Literature or Performance Practice, from any courses with an MUHL prefix at the 300 level; an historical performance practice course with an MUPP prefix may be taken with Departmental permission.

6 credits in Music Theory from any course with an MUTH prefix at the 300 level; see list of courses in the Schulich School of Music section.

8 credits selected from:

MUTH 301 (3) Modal Counterpoint 1
MUTH 302 (3) Modal Counterpoint 2
MUTH 303 (3) Tonal Counterpoint 1
MUTH 304 (3) Tonal Counterpoint 2
MUTH 310 (3) Mid and Late 19th-Century Theory and Analysis
or MUTH 327 (4) 19th-Century Analysis
MUTH 311 (3) 20th-Century Theory and Analysis
or MUTH 427D1 (3) 20th-Century Analysis
and MUTH 427D2 (3) 20th-Century Analysis
MUTH 522D1 (3) Advanced Counterpoint
MUTH 522D2 (3) Advanced Counterpoint
MUTH 523D1 (3) Advanced Harmony
MUTH 523D2 (3) Advanced Harmony
MUTH 528 (3) Schenkerian Techniques
MUCO 230D1 (2) The Art of Composition
MUCO 230D2 (2) The Art of Composition
MUCO 260 (2) Instruments of the Orchestra
MUCO 261 (2) Elementary Orchestration
MUHL 220 (3) Women in Music
MUHL 3xx Music History complementary (maximum of 3 credits)

MUSIC ENSEMBLES

Arts students may, with the permission of the instructor and the Associate Dean (Student Affairs) of the Faculty of Arts, participate in one of the following ensembles in a given year. Auditions are held starting the week prior to the beginning of classes in September and continuing during that first week. The schedule and requirements for these auditions are available at the end of June from the Department of Performance office, 514-398-4542. Normally both the Fall and Winter sections of an ensemble are taken in the same academic year.

MUEN 496 (4) Opera Studio
MUEN 560 (1) Chamber Music Ensemble
MUEN 589 (1) Woodwind Ensembles
MUEN 590 (2) McGill Winds
MUEN 591 (1) Brass Ensembles
MUEN 593 (2) Choral Ensembles
MUEN 594 (2) Contemporary Music Ensemble
MUEN 595 (2) Jazz Ensembles
MUEN 597 (2) Orchestral Ensembles
MUEN 598 (1) Percussion Ensembles

COURSES OFFERED BY THE SCHULICH SCHOOL OF MUSIC AS ELECTIVES for students in the Faculties of Arts, Science, and Education

The courses referred to below are also open to students from other faculties. Other Music courses may be taken by qualified students from other faculties providing they obtain permission from the relevant department in the Schulich School of Music and from the Associate Dean of their own faculty.

All courses with the prefix MUAR. These are considered to be courses taught in the Faculty of Arts, but they cannot be credited toward the B.A. or B.Sc. Music programs.

The Music History and Literature (MUHL), Music Theory and Analysis (MUTH), and Music Technology (MUMT) courses listed below are considered by the Faculty of Arts as courses taught in the Faculty; **however,** the Faculty of Science considers them to be courses taught outside of the Faculty.

These courses are intended for students who have at least high school matriculation music or the equivalent. Students who do not have the formal music prerequisites require the permission of the Chair of the Department of Music Research to register for any of these courses.

MUHL (Music History and Literature)

MUHL 184 (3) History Survey Before 1750
MUHL 185 (3) History Survey After 1750
MUHL 220 (3) Women in Music

MUTH (Music Theory and Analysis)

Students not in the B.A. or B.Sc. Music programs are not required to take the corequisites for the following MUTH courses. However, students intending later to enter either the B.A. Major Concentration or the B.Mus. program would then be required to sit placement tests in Musicianship and Keyboard Proficiency and may be required to take the corequisite courses.

MUTH 110 (3) Melody and Counterpoint
MUTH 111 (3) Elementary Harmony and Analysis
MUTH 210 (3) Tonal Theory and Analysis 1
MUTH 211 (3) Tonal Theory and Analysis 2

MUMT (Music Technology)

MUMT 202 (3) Fundamentals of New Media
MUMT 203 (3) Introduction to Digital Audio
MUMT 301 (3) Music and the Internet
MUMT 302 (3) New Media Production 1
MUMT 303 (3) New Media Production 2

6.12.39 North American Studies Program (NAST)

Office of Interdisciplinary Programs

Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/nast

Adviser: Andrew Staples

Program Director — Professor T. Velk (*Economics*)

Program Committee Chair — Professor H. Waller (*Political Science*)

Program Committee:
Charles Boberg (*Linguistics*), James Delbourgo (*History)*, Catherine Desbarats (*History*), Allan Hepburn (*English*), Leonard Moore (*History*), Gil Troy (*History*)

North American Studies provides a comprehensive view of civilization on this continent, with a special emphasis on the United States. The peoples of the continent are examined in the first instance from the perspective of economics, political science, literature, and history. Subsequent courses are available from several other disciplines as well. Foundation and capstone seminars constitute a vital part of the program. The goal is to attain mastery over diverse material and to develop an integrated knowledge of society on this continent.

Independent study, internships, and university exchange arrangements are available within the context of the program.

Graduates of the program are well prepared for several types of professional options, including those that require advanced degrees

MINOR CONCENTRATION IN NORTH AMERICAN STUDIES (18 credits) (Expandable)

Required Course (9 credits)

ECON 205 (3) An Introduction to Political Economy
HIST 211 (3) American History to 1865
NAST 401 (3) Interdisciplinary Seminar - North American Studies

Complementary Courses (9 credits)

9 credits to be chosen from at least two departments:

ECON 219 (3) Current Economic Problems: Topics
ECON 223 (3) Political Economy of Trade Policy
ECON 302D1 (3) Money and Banking
ECON 302D2 (3) Money and Banking
ECON 311 (3) United States Economic Development
ENGL 225 (3) American Literature 1
or ENGL 226 (3) American Literature 2
or ENGL 227 (3) American Literature 3
ENGL 324 (3) 20th Century American Prose
ENGL 325 (3) Modern American Fiction
ENGL 326 (3) 19th Century American Prose
ENGL 327 (3) Canadian Prose Fiction 1
ENGL 328 (3) Development of Canadian Poetry 1
ENGL 333 (3) Development of Canadian Poetry 2
HIST 221 (3) United States since 1865
HIST 301 (3) U.S. Presidential Campaigning
HIST 311 (3) The Gilded Age and The Progressive Era
HIST 322 (3) Canada: American Presence since 1939
HIST 331 (3) The United States Between the Wars
HIST 341 (3) The New Nation: U.S. 1800-1850
HIST 342 (3) Canada: External Relations since 1867
HIST 351 (3) Themes in U.S. History since 1865
HIST 360 (3) Latin America since 1825
HIST 363 (3) Canada 1870-1914
NAST 201* (3) Introduction to North American Studies

NAST 471 (3) Topics in North American Studies 1
NAST 472 (3) Topics in North American Studies 2
NAST 490 (3) Independent Reading & Research
NAST 499 (3) Arts Internships: North American Studies
POLI 318 (3) Comparative Local Government
POLI 319 (3) Politics of Latin America
POLI 325D1 (3) Government and Politics: United States
POLI 325D2 (3) Government and Politics: United States
POLI 342 (3) Canadian Foreign Policy
POLI 346 (3) American Foreign Policy
POLI 371 (3) Challenge of Canadian Federalism
POLI 425 (3) Topics in American Politics

* It is strongly recommended that students take NAST 201.

MAJOR CONCENTRATION IN NORTH AMERICAN STUDIES
(36 credits)

Required Course (12 credits)
CANS 200 (3) Introduction to the Study of Canada
ECON 205 (3) An Introduction to Political Economy
NAST 201 (3) Introduction to North American Studies
NAST 401 (3) Interdisciplinary Seminar - North American Studies

Complementary Courses (24 credits)
To be chosen as follows:

12 credits chosen from at least three of the following disciplines:
COMS 230 (3) Communication and Democracy
ECON 219 (3) Current Economic Problems: Topics
ECON 223 (3) Political Economy of Trade Policy
ENGL 225 (3) American Literature 1
or ENGL 226 (3) American Literature 2
or ENGL 227 (3) American Literature 3
HIST 211 (3) American History to 1865
HIST 221 (3) United States since 1865
POLI 325D1* (3) Government and Politics: United States
POLI 325D2* (3) Government and Politics: United States

* Prerequisites will be waived for NAST students.

6 credits chosen from Group A:
ANTH 336 (3) Ethnohistory: North Eastern North America
ANTH 338 (3) Native Peoples of North America
CANS 305 (3) Canadian Modernity
CANS 306 (3) Issues in Native Studies
CANS 307 (3) Canada in the World
ECON 302D1 (3) Money and Banking
ECON 302D2 (3) Money and Banking
ECON 311 (3) United States Economic Development
ENGL 324 (3) 20th Century American Prose
ENGL 325 (3) Modern American Fiction
ENGL 326 (3) 19th Century American Prose
ENGL 327 (3) Canadian Prose Fiction 1
ENGL 328 (3) Development of Canadian Poetry 1
ENGL 333 (3) Development of Canadian Poetry 2
HIST 301 (3) U.S. Presidential Campaigning
HIST 311 (3) The Gilded Age and The Progressive Era
HIST 322 (3) Canada: American Presence since 1939
HIST 331 (3) The United States Between the Wars
HIST 341 (3) The New Nation: U.S. 1800-1850
HIST 342 (3) Canada: External Relations since 1867
HIST 351 (3) Themes in U.S. History since 1865
HIST 360 (3) Latin America since 1825
HIST 363 (3) Canada 1870-1914
HIST 364 (3) Canada 1914-1945
HIST 367 (3) Canada since 1945
HIST 371 (3) American Civil Rights 1877-1940
HIST 377 (3) The United States, 1940-1965
HIST 392 (3) The United States since 1965
HIST 393 (3) Civil War and Reconstruction
JWST 306 (3) The American Jewish Community
JWST 386 (3) American Jewish Literature
NAST 471 (3) Topics in North American Studies 1
NAST 472 (3) Topics in North American Studies 2
NAST 490 (3) Independent Reading & Research
NAST 499 (3) Arts Internships: North American Studies
POLI 318 (3) Comparative Local Government
POLI 319 (3) Politics of Latin America
POLI 342 (3) Canadian Foreign Policy
POLI 346 (3) American Foreign Policy
POLI 371 (3) Challenge of Canadian Federalism
POLI 425 (3) Topics in American Politics
SOCI 327 (3) Jews in North America

6 credits chosen from Group B:
BUSA 364 (3) Business Law 1
BUSA 368 (3) Business Law 2
CANS 409 (3) Canadian Studies Seminar 9
CANS 412 (3) Canada and Americas Seminar
COMS 300 (3) Media and Modernity in the 20th Century
ECON 303 (3) Canadian Economic Policy
ECON 305 (3) Industrial Organization
ECON 306D1 (3) Labour Economics and Institutions
ECON 306D2 (3) Labour Economics and Institutions
or ECON 426 (3) Labour Economics
ECON 308 (3) Governmental Policy Towards Business
ECON 404 (3) Transportation
ECON 406 (3) Topics in Economic Policy
ECON 408 (3) Public Sector Economics 1
ECON 409 (3) Public Sector Economics 2
ECON 434 (3) Current Economic Problems
ECON 440 (3) Health Economics
ENGL 407 (3) The 20th Century
ENGL 409 (3) Studies in a Canadian Author
ENGL 410 (3) Theme or Movement Canadian Literature
ENGL 411 (3) Studies in Canadian Fiction
ENGL 414 (3) Studies in 20th Century Literature 1
ENGL 415 (3) Studies in 20th Century Literature 2
ENGL 418 (3) A Major Modernist Writer
ENGL 419 (3) Studies in 20th Century Literature
ENGL 422 (3) Studies in 19th Century American Literature
ENGL 423 (3) Studies in 19th Century Literature
ENGL 440 (3) First Nations and Inuit Literature and Media
HISP 301 (3) Hispanic Literature - English Translation 1
HIST 408 (3) Colonialism and Native Peoples
HIST 409 (3) Themes in Latin American History 2
HIST 424 (3) Gender, Sexuality & Medicine
HIST 431 (3) Topics in U.S. History
HIST 434 (3) British North America 1760-1867
HIST 447 (3) The Natural History of America
HIST 461D1 (3) Topics in Modern U.S. History
HIST 461D2 (3) Topics in Modern U.S. History
HIST 462D1 (3) Topics: Canadian Conservatism
HIST 462D2 (3) Topics: Canadian Conservatism
HIST 530 (3) U.S. Foreign Relations
LING 320 (3) Sociolinguistics 1
MGCR 352 (3) Marketing Management 1
MRKT 354 (3) Marketing Management 2
MRKT 452 (3) Consumer Behaviour
POLI 416 (3) Political Economy of Canada
POLI 427 (3) Selected Topics: Canadian Politics
POLI 469 (3) Politics of Regulation
POLI 478 (3) The Canadian Constitution
SOCI 318 (3) Television in Society
SOCI 435 (3) Popular Culture

6.12.40 Philosophy (PHIL)

Leacock Building, Room 908
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-6060
Fax: 514-398-7148
Email: info.philosophy@mcgill.ca
Website: www.mcgill.ca/philosophy

Chair — Natalie Stoljar

Emeritus Professors
Alastair McKinnon; M.A.(Tor.), Ph.D.(Edin.), B.D.(McG.), F.R.S.C., R.D., D.H.L.(St. Olaf) (*William C. Macdonald Emeritus Professor of Moral Philosophy*)
David Norton; M.A.(Claremont), Ph.D.(Calif.), F.R.S.C.
Charles Taylor; M.A., D.Phil.(Oxf.), F.R.S.C.

Professors
Mario A. Bunge; Ph.D.(LaPlata), F.R.S.C. (*John Frothingham Professor of Logic and Metaphysics*)
George Di Giovanni; B.A., M.A., S.T.B., Ph.D.(Tor.)
Storrs McCall; B.A.(McG.), B.Phil., D.Phil.(Oxf.)
Calvin Normore; B.A.(McG.), M.A., Ph.D.(Tor.)

Associate Professors
Alia Al-Saji; M.A.(Louvain), Ph.D.(Emory)
R. Philip Buckley; Ph.D.(Louvain)
Emily Carson; M.A.(McG.), Ph.D.(Harv.)
David Davies; B.A.(Oxf.), M.A.(Manit.), Ph.D.(W. Ont.)
Marguerite Deslauriers; B.A.(McG.), M.A., Ph.D.(Tor.)
Carlos Fraenkel; B.A., M.A., Ph.D.(Free Univ., Berlin) (*joint appoint. with Jewish Studies*)
Ian Gold; B.A., M.A.(McG.), Ph.D.(Prin.) (*joint appoint. with Psychiatry*)
Michael Hallett; B.Sc., Ph.D.(Lond.)
Alison Laywine; B.A.(Ott.), M.A.(Montr.), Ph.D.(Chic.)
Eric Lewis; B.A.(C'nell), Ph.D.(Ill.-Chic.)
James McGilvray; B.A.(Carleton College), Ph.D.(Yale)
Stephen Menn; M.A., Ph.D.(Chic.), M.A., Ph.D.(Johns H.)
Gregory Mikkelson; M.S., Ph.D.(Chic.) (*joint appoint. with McGill School of Environment*)
Natalie Stoljar; B.A, LL.B.(Syd.), Ph.D.(Prin.) (*joint appoint. with Social Studies of Medicine*)
Sarah Stroud; A.B.(Harv.), Ph.D.(Prin.)

Assistant Professors
Michael Blome-Tillmann; B.Phil., D.Phil.(Oxf.)
Gaëlle Fiasse; B.A., M.A., Ph.D.(Louvain) (*joint appoint. with Faculty of Religious Studies*)
Iwao Hirose; B.A., M.A.(Waseda), Ph.D.(St. And.) (*joint appoint. with McGill School of Environment*)
Andrew Reisner; B.A.(Middlebury), M.A.(Brist.), D.Phil.(Oxf.)
Hasana Sharp; A.B.(Occidental), M.A.(Binghampton), Ph.D.(Penn.)

Faculty Lecturers
William Roberts; Ph.D.(Penn. St.) (*joint appoint. with Political Science*)
Dirk Schlimm; Ph.D.(Carn. Mell) (*joint appoint. with Computer Science*)

Adjunct Professor
Steven Davis; (Car.)
Susan-Judith Hoffmann; (Dawson)
Iain Macdonald; (Montr.)

Auxiliary Professor
Konstantinos Arvanitakis; B.Sc., M.A., M.D., C.M.(McG.), D.Psy., C.I.P.C., C.C.M.Q., F.R.C.P., R.S.M.A.(U.K.) (*Can. Institute of Psychoanalysis*)

Associate Members
Brendan Gillon (*Linguistics*)
Lawrence Kaplan (*Jewish Studies*)
Robert Wisnovsky (*Islamic Studies*)

Broadly speaking, the principal aim of philosophy is to increase our understanding of ourselves, the world, and our place in it. Philosophy differs from the empirical and social sciences in important respects. One way to characterise philosophy is by the sorts of questions it seeks to answer, and the ways in which it seeks to answer them. Different areas of philosophy are characterised by the questions they address. For example, Epistemology inquires into the nature of knowledge, Metaphysics is concerned with the fundamental nature of the world and of the types of things that it contains, Ethics investigates the nature of moral judgment and moral reasoning, while Political Philosophy examines such matters as justice, freedom, rights, democracy, and power, and Logic is broadly the analysis of the structure of correct reasoning. In addition, there are the various "Philosophies of...", e.g., Philosophy of Science, Philosophy of Language, Philosophy of Mind, Philosophy of Religion.

Some of the courses in the Department are explicitly devoted to these specific areas of philosophy, each exploring one or several ways of construing and answering the questions it poses. Other courses explore some period or individual figure in the history of philosophy, approaching philosophical questions through the work of past thinkers, and often exploring connections between the different areas of philosophy.

The discipline of Philosophy, as a particular way of thinking, emphasizes clarity in expression, both written and oral, and rigour in argument. Philosophical questions are intriguing and hard, and so philosophical method stresses thoroughness and intellectual generosity – the willingness and ability to grasp another's arguments and respond to them. The Department requires of all (and only) Honours and Joint Honours students that they take a special 3-credit course (PHIL 301), the principal aim of which is to equip students with the distinctively philosophical skills required for advanced work in the field.

The B.A. in Philosophy is not a professional qualification. It prepares students for graduate work in philosophy and for study in other disciplines, e.g., Law. As the interdisciplinary discipline par excellence, philosophy also maintains and encourages ties with other fields, so many students will find that certain classes in philosophy are directly relevant to their major area of study. The department has a strong commitment to providing an intensive yet broad-based philosophical education. The research interests of members of the Department are wide-ranging.

See also the separate listing for History and Philosophy of Science (HPSC), section 6.12.27.

Note: Philosophy students may use either PHIL 200 or PHIL 201 towards their program requirements, but not both. Students may, however, take both for credit (using the second as an elective), as the content in PHIL 201 does not overlap with PHIL 200.

MINOR CONCENTRATION IN PHILOSOPHY (18 credits)

Complementary Courses (18 credits)
15 credits from Groups A - E, with one course from at least four of the five groups.

Group A

PHIL 230	(3)	Introduction to Moral Philosophy 1
PHIL 237	(3)	Contemporary Moral Issues
PHIL 242	(3)	Introduction to Feminist Theory
PHIL 334	(3)	Ethics 1
PHIL 343	(3)	Biomedical Ethics
PHIL 348	(3)	Philosophy of Law 1
PHIL 434	(3)	Ethics 2
PHIL 442	(3)	Topics in Feminist Theory

Group B

PHIL 210	(3)	Introduction to Deductive Logic 1
PHIL 220	(3)	Introduction to History and Philosophy of Science 1
PHIL 221	(3)	Introduction to History and Philosophy of Science 2
PHIL 304	(3)	Chomsky
PHIL 306	(3)	Philosophy of Mind
PHIL 310	(3)	Intermediate Logic

PHIL 341 (3) Philosophy of Science 1
PHIL 370 (3) Problems in Analytic Philosophy
PHIL 410 (3) Advanced Topics in Logic 1
PHIL 411 (3) Topics in the Philosophy of Logic and Mathematics
PHIL 415 (3) Philosophy of Language
PHIL 419 (3) Epistemology
PHIL 421 (3) Metaphysics
PHIL 441 (3) Philosophy of Science 2
PHIL 470 (3) Topics in Contemporary Analytic Philosophy

Group C
PHIL 375 (3) Existentialism
PHIL 474 (3) Phenomenology
PHIL 475 (3) Topics in Contemporary European Philosophy

Group D
PHIL 344 (3) Medieval and Renaissance Political Theory
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory

Group E
PHIL 360 (3) 17th Century Philosophy
PHIL 361 (3) 18th Century Philosophy
PHIL 366 (3) 18th and Early 19th Century German Philosophy
PHIL 367 (3) 19th Century Philosophy
PHIL 444 (3) Early Modern Political Theory
PHIL 445 (3) 19th Century Political Theory

3 additional credits from the lists above or from other Philosophy courses.

In total, no more than 9 credits may be at the 200 level, and at least 3 credits must be at the 400 or 500 level.

MAJOR CONCENTRATION IN PHILOSOPHY (36 credits)

Required Course (3 credits)
PHIL 210 (3) Introduction to Deductive Logic 1

Complementary Courses (33 credits)
33 credits, of which no more than 9 may be at the 200 level, and at least 9 must be at the 400 or 500 level, distributed as follows:

6 credits, one course from *each* of Groups A and B:
Group A
PHIL 304 (3) Chomsky
PHIL 306 (3) Philosophy of Mind
PHIL 310 (3) Intermediate Logic
PHIL 341 (3) Philosophy of Science 1
PHIL 370 (3) Problems in Analytic Philosophy
PHIL 410 (3) Advanced Topics in Logic 1
PHIL 411 (3) Topics in Philosophy of Logic and Mathematics
PHIL 415 (3) Philosophy of Language
PHIL 419 (3) Epistemology
PHIL 421 (3) Metaphysics
PHIL 441 (3) Philosophy of Science 2
PHIL 470 (3) Topics in Contemporary Analytic Philosophy

Group B
PHIL 375 (3) Existentialism
PHIL 474 (3) Phenomenology
PHIL 475 (3) Topics in Contemporary European Philosophy

6 credits, two courses from Group C *OR* two from Group D:
Group C
PHIL 344 (3) Medieval and Renaissance Political Theory
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory

Group D
PHIL 360 (3) 17th Century Philosophy
PHIL 361 (3) 18th Century Philosophy
PHIL 366 (3) 18th and Early 19th Century German Philosophy
PHIL 367 (3) 19th Century Philosophy
PHIL 444 (3) Early Modern Political Theory
PHIL 445 (3) 19th Century Political Theory

6 credits, one course from *each* of Groups E and F:
Group E
PHIL 230 (3) Introduction to Moral Philosophy 1
PHIL 237 (3) Contemporary Moral Issues
PHIL 242 (3) Introduction to Feminist Theory

Group F
PHIL 334 (3) Ethics 1
PHIL 343 (3) Biomedical Ethics
PHIL 348 (3) Philosophy of Law 1
PHIL 434 (3) Ethics 2
PHIL 442 (3) Topics in Feminist Theory

15 additional credits from the lists above or from other Philosophy courses. Only one of PHIL 200 and PHIL 201 can be included in the program.

HONOURS IN PHILOSOPHY (60 credits)

Required Course (15 credits)
PHIL 210 (3) Introduction to Deductive Logic 1
PHIL 301 (3) Philosophical Fundamentals
PHIL 334 (3) Ethics 1
PHIL 499 (6) Tutorial 06
(Honours tutorial with thesis)

Complementary Courses (45 credits)

45 credits distributed as follows:

3 credits from the following:
PHIL 306 (3) Philosophy of Mind
PHIL 310 (3) Intermediate Logic
PHIL 370 (3) Problems in Analytic Philosophy
PHIL 410 (3) Advanced Topics in Logic 1
PHIL 411 (3) Topics in Philosophy of Logic and Mathematics
PHIL 415 (3) Philosophy of Language
PHIL 419 (3) Epistemology
PHIL 421 (3) Metaphysics
PHIL 470 (3) Topics in Contemporary Analytic Philosophy

3 credits from the following:
PHIL 230 (3) Introduction to Moral Philosophy 1
PHIL 237 (3) Contemporary Moral Issues
PHIL 240 (3) Political Philosophy 1
PHIL 241 (3) Political Philosophy 2
PHIL 242 (3) Introduction to Feminist Theory

6 credits from the following:
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory

6 credits from the following:
PHIL 360 (3) 17th Century Philosophy
PHIL 361 (3) 18th Century Philosophy
PHIL 366 (3) 18th and Early 19th Century German Philosophy

PHIL 367 (3) 19th Century Philosophy
PHIL 444 (3) Early Modern Political Theory
PHIL 445 (3) 19th Century Political Theory

3 credits from the following:
PHIL 375 (3) Existentialism
PHIL 474 (3) Phenomenology
PHIL 475 (3) Topics in Contemporary European Philosophy

24 additional credits in Philosophy with 12 credits at the 400-500 level (not including the Honours tutorial PHIL 499), at least 3 credits of which must be at the 500-level.

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

JOINT HONOURS – PHILOSOPHY COMPONENT (36 credits)

Required Course (9 credits)
PHIL 210 (3) Introduction to Deductive Logic 1
PHIL 301 (3) Philosophical Fundamentals
PHIL 334 (3) Ethics 1

Complementary Courses (27 credits)

27 credits distributed as follows:

3 credits from the following:
PHIL 306 (3) Philosophy of Mind
PHIL 310 (3) Intermediate Logic
PHIL 370 (3) Problems in Analytic Philosophy
PHIL 410 (3) Advanced Topics in Logic 1
PHIL 411 (3) Topics in Philosophy of Logic and Mathematics
PHIL 415 (3) Philosophy of Language
PHIL 419 (3) Epistemology
PHIL 421 (3) Metaphysics
PHIL 470 (3) Topics in Contemporary Analytic Philosophy

3 credits from the following:
PHIL 230 (3) Introduction to Moral Philosophy 1
PHIL 237 (3) Contemporary Moral Issues
PHIL 240 (3) Political Philosophy 1
PHIL 241 (3) Political Philosophy 2
PHIL 242 (3) Introduction to Feminist Theory

6 credits from Group A or 6 credits from Group B:

Group A
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory

Group B
PHIL 360 (3) 17th Century Philosophy
PHIL 361 (3) 18th Century Philosophy
PHIL 366 (3) 18th and Early 19th Century German Philosophy
PHIL 367 (3) 19th Century Philosophy
PHIL 444 (3) Early Modern Political Theory
PHIL 445 (3) 19th Century Political Theory

3 credits from the following:
PHIL 375 (3) Existentialism
PHIL 474 (3) Phenomenology
PHIL 475 (3) Topics in Contemporary European Philosophy

9 credits at the 400-500 level (not including the Honours tutorial), at least 3 credits of which must be at the 500 level.

3 credits of Honours tutorial with thesis, which can take either of two forms: a 6-credit interdisciplinary thesis, or a 3-credit thesis in philosophy i.e. PHIL 498 below.
PHIL 498 (3) Tutorial 05

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

ADMISSION TO HONOURS AND JOINT HONOURS
Students must attain a 3.00 CGPA and have a 3.00 GPA in Philosophy courses.

All Honours and Joint Honours students are bound by the following constraints:

- students may use a maximum of 15 credits from 200 level courses towards satisfaction of their program requirements in Philosophy;
- students cannot count both PHIL 200 and PHIL 201 towards satisfaction of their program requirements in Philosophy.

Minor in Cognitive Science
Students following Major or Honours programs in Philosophy with an interest in cognition may consider the Minor in Cognitive Science, described in the Faculty of Science section.

6.12.41 Philosophy and Western Religions (PHWR)

Office of Interdisciplinary Programs
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/phwr

Adviser: Andrew Staples

Program Chair — Carlos Fraenkel (*Philosophy and Jewish Studies*)

Program Committee
E. Caplan (*Jewish Studies*), M. Deslauriers (*Philosophy*), D. Farrow (*Religious Studies*), I. Henderson (*Religious Studies*), T. Kirby (*Religious Studies*), B. Levy (*Religious Studies*), S. Menn (*Philosophy*), R. Myles (*English and French Language Centre*), G. Oegema (*Religious Studies*), R. Wisnovsky (*Islamic Studies*)

This interdisciplinary program, in which the Department of Philosophy, the Institute of Islamic Studies, the Department of Jewish Studies and the Faculty of Religious Studies collaborate, was designed for students who wish to study the encounter between philosophy and the three Abrahamic religions (Judaism, Christianity, and Islam), an encounter which shaped the basic patterns of Western and Muslim intellectual history. The program covers the period from Antiquity to the Enlightenment during which philosophy and religious thought were inseparably interwoven, making visible the wide range of links between the intellectual worlds of these three religious traditions. Although the interaction between philosophy and religious thought continued in a variety of forms also after the Enlightenment's critique of religion, this critique transformed their relationship in a fundamental way, and for this reason will be used to delimit the chronological scope of the program. During the period in question, the impact of Greek philosophy on theologians, philosophers, and mystics within Judaism, Christianity, and Islam determined often in a decisive way – both positively and negatively – the interpretation of their Holy Scriptures, and their understanding of crucial religious concepts such as God, creation, revelation, providence, divine Law, and the origin of evil. The interdisciplinary approach takes into account that the history of the encounter in question crossed the linguistic, cultural and religious boundaries which define the areas of the traditional academic disciplines. This

approach permits the student to pursue the development of a philosophical or religious concept from its origin through the different historical and geographical contexts in which it was received by Jewish, Christian and Muslim thinkers.

In order to achieve its goal the program focuses on (i) the acquisition of relevant languages (Greek, Latin, Arabic, Hebrew), (ii) the history of Ancient, Medieval and Early Modern Philosophy, (iii) the Holy Scriptures and the history of Judaism, Christianity, and Islam, (iv) the reception and transformation of philosophical ideas in Jewish, Christian, and Islamic thought, and (v) the multiple points of contact among the different traditions of religious thought.

The program provides excellent preparation for graduate studies in Philosophy (with the appropriate choice of electives, or in combination with a Minor in Philosophy), in Religious Studies and, with the relevant language component, in Islamic Studies and Jewish Studies as well. Students wishing to pursue graduate studies in a particular discipline should consult about specific requirements with a faculty member of the corresponding department at McGill.

MINOR CONCENTRATION IN PHILOSOPHY AND WESTERN RELIGIONS (18 credits)

Students will benefit most from the Minor if they combine it with programs in Philosophy, Islamic Studies, Jewish Studies, Religious Studies, or Classics. Students are also encouraged to complete a Minor Concentration in one of the languages relevant to the academic field.

Note: Not all courses listed below are offered every year, and some of the courses have limited enrolment.

Required Course (3 credits)

RELG 307 (3) Bible, Quran & Interpretations

Complementary Courses (15 credits)

Students must complete 6 credits in two of the following three categories: Philosophy and Western Religions; History of Philosophy; and Jewish, Christian and Islamic Thought.

3 - 6 credits*, Philosophy and Western Religions,
PHWR 300 (3) Philosophy & Western Religions 1
PHWR 301 (3) Philosophy & Western Religions 2
* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

3 - 6 credits, History of Philosophy,
at least one of:
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
The remaining credits, if any, to be chosen from:
CLAS 415 (3) Advanced Latin: Oratory
CLAS 426 (3) Advanced Greek: Philosophy
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 360 (3) 17th Century Philosophy
PHIL 452 (3) Later Greek Philosophy

3 - 6 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought.

MAJOR CONCENTRATION IN PHILOSOPHY AND WESTERN RELIGIONS (36 credits)

The Major Concentration in Philosophy and Western Religions has an option without language requirement (Option A), and an option with language requirement (Option B). The latter was designed for students who wish to acquire the linguistic skills allowing them to read and research source texts in the original languages. Students will benefit most from the Major Concentration if they combine it with a program in Philosophy, Islamic Studies, Jewish Studies, Religious Studies, or Classics. Students are also encouraged to complete a Minor Concentration in one of the languages relevant to the academic field.

Students are strongly encouraged to consult an adviser each year to devise a suitable course combination.

Note: Not all courses listed below are offered every year, and some of the courses have limited enrolment.

Required Course (3 credits)

RELG 307 (3) Bible, Quran & Interpretations

Complementary Courses (33 credits)
3 - 9 credits*, Philosophy and Western Religions,
PHWR 300 (3) Philosophy & Western Religions 1
PHWR 301 (3) Philosophy & Western Religions 2
PHWR 500D1 (1.5) Interdisciplinary Seminar
PHWR 500D2 (1.5) Interdisciplinary Seminar

* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

24 - 30 credits taken in either Option A or Option B as follows:

Option A - Without Language Component
9 - 12 credits, History of Philosophy,
at least one of:
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
at least one of:
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 360 (3) 17th Century Philosophy
The remaining credits, if any, to be chosen from:
CLAS 415 (3) Advanced Latin: Oratory
CLAS 426 (3) Advanced Greek: Philosophy
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory
PHIL 551 (3) Seminar: Ancient Philosophy 2
PHIL 556 (3) Seminar: Medieval Philosophy
PHIL 560 (3) Seminar: 17th Century Philosophy

3 - 6 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

9 - 12 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought, with a maximum of 6 credits from any one of the three groups.

Option B - With Language Component

12 - 15 credits (two years: 12 credits, or in the case of Arabic, 15 credits) in one language (Greek, Latin, Arabic, or Hebrew), chosen from the PHWR Complementary Course List - Languages.
6 - 9 credits, History of Philosophy,
at least one of:
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
at least one of:
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 360 (3) 17th Century Philosophy
The remaining credits, if any, to be chosen from:
CLAS 415 (3) Advanced Latin: Oratory
CLAS 426 (3) Advanced Greek: Philosophy
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory
PHIL 551 (3) Seminar: Ancient Philosophy 2
PHIL 556 (3) Seminar: Medieval Philosophy
PHIL 560 (3) Seminar: 17th Century Philosophy

0 - 3 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

6 - 9 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought, with a maximum of 6 credits from any one of the three groups.

HONOURS IN PHILOSOPHY AND WESTERN RELIGIONS (60 credits)

The Honours Program in Philosophy and Western Religions was designed for students who wish (i) to explore in depth the intertwined intellectual worlds of Judaism, Christianity and Islam, and the interaction between philosophy and religion from Antiquity to the Enlightenment and (ii) to acquire the linguistic and conceptual tools allowing them to read source texts in the original languages, and to conduct research in the areas investigated by the interdisciplinary program. Students are encouraged to complete, in addition, a Minor Concentration in one of the languages relevant to the academic field.

Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Students are strongly encouraged to consult an adviser each year to devise a suitable course combination.

Students who combine the Honours Program with a Minor Concentration in one of the languages relevant to the academic field, or who have acquired proficiency in one language elsewhere may replace 6 credits of the language requirements through additional credits in other segments of the program.

Note: Not all courses listed below are offered every year, and some of the courses have limited enrolment.

Required Course (3 credits)
RELG 307 (3) Bible, Quran & Interpretations

Complementary Courses (57 credits)
6 - 9 credits*, Philosophy and Western Religions,
PHWR 300 (3) Philosophy & Western Religions 1
PHWR 301 (3) Philosophy & Western Religions 2
PHWR 500D1 (1.5) Interdisciplinary Seminar
PHWR 500D2 (1.5) Interdisciplinary Seminar

* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

9 - 12 credits, History of Philosophy,
at least one of:
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
at least one of:
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 360 (3) 17th Century Philosophy
The remaining credits, if any, to be chosen from:
CLAS 415 (3) Advanced Latin: Oratory
CLAS 426 (3) Advanced Greek: Philosophy
PHIL 345 (3) Greek Political Theory
PHIL 350 (3) History and Philosophy of Ancient Science
PHIL 353 (3) The Presocratic Philosophers
PHIL 452 (3) Later Greek Philosophy
PHIL 453 (3) Ancient Metaphysics and Natural Philosophy
PHIL 454 (3) Ancient Moral Theory
PHIL 551 (3) Seminar: Ancient Philosophy 2
PHIL 556 (3) Seminar: Medieval Philosophy
PHIL 560 (3) Seminar: 17th Century Philosophy

3 - 6 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

9 - 12 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought, with a maximum of 6 credits from any one of the three groups.

18 - 21 credits chosen from the PHWR Complementary Course List - Languages (Greek, Latin, Arabic, or Hebrew):
12 - 15 credits (two years: 12 credits, or in the case of Arabic 15 credits) in one language and 6 - 9 credits (one year: 6 credits or in the case of Arabic, 9 credits) in a second language relevant to the program.

6 credits, specialized skills for conducting research, chosen from:
PHWR 400 (3) Joint Honours/Honours Tutorial
PHWR 401 (3) Honours Thesis Tutorial 1
PHWR 402 (3) Honours Thesis Tutorial 2
PHWR 500D1 (1.5) Interdisciplinary Seminar
PHWR 500D2 (1.5) Interdisciplinary Seminar

JOINT HONOURS – PHILOSOPHY AND WESTERN RELIGIONS COMPONENT (36 credits)

The Joint Honours Philosophy and Western Religions Component was designed for students who wish (i) to explore the intertwined intellectual worlds of Judaism, Christianity and Islam, and the interaction between philosophy and religion from Antiquity to the Enlightenment and (ii) to acquire the linguistic and conceptual tools allowing them to read source texts in the original languages, and to conduct research in the areas investigated by the interdisciplinary program. Students will benefit most from the Joint Honours if they combine it with a program in Philosophy, Islamic Studies, Jewish Studies, Religious Studies, or Classics. Students are also encouraged to complete a Minor Concentration in one of the languages relevant to the academic field.

Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

Students are strongly encouraged to consult an adviser each year to devise a suitable course combination.

Note: Not all courses listed below are offered every year, and some of the courses have limited enrolment.

Required Course (3 credits)
RELG 307 (3) Bible, Quran & Interpretations

Complementary Courses (33 credits)
3 - 9 credits*, Philosophy and Western Religions,
PHWR 300 (3) Philosophy & Western Religions 1
PHWR 301 (3) Philosophy & Western Religions 2
PHWR 500D1 (1.5) Interdisciplinary Seminar
PHWR 500D2 (1.5) Interdisciplinary Seminar

* Students are strongly encouraged to take both PHWR 300 and PHWR 301.

3 - 6 credits, History of Philosophy,
at least one of:
PHIL 354 (3) Plato
PHIL 355 (3) Aristotle
The remaining credits, if any, to be chosen from:
CLAS 415 (3) Advanced Latin: Oratory
CLAS 426 (3) Advanced Greek: Philosophy
PHIL 356 (3) Early Medieval Philosophy
PHIL 357 (3) Late Medieval and Renaissance Philosophy
PHIL 360 (3) 17th Century Philosophy
PHIL 452 (3) Later Greek Philosophy

0 - 3 credits to be chosen from the PHWR Complementary Course List - Scriptures and History of the Western Religious Traditions.

6 credits to be chosen from the PHWR Complementary Course List - Jewish, Christian, and Islamic Thought.

12 - 15 credits (two years: 12 credits, or in the case of Arabic 15 credits) in one language (Greek, Latin, Arabic, or Hebrew), chosen from the PHWR Complementary Course List - Languages.

3 credits, specialized skills for conducting research, chosen from:
PHWR 400 (3) Joint Honours/Honours Tutorial
PHWR 500D1 (1.5) Interdisciplinary Seminar
PHWR 500D2 (1.5) Interdisciplinary Seminar

PHILOSOPHY AND WESTERN RELIGIONS (PHWR) PROGRAMS COMPLEMENTARY COURSE LISTS

Scriptures and History of the Western Religious Traditions

Department of Jewish Studies

JWST 201	(3)	Jewish Law
JWST 211	(3)	Jewish Studies 1: Biblical Period
JWST 216	(3)	Jewish Studies 2: 400 B.C.E. - 1000
JWST 217	(3)	Jewish Studies 3: 1000 - 2000
JWST 310	(3)	Believers, Heretics and Critics
JWST 316	(3)	Social and Ethical Issues Jewish Law 1
JWST 331	(3)	Bible Interpretation/Medieval Ashkenaz
JWST 332	(3)	Bible Interpretation/Sefardic Tradition
JWST 345	(3)	Introduction to Rabbinic Literature
JWST 510	(3)	Jewish Bible Interpretation 1
JWST 511	(3)	Jewish Bible Interpretation 2
JWST 523	(3)	Ancient Bible Interpretation
JWST 534	(3)	Homiletic Midrash
JWST 535	(3)	Exegetic Midrash
JWST 538	(3)	Early Rabbinic Parshanut 1
JWST 539	(3)	Biblical Interpretation 1
JWST 540	(3)	Biblical Interpretation 2
JWST 546	(3)	Innovative Medieval Parshanut
JWST 548	(3)	Medieval Parshanut
JWST 575	(3)	Topics in Parshanut

Department of History

HIST 207	(3)	Jewish History: 400 B.C.E. - 1000
HIST 219	(3)	Jewish History: 1000 - 2000

Institute of Islamic Studies

ISLA 505	(3)	Islam: Origin and Early Development
ISLA 506	(3)	Islam: Later Developments
ISLA 510D1	(3)	History: Islamic Civilization – Classical
ISLA 510D2	(3)	History: Islamic Civilization – Classical
ISLA 511D1	(3)	History: Islamic Civilization – Medieval Era
ISLA 511D2	(3)	History: Islamic Civilization – Medieval Era

Faculty of Religious Studies

RELG 203	(3)	Bible and Western Culture
RELG 210	(3)	Jesus of Nazareth
RELG 300	(3)	Second Temple Judaism
RELG 302	(3)	Old Testament Studies 1
RELG 303	(3)	Literature of Ancient Israel 2
RELG 306	(3)	Rabbinic Judaism
RELG 311	(3)	New Testament Studies 1
RELG 312	(3)	New Testament Studies 2
RELG 322	(3)	The Church in History 1
RELG 323	(3)	The Church in History 2
RELG 326	(3)	Ancient Christian Church AD54 - AD604
RELG 330	(3)	Reformed Theology
RELG 399	(3)	Christian Spirituality
RELG 404	(3)	Post Exilic Biblical Literature
RELG 407	(3)	The Writings
RELG 408	(3)	The Prophets
RELG 411	(3)	New Testament Exegesis
RELG 482	(3)	Exegesis of Greek New Testament
RELG 491	(3)	Hebrew Texts
RELG 492	(3)	Hebrew Texts
RELG 500	(3)	Methodology Colloquium

Catholic Studies Program

CATH 200	(3)	Introduction to Catholicism
CATH 310	(3)	Catholic Intellectual Traditions
CATH 320	(3)	Scripture and Catholicism

Jewish, Christian, and Islamic Thought

Group 1, Institute of Islamic Studies

ISLA 531D1	(3)	Survey Development of Islamic Thought
ISLA 531D2	(3)	Survey Development of Islamic Thought

Group 2, Department of Jewish Studies

JWST 261	(3)	History of Jewish Philosophy & Thought
JWST 337	(3)	Jewish Philosophy and Thought 1
JWST 338	(3)	Jewish Philosophy and Thought 2
JWST 358	(3)	Topics in Jewish Philosophy 1
JWST 359	(3)	Topics in Jewish Philosophy 2
JWST 474	(3)	Maimonides' Mishneh Torah
JWST 543	(3)	Maimonides as Parshan
JWST 558	(3)	Topics: Modern Jewish Thought (Major Concentration and Honours only)
JWST 562	(3)	Medieval Islamic and Jewish Philosophy

Group 3, Faculty of Religious Studies

RELG 334	(3)	The Christian Faith
RELG 341	(3)	Introduction: Philosophy of Religion
RELG 423	(3)	Reformation Thought
RELG 439	(3)	Religious Dialogues
RELG 532	(3)	History of Christian Thought 1
RELG 533	(3)	History of Christian Thought 2

Languages

Arabic (Institute of Islamic Studies)

ISLA 521D1	(4.5)	Introductory Arabic
ISLA 521D2	(4.5)	Introductory Arabic
ISLA 522D1	(3)	Lower Intermediate Arabic
ISLA 522D2	(3)	Lower Intermediate Arabic

Greek (Classics Program, Faculty of Religious Studies)

CLAS 220D1	(3)	Introductory Ancient Greek
CLAS 220D2	(3)	Introductory Ancient Greek
CLAS 321	(3)	Intermediate Greek: Plato/Xenophon
CLAS 322	(3)	Intermediate Greek: Orators
CLAS 323	(3)	Intermediate Greek: Homer
CLAS 324	(3)	Intermediate Greek: Poetry
CLAS 325	(3)	Intermediate Greek: Later Prose
CLAS 326	(3)	Intermediate Greek: Selections
RELG 280D1	(3)	Elementary New Testament Greek
RELG 280D2	(3)	Elementary New Testament Greek
RELG 381	(3)	Advanced New Testament Greek

Hebrew (Department of Jewish Studies, Faculty of Religious Studies)

JWST 200	(12)	Hebrew Language Intensive
JWST 220D1	(3)	Introductory Hebrew
JWST 220D2	(3)	Introductory Hebrew
JWST 320D1	(3)	Intermediate Hebrew
JWST 320D2	(3)	Intermediate Hebrew
RELG 390D1	(3)	Elementary Biblical Hebrew
RELG 390D2	(3)	Elementary Biblical Hebrew

Latin (Classics Program)

CLAS 210D1	(3)	Introductory Latin 1
CLAS 210D2	(3)	Introductory Latin 1
CLAS 311	(3)	Catullus/Ovid
CLAS 312	(3)	Intermediate Latin: Poetry
CLAS 313	(3)	Intermediate Latin: Cicero
CLAS 314	(3)	Intermediate Latin: Historians
CLAS 315	(3)	Intermediate Latin: Selections
CLAS 316	(3)	Intermediate Latin: Medieval

6.12.42 Political Science (POLI)

Stephen Leacock Building, Room 414
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Telephone: 514-398-4800
Fax: 514-398-1770
Website: www.mcgill.ca/politicalscience

Chair — Richard Schultz

Emeritus Professors
Baldev Raj Nayar; B.A., M.A.(Punjab), M.A., Ph.D.(Chic.)
Blema Steinberg; B.A.(McG.), M.A.(C'nell), Ph.D.(McG.)

Professors
Michael Brecher; B.A.(McG.), M.A., Ph.D.(Yale), F.R.S.C. (*R.B. Angus Professor of Economics and Political Science*) (*on leave Winter 2010*)
Mark R. Brawley; B.A.(Calif.), M.A., Ph.D.(Calif.-LA) (*on leave 2009-2010*)
Rex Brynen; B.A.(Vic. (BC)), M.A., Ph.D.(Calg.)
Elisabeth Gidengil; B.A.(LSE), M.A.(NYU), Ph.D.(McG.)
Jody Heymann; B.A.(Yale), M.D., Ph.D.(Harv.) *(Canada Research Chair)*
Christopher Manfredi; B.A., M.A.(Calg.), M.A., Ph.D.(Claremont)
T.V. Paul; B.A.(Kerala), M.Phil.(JNU), M.A., Ph.D.(Calif.-LA) (*James McGill Professor*)
Filippo Sabetti; B.A.(McM.), M.A., Ph.D.(Ind.)
Richard Schultz; B.A.(York (Can.)), M.A.(Manc.), Ph.D.(York) (*James McGill Professor*)
Harold M. Waller; M.S.(N'western), Ph.D.(G'town)

Associate Professors
Arash Abizadeh; B.A.(Winn.), M.Phil.(Oxf.), Ph.D.(Harv.)
Juliet Johnson; A.B.(Stan.), M.A., Ph.D.(Prin.)
Jacob Levy; A.B.(Brown), M.A., Ph.D.(Prin.)
Catherine Lu; B.A., M.A.(Br. Col.), Ph.D.(Tor.)
Antonia Maioni; M.A.(Car.), Ph.D.(N'western) (*William Dawson Scholar*)
Hudson Meadwell; B.A.(Man.), M.A., Ph.D.(Duke) (*on leave 2009-2010*)
Philip D. Oxhorn; B.A.(Redlands), M.A.(Cant.), Ph.D.(Harv.) (*on leave 2009-2010*)
Stephen Saideman; B.A.(Oberlin), M.A., Ph.D.(Calif.-San Diego) (*Canada Research Chair*)
Stuart Soroka; B.A.(Qu.), M.A.(Car.), Ph.D.(Br. Col.) (*William Dawson Scholar*)
Dietlind Stolle; M.A.(Claremont), Ph.D.(Prin.)
Narendra Subramanian; B.A.(Prin.), M.A., Ph.D.(MIT) (*on leave 2009-2010*)

Assistant Professors
Éric Bélanger; B.A., M.A.(Laval), Ph.D.(Montr.)
Erik Kuhonta; B.A.(Penn.), Ph.D.(Prin.) (*on leave Fall 2009*)
Khalid Medani; B.A.(Brown), M.A.(G'town), M.A., Ph.D.(Calif., Berk.)
Victor Muniz Fraticelli; B.A.(C'nell), J.D.(Puerto Rico), M.A., Ph.D.(Chic.)
Maria Popova; B.A.(Dart.), Ph.D.(Harv.) (*on leave Fall 2009*)
Vincent Pouliot; B.Sc.(Montr.), D.E.A.(Bordeaux), Ph.D.(Tor.)
Christa Scholtz; B.A.(Alta.), M.A.(Ott.), Ph.D.(Prin.)
Christina Tarnopolsky; B.A.(Tor.), M.A., Ph.D.(Chic.)

Faculty Lecturers
Jason Ferrell; M.A.(Tulane), Ph.D.(McG)
William Clare Roberts; B.A.(Carl. Coll.), Ph.D.(Penn. St.)

Students wishing to do an Honours degree or a Major or Minor Concentration in Political Science should consult with a Political Science Departmental Adviser each year in order to devise a suitable program. Proper selection of courses is required if a student wishes to graduate on time.

1. Procedure for NEW Students

All new students entering the Political Science Program (including Minor Concentrations) are strongly urged to attend an Information Meeting scheduled at the end of August. The date and location of the meeting will be posted on the web. Attendance will help students prepare for their session with an adviser. It is the student's responsibility to be in Montreal for the meeting. The following brochures are available on the web: "Programs in Political Science," and "Minor Concentrations in Political Science". It is essential to read through these prior to attending the Information Meeting.

2. For all Political Science Students

"Programs in Political Science," and "Minor Concentrations in Political Science," are all available in the Department as well as on the web. Students wishing to have courses taken at other universities counted as satisfying program requirements must bring copies of their transcripts and course syllabi to the Director of the Major or Honours Program or the Director of Undergraduate Studies. Students are not accepted into the Honours Program in Political Science until their second year in Political Science; an exception is made for those in Joint Honours Programs.

As course and personnel changes may occur after this Calendar has gone to press, students should not use it to plan their program of studies without first consulting the Department Office for updated information.

MINOR CONCENTRATION IN POLITICAL SCIENCE
(18 credits) (Expandable)

Complementary Courses (18 credits)
6 - 9 credits at the 200 level, from at least two fields:

Canadian Politics Field
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
POLI 226 (3) La vie politique Québécoise

Comparative Politics Field
POLI 211 (3) Comparative Government and Politics
POLI 212 (3) Government and Politics - Developed World
POLI 227 (3) Developing Areas/Introduction

International Relations Field
POLI 243 (3) International Politics of Economic Relations
POLI 244 (3) International Politics: State Behaviour

Political Theory Field
POLI 231 (3) Introduction to Political Theory
POLI 232 (3) Modern Political Thought

9 - 12 credits above the 200 level from at least two fields:

Canadian Politics Field
POLI 320 (3) Issues in Canadian Democracy
POLI 321 (3) Issues: Canadian Public Policy
POLI 326 (3) Provincial Politics
POLI 336 (3) Le Québec et le Canada
POLI 337 (3) Canadian Public Administration
POLI 342 (3) Canadian Foreign Policy
POLI 371 (3) Challenge of Canadian Federalism
POLI 372 (3) Aboriginal Politics in Canada
POLI 378 (3) The Canadian Judicial Process
POLI 379 (3) Topics in Canadian Politics
POLI 410 (3) Canadian Political Parties
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 412 (3) Canadian Voting/Public Opinion
POLI 415 (3) Political Parties
POLI 416 (3) Political Economy of Canada
POLI 417 (3) Health Care in Canada
POLI 421 (3) Social Movements in Canada
POLI 426 (3) Partis politiques et comportements électoraux au Québec
POLI 427 (3) Selected Topics: Canadian Politics
POLI 446 (3) Les politiques publiques au Québec
POLI 447 (3) Canadian Constitutional Politics
POLI 467 (3) Politique et société à Montréal
POLI 469 (3) Politics of Regulation
POLI 478 (3) The Canadian Constitution

Comparative Field (Developed and Developing)
POLI 300D1 (3) Developing Areas/Revolution
POLI 300D2 (3) Developing Areas/Revolution
POLI 315 (3) Approaches to Political Economy
POLI 318 (3) Comparative Local Government
POLI 319 (3) Politics of Latin America
POLI 322 (3) Political Change in South Asia
POLI 323 (3) Developing Areas/China and Japan
POLI 324 (3) Developing Areas/Africa
POLI 325D1 (3) Government and Politics: United States
POLI 325D2 (3) Government and Politics: United States
POLI 328 (3) Modern Politics in Western Europe

POLI 329 (3) Russian and Soviet Politics
POLI 330 (3) Law and Courts in Europe
POLI 331 (3) Politics in East Central Europe
POLI 332 (3) Politics of Former Soviet Republics
POLI 338 (3) Developing Areas/Topics 1
POLI 339 (3) Comparative Developed: Topics 1
POLI 340 (3) Developing Area/Middle East
POLI 356 (3) Public Policy: Western Europe
POLI 357 (3) Politics: Contemporary Europe
POLI 361 (3) Political Participation in Comparative Perspective
POLI 369 (3) Politics of Southeast Asia
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 414 (3) Society and Politics in Italy
POLI 419 (3) Transitions from Communism
POLI 422 (3) Developing Areas/Topics 2
POLI 423 (3) Politics of Ethno-Nationalism
POLI 424 (3) Media and Politics
POLI 425 (3) Topics in American Politics
POLI 428 (3) Politics of France
POLI 429 (3) The Politics of South Africa
POLI 430 (3) The Politics of Scandinavia
POLI 431 (3) Nations and States/Developed World
POLI 432 (3) Selected Topics: Comparative Politics
POLI 435 (3) Identity and Inequality
POLI 437 (3) Politics in Israel
POLI 438 (3) British Politics
POLI 450 (3) Peacebuilding
POLI 451 (3) The European Union
POLI 454 (3) British Political Thought
POLI 463 (3) Politics of Germany
POLI 466 (3) Public Policy Analysis
POLI 471 (3) Democracy in the Modern World
POLI 472 (3) Developing Areas/Social Movements
POLI 473 (3) Democracy and the Market
POLI 474 (3) Inequality and Development
POLI 475 (3) Social Capital in Comparative Perspective

International Relations
POLI 341 (3) Foreign Policy: The Middle East
POLI 342 (3) Canadian Foreign Policy
POLI 344 (3) Foreign Policy: Europe
POLI 345 (3) International Organizations
POLI 346 (3) American Foreign Policy
POLI 347 (3) Arab-Israel Conflict, Crisis, Peace
POLI 349 (3) Foreign Policy-Asia Pacific
POLI 351 (3) The Causes of Major Wars
POLI 354 (3) Approaches to International Political Economy
POLI 359 (3) Topics in International Politics 1
POLI 360 (3) Security: War and Peace
POLI 362 (3) Political Theory and International Relations
POLI 440 (3) Civil-Military Relations
POLI 441 (3) IPE: Trade
POLI 442 (3) International Relations of Ethnic Conflict
POLI 444 (3) Topics in International Politics 2
POLI 445 (3) International Political Economy: Monetary Relations
POLI 450 (3) Peacebuilding
POLI 451 (3) The European Union

Political Theory
POLI 333 (3) Western Political Theory 1
POLI 334 (3) Western Political Theory 2
POLI 362 (3) Political Theory and International Relations
POLI 363 (3) Contemporary Political Theory
POLI 364 (3) Radical Political Thought
POLI 365 (3) Democratic Theory
POLI 366 (3) Topics in Political Theory 1
POLI 367 (3) Liberal Political Theory
POLI 433 (3) History of Political/Social Theory 3
POLI 434 (3) History of Political/Social Theory 4
POLI 454 (3) British Political Thought
POLI 455 (3) American Political Thought
POLI 459 (3) Topics in Political Theory 2
POLI 470 (3) Philosophy, Economy and Society

Other Political Science courses may be used to satisfy this Minor subject to approval.

MINOR CONCENTRATION IN POLITICAL SCIENCE: CANADA/QUEBEC (Non-expandable) (18 credits)

Complementary Courses (18 credits)
6 credits at the introductory level from:
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
POLI 226* (3) La vie politique Québécoise

12 credits, of which 3 credits must be on Québec; no more than 6 credits may be taken outside the Department of Political Science; and no more than 6 credits may be taken at the 200 level:
ANTH 306 (3) Native Peoples' History in Canada
CANS 200 (3) Introduction to the Study of Canada
CANS 304* (3) Nationalism in Canada
CANS 413* (3) Canada and Quebec Seminar
ECON 308 (3) Governmental Policy Towards Business
FREN 329* (3) Civilisation québécoise 2
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
HIST 300 (3) Nationalisms in Canada
HIST 303* (3) History of Quebec
HIST 322 (3) Canada: American Presence since 1939
HIST 333* (3) History of New France: Part 1
HIST 334* (3) History of New France: Part 2
HIST 353* (3) History of Montreal
HIST 357 (3) Religion and Canadian Society in Historical Perspective
HIST 363 (3) Canada 1870-1914
HIST 364 (3) Canada 1914-1945
HIST 367 (3) Canada since 1945
HIST 370 (3) Canadian Party Politics 1867-2000
HIST 397 (3) Canada: Ethnicity, Migration
HIST 403* (3) History of Quebec Institutions
POLI 226* (3) La vie politique Québécoise
POLI 320 (3) Issues in Canadian Democracy
POLI 321 (3) Issues: Canadian Public Policy
POLI 326 (3) Provincial Politics
POLI 336* (3) Le Québec et le Canada
POLI 337 (3) Canadian Public Administration
POLI 342 (3) Canadian Foreign Policy
POLI 371 (3) Challenge of Canadian Federalism
POLI 372 (3) Aboriginal Politics in Canada
POLI 378 (3) The Canadian Judicial Process
POLI 379 (3) Topics in Canadian Politics
POLI 410 (3) Canadian Political Parties
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 412 (3) Canadian Voting/Public Opinion
POLI 415 (3) Political Parties
POLI 416 (3) Political Economy of Canada
POLI 417 (3) Health Care in Canada
POLI 421 (3) Social Movements in Canada
POLI 426* (3) Partis politiques et comportements électoraux au Québec
POLI 427 (3) Selected Topics: Canadian Politics
POLI 446* (3) Les politiques publiques au Québec
POLI 447 (3) Canadian Constitutional Politics
POLI 467* (3) Politique et société à Montréal
POLI 469 (3) Politics of Regulation
POLI 478 (3) The Canadian Constitution
* Denotes courses on Quebec

MINOR CONCENTRATION IN COMPARATIVE POLITICS
(Non-expandable) (18 credits)

Required Course (3 credits)
POLI 211 (3) Comparative Government and Politics

Complementary Courses (15 credits)
3 credits selected from the following:
POLI 212 (3) Government and Politics - Developed World
POLI 227 (3) Developing Areas - Introduction

12 credits selected from the following:
POLI 300D1 (3) Developing Areas/Revolution
POLI 300D2 (3) Developing Areas/Revolution
POLI 315 (3) Approaches to Political Economy
POLI 318 (3) Comparative Local Government
POLI 319 (3) Politics of Latin America
POLI 322 (3) Political Change in South Asia
POLI 323 (3) Developing Areas/China and Japan
POLI 324 (3) Developing Areas/Africa
POLI 325D1 (3) Government and Politics: United States
POLI 325D2 (3) Government and Politics: United States
POLI 328 (3) Modern Politics in Western Europe
POLI 329 (3) Russian and Soviet Politics
POLI 330 (3) Law and Courts in Europe
POLI 331 (3) Politics in East Central Europe
POLI 332 (3) Politics of Former Soviet Republics
POLI 338 (3) Developing Areas/Topics 1
POLI 339 (3) Comparative Developed: Topics 1
POLI 340 (3) Developing Areas/Middle East
POLI 356 (3) Public Policy: Western Europe
POLI 357 (3) Politics: Contemporary Europe
POLI 361 (3) Political Participation in Comparative Perspective
POLI 369 (3) Politics of Southeast Asia
POLI 411 (3) Immigration and Multiculturalism in Canada
POLI 414 (3) Society and Politics in Italy
POLI 419 (3) Transitions from Communism
POLI 422 (3) Developing Areas/Topics 2
POLI 423 (3) Politics of Ethno-Nationalism
POLI 424 (3) Media and Politics
POLI 425 (3) Topics in American Politics
POLI 428 (3) Politics of France
POLI 429 (3) The Politics of South Africa
POLI 430 (3) The Politics of Scandinavia
POLI 431 (3) Nations and States/Developed World
POLI 432 (3) Selected Topics: Comparative Politics
POLI 435 (3) Identity and Inequality
POLI 437 (3) Politics in Israel
POLI 438 (3) British Politics
POLI 450 (3) Peacebuilding
POLI 451 (3) The European Union
POLI 463 (3) Politics of Germany
POLI 466 (3) Public Policy Analysis
POLI 471 (3) Democracy in the Modern World
POLI 472 (3) Developing Areas/Social Movements
POLI 473 (3) Democracy and the Market
POLI 474 (3) Inequality and Development
POLI 475 (3) Social Capital in Comparative Perspective

MINOR CONCENTRATION IN INTERNATIONAL RELATIONS
(Non-expandable) (18 credits)

Required Courses (6 credits)
POLI 243 (3) International Politics of Economic Relations
POLI 244 (3) International Politics: State Behaviour

Complementary Courses (12 credits)
12 credits, of which 6 credits must be in thematic courses:

Thematic courses
POLI 345 (3) International Organizations
POLI 347 (3) Arab-Israel Conflict, Crisis, Peace
POLI 351 (3) The Causes of Major Wars
POLI 354 (3) Approaches to International Political Economy
POLI 360 (3) Security: War and Peace
POLI 362 (3) Political Theory and International Relations
POLI 440 (3) Civil-Military Relations
POLI 441 (3) IPE: Trade
POLI 442 (3) International Relations of Ethnic Conflict
POLI 445 (3) International Political Economy: Monetary Relations
POLI 450 (3) Peacebuilding
POLI 451 (3) The European Union

Regional courses
POLI 341 (3) Foreign Policy: The Middle East
POLI 342 (3) Canadian Foreign Policy
POLI 344 (3) Foreign Policy: Europe
POLI 346 (3) American Foreign Policy
POLI 349 (3) Foreign Policy-Asia Pacific

MINOR CONCENTRATION IN POLITICAL THEORY
(18 credits)

This program offers a specialization in the subfield of political theory and allows students the opportunity to draw on closely-related courses in moral and political philosophy offered by the Department of Philosophy. Students who have completed the appropriate introductory work in the disciplines of classics, economics, history, or sociology may take specified courses in these disciplines toward the program requirements.

Complementary Courses (18 credits)

Category A (9 credits)

3 credits at the introductory level selected from:
POLI 231 (3) Introduction to Political Theory
POLI 232 (3) Modern Political Thought
PHIL 240 (3) Political Philosophy 1

At least 6 credits selected from:
POLI 333 (3) Western Political Theory 1
POLI 334 (3) Western Political Theory 2
POLI 433 (3) History of Political/Social Theory 3
POLI 434 (3) History of Political/Social Theory 4

Category B (9 credits)

9 additional credits from the following list.
Note that a course used toward Category A may not also be used toward Category B.
POLI 333 (3) Western Political Theory 1
POLI 334 (3) Western Political Theory 2
POLI 362 (3) Political Theory and International Relations
POLI 363 (3) Contemporary Political Theory
POLI 364 (3) Radical Political Thought
POLI 365 (3) Democratic Theory
POLI 366 (3) Topics in Political Theory 1
POLI 367 (3) Liberal Political Theory
POLI 433 (3) History of Political/Social Theory 3
POLI 434 (3) History of Political/Social Theory 4
POLI 455 (3) American Political Thought
POLI 459 (3) Topics in Political Theory 2
POLI 470 (3) Philosophy, Economy and Society
PHIL 334 (3) Ethics 1
PHIL 344 (3) Medieval and Renaissance Political Theory
PHIL 345 (3) Greek Political Theory
PHIL 348 (3) Philosophy of Law 1
PHIL 442 (3) Topics in Feminist Theory
PHIL 444 (3) Early Modern Political Theory
PHIL 445 (3) 19th Century Political Theory
PHIL 454 (3) Ancient Moral Theory
CLAS 416 (3) Advanced Latin: Philosophy
CLAS 426 (3) Advanced Greek: Philosophy
ECON 334 (3) History of Economic Doctrines
HIST 320 (3) European Thought and Culture 1
HIST 321 (3) European Thought and Culture 2

SOCI 330 (3) Sociological Theory

MINOR CONCENTRATION IN POLITICAL ECONOMY
(Non-expandable) (18 credits)

Complementary Courses (18 credits)

3 credits selected from:
POLI 211 (3) Comparative Government and Politics
POLI 227 (3) Developing Areas/Introduction
POLI 243 (3) International Politics of Economic Relations

3 credits selected from:
ECON 208 (3) Microeconomic Analysis and Applications
ECON 209 (3) Macroeconomic Analysis and Applications

Students who take ECON 230D1/ECON 230D2 (Microeconomic Theory) or ECON 250D1/ ECON 250D2D (Introduction to Economic Theory: Honours) are deemed to have fulfilled the economics requirement.
But, please note that the 3 complementary economic credits must be replaced with a political science course from the list below.

12 credits selected from:
POLI 243 (3) International Politics of Economic Relations
POLI 315 (3) Approaches to Political Economy
POLI 321 (3) Issues: Canadian Public Policy
POLI 354 (3) Approaches to International Political Economy
POLI 416 (3) Political Economy of Canada
POLI 441 (3) IPE: Trade
POLI 445 (3) International Political Economy: Monetary Relations
POLI 451 (3) The European Union
POLI 469 (3) Politics of Regulation
POLI 473 (3) Democracy and the Market

MINOR CONCENTRATION IN POLITICS, LAW AND SOCIETY
(Non-expandable) (18 credits)

Required Courses (6 credits)
POLI 211 (3) Comparative Government and Politics
POLI 378 (3) The Canadian Judicial Process

Complementary Courses (12 credits)
3 credits selected from:
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada

9 credits selected from the following, at least 6 credits must be non-political science credits and no more than 3 credits at the 200 level:
ANTH 222 (3) Legal Anthropology
HIST 344 (3) Police Institutions
ISLA 383 (3) Central Questions in Islamic Law
JWST 201 (3) Jewish Law
JWST 316 (3) Social and Ethical Issues in Jewish Law 1
LEEL 482* (3) Law and Poverty
PHIL 348 (3) Philosophy of Law 1
POLI 318 (3) Comparative Local Government
POLI 321 (3) Issues: Canadian Public Policy
POLI 330 (3) Law and Courts in Europe
POLI 337 (3) Canadian Public Administration
POLI 417 (3) Health Care in Canada
POLI 447 (3) Canadian Constitutional Politics
POLI 466 (3) Public Policy Analysis
POLI 469 (3) Politics of Regulation
POLI 478 (3) The Canadian Constitution
PRV2 500* (3) Children and Law
SOCI 388 (3) Crime
SOCI 418 (3) Human Rights and Humanitarianism
SOCI 488 (3) Punishment and Prisons
* Procedure for taking Law courses: to take these courses, the student must apply as a Special Student through the Faculty of Law and provide the following: curriculum vitae, copy of academic record and reason for wanting to take the course.

MINOR CONCENTRATION IN SOUTH ASIA (Non-expandable)
(18 credits)

Required Courses (6 credits)
POLI 227 (3) Developing Areas/Introduction
POLI 322 (3) Political Change in South Asia

Complementary Courses (12 credits)
3 - 6 credits selected from:
ANTH 327 (3) Peoples of South Asia
ISLA 500D1 (3) History of Islamic India
ISLA 500D2 (3) History of Islamic India
RELG 252 (3) Hinduism and Buddhism
RELG 344 (3) Maháyána Buddhism
RELG 348 (3) Classical Hinduism
RELG 350 (3) Bhakti Hinduism
RELG 454 (3) Modern Hindu Thought

6 - 9 credits selected from:
ANTH 212 (3) Anthropology of Development
ANTH 327 (3) Peoples of South Asia
ANTH 427 (3) Social Change in South Asia
ISLA 505 (3) Major Themes of Islamic Religious Expression
ISLA 506 (3) Islam: Later Development
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 342 (3) Theravada Buddhist Literature
RELG 371 (3) Ethics of Violence/Non-Violence
SOCI 254 (3) Development and Underdevelopment

MAJOR CONCENTRATION IN POLITICAL SCIENCE
(36 credits)

Complementary Courses (36 credits)
36 credits of Political Science courses, as follows:

No more than one-half (18 credits) of the credits in a single field. (If the field in question is Comparative Politics, the maximum is 21 credits, provided courses are taken in both Developed Areas and Developing Areas.)

In the first year of the program, students are advised to select 12 - 15 credits from at least *three* of the four main fields (Comparative Government and Politics, Canadian and Quebec Government and Politics, International Politics, Political Theory).

No more than 15 of the 36 credits may be at the 200 level.

In the final year, no program courses may be taken below the 300 level.

Students may take only one 500-level Political Science Honours Seminar and it is to be taken in the final year.

The normal course load for a first-year student is 30 credits; a typical course distribution is given in the Departmental guidelines. First-year students normally may take courses at the 200 level only. First-year students in the second term of a 90-credit program may, with the approval of their adviser at Course Change period, transfer into one 300-level course provided that they have obtained an average of B+ in their first-term courses and that they have taken the prerequisite 200-level course. Second-year students in the third term of a 120-credit program may take one 300-level course provided they have taken the prerequisite course at the 200 level.

HONOURS IN POLITICAL SCIENCE (54 credits)

Note: The following provides only a summary view of the program. Detailed information is provided in the handout "Programs in Political Science," available from the Department or on the web; all Honours and potential Honours students must read it before seeing an adviser.

The Honours program in Political Science consists of 54 credits, of which 48 must be in Political Science. The remaining 6 credits must be in related social studies disciplines and must be taken at the 300- or 400-level.

Students wishing to take Honours Political Science will be admitted to the program in their second year in Political Science. In their first year in political science, they should register as Major

students and take 12-15 credits in Political Science spread over at least three of the four main fields offered by the Department (Comparative Politics, Canadian and Québec Politics, International Politics, Political Theory). Potential Honours students are also strongly encouraged to take one of the basic courses in economic analysis (ECON 208 and ECON 209 or ECON 230D1/ ECON 230D2). The introductory course requirements in the various fields of Political Science are the same as those presented in the description of the Major program above.

Students in the Honours Political Science program are encouraged to concentrate in one or two of the major fields offered by the Department. While concentration is considered beneficial, excessive specialization is discouraged. Students will normally not be permitted to take more than half their Political Science credits in any one field. Honours students are required to take a 3-credit course in Methods (POLI 311) and a 3-credit course in Political Theory (at any level). They are also required to take one-quarter of their Political Science credits (12 credits) at the 400 level or higher, including at least one 500- or 600-level Seminar. Students can satisfy this one-quarter rule by taking one 400-, one 500-, and one 600-level course. **Students who do not have the prerequisite(s) for a course may be asked to withdraw from the course.** Further information may be obtained from one of the Honours advisers.

Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.30.

JOINT HONOURS – POLITICAL SCIENCE COMPONENT
(36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines; see section 6.11.4 “Joint Honours Programs” for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Note: The following provides only a summary view of the program. Detailed information is provided in the handout “Programs in Political Science,” available from the Department; all Joint Honours and potential Joint Honours students must read it before seeing an adviser.

To meet the requirements for Joint Honours degrees, students must complete 36 credits in Political Science and meet the requirements set forth by the other Department. Students wishing to follow a Joint Honours program will be admitted in their first year in political science. Joint Honours students normally take 12 credits in Political Science, 12 credits in the other Honours subject and 6 credits of other courses in each year of their program.

In the first year in political science, the 12 credits in Political Science should cover at least two (preferably three) of the four main fields offered by the Department. While some concentration is encouraged, students will normally not be permitted to take more than half their Political Science credits in any one field. Joint Honours students are required to take a Political Science course in Methods (POLI 311) unless they are authorized to take an equivalent social science methods course in another department (Sociology, Economics). In that case they are required to take a course (at any level) in Political Theory. They are also required to take one-quarter of their Political Science credits (i.e., 9 credits) at the 400 level or higher, including at least one 500- or 600-level Seminar. Students can satisfy the one-quarter rule by taking one 500- and one 600-level course. **Students who do not have the prerequisite(s) for a course may be asked to withdraw from the course.**

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.30.

HONOURS STANDARDS

To enter, remain and graduate in Honours, students must achieve/maintain a 3.3 average in their political science courses and more than half of the political science grades must be at the B+ level or higher. To be awarded First Class Honours at graduation, in addition to a 3.50 CGPA, students must achieve a 3.6 average in their political science courses and more than half of political science grades must be at the A- level or higher. All political science courses taken at McGill are counted in determining a student's standing. (The specific criteria are given in the brochure “Programs in Political Science,” which may also be found on the Department website.) To be awarded Honours at graduation, students must be registered in the Honours program in their final year. At graduation, students' Honours standing will be determined by their overall record in the Honours program.

Further information may be obtained from the Head of the Honours program.

6.12.43 Psychology (PSYC)

Stewart Biological Sciences Building, Room W8/1
1205 Docteur Penfield Avenue
Montreal, QC H3A 1B1

Telephone: 514-398-6100
Fax: 514-398-4896
Email: info@psych.mcgill.ca
Website: www.psych.mcgill.ca

The Psychology department offers programs in both Arts and Science. For a list of teaching staff and an outline of the nature of Psychology refer to the Science entry “Psychology (PSYC)” in section 14.13.32. Programs which may be taken by Arts students are described in this section, those listed under the Faculty of Science may be taken by Science students only.

Note: The B.A. (or B.Sc.) with a Major Concentration or Honours degree in psychology is not a professional qualification. It does not qualify the individual to carry on professional work in psychology.

INFORMATION MEETINGS FOR NEW STUDENTS

All new students entering the Psychology undergraduate program are required to attend an Information Meeting prior to registration. Students planning to pursue a Bachelor of Arts, or a Bachelor of Arts and Science, with a Major Concentration in Psychology **must** attend one of these meetings. Newly admitted students from CEGEPs should attend the information session on Wednesday, June 17th at 10:00 am in room N2/2 of the Stewart Biological Sciences building. There will be an identical information session on Monday, August 24th at 1:00 pm in room N2/2 of the Stewart Biological Sciences building for all other students, and for any CEGEP students who could not attend the earlier meeting. Students accepted into the Bachelor of Science program must attend a different information meeting. (For details, see section 14.13.32 “Psychology (PSYC)”.) At this meeting, Jessey Bernstein, the Academic Adviser, will explain the requirements of the Department's programs. Incoming students will have an opportunity to ask questions and receive advice on how to plan their courses. After this meeting students will make appointments for individual advising sessions and fill out their Study Plan form for registration.

Entering students must bring their letter of acceptance and a copy of their collegial transcript(s). They will also need this Calendar and a preliminary Class Schedule before their individual advising session. Students will also find the Psychology Department Handbook helpful. It contains more detailed descriptions of Psychology courses and provides guidelines for how students might pursue particular areas of interest. The Handbook is available on the Department website: www.psych.mcgill.ca/ugrad/ugradm.htm.

Students entering the Psychology program in January are strongly encouraged to visit the Academic Adviser, Jessey Bernstein, in early December to clarify their course selections.

COURSE GROUPS: LIST A AND LIST B

The study of psychology covers many fields. To develop a breadth of understanding in psychology, students are expected to obtain knowledge beyond the introductory level in two or more areas of psychology. To ensure this requirement is met, Psychology

courses are divided into two lists. List A covers the areas of behavioural neuroscience, cognition and quantitative methods. List B covers social, health and developmental psychology.

List A (Behavioural Neuroscience, Cognition and Quantitative Methods)

NSCI 201 (3) Introduction to Neuroscience 2
PSYC 301 (3) Animal Learning & Theory
PSYC 310 (3) Human Intelligence
PSYC 311 (3) Human Cognition and the Brain
PSYC 315 (3) Computational Psychology
PSYC 317 (3) Genes and Behaviour
PSYC 318 (3) Behavioural Neuroscience 2
PSYC 329 (3) Introduction to Auditory Cognition
PSYC 340 (3) Psychology of Language
PSYC 341 (3) The Psychology of Bilingualism
PSYC 342 (3) Hormones and Behaviour
PSYC 352 (3) Cognitive Psychology Laboratory
PSYC 353 (3) Laboratory in Human Perception
PSYC 403 (3) Modern Psychology in Historical Perspective
PSYC 406 (3) Psychological Tests
PSYC 410 (3) Special Topics in Neuropsychology
PSYC 413 (3) Cognitive Development
PSYC 427 (3) Sensorimotor Behaviour
PSYC 451 (3) Human Factors Research and Techniques
PSYC 470 (3) Memory and Brain
PSYC 502 (3) Psychoneuroendocrinology
PSYC 505 (3) The Psychology of Pain
PSYC 510 (3) Statistical Analysis of Tests
PSYC 522 (3) Neurochemistry and Behaviour
PSYC 526 (3) Advances in Visual Perception
PSYC 529 (3) Music Cognition
PSYC 531 (3) Structural Equation Models
PSYC 532 (3) Cognitive Science
PSYC 536 (3) Correlational Techniques
PSYC 537 (3) Advanced Seminar in Psychology of Language
PSYC 541 (3) Multilevel Modelling
PSYC 545 (3) Topics in Language Acquisition
PSYC 561 (3) Methods: Developmental Psycholinguistics
PSYC 562 (3) Measurement of Psychological Processes

List B (Social, Health and Developmental Psychology)

PSYC 304 (3) Child Development
PSYC 316 (3) Psychology of Deafness
PSYC 331 (3) Inter-Group Relations
PSYC 332 (3) Introduction to Personality
PSYC 333 (3) Personality and Social Psychology
PSYC 337 (3) Introduction: Abnormal Psychology 1
PSYC 338 (3) Introduction: Abnormal Psychology 2
PSYC 343 (3) Language Acquisition in Children
PSYC 351 (3) Research Methods in Social Psychology
PSYC 408 (3) Principles of Cognitive Behaviour Therapy
PSYC 409 (3) Positive Psychology
PSYC 412 (3) Developmental Psychopathology
PSYC 414 (3) Social Development
PSYC 416 (3) Topics in Child Development
PSYC 429 (3) Health Psychology
PSYC 436 (3) Human Sexuality and its Problems
PSYC 471 (3) Human Motivation
PSYC 473 (3) Social Cognition and the Self
PSYC 474 (3) Interpersonal Relationships
PSYC 491D1 (3) Advanced Study: Behavioural Disorders
PSYC 491D2 (3) Advanced Study: Behavioural Disorders
PSYC 507 (3) Emotions, Stress, and Illness
PSYC 511 (3) Infant Competence
PSYC 512 (3) Advanced Personality Seminar
PSYC 528 (3) Vulnerability to Depression
PSYC 530 (3) Applied Topics in Deafness
PSYC 533 (3) International Health Psychology
PSYC 535 (3) Advanced Topics in Social Psychology

Unclassified Courses

PSYC 395 (6) Psychology Research Project 1
PSYC 450D1 (4.5) Research Project and Seminar
PSYC 450D2 (4.5) Research Project and Seminar
PSYC 488D1 (1.5) Special Topics Seminar
PSYC 488D2 (1.5) Special Topics Seminar
PSYC 492 (3) Special Topics Seminar 1
PSYC 493 (3) Special Topics Seminar 2
PSYC 494D1 (4.5) Psychology Research Project
PSYC 494D2 (4.5) Psychology Research Project
PSYC 495 (6) Psychology Research Project 2
PSYC 499 (1) Reading Project

MINOR CONCENTRATION IN PSYCHOLOGY (18 credits) (Expandable)

Students registered in a Bachelor of Arts program in another department may pursue a Minor Concentration in Psychology. This Minor Concentration is expandable for students who may wish to transfer into a Major Concentration in Psychology at a later date.

Recommended background: Students are advised to complete a course in Introductory Psychology at the collegial or freshman level. Students who have not previously completed CEGEP Psychology 350-101 or 350-102 or equivalent are required to complete PSYC 100 during the first year of study at McGill.

Complementary Courses (18 credits)

6 credits selected from:

PSYC 204 (3) Introduction to Psychological Statistics
PSYC 211 (3) Intro Behavioral Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology

12 credits in Psychology at the 300 level or above.

MINOR CONCENTRATION IN BEHAVIOURAL SCIENCE (18 credits) (Non-expandable) (Open only to students registered in the Major Concentration In Psychology)

Students who wish to go on to graduate training in Psychology, and those who may wish to apply for membership in the Ordre des Psychologues du Québec (once the additional graduate requirements of the Ordre have been completed), are advised to take the following supplementary Minor Concentration in Behavioural Science. Note that this counts as a *second* Minor Concentration, and is open only to students registered in the Major Concentration In Psychology. A first Minor Concentration must also be completed in a discipline other than Psychology.

Complementary Courses (18 credits)

3 credits in Psychology from List A
3 credits in Psychology from List B
3 credits in Psychology at the 400 or 500 level
9 credits at the 300 level or above from one or more of the following disciplines: Psychology (PSYC), Anthropology (ANTH), Linguistics (LING), or Sociology (SOCI)

MAJOR CONCENTRATION IN PSYCHOLOGY (36 credits)

Students with a Major Concentration in Psychology must obtain a minimum grade of C in all 36 credits of the program. A grade lower than C may be made up by taking another equivalent course (if there is one), by successfully repeating the course, or by successfully writing a supplemental examination (if there is one).

The Major Concentration in Psychology does not provide sufficient undergraduate background to enable students to apply for membership in the Ordre des Psychologues du Québec, even once the additional graduate requirements of the Ordre have been completed. Students who are interested in practising psychology in Quebec are advised to also complete the Minor Concentration in Behavioral Science.

Recommended Background:
Students registered in a Bachelor of Arts degree with a Major Concentration or Honours program in Psychology, and those registered in a Bachelor of Arts and Science degree with a Major Concentration or Joint Honours Component in Psychology, are advised to complete courses in Introductory Psychology and Human Biology at the collegial level.

Students who have not previously completed Psychology 350-101 or 350-102 in CEGEP will be required to register for PSYC 100 during their U1 year. Bachelor of Arts students who have not completed one of Biology 101-301, 101-401, 101-911 or 101-921 in CEGEP will be required to complete BIOL 115 (or, if they prefer, BIOL 111 or BIOL 112) during their U1 year. Bachelor of Arts and Science students who have not completed one course in General Biology (CEGEP objective OOUK, OOXU or equivalent) will be required to complete one of BIOL 111 or BIOL 112 during their U1 year.

All students who have completed either Mathematics 201-307 or 201-337 or equivalent, or the combination of Quantitative Methods 360-300 with Mathematics 201-300, and who obtained a minimum grade of 75%, will be exempt from PSYC 204. Bachelor of Arts students will replace this requirement with 3 credits at the 300 level in one of the following disciplines: Psychology (PSYC), Anthropology (ANTH), Linguistics (LING) or Sociology (SOCI). Bachelor of Arts and Science students will replace this requirement with 3 credits in Psychology at the 300 level or above.

Required Courses (18 credits)
PSYC 204 (3) Introduction to Psychological Statistics
PSYC 211 (3) Intro Behavioral Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology
PSYC 305 (3) Statistics for Experimental Design

Complementary Courses (18 credits)
3 credits in Psychology from List A
3 credits in Psychology from List B
12 credits in Psychology, at least 6 at the 400 or 500 level

Note: Students who wish to apply to the Honours Program in Psychology must complete the following courses in their U1 year to be eligible for admission: PSYC 204, PSYC 211, PSYC 212, PSYC 213, PSYC 215. Students who have been exempted from PSYC 204 are advised to complete PSYC 305 in U1. All students must complete a minimum of 27 graded credits in U1 to be eligible for admission to the Honours Program.

B.A. HONOURS IN PSYCHOLOGY (60 credits)

Honours in Psychology prepares students for graduate study, and so emphasises practice in the research techniques which are used in graduate school and professionally later on. Students are accepted into Honours at the beginning of their U2 year, and the two-year sequence of Honours courses continues through U3.

Admission to Honours is selective. Students with a cumulative grade point average of 3.00 or better are eligible to apply; since enrolment is limited the usual GPA for admission to this program is 3.50 (based on a 27-30 graded credit program over two terms). Students must complete the following courses in their U1 year to be eligible to apply to the Honours Program: PSYC 204, PSYC 211, PSYC 212, PSYC 213 and PSYC 215. Students who have been exempted from PSYC 204 due to previous courses completed in CEGEP are advised to complete PSYC 305 in their U1 year. Once in the Honours Program, the student must obtain a GPA of 3.00 in the U2 year in order to continue in the program for U3. Students in the Honours Program are encouraged to complete a minimum of 27 graded credits per academic year. This is usually the minimum number of credits required to be eligible for fellowships and awards.

Applications can be obtained from the Undergraduate Office of the Department of Psychology, Room N7/9A, Stewart Biological Sciences Building. The applications must be completed and returned to the Undergraduate Office by August 1 for September admission and by December 1 for January admission. Candidates will be advised of the Department's decision via email and through a notice posted in front of the Undergraduate Adviser's Office, N7/9, before classes begin in September or in January.

Students should note that awarding of the Honours degree will depend on both cumulative grade point average and a minimum grade of B on PSYC 380D1/PSYC 380D2, PSYC 482. “First Class Honours” is awarded to students who obtain a minimum CGPA of 3.50 and a minimum grade of A- in the required honours courses, namely PSYC 380D1/D2, PSYC 482. “Honours” is awarded to students with a minimum CGPA of 3.00 and a minimum grade of B in the required honours courses, namely PSYC 380D1/D2, PSYC 482. Moreover, the awarding of the Honours degree normally requires completion of two full years of study, U2 and U3, in the Psychology Department. Students with particularly strong academic records may be admitted for the U3 year only on the basis of their marks and research experience. These students must complete all Honours Program requirements.

U1 Required Courses (15 credits)
PSYC 204 (3) Introduction to Psychological Statistics
PSYC 211 (3) Intro Behavioral Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology

Note: PSYC 100 may be taken as a corequisite with these basic courses.

U1 or U2 Required Course (3 credits)
PSYC 305 (3) Statistics for Experimental Design

U2 Required Courses (9 credits)
PSYC 380D1 (4.5) Honours Research Project Seminar
PSYC 380D2 (4.5) Honours Research Project Seminar

U3 Required Courses (3 credits)
PSYC 482 (3) Advanced Honours Seminar

Complementary Courses (30 credits)

12 credits to be selected from:
PSYC 403 (3) Modern Psychology in Historical Perspective
PSYC 483 (3) Seminar in Experimental Psychopathology
PSYC 495 (6) Psychology Research Project 2
PSYC 496 (6) Seniors Honours Research 1
PSYC 497 (6) Seniors Honours Research 2
PSYC 498D1 (4.5) Senior Honours Research
PSYC 498D2 (4.5) Senior Honours Research
Any Psychology course at the 500 level.

6 credits in Psychology from List A

6 credits in Psychology from List B

6 credits at the 300 level or above in the following disciplines: Psychology (PSYC), Anthropology (ANTH), Linguistics (LING), or Sociology (SOCI)

JOINT HONOURS – PSYCHOLOGY COMPONENT (36 credits)

Students planning to pursue the Joint Honours Component in Psychology are advised to complete courses in Introductory Psychology and Human Biology at the collegiate level.

Students who have not previously completed Psychology 350-101 or 350-102 in CEGEP will be required to register for PSYC 100 during their U1 year.

Bachelor of Arts students who have not completed one Biology 101-301, 101-401, 101-911 or 101-921 in CEGEP will be required to complete BIOL 115 (or, if they prefer, BIOL 111 or BIOL 112) during their U1 year.

Bachelor of Arts and Science students who have not completed one course in General Biology (CEGEP objective OOUK, OOXU or equivalent) will be required to complete one of BIOL 111 or BIOL 112 during their U1 year. Students who have not completed Biology CEGEP objective OOUK or OOXU or equivalent will be required to complete BIOL 111 or BIOL 112 during their U1 year.

All students who have completed either Mathematics 201-307 or 201-337 or equivalent, or the combination of Quantitative Methods 360-300 with Mathematics 201-300, and who obtained a

minimum grade of 75%, will be exempt from PSYC 204. Bachelor of Arts students will replace this requirement with 3 credits at the 300 level in one of the following disciplines: Psychology (PSYC), Anthropology (ANTH), Linguistics (LING) or Sociology (SOCI). Bachelor of Arts and Science students will replace this requirement with 3 credits in Psychology at the 300 level or above.

Students may apply to the Joint Honours Component upon completion of the U1 year. Eligible students must have completed the following Psychology courses: PSYC 204, PSYC 211, PSYC 212, PSYC 213 and PSYC 215. Students who have been exempted from PSYC 204 due to previous studies must complete PSYC 305. Admission to the Joint Honours Component is selective. Students with a cumulative grade point average of 3.00 or higher are eligible to apply; however, normally only students with a U1 GPA above 3.50 based on a 27-30 graded credit program are admitted. Once in the Joint Honours Component, students must obtain a GPA of 3.00 in the U2 year in order to continue in the program for U3. Students in the Joint Honours Component are encouraged to complete 27 graded credits per academic year (Fall and Winter terms), as this is usually the minimum number of credits required to be eligible for fellowships and awards. Students who intend to apply for admission to the Joint Honours Component should do so as well.

"First Class Honours" is awarded to students who obtain a minimum CGPA of 3.50 and a minimum grade of A- in the required honours courses, namely PSYC 380D1/D2, PSYC 482. "Honours" is awarded to students with a minimum CGPA of 3.00 and a minimum grade of B in the required honours courses, namely PSYC 380D1/D2, PSYC 482.

U1 Required Courses (15 credits)

PSYC 204	(3)	Introduction to Psychological Statistics
PSYC 211	(3)	Intro Behavioral Neuroscience
PSYC 212	(3)	Perception
PSYC 213	(3)	Cognition
PSYC 215	(3)	Social Psychology

Note: PSYC 100 may be taken as a corequisite with these basic courses.

U1 or U2 Required Course (3 credits)

PSYC 305	(3)	Statistics for Experimental Design

U2 Required Courses (9 credits)

PSYC 380D1	(4.5)	Honours Research Project Seminar
PSYC 380D2	(4.5)	Honours Research Project Seminar

U3 Required Course (3 credits)

PSYC 482	(3)	Advanced Honours Seminar

Complementary Courses (6 credits)

3 credits in Psychology at the 300 level or above

3 credits in Psychology at the 400 or 500 level

6.12.44 Quebec Studies/Études sur le Québec (QCST)

Ferrier Building
840 Dr. Penfield Avenue, Room 332
Montreal, QC H3A 1A4

Telephone: 514-398-3960
Fax: 514-398-3959
Website: www.mcgill.ca/qcst

Adviser: Monica Hotter
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9
Telephone: 514-398-4804
Fax: 514-398-2786
Email: quebecstudies.arts@mcgill.ca

Director — Jarrett Rudy (*History*)

Coordinator
Stéphan Gervais (*Quebec Studies*)

Program Committee Chair
H. Poulin-Mignault (*English and French Language Centre*)

Program Committee
Éric Bélanger (*Political Science*), Chantal Bouchard (*French Language and Literature*), Erin Hurley (*English*), Catherine Leclerc (*French Language and Literature*), Jarrett Rudy (*History*), Marie-Claude Prémont (*Faculty of Law*), Michael Smith (*Sociology*), Brian Young (*History*)

Le Programme d'études sur le Québec veut favoriser la recherche et la formation multidisciplinaires en études québécoises.

Avec l'appui des départements, la concentration Mineur et la concentration Majeur en Études sur le Québec sont constituées l'une et l'autre d'une suite agencée de cours ayant pour but de fournir un enseignement interdisciplinaire aussi complet que possible sur la société québécoise à l'intérieur d'un cadre canadien et international.

Sauf les cours Quebec Culture and Society (QCST 300), Travaux dirigés (QCST 472D1/QCST 472D2) et le séminaire Contemporary Issues in Quebec (QCST 440), les cours compris dans la concentration Majeur ou la concentration Mineur sont sous la responsabilité des divers départements. Pour connaître la description de ces cours et, le cas échéant, les conditions d'admission, l'étudiant(e) est donc invité(e) à se reporter aux autres sections de l'Annuaire et, au besoin, à consulter les départements concernés, d'autant plus que tous les cours ne se donnent pas nécessairement à chaque année. Veuillez noter que les conseillers pédagogiques ou les directeurs de programmes peuvent suggérer l'inscription à un cours sans toutefois imposer ce choix. La décision finale revient à l'étudiant(e) en ce qui concerne l'inscription à un cours en autant que l'étudiant(e) répond aux conditions d'admission pour ce cours.

Le titre de chaque cours indique s'il est donné en français ou en anglais, mais les travaux et examens peuvent toujours être rédigés dans l'une ou l'autre de ces deux langues (sauf au Département de langue et littérature françaises, où le français est de rigueur).

The Quebec Studies Program is intended to stimulate interdisciplinary studies and exchanges centering on Quebec society.

With departmental support, a Major Concentration and a Minor Concentration are offered, both of which consist of a coherent series of courses providing an interdisciplinary perspective on Quebec society in a Canadian and an international context.

Except for the general course Quebec Culture and Society (QCST 300), the Tutorial (QCST 472D1/QCST 472D2) and the seminar Contemporary Issues in Quebec (QCST 440), courses included in the Major Concentration or Minor Concentration are the responsibility of the departments. To obtain a complete description of these courses and the admission requirements (where applicable), students should read the relevant sections of the McGill Calendar and, if necessary, consult with the departments concerned, bearing in mind that not all courses are available in any given year. Please take note that an adviser or a director of a program can recommend registration in a course without imposing this choice. The final decision belongs to the student if the student has successfully completed the course prerequisites.

The title of each course indicates whether it is given in French or English, but term papers and exams can be written in either of these two languages (except in the French Language and Literature Department, where French is the rule).

LA CONCENTRATION MINEUR EN ÉTUDES SUR LE QUÉBEC
MINOR CONCENTRATION IN QUEBEC STUDIES
(18 crédits/credits)
(Expandable/Convertible en concentration majeure)

La concentration mineure en études québécoises a pour but de donner à l'étudiant(e) une connaissance multidisciplinaire des réalités du Québec en complémentarité à sa propre discipline de spécialisation. Les étudiants poursuivant notamment une spécialisation en histoire, science politique, langue et littérature françaises ou en études canadiennes peuvent trouver dans cette formation plusieurs avantages.

De façon usuelle, les cours obligatoires (6 crédits) sont complétés selon la séquence suivante : QCST 300 (3 crédits) en U1 et QCST 440 (3 crédits) en U2 ou en U3. Les cours complémentaires (12 crédits) peuvent être complétés en U1, U2 ou en U3.

The goal of the Minor Concentration in Quebec Studies is to give students a multidisciplinary overview of Quebec realities. Students are encouraged to complete this program alongside their studies in History, Political Science, French Language and Literature, or Canadian Studies.

Normally, the required courses (6 credits) are completed in the following order: QCST 300 (3 credits) in U1 and QCST 440 (3 credits) in U2 or in U3. The complementary courses (12 credits) can be completed in U1, U2, or U3.

Cours Obligatoires/Required Courses (6 crédits/credits)
QCST 300 (3) Quebec Culture and Society
QCST 440 (3) Contemporary Issues in Quebec

Complémentaires/Complementary (12 crédits/credits)

De ces 12 crédits, 6 doivent être des cours provenant du tronc commun ou des cours approuvés par la direction du programme. (Voir la liste des cours du tronc commun à la suite de la concentration majeure.)

3 crédits doivent provenir d'un cours dont la langue d'enseignement est le français et peuvent provenir d'un cours de français langue seconde.

Au moins 12 des 18 crédits doivent être du niveau 300 ou supérieur.

Le choix de ces cours se fera en consultation avec le Directeur du programme et variera selon le domaine de spécialisation de chaque étudiant(e)

Of these 12 credits, 6 credits must be core courses, or courses approved by the Program Director.
(See the Complementary Course List following the Major Concentration.)

3 credits must be taught in the French language and can be chosen from French as a Second Language course offerings.

At least 12 of the 18 credits must be at the 300 level or above.

The selection of courses will be made in consultation with the Program Director and will vary depending on the Major Concentration or Honours program of each student.

LA CONCENTRATION MAJEUR EN ÉTUDES SUR LE QUÉBEC
MAJOR CONCENTRATION IN QUEBEC STUDIES
(36 crédits/credits)

La concentration majeure en études québécoises a pour but de donner à l'étudiant(e) une connaissance approfondie et multidisciplinaire des réalités du Québec. Les étudiants peuvent intégrer cette spécialisation en complémentarité avec plusieurs disciplines dont l'histoire, la science politique, la langue et littérature françaises ou les études canadiennes.

De façon usuelle, les cours obligatoires (12 crédits) sont complétés selon la séquence suivante : QCST 300 (3 crédits) en U1 et QCST 440 (3 crédits) en U2 et QCST 472D1/D2 (6 crédits) en U3. Les cours complémentaires (24 crédits) peuvent être complétés en U1, U2 ou en U3.

The goal of the Major Concentration in Quebec Studies is to give students a comprehensive, multidisciplinary and in depth portrait of Quebec realities. Students are encouraged to complete this program by integrating it with disciplines such as History, Political Science, French Language and Literature, or Canadian Studies.

Normally, the required courses (12 credits) are completed in the following order: QCST 300 (3 credits) in U1, QCST 440 (3 credits) in U2, and QCST 472D1/D2 (6 credits) in U3. The complementary courses (24 credits) can be completed in U1, U2, or U3.

Cours Obligatoires/Required Courses (12 crédits/credits)
QCST 300 (3) Quebec Culture and Society
QCST 440 (3) Contemporary Issues in Quebec
QCST 472D1 (3) Tutorial/Travaux dirigés
QCST 472D2 (3) Tutorial/Travaux dirigés

Complémentaires/Complementary (24 crédits/credits)

De ces 24 crédits, 12 doivent être des cours provenant du tronc commun ou des cours approuvés par la direction du programme. (Voir la liste des cours du tronc commun à la suite de la concentration majeure.)

3 crédits doivent provenir d'un cours dont la langue d'enseignement est le français et peuvent provenir d'un cours de français langue seconde.

Au moins 24 des 36 crédits doivent être du niveau 300 ou supérieur.

Le choix de ces cours se fera en consultation avec le Directeur du programme et variera selon le domaine de spécialisation de chaque étudiant(e).

Of these 24 credits, 12 credits must be core courses, or courses approved by the Program Director.
(See the Complementary Course List following the Major Concentration.)

3 credits must be taught in the French language and can be chosen from French as a Second Language course offerings.

At least 24 of the 36 credits must be at the 300 level or above.

The selection of courses will be made in consultation with the Program Director and will vary depending on the Major Concentration or Honours program of each student.

Cours complémentaires/Complementary Course Lists

Cours inscrits au tronc commun, c'est-à-dire les cours portant plus spécifiquement sur le Québec sont marqués par un astérisque (*).

Core courses, courses with a specific focus on Quebec, are indicated by an asterisk (*)

Anglais/English
Un ajout d'un cours ENGL à la liste est sous réserve d'approbation universitaire.
An ENGL addition to the list is pending University approval.

Anthropologie/Anthropology
ANTH 317 (3) Prehistory of North America
ANTH 338 (3) Native Peoples of North America
ANTH 436 (3) North American Native Peoples

Centre d'enseignement du français et de l'anglais/ English and French Language Centre
(* Cours inscrit au tronc commun/Core Course)
FRSL 216* (3) Découvrons Montréal en français
FRSL 326 (3) Découvrons le Québec en français

Études sur le Canada/Canadian Studies
CANS 200 (3) Introduction to the Study of Canada
CANS 202 (3) Canadian Cultures: Context and Issues
CANS 304 (3) Nationalism in Canada
CANS 306 (3) Issues in Native Studies.
CANS 413 (3) Canada and Quebec Seminar

Histoire/History
(* Cours inscrit au tronc commun/Core Course)
HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867
HIST 303* (3) History of Quebec
HIST 333 (3) History of New France: Part 1
HIST 334 (3) History of New France: Part 2
HIST 353* (3) History of Montreal
HIST 403 (3) History of Quebec Institutions
HIST 483D1 (3) History of Montreal
HIST 483D2 (3) History of Montreal

Langue et littérature françaises/ French Language and Literature
(* Cours inscrit au tronc commun/Core Course)
FREN 252* (3) Littérature québécoise
FREN 315 (3) Le cinéma québécois
FREN 329 (3) Civilisation québécoise 2

FREN 372 (3) Le roman québécois 1
FREN 382 (3) Le roman québécois 2
FREN 480 (3) Le roman québécois 3

Science politique/Political Science
(* Cours inscrit au tronc commun/Core Course)
POLI 221 (3) Government of Canada
POLI 222 (3) Political Process and Behaviour in Canada
POLI 226* (3) La vie politique québécoise
POLI 336* (3) Le Québec et le Canada
POLI 371 (3) Challenge of Canadian Federalism
POLI 372 (3) Aboriginal Politics in Canada
POLI 417 (3) Health Care in Canada

Sociologie/Sociology
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 475 (3) Canadian Ethnic Studies Seminar

6.12.45 Religious Studies (RELG)

William and Henry Birks Building
3520 University Street
Montreal, QC H3A 2A7

Telephone: 514-398-4121
Website: www.mcgill.ca/religiousstudies

Dean — Ellen B. Aitken; A.B.(Harv.), M.Div.(University of the South), Th.D.(Harv.)

Emeritus Professors
Gregory B. Baum; B.A.(McM.), M.A.(Ohio), D.Th.(Fribourg)
Douglas J. Hall; B.A.(W. Ont.), M.Div., S.T.M., Th.D.(U.T.S., N.Y.), L.L.D.(Wat.), D.D.(Pres. Col.), D.D.(Qu.)
Joseph C. McLelland; B.A.(McM.), M.A.(Tor.), B.D.(Knox, Tor.), Ph.D.(Edin.), D.D.(Montr. Dio. Coll.; Knox, Tor.)

Post-Retirement
Robert C. Culley; B.D.(Knox, Tor.), M.A., Ph.D.(Tor.)
Frederik Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.), Ph.D.(Claremont)

Professors
Maurice Boutin; B.A., B.A., B.A.(Montr.), D.Th.(Munich) (*J.W. McConnell Professor of Philosophy of Religion*)
W.J. Torrance Kirby; B.A.(KCNS), M.A., D.Phil.(Oxf.) (*Ecclesiastical History*)
G.S. Oegema; B.A., Th.D.(Vrije, Amsterdam), M.A., Ph.D.(Free Univ., Berlin), Dr. Theol. Habil(Tübingen) (*Biblical Studies*)
Arvind Sharma; B.A.(Allahabad), M.A.(Syr.), M.T.S., Ph.D.(Harv.) (*Henry Birks Professor of Comparative Religion*)
Katherine K. Young; B.A.(Vermont), M.A.(Chic.), Ph.D.(McG.) (*James McGill Professor of Hinduism/Comparative Religion*)

Associate Professors
Ellen B. Aitken; A.B.(Harv.), M.Div.(University of the South), Th.D.(Harv.) (*Early Christian History and Literature*)
Douglas B. Farrow; B.R.E.(Providence), M.Div.(Grace), M.Th.(Regent), Ph.D.(Lond.) (*Christian Thought*)
Ian H. Henderson; B.A.(Manit.), B.D.(St. And.), M.A.(McM.), D.Phil.(Oxf.) (*New Testament Studies*)
G. Victor Hori; B.A.(York), M.A.(Tor.), Ph.D.(Stan.) (*Japanese Religions*)
Patricia G. Kirkpatrick; B.A.(McG.), M.Th.(Lond.), D.Phil.(Oxf.), D.D.(Montr. Dio. Coll.) (*Old Testament Studies*)

Assistant Professors
Lara Braitstein; B.A., M.A.(McG.) (*Indo-Tibetan Buddhism*)
Daniel Cere; B.A, M.A.(McG.), Ph.D.(C'dia) (*Religion, Ethics and Public Policy*)
Gaëlle Fiasse; B.A., M.A., Ph.D.(Louvain-le-Neuve) (*Ethics and Religious Ethics*) (*joint appoint. with Department of Philosophy*)
Devesh Soneji; B.A.(Manit.), Ph.D.(McG.) (*South Asian Religion*)

Faculty Lecturer
Jim Kanaris; B.A.(C'dia), M.A., Ph.D.(McG.) (*Philosophy of Religion*)

Numata Visiting Professor
Hiroko Kawanami; B.A., M.A. (Sophia, Tokyo), M.Sc., Ph.D. (Lond.)

Adjunct Professors
Philip Joudrey; B.A., M.Div.(Acad.), D.Min.(Andover Newton Theological School)
William Klempa; B.A.(Manit.), M.A.(Tor.), B.D., D.D.(Knox, Tor.), Ph.D.(Edin.)
T. Jinpa Langri; B.A., Dr. Div.(King's Coll., Lond.), Ph.D.(Camb.)
Vanessa Sasson; B.A., M.A., Ph.D.(McG.)
John M. Simons; B.A.(Bishop's), S.T.B.(Trin. Coll. (Tor.)), Ph.D.(G'town) (PT)
John Vissers; B.A.(Tor.), M.Div.(Knox), Th.M.(Prin.), Th.D.(Knox) (PT)

Course Lecturers (2009-2010)
Andrew Blakeslee; B.A.(Temple), M.A., Ph.D. Candidate(McG.)
Melissa Curley; B.A., M.A., Ph.D. Candidate(McG.)
Michel DiStefano; B.A.(Providence), M.A.(Trinity International, Ill.), Ph.D. Candidate(McG.)
Meera Kachroo; B.A.(Sask.), M.A., Ph.D. Candidate(McG.)
Jeffrey Keiser; B.Sc.(Biola), M.A.(Harv.), Ph.D. Candidate(McG.)
David Koloszyc; B.A., M.A.(Tor.), Ph.D. Candidate(McG.)
Cory Labrecque; B.Sc., M.A., Ph.D. Candidate(McG.)
Lei Kuan Lai; B.A.(University of the West in Rosemead), M.A.(Qu.), Ph.D. Candidate(McG.)
Nathan Loewen; B.Th.(Can. Mennonite), B.A.(Winn.), M.S.T., S.T.M.(St. And.), Ph.D. Candidate(McG.)
Lucille Marr; B.A., M.A., Ph.D.(Wat.)
Elizabeth Morton; B.A.(Ott.), LL.B.(Vic. (BC)), M.T.S.(Vancouver School of Theology), M.A.(Br. Col.), Ph.D. Candidate(McG.)
Christiane Thuy-Linh Nguyen; B.Th.(IFTM), Ph.D.(Gregorian Univ.)
R. Saraswati Sainath; B.Sc., M.A., M.Phil., Ph.D.(Madr.), Ph.D. Candidate(McG.)
Manjit Singh; B.A., M.A.(Delhi)
Glenn Smith; B.A.(Mich.), M.A.(Ott.), D.Min.(Northern Baptist Seminary, Ill.), D.Hon.(Union des universités privées d'Haïti)
Michael Storch; B.A.(Alta.), Ph.D.(McG.)
Philippe Turenne; B.A., Ph.D. Candidate(McG.)
Meredith Warren; B.A., M.A., Ph.D. Candidate(McG.)
Jason Zuidema; B.A.(Redeemer), M.T.S.(Calvin), Ph.D.(McG.)

Religious Studies Programs in Arts

Available within the Faculty of Arts are a Major Concentration and a Minor Concentration in World Religions, a Major Concentration in Scriptures and Interpretations, and a Minor Concentration in Scriptural Languages as well as an Honours and a Joint Honours Program with two options: Western Religions and Asian Religions. These programs are administered by the Faculty of Arts and the general rules, regulations and requirements of that Faculty apply to them.

Students interested in these programs can obtain information from the Faculty of Arts website at www.mcgill.ca/arts and the Religious Studies website, or from a Religious Studies B.A. Adviser. For general information on Religious Studies programs, make an appointment to see an adviser by telephoning 514-398-4121 or visiting the Reception office in the Birks Building.

Admission to the B.A. program is granted according to criteria established by the Faculty of Arts.

Students interested in theology programs will find information about the "Bachelor of Theology (B.Th.)" in section 13.5 and the "Master of Divinity (M.Div.)" in section 13.4.

MINOR CONCENTRATION IN WORLD RELIGIONS (18 credits)
(Expandable to Major Concentration in World Religions)

The Minor Concentration in World Religions introduces students to the major world religions and to the academic study of religion.

Complementary Courses (18 credits*)
12 credits in Religious Traditions, chosen from the following:

Judaism and Christianity
RELG 201 (3) Religions of the Ancient Near East
RELG 202 (3) Religion of Ancient Israel
RELG 203 (3) Bible and Western Culture
RELG 204 (3) Judaism, Christianity and Islam
RELG 210 (3) Jesus of Nazareth
RELG 300 (3) Second Temple Judaism
RELG 302 (3) Old Testament Studies 1
RELG 303 (3) Literature of Ancient Israel 2
RELG 306 (3) Rabbinic Judaism
RELG 307 (3) Bible, Quran & Interpretations
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 313 (3) Topics in Biblical Studies 1
RELG 314 (3) Topics in Biblical Studies 2
RELG 320 (3) History of Christian Thought 1
RELG 322 (3) The Church in History 1
RELG 323 (3) The Church in History 2
RELG 324 (3) Armenian Apostolic Tradition
RELG 325 (3) Varieties Religious Experience in Christianity
RELG 326 (3) Ancient Christian Church AD54 - AD604
RELG 327 (3) History of Christian Thought 2
RELG 330 (3) Reformed Theology
RELG 336 (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 399 (3) Christian Spirituality
RELG 420 (3) Canadian Church History
RELG 423 (3) Reformation Thought
RELG 470 (3) Theological Ethics
RELG 502 (3) Greco-Roman Judaism

Hinduism and Buddhism
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia
RELG 337 (3) Themes in Buddhist Studies
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 342 (3) Theravada Buddhist Literature
RELG 344 (3) Mahâyâna Buddhism
RELG 348 (3) Classical Hinduism
RELG 350 (3) Bhakti Hinduism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 369 (3) Tibetan Buddhism
RELG 442 (3) Pure Land Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 453 (3) Vajrayana Buddhism
RELG 454 (3) Modern Hindu Thought
RELG 545 (3) Ramayana: Multiple Lives
RELG 546 (3) Indian Philosophy
RELG 547 (3) Special Topics in Hinduism
RELG 548 (3) Indian Buddhist Metaphysics
RELG 549 (3) Japanese Buddhist Philosophy
RELG 551 (3) Special Topics in Buddhism
RELG 552 (3) Advaita Vedanta
RELG 553 (3) Religions of South India 1
RELG 554 (3) Religions of South India 2
RELG 556 (3) Issues in Buddhist Studies
RELG 557 (3) Asian Ethical Systems
RELG 560 (3) Buddhist Poetry

6 credits in Comparative Studies, chosen from the following:
RELG 207 (3) The Study of World Religions 1
RELG 256 (3) Women in Judaism and Islam
RELG 270 (3) Religious Ethics and the Environment
RELG 271 (3) Sexual Ethics
RELG 315 (3) Special Topics in Religion 1
RELG 316 (3) New Religious Movements
RELG 317 (3) Special Topics in Religion 2
RELG 318 (3) Special Topics in Religion 3
RELG 319 (3) Special Topics in Religion 4
RELG 341 (3) Introduction: Philosophy of Religion
RELG 345 (3) Religion and the Arts 1
RELG 347 (3) Topics in Religion and the Arts
RELG 355 (3) Religion and the Arts 2
RELG 361 (3) Religious Behaviour
RELG 370 (3) Religion and Human Rights
RELG 371 (3) Ethics of Violence/Non-Violence
RELG 376 (3) Religious Ethics
RELG 555 (3) Honours Seminar
RELG 571 (3) Religion and Medicine
* No more than 12 credits of the Minor may be taken at the 200 level.

MINOR CONCENTRATION IN SCRIPTURAL LANGUAGES (18 credits) (Non-expandable)

The Minor Concentration in Scriptural Languages is designed to provide students with the skills necessary to read Scriptural sources in their original languages. The Minor is recommended to be followed in conjunction with the Major Concentration in Scriptures and Interpretations.

Students will choose from one of two streams:
Stream I: Biblical Languages
Stream II: Indo-Tibetan Languages

MINOR CONCENTRATION IN SCRIPTURAL LANGUAGES STREAM I: BIBLICAL LANGUAGES COMPLEMENTARY COURSES (18 credits)
chosen from among the following:
Biblical Hebrew
RELG 390D1* (3) Elementary Biblical Hebrew
RELG 390D2* (3) Elementary Biblical Hebrew
RELG 491 (3) Hebrew Texts
RELG 492 (3) Hebrew Texts
JWST 327 (3) A Book of the Bible
JWST 328 (3) A Book of the Bible
JWST 329 (3) A Book of the Bible
JWST 330 (3) A Book of the Bible
Biblical Greek
RELG 280 (6) Elementary New Testament Greek
RELG 381 (3) Advanced New Testament Greek
RELG 482 (3) Exegesis of Greek New Testament
RELG 583 (3) Hellenistic Religious Texts
* Students with advanced standing in Hebrew may take Aramaic as part of their program.

MINOR CONCENTRATION IN SCRIPTURAL LANGUAGES STREAM II: INDO-TIBETAN LANGUAGES

Sanskrit is the language of classical Indian civilization and is recommended for students interested in gaining access to religious texts, philosophical works, academic treatises on all subjects and poetry written in classical and medieval India.

Classical Tibetan is one of the main scriptural languages of Buddhism. Many texts originally composed in Sanskrit are only extant in their Tibetan translations, and a vast body of philosophical, devotional, poetic and academic works composed in Classical Tibetan is only accessible to one who has a firm grasp of the language.

Tamil is a language spoken by over 75,000,000 people around the world. It is an ancient South Indian language that, unlike Sanskrit, has a vital, living tradition. It has a classical literary canon and yet is also part of the everyday lives of millions of people.

Complementary Courses (18 credits)
chosen from among the following:

Sanskrit
RELG 257D1 (3) Introductory Sanskrit
RELG 257D2 (3) Introductory Sanskrit
RELG 357D1 (3) Sanskrit 2
RELG 357D2 (3) Sanskrit 2
RELG 457D1 (3) Advanced Sanskrit
RELG 457D2 (3) Advanced Sanskrit

Tibetan:
RELG 264 (3) Introductory Tibetan 1
RELG 265 (3) Introductory Tibetan 2
RELG 364 (3) Intermediate Tibetan 1
RELG 365 (3) Intermediate Tibetan 2
RELG 464 (3) Advanced Tibetan 1
RELG 465 (3) Advanced Tibetan 2

Tamil:
RELG 266 (3) Introductory Tamil 1
RELG 267 (3) Introductory Tamil 2

MAJOR CONCENTRATION IN WORLD RELIGIONS
(36 credits)

The Major Concentration in World Religions offers students a broad introduction to the study of the world's major religions, with the possibility for concentration in a student's specific areas of interest. Developing an understanding of methods and problems in comparative approaches to the academic study of religion will be encouraged.

Required Course (3 credits)
RELG 456 (3) Theories of Religion

Complementary Courses (33 credits)
33 credits, no more than 12 of which may be taken at the 200 level.

24 credits in World Religions chosen from the following, according to the student's area of interest:

Judaism and Christianity
RELG 201 (3) Religions of the Ancient Near East
RELG 202 (3) Religion of Ancient Israel
RELG 203 (3) Bible and Western Culture
RELG 204 (3) Judaism, Christianity and Islam
RELG 210 (3) Jesus of Nazareth
RELG 300 (3) Second Temple Judaism
RELG 302 (3) Old Testament Studies 1
RELG 303 (3) Literature of Ancient Israel 2
RELG 306 (3) Rabbinic Judaism
RELG 307 (3) Bible, Quran & Interpretations
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 313 (3) Topics in Biblical Studies 1
RELG 314 (3) Topics in Biblical Studies 2
RELG 320 (3) History of Christian Thought 1
RELG 322 (3) The Church in History 1
RELG 323 (3) The Church in History 2
RELG 324 (3) Armenian Apostolic Tradition
RELG 325 (3) Varieties Religious Experience in Christianity
RELG 326 (3) Ancient Christian Church AD54 - AD604
RELG 327 (3) History of Christian Thought 2
RELG 336 (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 399 (3) Christian Spirituality
RELG 420 (3) Canadian Church History
RELG 423 (3) Reformation Thought
RELG 470 (3) Theological Ethics
RELG 502 (3) Greco-Roman Judaism

Hinduism and Buddhism
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia
RELG 337 (3) Themes in Buddhist Studies
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 342 (3) Theravada Buddhist Literature
RELG 344 (3) Mahâyâna Buddhism
RELG 348 (3) Classical Hinduism
RELG 350 (3) Bhakti Hinduism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 369 (3) Tibetan Buddhism
RELG 442 (3) Pure Land Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 453 (3) Vajrayana Buddhism
RELG 454 (3) Modern Hindu Thought
RELG 545 (3) Ramayana: Multiple Lives
RELG 546 (3) Indian Philosophy
RELG 547 (3) Special Topics in Hinduism
RELG 548 (3) Indian Buddhist Philosophy
RELG 549 (3) Japanese Buddhist Philosophy
RELG 551 (3) Special Topics in Buddhism
RELG 552 (3) Advaita Vedanta
RELG 553 (3) Religions of South India 1
RELG 554 (3) Religions of South India 2
RELG 556 (3) Issues in Buddhist Studies
RELG 557 (3) Asian Ethical Systems
RELG 560 (3) Buddhist Poetry

9 credits in Comparative Studies, chosen from the following according to the student's area of interest:
RELG 207 (3) The Study of World Religions 1
RELG 256 (3) Women in Judaism and Islam
RELG 270 (3) Religious Ethics and the Environment
RELG 271 (3) Sexual Ethics
RELG 315 (3) Special Topics in Religion 1
RELG 316 (3) New Religious Movements
RELG 317 (3) Special Topics in Religion 2
RELG 318 (3) Special Topics in Religion 3
RELG 319 (3) Special Topics in Religion 4
RELG 341 (3) Introduction: Philosophy of Religion
RELG 345 (3) Religion and the Arts 1
RELG 347 (3) Topics in Religion and the Arts
RELG 355 (3) Religion and the Arts 2
RELG 361 (3) Religious Behaviour
RELG 370 (3) Religion and Human Rights
RELG 371 (3) Ethics of Violence/Non-Violence
RELG 376 (3) Religious Ethics
RELG 555 (3) Honours Seminar
RELG 571 (3) Religion and Medicine

MAJOR CONCENTRATION IN SCRIPTURES AND INTERPRETATIONS (36 credits)

The Major Concentration in Scriptures and Interpretations is designed for students interested in understanding scriptural literatures and their place in developing religious traditions. While students will be able to concentrate in the area of their choice (Jewish, Christian, or Hindu and Buddhist Scriptures and Interpretations), they will study scriptures of at least two religious traditions, either in English translation or, if their skills permit, in the original languages.

Required Courses (6 credits)
RELG 307 (3) Bible, Quran & Interpretations
RELG 456 (3) Theories of Religion

Complementary Courses (30 credits)
30 credits, a minimum of 18 credits from one area of specialization and a minimum of 6 credits from a second area. No more than 12 credits of complementary courses may be taken at the 200 level.

(a) Jewish Scriptures and the History of Their Interpretation
JWST 310 (3) Believers, Heretics and Critics
JWST 324 (3) Biblical Interpretation - Antiquity
JWST 327 (3) A Book of the Bible
JWST 328 (3) A Book of the Bible
JWST 329 (3) A Book of the Bible
JWST 330 (3) A Book of the Bible
JWST 331 (3) Bible Interpretation/Medieval Ashkenaz
JWST 332 (3) Bible Interpretation/Sefardic Tradition
JWST 510 (3) Jewish Biblical Interpretation 1
JWST 511 (3) Jewish Biblical Interpretation 2
RELG 202 (3) Religion of Ancient Israel
RELG 203 (3) Bible and Western Culture
RELG 300 (3) Second Temple Judaism
RELG 302 (3) Old Testament Studies 1
RELG 303 (3) Literature of Ancient Israel 2
RELG 306 (3) Rabbinic Judaism
RELG 308 (3) Ancient Bible Translations
RELG 390D1 (3) Elementary Biblical Hebrew
RELG 390D2 (3) Elementary Biblical Hebrew
RELG 407 (3) The Writings
RELG 408 (3) The Prophets
RELG 491 (3) Hebrew Texts
RELG 492 (3) Hebrew Texts
RELG 502 (3) Greco-Roman Judaism

(b) Christian Scriptures and the History of Their Interpretation
RELG 203 (3) Bible and Western Culture
RELG 210 (3) Jesus of Nazareth
RELG 280 (6) Elementary New Testament Greek
RELG 302 (3) Old Testament Studies 1
RELG 303 (3) Literature of Ancient Israel 2
RELG 308 (3) Ancient Bible Translations
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 313 (3) Topics in Biblical Studies 1
RELG 314 (3) Topics in Biblical Studies 2
RELG 381 (3) Advanced New Testament Greek
RELG 411 (3) New Testament Exegesis
RELG 482 (3) Exegesis of Greek New Testament
RELG 583 (3) Hellenistic Religious Texts

(c) Hindu and Buddhist Scriptures and the Histories of Their Interpretations
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia
RELG 254 (3) Introduction to Sikhism
RELG 257D1 (3) Introductory Sanskrit
RELG 257D2 (3) Introductory Sanskrit
RELG 264 (3) Introductory Tibetan 1
RELG 265 (3) Introductory Tibetan 2
RELG 266 (3) Introductory Tamil 1
RELG 267 (3) Introductory Tamil 2
RELG 337 (3) Themes in Buddhist Studies
RELG 342 (3) Theravada Buddhist Literature
RELG 344 (3) Maháyána Buddhism
RELG 348 (3) Classical Hinduism
RELG 350 (3) Bhakti Hinduism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 357D1 (3) Sanskrit 2
RELG 357D2 (3) Sanskrit 2
RELG 364 (3) Intermediate Tibetan 1
RELG 365 (3) Intermediate Tibetan 2
RELG 369 (3) Tibetan Buddhism
RELG 442 (3) Pure Land Buddhism
RELG 443 (3) Japanese Esoteric Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 453 (3) Vajrayana Buddhism
RELG 454 (3) Modern Hindu Thought
RELG 457D1 (3) Advanced Sanskrit
RELG 457D2 (3) Advanced Sanskrit
RELG 464 (3) Advanced Tibetan 1
RELG 465 (3) Advanced Tibetan 2
RELG 545 (3) Ramayana: Multiple Lives
RELG 546 (3) Indian Philosophy
RELG 548 (3) Indian Buddhist Philosophy
RELG 552 (3) Advaita Vedanta
RELG 553 (3) Religions of South India 1
RELG 554 (3) Religions of South India 2
RELG 560 (3) Buddhist Poetry

HONOURS IN RELIGIOUS STUDIES (60 credits)

The Honours program in Religious Studies offers a degree of analysis and concentration beyond that of the Major program through coursework, intensive research and discussion with peer groups.

There are no prerequisites for entry to the program. Students must, however, maintain a program GPA and a CGPA of 3.00 (or 3.50 for First Class Honours).

While gaining general knowledge of the study of religion, students also develop more concentrated expertise in either Western religious traditions (Option 1) or Asian religious traditions (Option 2).

Required Courses (9 credits)
RELG 204 (3) Judaism, Christianity and Islam
RELG 456 (3) Theories of Religion
RELG 555 (3) Honours Seminar

Complementary Courses (51 credits)
3 credits, one of:
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia

6 credits of scriptural languages (Biblical Greek, Biblical Hebrew, Sanskrit, Tamil or Tibetan), related to the specialization option and chosen in consultation with the adviser.

9 credits, religion and culture, chosen from:
RELG 256 (3) Women in Judaism and Islam
RELG 270 (3) Religious Ethics and the Environment
RELG 271 (3) Sexual Ethics
RELG 338 (3) Women and the Christian Tradition
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 340 (3) Religion and the Sciences
RELG 341 (3) Introduction: Philosophy of Religion
RELG 345 (3) Religion and the Arts 1
RELG 347 (3) Topics in Religion and the Arts
RELG 355 (3) Religion and the Arts 2
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 361 (3) Religious Behaviour
RELG 370 (3) Religion and Human Rights
RELG 371 (3) Ethics of Violence/Non-Violence
RELG 375 (3) Religion and Society
RELG 376 (3) Religious Ethics
RELG 377 (3) Religious Controversies

12 credits chosen from a list of approved courses in other departments in consultation with the adviser. At least 6 credits must be from the specialization option which was *not* selected.

21 credits chosen from either specialization, Option 1 or Option 2, at least 3 of these credits must be a 500-level research seminar.

Option 1: Western Religions
JWST 510 (3) Jewish Bible Interpretation 1
RELG 201 (3) Religions of the Ancient Near East
RELG 202 (3) Religion of Ancient Israel
RELG 203 (3) Bible and Western Culture
RELG 204 (3) Judaism, Christianity and Islam
RELG 210 (3) Jesus of Nazareth
RELG 300 (3) Second Temple Judaism
RELG 301 (3) Jewish Thought 200 B.C.E. - 200 C.E.

RELG 306 (3) Rabbinic Judaism
RELG 307 (3) Bible, Quran & Interpretations
RELG 308 (3) Ancient Bible Translations
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 313 (3) Topics in Biblical Studies 1
RELG 314 (3) Topics in Biblical Studies 2
RELG 322 (3) The Church in History 1
RELG 323 (3) The Church in History 2
RELG 326 (3) Ancient Christian Church AD54- AD604
RELG 334 (3) The Christian Faith
RELG 336 (3) Contemporary Theological Issues
RELG 381 (3) Advanced New Testament Greek
RELG 399 (3) Christian Spirituality
RELG 423 (3) Reformation Thought
RELG 438 (3) Topics in Jewish Theology
RELG 482 (3) Exegesis of Greek New Testament
RELG 491 (3) Hebrew Texts
RELG 492 (3) Hebrew Texts
RELG 502 (3) Greco-Roman Judaism
RELG 532 (3) History of Christian Thought 1
RELG 533 (3) History of Christian Thought 2
RELG 583 (3) Hellenistic Religious Texts

Option 2: Asian Religions
RELG 337 (3) Themes in Buddhist Studies
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 342 (3) Theravada Buddhist Literature
RELG 344 (3) Maháyána Buddhism
RELG 348 (3) Classical Hinduism
RELG 350 (3) Bhakti Hinduism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
RELG 369 (3) Tibetan Buddhism
RELG 442 (3) Pure Land Buddhism
RELG 451 (3) Zen: Maxims and Methods
RELG 452 (3) East Asian Buddhism
RELG 453 (3) Vajrayana Buddhism
RELG 454 (3) Modern Hindu Thought
RELG 545 (3) Ramayana: Multiple Lives
RELG 546 (3) Indian Philosophy
RELG 547 (3) Special Topics in Hinduism
RELG 548 (3) Indian Buddhist Philosophy
RELG 549 (3) Japanese Buddhist Philosophy
RELG 551 (3) Special Topics in Buddhism
RELG 552 (3) Advaita Vedanta
RELG 553 (3) Religions of South India 1
RELG 554 (3) Religions of South India 2
RELG 556 (3) Issues in Buddhist Studies
RELG 560 (3) Buddhist Poetry
EAST 354 (3) Taoist and Buddhist Apocalypses

JOINT HONOURS – RELIGIOUS STUDIES COMPONENT (36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours Program components from any two Arts disciplines, see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Students in Joint Honours must maintain a program GPA and a CGPA of 3.00 (3.50 for First Class Honours) and attain a B- or higher in each program course. No overlap is allowed between the courses forming each segment of the Joint Honours program.

Complementary Courses (36 credits)
3 credits from the following:
RELG 252 (3) Hinduism and Buddhism
or RELG 253 (3) Religions of East Asia

3 credits from the following:
RELG 456 (3) Theories of Religion
or RELG 555 (3) Honours Seminar

9 credits selected from the following, with at least 3 credits from each group
Sources of Western Religious Traditions
RELG 201 (3) Religions of the Ancient Near East
RELG 202 (3) Religion of Ancient Israel
RELG 204 (3) Judaism, Christianity and Islam
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
History and Theology of the Christian Tradition
RELG 320 (3) History of Christian Thought 1
RELG 325 (3) Varieties Religious Experience in Christianity
RELG 326 (3) Ancient Christian Church AD54 - AD604
RELG 327 (3) History of Christian Thought 2
RELG 338 (3) Women and the Christian Tradition

6 credits in Religion and Culture, selected from the following:
RELG 256 (3) Women in Judaism and Islam
RELG 271 (3) Sexual Ethics
RELG 340 (3) Religion and the Sciences
RELG 341 (3) Introduction: Philosophy of Religion
RELG 345 (3) Religion and the Arts 1
RELG 347 (3) Topics in Religion and the Arts
RELG 355 (3) Religion and the Arts 2
RELG 361 (3) Religious Behaviour
RELG 370 (3) Religion and Human Rights
RELG 371 (3) Ethics of Violence/Non-Violence
RELG 375 (3) Religion and Society
RELG 376 (3) Religious Ethics
RELG 377 (3) Religious Controversies

15 credits, selected in consultation with an adviser, from Religious Studies courses (or approved related courses in other departments) at the 300 level or above.

APPROVED COURSES IN OTHER DEPARTMENTS

In consultation with the Adviser, students may select courses in other departments to count towards Religious Studies programs. Generally no more than four such courses will be counted towards an Honours program; no more than two such courses towards a Joint Honours program; no more than two such courses towards a Minor program. Listed below are some of the courses that have been approved in the past for inclusion in Religious Studies programs.

This list is NOT comprehensive: Students may take approved related courses in other departments of the Faculty of Arts, such as Anthropology, Art History, Classics, English, History, Italian Studies, Philosophy, and Sociology. Contact the Religious Studies Office at 514-398-4121 to speak with an adviser.

Please note that some of these courses have prerequisites that are not approved for Religious Studies programs.

Institute of Islamic Studies
ISLA 410 (3) History: Middle-East 1798-1918
ISLA 411 (3) History of the Middle East 1918-1945
ISLA 505 (3) Major Themes of Islamic Religious Expression
ISLA 510D1 (3) History: Islamic Civilization - Classical
ISLA 510D2 (3) History: Islamic Civilization - Classical
ISLA 511D1 (3) History: Islamic Civilization - Medieval Era
ISLA 511D2 (3) History: Islamic Civilization - Medieval Era
ISLA 531 (3) Survey of the Development of Islamic Thought

Jewish Studies
JWST 211 (3) Jewish Studies 1: Biblical Period (students may not take both JWST 211 and RELG 202 for core credit)
JWST 252 (3) Interdisciplinary Lectures (this course will be allowed only when the topic is appropriate)
JWST 316 (3) Social and Ethical Issues in Jewish Law 1
JWST 359 (3) Topics in Jewish Philosophy 2
Courses requiring reading knowledge of Hebrew:
JWST 330 (3) A Book of the Bible

JWST 345 (3) Introduction to Rabbinic Literature
JWST 510 (3) Jewish Biblical Interpretation 1
JWST 511 (3) Jewish Biblical Interpretation 2
JWST 535 (3) Exegetic Midrash
JWST 543 (3) Maimonides as Parshan
JWST 550 (3) The Bible in Hebrew Literature
JWST 556 (3) Modern Parshanut 1
JWST 573 (3) History of Hebrew Bible Text

East Asian Studies
EAST 354 (3) Taoist and Buddhist Apocalypses
EAST 551 (3) Technologies of Self in Early China

RELIGIOUS STUDIES COURSES AVAILABLE TO ARTS AND SCIENCE STUDENTS

All courses listed in the Religious Studies section (RELG) are considered as courses in Arts and Science except for courses restricted to B.Th. or S.T.M. students and courses that require permission of the Chair of the B.Th. Committee.

6.12.46 Russian and Slavic Studies (RUSS)

688 Sherbrooke Street West, Suite 425
Montreal, QC H3A 3R1

Telephone: 514-398-3639
Fax: 514-398-1748
Email: russian.slavicstudies@mcgill.ca
Website: www.mcgill.ca/russian

Chair — Laura Beraha

Associate Professors
Paul M. Austin; M.A.(C'nell), B.A., Ph.D.(Tor.)
Laura Beraha; B.A., M.A., Ph.D.(McG.)
Lyudmila Parts; M.A., Ph.D.(Col.) (*on leave 2009-2010*)

Many opportunities are open to students with qualifications in Russian and other Slavic studies. Students may be interested in the organization of human society, comparative literature, linguistics – Russian studies are highly relevant to all of these. In addition, because of similar problems in geography, climate, industrial and economic growth, Russian studies may have a particular fascination for the Canadian student. Besides being the language of the Russian Federation, Russian is still widely used in the countries of the former Soviet Union. Since most Eastern European countries have academic exchange programs with Canada, well-qualified students should encounter little difficulty in continuing their university studies in Russia or in Eastern Europe.

Advisers: Professor Paul M. Austin, Room 341, 514-398-4984
Professor Laura Beraha, Room 335, 514-398-2802
Professor Lyudmila Parts, Room 332, 514-398-1719

Students must obtain Departmental approval to register for language courses and are strongly urged to consult with the Department for advice/approval of their program plans. A placement test is available and may be booked before the start of term by calling 514-398-3639.

MINOR CONCENTRATION IN RUSSIAN (18 credits)
(Expandable)

The Minor Concentration in Russian includes complementary courses chosen from ONE of the following streams:

- Russian Language & Literature
- Russian Language & Culture
- Advanced Russian Literature
- Advanced Russian Language

Students who wish to follow the Advanced Russian Literature or Advanced Russian Language stream must receive Departmental approval; they are designed primarily for students also intending to complete a Major Concentration in Russian.

Enrolment in courses above the 200 level is by permission of the Department only.

Required Courses (12 credits*)
RUSS 210 (3) Elementary Russian Language 1
RUSS 211 (3) Elementary Russian Language 2
RUSS 310 (3) Intermediate Russian Language 1
RUSS 311 (3) Intermediate Russian Language 2

* The required courses are designed to give students a basic working knowledge of Russian. Students who can demonstrate to the Department that they have acquired the equivalent competence elsewhere will replace these credits with courses from the Complementary Course list.

Students must obtain Departmental approval to register for language courses and are strongly urged to consult with the Department for advice/approval of their program plans.

Complementary Courses (6 credits)
Stream 1: Russian Language & Literature
RUSS 217 (3) Russia's Eternal Questions
RUSS 300 (3) Russian for Heritage Speakers 1
RUSS 301 (3) Russian for Heritage Speakers 2
RUSS 330 (3) Introduction to Soviet Russian Literature before WWII
RUSS 331 (3) Introduction to Soviet Russian Literature after WWII
RUSS 400 (3) Advanced Russian Language 1
RUSS 401 (3) Advanced Russian Language 2

Stream 2: Russian Language & Culture
RUSS 218 (3) Russian Literature in Revolution
RUSS 219 (3) Russian Literature in Recovery
RUSS 223 (3) Russian Writers - 19th Century
RUSS 224 (3) From War to Revolution

*Stream 3: Advanced Russian Literature**
RUSS 327 (3) Outlines 19th Century Russian Literature: Romantic Period
RUSS 328 (3) Outlines 19th Century Russian Literature: Russian Realism
RUSS 330 (3) Introduction to Soviet Russian Literature before WWII
RUSS 331 (3) Introduction to Soviet Russian Literature after WWII
RUSS 385 (3) Russian Drama
RUSS 390 (3) Special Topics in Russian
RUSS 411 (3) Drama in Russian Literature after 1850
RUSS 450 (3) Reading the 20th Century
RUSS 458 (3) Development Russian Novel before Turgenev
RUSS 459 (3) Russian Novel Pushkin - Gogol
RUSS 460 (3) Russian Novel 1860-1900 1
RUSS 461 (3) Russian Novel 1860-1900 2
RUSS 465 (3) Russian Modernism 1
RUSS 466 (3) Russian Modernism 2
RUSS 468 (3) The Age of Pushkin
RUSS 470 (3) Individual Reading Course
RUSS 471 (3) Independent Research
RUSS 475 (3) Special Topics in Russian Culture
RUSS 500 (3) Special Topics
RUSS 510 (3) High Stalinist Culture

* By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs.

*Stream 4: Advanced Russian Language**
RUSS 415 (6) Advanced Russian Lang Intensive 1
RUSS 416 (6) Advanced Russian Lang Intensive 2
RUSS 450 (3) Reading the 20th Century
RUSS 452 (3) Advanced Russian Language and Syntax 1
RUSS 453 (3) Advanced Russian Language and Syntax 2
RUSS 455 (3) History of Modern Russian Language
RUSS 470 (3) Individual Reading Course
RUSS 471 (3) Independent Research

* By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs.

MINOR CONCENTRATION IN RUSSIAN CULTURE
(Non-expandable) (18 credits)

The Minor Concentration in Russian Culture is designed primarily as an adjunct to area studies and/or programs in the humanities or social sciences. As there are no Russian language requirements, this is a non-expandable program.

There are no prerequisites for Departmental courses. For pre/corequisites and availability of Economics, History, Jewish Studies and Political Science courses, students should refer to the departmental Calendar entry.

Complementary Courses (18 credits)
Group A: 12 credits to be chosen from:

RUSS 217	(3)	Russia's Eternal Questions
RUSS 218	(3)	Russian Literature in Revolution
RUSS 219	(3)	Russian Literature in Recovery
RUSS 223	(3)	Russian Writers - 19th Century
RUSS 224	(3)	From War to Revolution
RUSS 510	(3)	High Stalinist Culture
RUSS 585	(3)	Woman in Russian Culture

Group B: 6 credits to be chosen from:

ANTH 303	(3)	Ethnographies of Post-socialism
ECON 331	(3)	Economic Development: Russia and USSR
ECON 340	(3)	Ex-Socialist Economies
HIST 216	(3)	History of Russia to 1801
HIST 226	(3)	Eastern Europe in 20th Century
HIST 236	(3)	Russia from 1801 to 1991
HIST 306	(3)	East Central Europe since 1944
HIST 312	(3)	East-Central Europe: 1453-1740
HIST 313	(3)	Eastern Europe: 1740-1914
HIST 316	(3)	Russia: Revolutions 1905 and 1917
HIST 326	(3)	Russia from 1905 to Present
HIST 329	(3)	Eastern Europe: 4th Century - 1453
HIST 406	(3)	Petrine and Catherinian Russia
HIST 446	(3)	Russian Thought to 1825
HIST 456	(3)	Russian Intellectual History 1825-1917
HIST 476D1/D2	(6)	Seminar: Topics in Russian History
JWST 303	(3)	The Soviet Jewish Experience
POLI 329	(3)	Russian and Soviet Politics
POLI 331	(3)	Politics in East Central Europe
POLI 332	(3)	Politics of Former Soviet Republics
POLI 419	(3)	Transitions from Communism
SOCI 455	(3)	Post-Socialist Societies

MAJOR CONCENTRATION IN RUSSIAN (36 credits)

Enrolment in courses above the 200 level is by permission of the Department only.

Required Courses (18 credits*)

RUSS 210	(3)	Elementary Russian Language 1
RUSS 211	(3)	Elementary Russian Language 2
RUSS 310	(3)	Intermediate Russian Language 1
RUSS 311	(3)	Intermediate Russian Language 2
RUSS 400	(3)	Advanced Russian Language 1
RUSS 401	(3)	Advanced Russian Language 2

* The required courses are designed to give students a basic working knowledge of Russian. Students who can demonstrate to the Department that they have acquired the equivalent competence elsewhere will replace these credits with courses from the Complementary Course list.

Complementary Courses (18 credits)
12 credits to be selected from the following:

RUSS 217	(3)	Russia's Eternal Questions
RUSS 218	(3)	Russian Literature in Revolution
RUSS 219	(3)	Russian Literature in Recovery
RUSS 223	(3)	Russian Writers - 19th Century
RUSS 224	(3)	From War to Revolution
RUSS 300	(3)	Russian for Heritage Speakers 1
RUSS 301	(3)	Russian for Heritage Speakers 2
RUSS 327	(3)	Outlines 19th Century Russian Literature: Romantic Period
RUSS 328	(3)	Outlines 19th Century Russian Literature: Russian Realism
RUSS 330	(3)	Introduction to Soviet Russian Literature before WWII
RUSS 331	(3)	Introduction to Soviet Russian Literature after WWII

6 credits to be selected from the following:

RUSS 385	(3)	Russian Drama
RUSS 390	(3)	Special Topics in Russian
RUSS 450	(3)	Reading the 20th Century
RUSS 455	(3)	History of Modern Russian Language
RUSS 458	(3)	Development Russian Novel before Turgenev
RUSS 459	(3)	Russian Novel Pushkin - Gogol
RUSS 460	(3)	Russian Novel 1860-1900 1
RUSS 461	(3)	Russian Novel 1860-1900 2
RUSS 465	(3)	Russian Modernism 1
RUSS 466	(3)	Russian Modernism 2
RUSS 468	(3)	The Age of Pushkin
RUSS 470	(3)	Individual Reading Course*
RUSS 471	(3)	Independent Research*
RUSS 475	(3)	Special Topics in Russian Culture
RUSS 500	(3)	Special Topics
RUSS 510	(3)	High Stalinist Culture
RUSS 585	(3)	Woman in Russian Culture

* Students must submit project proposals to their Departmental Adviser by March 15th or November 15th of the preceding term.

By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs.

HONOURS IN RUSSIAN (60 credits)

The Honours Program in Russian is for students intending to pursue graduate studies or advanced careers in the field. Students must complete 60 credits in the Program, as well as maintain a CGPA in accordance with Faculty and Program requirements. By arrangement with the Department and subject to University approval, transfer credits will be accepted from Department-approved exchange/immersion programs. Students who have acquired language competency elsewhere will replace lower-level courses with upper-level courses. A total of 9 credits may be taken in courses offered by other departments in the Faculty; these are listed at the end of this section. For admission into the Honours Program and approval of all course selections, students must regularly consult with an academic adviser in the Department.

Students must also complete at least one Minor Concentration (18 credits) in an academic unit outside the Department of Russian and Slavic Studies.

U1 Required Courses (12 credits)

RUSS 215	(6)	Elementary Russian Language Intensive 1
RUSS 316	(6)	Intermediate Russian Language Intensive 2

U1 Complementary Courses (6 credits)
selected from:

RUSS 217	(3)	Russia's Eternal Questions
RUSS 218	(3)	Russian Literature in Revolution
RUSS 219	(3)	Russian Literature in Recovery
RUSS 223	(3)	Russian Writers - 19th Century
RUSS 224	(3)	From War to Revolution
RUSS 300	(3)	Russian for Heritage Speakers 1
RUSS 301	(3)	Russian for Heritage Speakers 2

U2 Required Courses (24 credits)

RUSS 327	(3)	Outlines 19th Century Russian Literature: Romantic Period
RUSS 328	(3)	Outlines 19th Century Russian Literature: Russian Realism
RUSS 330	(3)	Introduction to Soviet Russian Literature before WWII
RUSS 331	(3)	Introduction to Soviet Russian Literature after WWII
RUSS 415	(6)	Advanced Russian Language Intensive 1
RUSS 416	(6)	Advanced Russian Language Intensive 2

U3 Required Courses (12 credits)

RUSS 452	(3)	Advanced Russian Language and Syntax 1
RUSS 453	(3)	Advanced Russian Language and Syntax 2
RUSS 490	(3)	Honours Seminar 01*
RUSS 491	(3)	Honours Seminar 02*

* Students must submit project proposals to their Departmental adviser by March 15th or November 15th of the preceding term.

Additional Complementary Courses (6 credits)
selected from:

RUSS 385	(3)	Russian Drama
RUSS 390	(3)	Special Topics in Russian
RUSS 450	(3)	Reading the 20th Century
RUSS 455	(3)	History of Modern Russian Language
RUSS 458	(3)	Development Russian Novel before Turgenev
RUSS 459	(3)	Russian Novel Pushkin - Gogol
RUSS 460	(3)	Russian Novel 1860-1900 1
RUSS 461	(3)	Russian Novel 1860-1900 2
RUSS 465	(3)	Russian Modernism 1
RUSS 466	(3)	Russian Modernism 2
RUSS 468	(3)	The Age of Pushkin
RUSS 470	(3)	Individual Reading Course*
RUSS 471	(3)	Independent Research*
RUSS 475	(3)	Special Topics in Russ Culture
RUSS 500	(3)	Special Topics
RUSS 510	(3)	High Stalinist Culture
RUSS 585	(3)	Woman in Russian Culture

* Students must submit project proposals to their Departmental adviser by March 15th or November 15th of the preceding term.

Please contact the department(s) in question for pre/ corequisites and availability of the following courses:

ANTH 303	(3)	Ethnographies of Post-socialism
ECON 331	(3)	Economic Development: Russia and USSR
ECON 340	(3)	Ex-Socialist Economies
HIST 216	(3)	History of Russia to 1801
HIST 226	(3)	Eastern Europe in 20th Century
HIST 236	(3)	Russia from 1801 to 1991
HIST 306	(3)	East Central Europe since 1944
HIST 312	(3)	East-Central Europe: 1453-1740
HIST 313	(3)	Eastern Europe: 1740-1914
HIST 316	(3)	Russia: Revolutions 1905 and 1917
HIST 326	(3)	Russia from 1905 to Present
HIST 406	(3)	Petrine and Catherinian Russia
HIST 446	(3)	Russian Thought to 1825
HIST 456	(3)	Russian Intellectual History 1825-1917
HIST 476D1/D2	(6)	Seminar: Topics in Russian History
JWST 303	(3)	The Soviet Jewish Experience
POLI 329	(3)	Russian and Soviet Politics
POLI 331	(3)	Politics in East Central Europe
POLI 332	(3)	Politics of Former Soviet Republics
POLI 419	(3)	Transitions from Communism
SOCI 455	(3)	Post-Socialist Societies

According to Faculty regulations, Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

JOINT HONOURS – RUSSIAN COMPONENT (36 credits)

Students must maintain a CGPA in accordance with Faculty requirements. 12 credits in Russian and 12 credits in the cooperating department are normally taken each year. For information telephone 514-398-3639.

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

According to Faculty regulations, Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00.

6.12.47 Science for Arts Students

Director — Professor Louis Lefebvre (*Biology*), 514-398-6457

The following courses offered by the Faculty of Science may be of interest to Arts students. Not all courses are available in any given year.

Atmospheric and Oceanic Sciences

ATOC 210	(3)	Introduction to Atmospheric Science
ATOC 220	(3)	Introduction to Oceanic Sciences

Biology

BIOL 115	(3)	Essential Biology
BIOL 210	(3)	Perspectives of Science
BIOL 373	(3)	Biometry

Chemistry

CHEM 150	(3)	World of Chemistry: Food
CHEM 160	(3)	World of Chemistry: Technology
CHEM 170	(3)	World of Chemistry: Drugs
CHEM 180	(3)	World of Chemistry: Environment

Computer Science

COMP 102	(3)	Computers and Computing

Earth and Planetary Sciences

EPSC 200	(3)	The Terrestrial Planets
EPSC 201	(3)	Understanding Planet Earth
EPSC 210	(3)	Introductory Mineralogy
EPSC 233	(3)	Earth and Life History
EPSC 243	(3)	Environmental Geology
EPSC 334	(3)	Invertebrate Paleontology

Geography

GEOG 203	(3)	Environmental Systems
GEOG 205	(3)	Global Change: Past, Present and Future

Physics

PHYS 224	(3)	Physics and Psychophysics of Music
PHYS 225	(3)	Musical Acoustics

MINOR CONCENTRATION IN SCIENCE FOR ARTS STUDENTS (18 credits)

Freshman students interested in this Minor Concentration should seek advice at the earliest opportunity, either through the Freshman Advisers or by contacting the Program Director. In general, students should declare their intention to obtain this Minor Concentration during their U1 year and consult the Program Director regarding approval of courses to meet the requirements.

This Minor Concentration is administered by the Department of Biology. For more information contact Ms. Anne Comeau in the Biology Department, Room W4/13, Stewart Biological Sciences Building, 514-398-4109; or the Program Director, Professor Louis Lefebvre, Room W6/10, Stewart Biological Sciences Building, 514-398-6457.

Required Courses (3 credits)
BIOL 210 (3) Perspectives of Science (in U1)

Complementary Courses (15 credits)
15 credits taken in *one* of the disciplinary areas given below. Where suggested courses have prerequisites at the 200 or 300 level associated with them, credit for the associated prerequisites may also be counted as part of the 15 credits.

Prerequisites at the 100 level cannot be counted towards the Minor Concentration.

With the prior written approval of the Program Director, an appropriate alternative set of courses may be substituted.

DISCIPLINARY AREAS

Atmospheric and Oceanic Sciences
Students should note that MATH 133 (or its CEGEP equivalent) is not essential as a prerequisite for these courses.

ATOC 210 (3) Introduction to Atmospheric Science
ATOC 214 (3) Intro to the Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 220 (3) Introduction to Oceanic Sciences

Biochemistry
Prerequisites which cannot be counted towards the Minor Concentration: BIOL 111 and BIOL 112 plus CHEM 120 (or CHEM 121) or their CEGEP equivalents.

15 credits taken from the following courses and their associated 200- or 300-level prerequisites:

ANAT 262 (3) Introductory Molecular and Cell Biology
BIOC 212 (3) Molecular Mechanisms of Cell Function (Prerequisite: BIOL 200)
BIOL 200 (3) Molecular Biology
CHEM 212 (4) Introductory Organic Chemistry 1

Students who have completed CHEM 212 and CHEM 222 or their CEGEP equivalents may take one or both of the following:
BIOC 311 (3) Metabolic Biochemistry (Prerequisite: BIOL 200, BIOL 201 or BIOC 212, CHEM 222)
BIOC 312 (3) Biochemistry of Macromolecules (Prerequisite: BIOC 311, BIOL 200, BIOL 201 or BIOC 212)

Biology
Students interested in Biology can choose between two streams. One is oriented toward cell and molecular biology and leads to upper level courses in developmental biology, human genetics, molecular biology, or allied fields. The other is oriented more toward organismal biology and leads to upper level courses in biodiversity, ecology, sociobiology, neurobiology, behaviour, or conservation biology. See Ms. Anne Comeau in the Biology Department, Room W4/13, Stewart Biology Building, to arrange a session for counsel on choice of courses above the 200 level.

Prerequisites which cannot be counted towards the Minor Concentration: BIOL 111 and BIOL 112 plus CHEM 120 (or CHEM 121) or their CEGEP equivalents.

Cell and Molecular Stream:

Note: CHEM 212 or its CEGEP equivalent is prerequisite to this stream.
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism (Prerequisite: BIOL 200)
BIOL 202 (3) Basic Genetics (Prerequisite: BIOL 200)

plus a selected subset of these or related upper level courses:
BIOL 300 (3) Molecular Biology of the Gene (Prerequisite: BIOL 200, BIOL 201)
BIOL 303 (3) Developmental Biology (Prerequisite: BIOL 200, BIOL 201)
BIOL 313 (3) Eukaryotic Cell Biology (Prerequisite: BIOL 200, BIOL 201, and BIOL 202)
BIOL 314 (3) Molecular Biology of Oncogenes (Prerequisite: BIOL 200, BIOL 201)

Organismal Stream:

Note: CHEM 212 or its CEGEP equivalent is prerequisite to this stream.
BIOL 205 (3) Biology of Organisms (Prerequisite: BIOL 200 and PHYS 101. Corequisite: BIOL 201)
BIOL 215 (3) Intro. to Ecology and Evolution
BIOL 304 (3) Evolution (Prerequisite: BIOL 205 or BIOL 215 or ENVR 202)

plus a selected subset of these or related upper level courses:
BIOL 305 (3) Animal Diversity (Prerequisite: BIOL 215 or ENVR 200 and ENVR 202)
BIOL 306 (3) Neural Basis of Behaviour (Prerequisite: BIOL 201 and PHYS 102)
BIOL 307 (3) Behavioural Ecology/Sociobiology (Prerequisite: BIOL 205, BIOL 215 or permission)
BIOL 308 (3) Ecological Dynamics (Prerequisite: BIOL 215 or ENVR 200 and ENVR 202)
BIOL 310 (3) Large-scale Ecology (Prerequisite: BIOL 215 or ENVR 200 and ENVR 202, and MATH 112)
BIOL 465 (3) Conservation Biology (Prerequisite: BIOL 215)

Chemistry
Prerequisites which cannot be counted towards the Minor Concentration: CHEM 120 (or CHEM 121) or their equivalents.

The Department also strongly encourages students to take one or more courses involving a laboratory because the science of chemistry is rooted in laboratory experience.

Note: CHEM 212 or its CEGEP equivalent is prerequisite to all 200-level or higher courses.
CHEM 150 (3) World of Chemistry: Food
or CHEM 160 (3) World of Chemistry: Technology
or CHEM 170 (3) World of Chemistry: Drugs
or CHEM 180 (3) World of Chemistry: Environment
CHEM 201 (3) Modern Inorganic Chemistry 1
or CHEM 281 (3) Inorganic Chemistry 1
CHEM 203 (3) Survey of Physical Chemistry
or CHEM 204 (3) Physical Chemistry/Biological Sciences 1
CHEM 212 (4) Introductory Organic Chemistry 1
CHEM 222 (4) Introductory Organic Chemistry 2 (Prerequisite: CHEM 212)
CHEM 257D1 (2) Introductory Analytical Chemistry
CHEM 257D2 (2) Introductory Analytical Chemistry
CHEM 301 (3) Modern Inorganic Chemistry 2
or CHEM 381 (3) Inorganic Chemistry 2 (Prerequisite: CHEM 201 or CHEM 281)
CHEM 302 (3) Introductory Organic Chemistry 3 (Prerequisite: CHEM 212, CHEM 222)
CHEM 334 (3) Advanced Materials (Prerequisites: CHEM 110/CHEM 120 or CHEM 111/ CHEM 121 and PHYS 101/PHYS 102 or PHYS 131/PHYS 142 or CEGEP Physics and Chemistry
or CHEM 307 (3) Analytical Chemistry of Pollutants (Prerequisite: one course in analytical chemistry)

Computer Science
(Students in any Minor or Major Concentration or Honours Program in Computer Science cannot choose this disciplinary area.)

Prerequisites which cannot be counted towards the Minor Concentration: MATH 139 or MATH 140, MATH 141, and MATH 133 and COMP 102 or their CEGEP equivalents.

A selection of courses should be taken from:
COMP 202 (3) Introduction to Computing 1
COMP 203 (3) Introduction to Computing 2 (Prerequisite: COMP 202)
COMP 250 (3) Introduction to Computer Science (Major and Honours)

COMP 251 (3) Data Structures and Algorithms (Prerequisite: COMP 250 or COMP 203)
plus some of the following courses:
COMP 273 (3) Introduction to Computer Systems (Prerequisite: COMP 202)
COMP 302 (3) Programming Languages and Paradigms (Prerequisite: COMP 203 or COMP 250)

Earth and Planetary Sciences
A combination of EPSC 210, EPSC 212, and one or more of EPSC 200, EPSC 201, and EPSC 243 provides a grounding in these inter-related disciplines in preparation for more specialized courses which follow:
EPSC 200 (3) The Terrestrial Planets
EPSC 201 (3) Understanding Planet Earth
EPSC 203 (3) Structural Geology
EPSC 205 or ANAT 205 (3) Astrobiology
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (4) Introductory Petrology (Prerequisite: EPSC 210)
EPSC 220 (3) Principles of Geochemistry (Prerequisite: EPSC 201, EPSC 210)
EPSC 231 (2) Field School 1 (Prerequisite: EPSC 222)
EPSC 233 (3) Earth and Life History
EPSC 243 (3) Environmental Geology
EPSC 320 (3) Elementary Earth Physics (Prerequisite: EPSC 222)
EPSC 334 (3) Invertebrate Paleontology
EPSC 425 (3) Sediments to Sequences (Prerequisite: EPSC 210, EPSC 212)

Geography
(Students in any Minor or Major Concentration or Honours Program in Geography cannot choose this disciplinary area.)

Geography advisers recommend including some preparation in chemistry, statistics and calculus for study in this area even if formal prerequisites are not in place. A selection of courses should be taken from:
GEOG 203 (3) Environmental Systems
GEOG 205 (3) Global Change: Past, Present and Future
GEOG 272 (3) Earth's Changing Surface
GEOG 305 (3) Soils and Environment (Prerequisite: GEOG 203)
GEOG 321 (3) Climatic Environments (Prerequisite: GEOG 203 or ATOC 210 or permission)
GEOG 322 (3) Environmental Hydrology (Prerequisite: GEOG 203 or equivalent)
GEOG 350 (3) Ecological Biogeography (Prerequisite: GEOG 302 or BIOL 205)
GEOG 372 (3) Running Water Environments (Prerequisite: GEOG 203 and GEOG 272 or ENVR 200 and ENVR 202)

Mathematics and Statistics
(Students in any Minor or Major Concentration or Honours Program in Mathematics and Statistics cannot choose this disciplinary area.)

Suggested courses:
MATH 133 (3) Vectors, Matrices and Geometry
MATH 203 (3) Principles of Statistics 1
MATH 204 (3) Principles of Statistics 2 (Prerequisite: MATH 203 or equivalent)
MATH 222 (3) Calculus 3
MATH 338 (3) History and Philosophy of Mathematics

Microbiology and Immunology
Prerequisites which cannot be counted towards the Minor Concentration: BIOL 111 and BIOL 112, CHEM 120 (CHEM 121) or their CEGEP equivalents.

Students can complete the 15 credits from the following courses and their associated prerequisites:
Note: CHEM 212 or its CEGEP equivalent is prerequisite, or co-requisite, to these courses.
MIMM 211 (3) Introductory Microbiology
MIMM 314 (3) Immunology (Prerequisite: BIOL 200 and BIOL 201 or BIOC 212)
MIMM 323 (3) Microbial Physiology (Prerequisite: MIMM 211)
MIMM 324 (3) Fundamental Virology (Prerequisite: MIMM 211, BIOL 200, BIOL 201 or BIOC 212)

Pathology
Prerequisites which cannot be counted towards the Minor Concentration: BIOL 111 and BIOL 112 plus CHEM 120 (or CHEM 121) or their CEGEP equivalents.

This course, together with its associate prerequisites, is well suited to students with an interest in medicine.
Note: CHEM 212 or its CEGEP equivalent is also prerequisite, or corequisite, to this course.
PATH 300 (3) Human Disease (Prerequisites: BIOL 200, BIOL 201 or BIOC 212, PHGY 209. Pre- or corequisite PHGY 210)

Physics
Prerequisites which cannot be counted towards the Minor Concentration: Most of the courses listed require at least CEGEP-level prerequisites or their equivalent in both Mathematics and Physics.

Exceptions are PHYS 200, PHYS 208, PHYS 209, MATH 223. A possible 12-credit combination without such prerequisites is PHYS 200, PHYS 224 and PHYS 225.

Honours courses may be substituted for their Major equivalents only with the permission of the Department.

PHYS 200 (3) Space, Time and Matter
PHYS 208 (1) Introduction to Selected Topics in Physics
PHYS 224 (3) Physics and Psychophysics of Music
PHYS 225 (3) Musical Acoustics (Prerequisite: PHYS 224)
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (2) Heat and Waves (Prerequisite: PHYS 230)
PHYS 241 (2) Signal Processing
PHYS 242 (3) Electricity and Magnetism (Prerequisite: MATH 222)
PHYS 257 (3) Experimental Methods 1 (Prerequisite: PHYS 230 or PHYS 250)
PHYS 258 (3) Experimental Methods 2 (Prerequisite: PHYS 257)

Physiology
Prerequisites which cannot be counted towards the Minor Concentration: BIOL 111 and BIOL 112, CHEM 110 (or CHEM 111), PHYS 101 (or PHYS 131) and PHYS 102 (or PHYS 142), CHEM 120 (or CHEM 121) or their CEGEP equivalents.

Students should take either:
PHGY 201 (3) Human Physiology: Control Systems (Prerequisite: CHEM 212)
and PHGY 202 (3) Human Physiology: Body Functions (Prerequisite: CHEM 212)

or PHGY 209 (3) Mammalian Physiology 1 (Prerequisite: CHEM 212, BIOL 200, BIOL 201 or BIOC 212)
and PHGY 210 (3) Mammalian Physiology 2 (Prerequisite: CHEM 212, BIOL 200, BIOL 201 or BIOC 212)

and one or more of these higher level courses:
PHGY 311 (3) Channels, Synapses & Hormones (Prerequisite: PHGY 209, PHGY 210 or equivalent or permission.)

PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology (Prerequisite: PHGY 209, PHGY 210 or equivalent, PHGY 311 or permission.)
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology (Prerequisite: PHGY 209, PHGY 210 or equivalent, PHGY 311 or permission.)

Psychology
(Students in any Minor or Major Concentration or Honours Program in Psychology cannot choose this disciplinary area.)

Prerequisites which cannot be counted towards the Minor Concentration: PSYC 100 plus BIOL 111 or BIOL 112 or BIOL 115 (or their CEGEP equivalents).

Students in the Minor Concentration take two of the following courses:
Note: PSYC 204 is prerequisite to this area:

PSYC 211	(3)	Intro Behavioral Neuroscience
PSYC 212	(3)	Perception
PSYC 213	(3)	Cognition
PSYC 215	(3)	Social Psychology

plus one or more Psychology courses at the 300 level or higher (excluding PSYC 305). Students are recommended to satisfy the upper level course requirement by taking 6 credits from one of the areas of specialization specified in the Psychology section.

6.12.48 Sexual Diversity Studies Program

Office of Interdisciplinary Programs
Peterson Hall
3460 McTavish Street, Room 126
Montreal, QC H3A 1X9

Telephone: 514-398-4804
Fax: 514-398-2786
Email: interdisciplinary.arts@mcgill.ca
Website: www.mcgill.ca/sdst

Adviser: Monica Hotter

Acting Program Committee Chair — K. Borris (*English*)

Program Committee
K. Borris (*English*), S. Brotman (*Social Work*), E. Elbourne (*History*), A. Hepburn (*English*), M. Deslauriers (*Philosophy*), M. Hartman (*Islamic Studies*)

The Minor Concentration in Sexual Diversity Studies is informed by a tradition of critical inquiry developed within various frameworks including Women's Studies and Gay, Lesbian and Queer Studies. It is designed to introduce students to the latest scholarship on the study of sexuality and sexual and gender diversity across a wide range of disciplines and cultures.

MINOR CONCENTRATION IN SEXUAL DIVERSITY STUDIES
(18 credits)

Required Course (3 credits)

SDST 250	(3)	Introduction: Sexual Diversity Studies

Note: * indicates courses that are acceptable only when the topic is appropriate for Sexual Diversity Studies.

Complementary Courses (15 credits)

CANS 308	(3)	Sex and Gender in Canada
COMS 310	(3)	Media and Feminist Studies
EAST 350	(3)	Gender and Sexuality in Chinese Literature
EAST 370	(3)	History of Sexuality in Japan
ENGL 354	(3)	Sexuality and Representation
ENGL 493	(3)	Narrative Media
HIST 323	(3)	History and Sexuality 1
HIST 347	(3)	History and Sexuality 2
HIST 420	(3)	Gender and Sexuality in Modern China
HIST 424	(3)	Gender, Sexuality & Medicine
HIST 433	(3)	British Queer History
HIST 448	(3)	Women, Gender and Sexuality in the Middle East
MUAR 399	(3)	Music and Queer Identity
PHIL 242	(3)	Introduction to Feminist Theory
PHIL 442	(3)	Topics in Feminist Theory
PSYC 436	(3)	Human Sexuality and its Problems
RELG 271	(3)	Sexual Ethics
RELG 339	(3)	Gender & Sexuality in Buddhism
RELG 356	(3)	Gender & Sexuality in Hinduism
SDST 450	(3)	Independent Reading & Research
SOCI 489	(3)	Gender, Deviance and Social Control
SOCI 530	(3)	Sex and Gender
SWRK 342	(3)	Practice with Gay, Lesbian, Bisexual & Two-Spirit People
WMST 402*	(3)	Women's Studies Special Topics 2
WMST 513	(3)	Gender, Race and Science

6.12.49 Social Studies of Medicine (SSMD)

Department of Social Studies of Medicine
3647 Peel Street, 2nd floor
Montreal, QC H3A 1X1

Telephone: 514-398-6033
Fax: 514-398-1498
Email: ssom@mcgill.ca
Website: www.mcgill.ca/ssom

Chair — Alberto Cambrosio

Emeritus Professor
Margaret Lock; B.Sc.(Leeds), M.A., Ph.D.(Calif.) (*Marjorie Bronfman Professor in Social Studies in Medicine*)

Professors
Alberto Cambrosio; M.Env.(Sher.), Ph.D.(Montr.)
Andrea Tone; B.A.(Qu.), M.A., Ph.D.(Emory) (*Canada Research Chair in the Social History of Medicine*)
George Weisz; M.A., Ph.D.(SUNY), Dr. 3rd Cy.(Paris) (*Cotton-Hannah Professor of the History of Medicine*)
Allan Young; M.A.(Wash.), B.A., Ph.D.(Penn.) (*Marjorie Bronfman Professor in Social Studies in Medicine*)

Associate Professors
Faith Wallis; M.A., M.L.S.(McG.), Ph.D.(Tor.)
Thomas Schlich; M.D.(Marburg), Ph.D.(Freiburg) (*Canada Research Chair in History of Medicine*)

Assistant Professors
Tobias Rees; M.A.(Tübingen), Ph.D.(Calif., Berk.)

Assistant Professors (*Primary Appointment: Biomedical Ethics Unit*)
Jonathan Kimmelman; M.A., Ph.D.(Yale)
Jennifer Fishman; M.A.(Calif., Irvine), Ph.D.(Calif.)
Nicholas King; M.A., Ph.D.(Harv.)

Adjunct Professors
Cornelius Borck; M.A., M.D.(Free Univ., Berlin), Ph.D.(Lond.)

The Minor Concentration in Social Studies of Medicine is an interdisciplinary concentration of courses designed to address the needs of (1) undergraduates preparing for one of the health professions, and (2) social sciences and humanities undergraduates who wish to gain a broader interdisciplinary understanding of medicine and health issues.

The Minor Concentration in Social Studies of Medicine presents medicine as a complex network of institutions, cultures and political relations embedded in the institutions, cultures and political relations of the larger society. Courses are divided into three groups: History of Medicine, Anthropology of Medicine, and Sociology of Medicine.

The Minor consists of 18 credits. Students are required to take six credits from each of the three groups. **Note:** No overlap is permitted with courses counting towards the student's Major Concentration.

MINOR CONCENTRATION IN SOCIAL STUDIES OF MEDICINE (18 credits)

Complementary Courses (18 credits)
6 credits from each of the following groups:

History of Medicine
HIST 249 (3) Health and the Healer in Western History
HIST 319 (3) The Scientific Revolution
HIST 330 (3) Science in the Medieval West
HIST 335 (3) Science from Greeks to Newton
HIST 348 (3) China: Science-Medicine-Technology
HIST 356 (3) Medicine in the Medieval West
HIST 381 (3) Colonial Africa: Health/Disease
HIST 424 (3) Gender, Sexuality & Medicine
HIST 449 (3) Medicine in the Ancient World
HIST 452 (3) Medicine in Europe 1500-1700
HIST 457 (3) Topics in Medical History
HIST 458 (3) Modern Medicine: Seminar
HIST 459 (3) Modern Medicine: Research
HIST 466 (3) Seminar: Medieval Medicine
HIST 496 (3) Research: Medieval Medicine
WMST 513 (3) Gender, Race and Science

Anthropology of Medicine
ANTH 227 (3) Medical Anthropology
ANTH 302 (3) New Horizons in Medical Anthropology
ANTH 314 (3) Psychological Anthropology 01
ANTH 407 (3) Anthropology of the Body
ANTH 438 (3) Topics in Medical Anthropology
ANTH 439 (3) Theories of Development
ANTH 443 (3) Medical Anthropological Theory
ANTH 480 (3) Special Topic 5
ANTH 481 (3) Special Topic 6
ANTH 482 (3) Special Topic 7
ANTH 483 (3) Special Topic 8
ANTH 484 (3) Special Topic 9
ANTH 485 (3) Special Topic 10

Sociology of Medicine
SOCI 225 (3) Medicine and Health in Modern Society
SOCI 309 (3) Health and Illness
SOCI 310 (3) Sociology of Mental Disorder
SOCI 338 (3) Introduction to Biomedical Knowledge
SOCI 390 (3) Gender and Health
SOCI 425 (3) Sociology of the Body
SOCI 508 (3) Medical Sociology and Social Psychiatry
SOCI 515 (3) Medicine and Society
SOCI 525 (3) Health Care Systems in Comparative Perspective
SOCI 538 (3) Selected Topics in Sociology of Biomedical Knowledge

6.12.50 Social Work (SWRK)

School of Social Work
Wilson Hall
3506 University Street
Montreal, QC H3A 2A7

Telephone: 514-398-7070
Fax: 514-398-4760
Email: undergraduate.socialwork@mcgill.ca
Website: www.mcgill.ca/socialwork

Director — Wendy Thomson

Emeritus Professor
David E. Woodsworth; B.A., Dipl.S.W.(Tor.), M.A.(Mich.), Ph.D.(Brandeis)

Professors
Linda Davies; B.S.W., M.S.W.(McG.), Ph.D.(N. Lond. Poly.)
Peter Leonard; B.Sc., M.Sc., Dip. Mental Health(Lond.)
Wendy Thomson; B.S.W., M.S.W.(McG.), Ph.D.(Brist.)
James Torczyner; B.H.L.(Yeshiva), M.S.W., D.S.W.(Calif.)
Nico Trocmé; B.A., M.S.W., Ph.D.(Tor.) (*The Philip Fisher Chair in Social Work*)

Associate Professors
Shari Brotman; B.S.W., M.S.W.(McG.), Ph.D.(Tor.)
Myriam Denov; B.A.(Tor.), B.S.W.(McG.), M.A.(Ott.), Ph.D.(Camb.)
Sydney Duder; B.Sc., M.S.W., Dip.Adv.Soc.Wk.Pr., Ph.D.(McG.)
Estelle Hopmeyer; B.A., M.S.W.(McG.)
Julia Krane; B.A.(Ott.), B.S.W.(McG.), M.S.W., Ph.D.(Tor.)

Assistant Professors
Delphine Collin-Vézina; B.Sc., Ph.D.(Montr.)
Amanda Grenier; B.S.W.(Windsor), M.S.W., Ph.D.(McG.)
Jill Hanley; B.A., B.S.W.(McG.), M.A.(Tufts), Ph.D.(Montr.)
Nicole Ives; B.A.(Col.), M.S.W., Ph.D.(Penn.)
Lucyna Lach; B.A., M.S.W., Ph.D.(Tor.)
Tamara Sussman; B.A., B.S.W., M.S.W.(McG.), Ph.D.(Tor.)

Field Education Program
Francine Granner; B.S.W., M.S.W.(McG.)
Karen Hetherington; B.A.(C'dia), M.A.(Montr.)

The School of Social Work offers an undergraduate program leading to a Bachelor of Social Work (B.S.W.) degree. The B.S.W. program:

1) prepares students for generalist social work practice in a range of health and social service positions (the B.S.W. represents the point of admission into the 'Ordre Professionnel des Travailleurs Sociaux du Québec' and the 'Canadian Association of Social Workers);
2) prepares students for entry into specialized professional studies at the graduate level.

A 90-credit program is offered to students entering from CEGEP or equivalent, students who transfer from within McGill or other universities, and mature students. A 60-credit program is offered to students who already have an undergraduate degree. *Students are eligible to apply to the M.S.W. program after completing 30 credits of the 60-credit program.*

Note: Quebec law requires that candidates seeking admission to the provincially recognized regulatory bodies possess a working knowledge of the French language, i.e., be able to communicate verbally and in writing in that language. For further information, refer to Language Requirements for Professions, section 3.10.1.

Applications are encouraged from persons of diverse backgrounds, including members of minority groups and persons of low income.

The objectives of the B.S.W. program are to provide an academic environment within which students will develop:

- integrated social work knowledge pertaining to its history, theoretical foundations, research base, practice modalities and policies that influence the delivery of health and social services;
- professional skills in the well-established methods of practice with individuals, families, and groups in communities and organizations;
- an understanding of social policy in Canada, the factors, processes and forces that shape it and the skills to intervene;
- an awareness of the various dimensions of diversity and how they intersect in an increasingly heterogeneous society;
- a sense of identity with the profession of social work, which implies awareness of self as the intervening agent in practice, a sense of responsibility that accompanies the act of intervention, and sensitivity to the ethical issues that arise in practice; and,
- a commitment to advancing knowledge and improving skills in social work practice that are the prerequisites for entering into more specialized professional studies at the graduate level.

The B.S.W. degree is offered in two ways:

1. as a three-year undergraduate B.S.W. program, and
2. as a two-year program for applicants who already have an undergraduate degree in another discipline.

BACHELOR OF SOCIAL WORK (B.S.W.) – THREE-YEAR PROGRAM – ADMISSION

Three categories of applicants are eligible to apply for September admission to the three-year Bachelor of Social Work:

1. Applicants who have completed a DEC from CEGEP or have completed equivalent studies with better than average grades and have related social work experience will be considered for admission to a minimum 90-credit program.
2. Transfer Students
   Students who have begun undergraduate degree programs either at McGill or at other universities may apply to transfer to the School of Social Work. In order to qualify as a transfer student, applicants are expected to have a B average in their course work (minimum 3.00 CGPA). While previously taken credits may be accepted towards the B.S.W. program requirements, accepted applicants will be required to complete a minimum of 60 approved McGill credits over three academic years. Accepted transfer credits are assessed individually at the point of admission.
   Students wishing to transfer after their Freshman year must have completed the minimum 24 credits required for the Arts Freshman Program. Completion of these credits does not exempt students from any of the course requirements for the B.S.W. degree, nor decrease their credit requirement.
3. Mature Students
   Residents of Canada who are 23 years of age or older, and who lack the academic background normally required for admission, may apply for entrance as mature students. To be considered for the B.S.W. program, applicants must have had significant paid or volunteer community work experience in related fields, and must also have completed a minimum of two appropriate courses at the college or university level, achieving a grade of B or better in each.

Enrolment in the B.S.W. program is limited. Candidates whether entering or transferring are expected to have better than average grades. Within the group of applicants who meet the academic requirements, preference is given to those who have had social work-related experience, paid or volunteer, and also to those who demonstrate personal suitability for the social work profession.

More details on entrance requirements can be found on the web at www.mcgill.ca/applying.

BACHELOR OF SOCIAL WORK (B.S.W.) THREE-YEAR PROGRAM (90 credits)

The B.S.W. degree is awarded upon successful completion of 90 credits of study.

Required Courses (57 credits)

SWRK 220	(3)	History & Philosophy of Social Work
SWRK 221	(3)	Public Social Services in Canada
SWRK 222	(3)	Introduction to Practicum
SWRK 223	(3)	Poverty and Inequality
SWRK 224	(3)	Human Development Across the Lifespan
SWRK 320	(3)	Practice with Individuals and Families 1
SWRK 321	(3)	Introduction to Practice with Groups
SWRK 322	(3)	Field Practice 1
SWRK 323	(3)	Field Practice 2
SWRK 325	(3)	Anti-Oppression Social Work Practice
SWRK 326	(3)	Practice with Individuals and Families 2
SWRK 327	(3)	Approaches to Community Practice
SWRK 420	(3)	Advanced Field Practice 1
SWRK 421	(3)	Advanced Field Practice 2
SWRK 422D1/D2	(3)	Integrative Seminar
SWRK 423	(3)	Social Work Research
SWRK 424	(3)	Mental Health and Illness
SWRK 428	(3)	Social Policy and Administration
SWRK 525	(3)	Critical Thought and Ethics in Social Work

Complementary Courses (24-27 credits)

6-9 credits of Social Work courses (SWRK).

18 credits of Social Sciences to be completed in Anthropology (ANTH), Economics (ECON), Political Science (POLI), Psychology (PSYC), or Sociology (SOCI).

At least 6 of the 18 social science credits must be taken at the 300-level or higher; or

At least 9 of the 18 social science credits must be taken in one department.

Courses given in other departments may be considered on an individual basis and require special permission of the Undergraduate Coordinator.

Electives (6-9 credits)

To be taken in a discipline other than Social Work.

Please note that, although not a requirement for the three-year B.S.W. program, a course in statistics is a prerequisite for admission into the M.S.W. program at McGill. Students in the three-year B.S.W. program who have not previously completed a course in statistics and are planning on completing a graduate degree are, therefore, strongly encouraged to take a statistics course during their undergraduate studies.

Field Practicum

Students in the three-year B.S.W. program complete a field placement during their second and third years, 2 days per week, in different settings each year. Students must have completed a minimum of 24 credits of the 90 credits of study before commencing their second year placement, and 54 credits before commencing their third year placement.

Grading Policy

Students are required to obtain a grade of C or better in all of their Social Work courses (66 credits) and also in their 18 social science credits. If students receive a D in any of these courses, they must take additional courses to satisfy the program requirement. Only in an elective course will the grade of D be counted for credit.

Satisfactory/Unsatisfactory (S/U) Option Policy

Please note that the S/U option can only be selected for an elective course; please see "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option", in section 3.3.6.

BACHELOR OF SOCIAL WORK (B.S.W.) – ADMISSION TWO-YEAR PROGRAM (60 credits)

Admission Requirements

The minimum requirements for admission to the two-year Bachelor of Social Work program are as follows:

1. Bachelor's degree (DCS/DEC from CEGEP plus a minimum of a 90-credit, or three-year university degree; or, a high school diploma plus a minimum of a 120-credit or four-year university degree).
2. Completion of at least 9 credits (3 courses) in social sciences (including Anthropology, Economics, Political Science, Psychology, or Sociology).
3. 3 credits (one course) in Human Development and 3 credits (one course) in Research Methods at university level.
4. 3 credits (one course) in Statistics at university or CEGEP level.
5. Minimum CGPA of 3.0 out of 4.0 (or equivalent).
6. Paid and/or voluntary work experience.

While not a prerequisite for admission, working knowledge of the French language is important not only for candidates who intend to seek admission to the Quebec professional corporation, but also for those who will be completing a field placement in the province of Quebec.

More details on entrance requirements are available on the web, at www.mcgill.ca/applying.

BACHELOR OF SOCIAL WORK(B.S.W.) – TWO-YEAR PROGRAM (60 credits)

The B.S.W. degree is awarded upon successful completion of 60 credits of study.

Required Courses (45 credits)

SWRK 220	(3)	History & Philosophy of Social Work
SWRK 221	(3)	Public Social Services in Canada
SWRK 320	(3)	Practice with Individuals and Families 1
SWRK 321	(3)	Introduction to Practice with Groups
SWRK 322	(3)	Field Practice 1
SWRK 323	(3)	Field Practice 2
SWRK 325	(3)	Anti-Oppression Social Work Practice
SWRK 326	(3)	Practice with Individuals and Families 2
SWRK 327	(3)	Approaches to Community Practice
SWRK 420	(3)	Advanced Field Practice 1
SWRK 421	(3)	Advanced Field Practice 2
SWRK 422D1/D2	(3)	Integrative Seminar
SWRK 424	(3)	Mental Health and Illness
SWRK 428	(3)	Social Policy and Administration
SWRK 525	(3)	Critical Thought and Ethics in Social Work

Complementary Courses (12 credits)

Social Work (SWRK) courses only.

Electives (3 credits)

To be taken in a discipline other than Social Work.

Note: Students in the 60-credit B.S.W. program are eligible to apply to the Master of Social Work (M.S.W.) program after successfully completing the first 30 credits of this two-year program.

Field Practicum
Field Practice takes place in one field setting 2½ days per week during the academic year.

Grading Policy
Students are required to obtain a grade of C or better in all of their courses. If students receive a D in any of these courses, they must take additional courses to satisfy the program requirement. Only in an elective course will the grade of D be counted for credit.

Satisfactory/Unsatisfactory (S/U) Option Policy
Please note that the S/U option can only be selected for an elective course; please see "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option", in section 3.3.6.

6.12.51 Sociology (SOCI)

Stephen Leacock Building, Room 712
855 Sherbrooke Street West
Montreal, QC H3A 2T7

Undergraduate Program Information: 514-398-6868
Fax: 514-398-3403
Email: undergraduate.sociology@mcgill.ca
Website: www.mcgill.ca/sociology

Chair — Morton Weinfeld

Director, Undergraduate Studies — Matthew Lange
Director, Graduate Studies — John Hall

Emeritus Professor
Maurice Pinard, B.A., LL.L., M.A.(Montr.), Ph.D.(Johns H.), F.R.S.C.

Professors
Alberto Cambrosio; Dip.(Basel), M.A.(Sher.), Ph.D.(Montr.) (*Social Studies of Medicine*)
John A. Hall; B.A.(Oxf.), M.A.(Penn.), Ph.D.(LSE)
Céline Le Bourdais; B.Sc.(Montr.), B.Sc.(Laval), M.Sc.(Montr.), Ph.D.(Brown) (*Canada Research Chair in Social Statistics and Family Change*)
Anthony Masi; A.B.(Colgate), M.A., Ph.D.(Brown) (*Deputy Provost and Chief Information Officer*)
Michael Smith; B.A.(Leic.), M.A., Ph.D.(Brown)
Axel P.M. van den Berg; Kand. Doc.(Amst.), Ph.D.(McG.)
Morton Weinfeld; B.A.(McG.), Ed.M., Ph.D.(Harv.) (*Chair, Canadian Ethnic Studies*)

Associate Professors
Lucia Benaquisto; B.A.(SUNY, Albany.), A.M., Ph.D.(Harv.)
Shelley Clark; B.A.(Virg.), M.A., Ph.D.(Prin.)
Steven L. Rytina; B.G.S., Ph.D.(Mich.)
Donald Von Eschen; A.B.(Beloit), M.A.(Chic.), Ph.D.(Johns H.)

Assistant Professors
Marc (Marcos) Ancelovici; B.Sc., M.Sc.(Montr.), Ph.D.(MIT)
Giovani Burgos; B.A.(SUNY Albany), M.A., Ph.D.(Ind.)
Jason Carmichael; B.A.(Arizona St.), M.A, Ph.D.(Ohio St.)
Kathleen Fallon; B.A.(Calif.), M.A., Ph.D.(Ind.)
Matthew Lange; B.A.(Car.), M.A., Ph.D.(Brown)
Amélie Quesnel-Vallée; B.Sc., M.Sc.(Montr.), M.A., Ph.D.(Duke)
John (Jack) Sandberg; B.A.(Hunter), Ph.D.(Mich.)
Elaine Weiner; B.A.(Grinnel), M.A.(Flor.), Ph.D.(Mich.)

Adjunct Professors
Donald Hinrichs
Catherine Montgomery

Associate Member
Gregory Baum (*Religious Studies*)
Jennifer Fishman (*Social Studies of Medicine - Biomedical Ethnics Unit*)

Sociology is commonly defined as the scientific study of society. It offers the student an educational experience which is both intellectually rewarding and practically useful as a preparation for future career opportunities. It provides the student with the theoretical and analytical tools to better understand the complex social forces which affect our lives, contributing in this way to personal enrichment and more effective citizenship. It is also valuable preparation for advanced study in the social sciences, as well as for careers in the professions, management, education, law, medicine and health-related areas, social work, and communications in both the public sector and private industry.

The Department offers a Minor Concentration, a Major Concentration, and an Honours Program in Sociology. Although students from outside the Department may take courses in the Department without having had SOCI 210 Sociological Perspectives (except where noted otherwise), the course is recommended. The purpose of the Minor Concentration is to give the student a basic understanding of the field of Sociology, while the Major Concentration will provide a more comprehensive coverage of the field. The purpose of the Honours Program is to permit a student to study the field in depth, and to do an Honours Project – a research paper under the supervision of a faculty member, the topic and supervisor chosen by mutual agreement between the student and the professor.

Undergraduate Adviser:
Elaine Weiner
Telephone: 514-398-6843
Email: elaine.weiner@mcgill.ca

Honours Undergraduate Adviser:
Mathew Lange
Telephone: 514-398-6850
Email: mathew.lange@mcgill.ca

General Program Inquiries:
Joanne Terrasi, Administrative and Student Affairs Coordinator
Telephone: 514-398-6868
Email: undergraduate.sociology@mcgill.ca

Orientation Session for New Students
The Sociology Department Orientation Session will be held in Leacock 738 (7th floor of the Stephen Leacock Building, directly opposite the elevators).

SUBSTANTIVE AREAS OF STUDY
The Department offers four substantive areas of study:
- Institutions, Deviance, and Culture
- Politics and Social Change
- Social Stratification: Class, Ethnicity, and Gender
- Work, Organizations, and the Economy

The following lists indicate the courses which are included within each Substantive Area:

Institutions, Deviance, and Culture
SOCI 216 (3) Social Psychology
SOCI 219 (3) Sociology of Culture
SOCI 225 (3) Medicine and Health in Modern Society
SOCI 247 (3) Family and Modern Society
SOCI 250 (3) Social Problems
SOCI 305 (3) Socialization
SOCI 309 (3) Health and Illness
SOCI 310 (3) Sociology of Mental Disorder
SOCI 315 (3) Sociology of Religion
SOCI 318 (3) Television in Society
SOCI 322 (3) Sociology of Literature
SOCI 338 (3) Introduction to Biomedical Knowledge
SOCI 377 (3) Deviance
SOCI 388 (3) Crime
SOCI 425 (3) Sociology of the Body
SOCI 435 (3) Popular Culture
SOCI 460 (3) Responses to Social Problems
SOCI 488 (3) Punishment and Prisons
SOCI 489 (3) Gender, Deviance and Social Control
SOCI 495 (3) Social Problems and Conflicts
SOCI 508 (3) Medical Sociology and Social Psychiatry
SOCI 515 (3) Medicine and Society
SOCI 525 (3) Health Care Systems in Comparative Perspective
SOCI 535 (3) Sociology of the Family
SOCI 538 (3) Selected Topics in Sociology of Biomedical Knowledge
SOCI 571 (3) Deviance and Social Control
SOCI 588 (3) Sociology of Knowledge

Politics and Social Change
SOCI 222 (3) Urban Sociology
SOCI 234 (3) Population and Society
SOCI 254 (3) Development and Underdevelopment
SOCI 265 (3) War, States and Social Change
SOCI 307 (3) Sociology of Globalization
SOCI 326 (3) Political Sociology 01
SOCI 345 (3) Selected Topics
SOCI 354 (3) Dynamics of Industrial Societies
SOCI 365 (3) Health and Development
SOCI 370 (3) Sociology: Gender and Development
SOCI 386 (3) Contemporary Social Movements
SOCI 390 (3) Gender and Health
SOCI 424 (3) Networks and Social Structures
SOCI 446 (3) Colonialism and Society
SOCI 455 (3) Post-Socialist Societies
SOCI 484 (3) Emerging Democratic States
SOCI 495 (3) Social Problems and Conflicts
SOCI 507 (3) Social Change
SOCI 511 (3) Movements/Collective Action
SOCI 513 (3) Social Aspects HIV/AIDS in Africa
SOCI 519 (3) Gender and Globalization
SOCI 545 (3) Sociology of Population
SOCI 550 (3) Developing Societies
SOCI 565 (3) Social Change in Panama

Social Stratification: Class, Ethnicity, and Gender
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 270 (3) Sociology of Gender
SOCI 301 (3) Comparative Ethnic Relations
SOCI 327 (3) Jews in North America
SOCI 333 (3) Social Stratification
SOCI 353 (3) Inequality and Social Conflict
SOCI 475 (3) Canadian Ethnic Studies Seminar
SOCI 510 (3) Seminar in Social Stratification
SOCI 512 (3) Ethnicity & Public Policy
SOCI 520 (3) Migration and Immigrant Groups
SOCI 530 (3) Sex and Gender
SOCI 555 (3) Comparative Historical Sociology

Work, Organizations, and the Economy
SOCI 235 (3) Technology and Society
SOCI 304 (3) Sociology of the Welfare State
SOCI 312 (3) Sociology of Work and Industry
SOCI 321 (3) Gender and Work
SOCI 420 (3) Organizations
SOCI 422 (3) Health Care Providers
SOCI 470 (3) Topics in Economic Sociology

Advising note: Students exempted from the SOCI 350 course requirement must replace it with another 300-level or above sociology course.

MINOR CONCENTRATION IN SOCIOLOGY (18 credits) (Expandable)

The purpose of the Minor Concentration is to give the student a basic understanding of the field of sociology.

U1 Required Courses (6 credits)
SOCI 210 (3) Sociological Perspectives
SOCI 211 (3) Sociological Inquiry

Complementary Courses (12 credits)
SOCI 330 (3) Sociological Theory
or SOCI 350 (3) Statistics in Social Research

9 credits of complementary courses, at least 3 credits must be taken at the 300 level or higher.

500-level seminars are open to Honours students and social science Major Concentration students in their final year, and Minor Concentration students only with permission of the instructor.

MAJOR CONCENTRATION IN SOCIOLOGY (36 credits)

The purpose of the Major Concentration is to give the student a comprehensive understanding of the field of sociology.

U1 Required Courses (6 credits)
SOCI 210 (3) Sociological Perspectives
SOCI 211 (3) Sociological Inquiry

U2 Required Courses (6 credits)
SOCI 330 (3) Sociological Theory
SOCI 350 (3) Statistics in Social Research

Complementary Courses (24 credits*)

At least 3 of these credits must be at the 400 level or higher, and no more than 9 of these credits may be at the 200 level.

* A student taking the Major Concentration may take no more than 6 credits throughout the three-year program from the following: SOCI 340/SOCI 341, SOCI 342/SOCI 343, SOCI 440/SOCI 441, SOCI 442/SOCI 443.

Seminars at the 500 level are open to Honours students and social science Major Concentration students in their final year, and Minor Concentration students only with permission of the instructor.

Graduate Seminars listed below are open to final-year Honours students with adequate preparation:
SOCI 627 Political Sociology 1
SOCI 652 Current Sociological Theory

HONOURS IN SOCIOLOGY (51 credits)

Students may register for the Honours Program at the beginning of their second year (U2).

To remain in the Honours Program and receive an Honours degree, students must maintain a cumulative grade point average (CGPA) of 3.00, as well as a program GPA of 3.30. For more information see section 6.3.5 “Program Requirements”.

A Minor Concentration outside Sociology must be taken.

Required Courses (21 credits)
SOCI 210 (3) Sociological Perspectives
SOCI 211 (3) Sociological Inquiry
SOCI 330 (3) Sociological Theory
SOCI 350 (3) Statistics in Social Research
SOCI 461 (3) Quantitative Data Analysis
SOCI 477 (3) Qualitative Methods in Sociology
SOCI 480 (3) Honours Project

Complementary Courses (30 credits*)

30 credits of Sociology courses (SOCI). At least 9 of these credits must be taken at the 400 level or higher, and no more than 9 of these credits may be taken at the 200 level.

JOINT HONOURS – SOCIOLOGY COMPONENT (36 credits)

Students who wish to study at the Honours level in two Arts disciplines can combine Joint Honours program components from any two Arts disciplines; see section 6.11.4 "Joint Honours Programs" for a list of available programs.

Students may register for the Joint Honours program at the beginning of their second year (U2).

Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

Joint Honours students must maintain a minimum CGPA of 3.00 as well as a minimum GPA of 3.30 in this component.

Required Courses (18 credits)
SOCI 210 (3) Sociological Perspectives
SOCI 211 (3) Sociological Inquiry
SOCI 330 (3) Sociological Theory
SOCI 350 (3) Statistics in Social Research
SOCI 461 (3) Quantitative Data Analysis
SOCI 480 (3) Honours Project

Complementary Courses (18 credits)
18 credits of Sociology courses approved by the Departmental Honours Adviser.

6.12.52 Women's Studies (WMST)

McGill Centre for Research and Teaching on Women (MCRTW)
3487 Peel Street, Second Floor
Montreal, QC H3A 1W7

Telephone: 514-398-3911
Website: www.mcgill.ca/mcrtw

Chair, Women's Studies Programs & Advisory Committee — Julia Krane

Administrative and Student Affairs Coordinator & Student Advisor — TBA

Telephone: 514-398-3911 ext. 5
Email: info.mcrtw@mcgill.ca

Women's Studies Advisory Committee (WSAC) 2009-2010

Chair — Professor Julia Krane (*School of Social Work*)

Administrative and Student Affairs Coordinator — TBA

Faculty of Arts Representatives
Professor Alia Al-Saji (*Philosophy*)
Professor Shari Brotman (*School of Social Work*)
Professor Elizabeth Elbourne (*History*)
Professor Amanda Grenier (*School of Social Work*)
Professor Berkeley Kaite (*English*)
Professor Carrie Rentschler (*Communications*)
Professor Elaine Weiner (*Sociology*)

Representatives from other Faculties
Professor Patricia G. Kirkpatrick (*Religious Studies*)
Professor Ada Sinacore (*Dept. of Educational and Counselling Psychology, Faculty of Education*)

Student Representatives 2009-2010
TBA

Ex-officio
Professor Marguerite Deslauriers, Director, MCRTW

Women's Studies is an interdisciplinary program that brings to light contemporary and historical critical issues centred on women, gender and/or feminism. The program provides students with opportunities to explore the meanings and intersections of such categories as gender, 'race', class, sexual orientation, age, ability, citizenship, and national identity for example, and to examine how such categories might inform and reproduce power relationships.

Students must see an advisor in Women's Studies at a minimum upon registering in WMST and prior to selecting courses for the final year of study.

For further information concerning courses please consult the Women's Studies Handbook available from the MCRTW or online at www.mcgill.ca/mcrtw. The most up-to-date information concerning courses will be on the website.

MINOR CONCENTRATION IN WOMEN'S STUDIES (18 credits) (Expandable)

Required Courses (6 credits)
WMST 200 (3) Introduction to Women's Studies
WMST 303 (3) Feminist Theory and Research

Complementary Courses (12 credits)

12 credits selected from Complementary Course Group B.
At least 6 credits must be at the 300 level or higher.

Complementary Course Group B includes topics courses marked by an asterisk "*". Courses with an asterisk "*" are acceptable ONLY when the topic is appropriate for Women's Studies, that is, it is relevant to women and/or gender and/or feminism in a given year and with documentation on file for the given year. Additions may be made during a particular calendar year depending on the topic of special courses. For final updates, go to www.mcgill.ca/mcrtw. Please note that not all courses are offered every year. Courses currently awaiting University approval to be cross-listed as Women's Studies courses will be added to the online Calendar (www.mcgill.ca/courses) and the MCRTW website.

By arrangement with the Chair of the Women's Studies Advisory Committee and subject to University approval, transfer credits will be accepted from approved exchange programs for a total of no more than 6 credits.

Complementary Course Group B:

Anthropology
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 413 (3) Gender in Archaeology

Art History and Communication Studies
ARTH 352 (3) Feminism in Art and Art History
COMS 310 (3) Media and Feminist Studies
COMS 490 * (3) History and Theory of Media

Canadian Studies
CANS 406 * (3) Canadian Studies Seminar 6

Classics
CLAS 370 (3) Women in Greek Drama

East Asian Studies
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 370 (3) History of Sexuality in Japan
EAST 390 (3) The Chinese Family in History
EAST 453 * (3) Topics: Chinese Literature
EAST 466 (3) Feminism and Japan

Educational and Counselling Psychology
EDPE 515 (3) Gender Identity Development

English
ENGL 335 * (3) The 20th Century Novel 1
ENGL 345 * (3) Literature and Society
ENGL 362 * (3) Poetry of the 20th Century 2

ENGL 391 * (3) Special Topics: Cultural Studies 1
ENGL 396 (3) Women in Film and Media
ENGL 397 * (3) Feminist Approaches to Cultural Studies
ENGL 407 * (3) The 20th Century
ENGL 411 * (3) Studies in Canadian Fiction
ENGL 418 * (3) A Major Modernist Writer
ENGL 430 * (3) Studies in Drama
ENGL 431 * (3) Studies in Drama
ENGL 438 * (3) Studies in Literary Form
ENGL 443 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory
ENGL 480 * (3) Studies in History of Film 1
ENGL 490 * (3) Culture and Critical Theory 2

German Studies
GERM 362 * (3) 20th Century Literature Topics
GERM 364 (3) German Culture: Gender and Society
GERM 366 * (3) Postwar German Literature/Film
GERM 455 (3) Women of the Romantic Era

Hispanic Studies
HISP 358 (3) Women Writers Fiction Spanish-America

History
HIST 199 (3) FYS: Medieval Women and Men
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2
HIST 398 * (3) Topics in Italian History
HIST 412 (3) Women and Gender in Modern Britain
HIST 420 (3) Gender and Sexuality in Modern China
HIST 424 (3) Gender, Sexuality & Medicine
HIST 426 * (3) Topics: British Cultural History
HIST 429 * (3) Topics: Canadian Family History
HIST 433 (3) British Queer History
HIST 439 (3) History of Women in China
HIST 448 (3) Women, Gender and Sexuality in the Middle East
HIST 463D1 (3) Topics: History of Women in Canada
HIST 463D2 (3) Topics: History of Women in Canada
HIST 470D1 * (3) Topics: Historical Interpretation
HIST 470D2 * (3) Topics: Historical Interpretation
HIST 493D1 * (3) Topics: Canadian Social History
HIST 493D2 * (3) Topics: Canadian Social History
HIST 525 (3) Women, Work and Family in Global History

Italian Studies
ITAL 363 (3) Gender, Literature and Society
ITAL 383 (3) Women's Writing since 1880

Jewish Studies
JWST 351 * (3) Studies in Modern Jewish Literature

Law
CMPL 504 (3) Feminist Legal Theory

Music
MUHL 220 (3) Women in Music

Nursing
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

Philosophy
PHIL 242 (3) Introduction to Feminist Theory
PHIL 442 (3) Topics in Feminist Theory
PHIL 544 * (3) Political Theory

Religious Studies
RELG 256 (3) Women in Judaism and Islam
RELG 336 * (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 372 (3) Hindu Goddesses

Sexual Diversity Studies
SDST 250 (3) Introduction: Sexual Diversity Studies

Social Work
SWRK 377 (3) Women's Issues in Practice

Sociology
SOCI 247 (3) Family and Modern Society
SOCI 270 (3) Sociology of Gender
SOCI 321 (3) Gender and Work
SOCI 370 (3) Sociology: Gender and Development
SOCI 390 (3) Gender and Health
SOCI 425 (3) Sociology of the Body
SOCI 489 (3) Gender, Deviance and Social Control
SOCI 519 (3) Gender and Globalization
SOCI 530 (3) Sex and Gender
SOCI 535 (3) Sociology of the Family

Women's Studies
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 461 (3) Tutorial in Women's Studies 1
WMST 462 (3) Tutorial in Women's Studies 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science

MAJOR CONCENTRATION IN WOMEN'S STUDIES (36 credits)

Required Courses (6 credits)
WMST 200 (3) Introduction to Women's Studies
WMST 303 (3) Feminist Theory and Research

Complementary Courses (30 credits)

30 credits of complementary courses selected as described below.

3 credits chosen from the WMST courses below:
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science
Not offered in 2009-2010

The remaining 27 credits of complementary courses are to be selected from Group A and Group B as specified below.
At least 6 of these 27 credits must be at the 400 or 500 level.

12 credits from Complementary Course Group A:
Students must select 12 credits from the following eight groupings of complementary courses. Students may take only one course from any particular grouping. Any additional credits taken above the 12 credits from Complementary Course Group A may count as credits towards Complementary Course Group B.

Group A-1
SOCI 270 (3) Sociology of Gender

Group A-2
PHIL 242 (3) Introduction to Feminist Theory

Group A-3
COMS 310 (3) Media and Feminist Studies

Group A-4, Gender Relations in Major Societal Institutions, 1 of:
SOCI 247 (3) Family and Modern Society
SOCI 321 (3) Gender and Work
SOCI 390 (3) Gender and Health

Group A-5, Transnational or National Histories of Women/Gender and Sexuality, 1 of:
EAST 370 (3) History of Sexuality in Japan
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2

Group A-6, Women/Gender and Literature, 1 of:
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
ENGL 323 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory

Group A-7, Women/Gender in a Religious Tradition, 1 of:
RELG 256 (3) Women in Judaism and Islam
RELG 338 (3) Women and the Christian Tradition
RELG 356 (3) Gender & Sexuality in Hinduism

Group A-8, Women and Health, 1 of:
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

15 credits from Complementary Course Group B.

Students select courses from the list in consultation with an advisor and identify an individual focus of study comprised of 9 credits.

By arrangement with the Chair of the Women's Studies Advisory Committee and subject to University approval, transfer credits will be accepted from approved exchange programs for a total of no more than 12 credits.

Note: Complementary Course Group B includes topics courses marked by an asterisk "*". Courses with an asterisk "*" are acceptable ONLY when the topic is appropriate for Women's Studies, that is, it is relevant to women and/or gender and/or feminism in a given year and with documentation on file for the given year. Additions may be made during a particular calendar year depending on the topic of special courses. For final updates, go to www.mcgill.ca/mcrtw. Please note that not all courses are offered every year. Courses currently awaiting University approval to be cross-listed as Women's Studies courses will be added to the online Calendar (www.mcgill.ca/courses) and the MCRTW website.

Complementary Course Group B:

Anthropology
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 413 (3) Gender in Archaeology

Art History and Communication Studies
ARTH 352 (3) Feminism in Art and Art History
COMS 310 (3) Media and Feminist Studies
COMS 490 * (3) History and Theory of Media

Canadian Studies
CANS 406 * (3) Canadian Studies Seminar 6

Classics
CLAS 370 (3) Women in Greek Drama

East Asian Studies
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 370 (3) History of Sexuality in Japan
EAST 390 (3) The Chinese Family in History
EAST 453 * (3) Topics: Chinese Literature
EAST 466 (3) Feminism and Japan

Educational and Counselling Psychology
EDPE 515 (3) Gender Identity Development

English
ENGL 335 * (3) The 20th Century Novel 1
ENGL 345 * (3) Literature and Society
ENGL 362 * (3) Poetry of the 20th Century 2
ENGL 391 * (3) Special Topics: Cultural Studies 1
ENGL 396 (3) Women in Film and Media
ENGL 397 * (3) Feminist Approaches to Cultural Studies
ENGL 407 * (3) The 20th Century
ENGL 411 * (3) Studies in Canadian Fiction
ENGL 418 * (3) A Major Modernist Writer
ENGL 430 * (3) Studies in Drama
ENGL 431 * (3) Studies in Drama
ENGL 438 * (3) Studies in Literary Form
ENGL 443 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory
ENGL 480 * (3) Studies in History of Film 1
ENGL 490 * (3) Culture and Critical Theory 2

German Studies
GERM 362 * (3) 20th Century Literature Topics
GERM 364 (3) German Culture: Gender and Society
GERM 366 * (3) Postwar German Literature/Film
GERM 455 (3) Women of the Romantic Era

Hispanic Studies
HISP 358 (3) Women Writers Fiction Spanish-America

History
HIST 199 (3) FYS: Medieval Women and Men
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2
HIST 398 * (3) Topics in Italian History
HIST 412 (3) Women and Gender in Modern Britain
HIST 420 (3) Gender and Sexuality in Modern China
HIST 424 (3) Gender, Sexuality & Medicine
HIST 426 * (3) Topics: British Cultural History
HIST 429 * (3) Topics: Canadian Family History
HIST 433 (3) British Queer History
HIST 439 (3) History of Women in China
HIST 448 (3) Women, Gender and Sexuality in the Middle East
HIST 463D1 (3) Topics: History of Women in Canada
HIST 463D2 (3) Topics: History of Women in Canada
HIST 470D1 * (3) Topics: Historical Interpretation
HIST 470D2 * (3) Topics: Historical Interpretation
HIST 493D1 * (3) Topics: Canadian Social History
HIST 493D2 * (3) Topics: Canadian Social History
HIST 525 (3) Women, Work and Family in Global History

Italian Studies
ITAL 363 (3) Gender, Literature and Society
ITAL 383 (3) Women's Writing since 1880

Jewish Studies
JWST 351 * (3) Studies in Modern Jewish Literature

Law
CMPL 504 (3) Feminist Legal Theory

Music
MUHL 220 (3) Women in Music

Nursing
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

Philosophy
PHIL 242 (3) Introduction to Feminist Theory
PHIL 442 (3) Topics in Feminist Theory
PHIL 544 * (3) Political Theory

Religious Studies
RELG 256 (3) Women in Judaism and Islam
RELG 336 * (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 372 (3) Hindu Goddesses

Sexual Diversity Studies
SDST 250 (3) Introduction: Sexual Diversity Studies

Social Work
SWRK 377 (3) Women's Issues in Practice

Sociology
SOCI 247 (3) Family and Modern Society
SOCI 270 (3) Sociology of Gender
SOCI 321 (3) Gender and Work

SOCI 370 (3) Sociology: Gender and Development
SOCI 390 (3) Gender and Health
SOCI 425 (3) Sociology of the Body
SOCI 489 (3) Gender, Deviance and Social Control
SOCI 519 (3) Gender and Globalization
SOCI 530 (3) Sex and Gender
SOCI 535 (3) Sociology of the Family

Women's Studies
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 461 (3) Tutorial in Women's Studies 1
WMST 462 (3) Tutorial in Women's Studies 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science
Not offered in 2009-2010

HONOURS IN WOMEN'S STUDIES (57 credits)

The Honours program offers a degree of analysis and depth of contemporary and historical critical issues centered on women, gender, and/or feminism beyond that of the Major. The Honours culminates in the completion of an Honours thesis, supervised by a faculty member. Students secure the approval of a potential thesis advisor during the year before undertaking the thesis. Three credits are accorded to the thesis (graded by the thesis advisor), and 3 credits are accorded to work undertaken in the Colloquium which requires supplemental reading and writing assignments, training in research and thesis writing methods, presentation to the group of theses in progress, and response to the work of others.

Honours students must maintain a program GPA of 3.30 and a CGPA of 3.00.

Required Courses (12 credits)
WMST 200 (3) Introduction to Women's Studies
WMST 303 (3) Feminist Theory and Research
WMST 495D1 (1.5) Honours/Joint Honours Colloquium
WMST 495D2 (1.5) Honours/Joint Honours Colloquium
WMST 497D1 (1.5) Honours/Joint Honours Thesis
WMST 497D2 (1.5) Honours/Joint Honours Thesis

Complementary Courses (45 credits)

45 credits of complementary courses selected as described below.

At least 9 of the 45 credits must be at the 400 or 500 level; no more than 18 credits can be at the 200 level.

6 credits chosen from the WMST courses below:
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science
Not offered in 2009-2010

12 credits from Complementary Course Group A:
Students must select a minimum of 12 credits from the following eight groupings of complementary courses. Students may take only one course from any particular grouping. Any additional credits taken above the 12 credits from Complementary Course Group A may count as credits towards Group B.

Group A-1
SOCI 270 (3) Sociology of Gender

Group A-2
PHIL 242 (3) Introduction to Feminist Theory

Group A-3
COMS 310 (3) Media and Feminist Studies

Group A-4, Gender Relations in Major Societal Institutions, 1 of:
SOCI 247 (3) Family and Modern Society
SOCI 321 (3) Gender and Work
SOCI 390 (3) Gender and Health

Group A-5, Transnational or National Histories of Women/Gender and Sexuality, 1 of:
EAST 370 (3) History of Sexuality in Japan
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2

Group A-6, Women/Gender and Literature, 1 of:
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
ENGL 323 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory

Group A-7, Women/Gender in a Religious Tradition, 1 of:
RELG 256 (3) Women in Judaism and Islam
RELG 338 (3) Women and the Christian Tradition
RELG 356 (3) Gender & Sexuality in Hinduism

Group A-8, Women and Health, 1 of:
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

27 credits from Complementary Course Group B.

Students select courses from the list in consultation with an advisor and identify an individual focus of study comprised of 15 credits.

Note: Complementary Course Group B includes topics courses marked by an asterisk "*". Courses with an asterisk "*" are acceptable ONLY when the topic is appropriate for Women's Studies, that is, it is relevant to women and/or gender and/or feminism in a given year and with documentation on file for the given year. Additions may be made during a particular calendar year depending on the topic of special courses. For final updates, go to www.mcgill.ca/mcrtw. Please note that not all courses are offered every year. Courses currently awaiting University approval to be cross-listed as Women's Studies courses will be added to the online Calendar (www.mcgill.ca/courses) and the MCRTW website.

Complementary Course Group B:

Anthropology
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 413 (3) Gender in Archaeology

Art History and Communication Studies
ARTH 352 (3) Feminism in Art and Art History
COMS 310 (3) Media and Feminist Studies
COMS 490 * (3) History and Theory of Media

Canadian Studies
CANS 406 * (3) Canadian Studies Seminar 6

Classics
CLAS 370 (3) Women in Greek Drama

East Asian Studies
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 370 (3) History of Sexuality in Japan
EAST 390 (3) The Chinese Family in History
EAST 453 * (3) Topics: Chinese Literature
EAST 466 (3) Feminism and Japan

Educational and Counselling Psychology
EDPE 515 (3) Gender Identity Development

English
ENGL 335 * (3) The 20th Century Novel 1
ENGL 345 * (3) Literature and Society
ENGL 362 * (3) Poetry of the 20th Century 2
ENGL 391 * (3) Special Topics: Cultural Studies 1
ENGL 396 (3) Women in Film and Media
ENGL 397 * (3) Feminist Approaches to Cultural Studies

ENGL 407 * (3) The 20th Century
ENGL 411 * (3) Studies in Canadian Fiction
ENGL 418 * (3) A Major Modernist Writer
ENGL 430 * (3) Studies in Drama
ENGL 431 * (3) Studies in Drama
ENGL 438 * (3) Studies in Literary Form
ENGL 443 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory
ENGL 480 * (3) Studies in History of Film 1
ENGL 490 * (3) Culture and Critical Theory 2

German Studies
GERM 362 * (3) 20th Century Literature Topics
GERM 364 (3) German Culture: Gender and Society
GERM 366 * (3) Postwar German Literature/Film
GERM 455 (3) Women of the Romantic Era

Hispanic Studies
HISP 358 (3) Women Writers Fiction Spanish-America

History
HIST 199 (3) FYS: Medieval Women and Men
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2
HIST 398 * (3) Topics in Italian History
HIST 412 (3) Women and Gender in Modern Britain
HIST 420 (3) Gender and Sexuality in Modern China
HIST 424 (3) Gender, Sexuality & Medicine
HIST 426 * (3) Topics: British Cultural History
HIST 429 * (3) Topics: Canadian Family History
HIST 433 (3) British Queer History
HIST 439 (3) History of Women in China
HIST 448 (3) Women, Gender and Sexuality in the Middle East
HIST 463D1 (3) Topics: History of Women in Canada
HIST 463D2 (3) Topics: History of Women in Canada
HIST 470D1 * (3) Topics: Historical Interpretation
HIST 470D2 * (3) Topics: Historical Interpretation
HIST 493D1 * (3) Topics: Canadian Social History
HIST 493D2 * (3) Topics: Canadian Social History
HIST 525 (3) Women, Work and Family in Global History

Italian Studies
ITAL 363 (3) Gender, Literature and Society
ITAL 383 (3) Women's Writing since 1880

Jewish Studies
JWST 351 * (3) Studies in Modern Jewish Literature

Law
CMPL 504 (3) Feminist Legal Theory

Music
MUHL 220 (3) Women in Music

Nursing
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

Philosophy
PHIL 242 (3) Introduction to Feminist Theory
PHIL 442 (3) Topics in Feminist Theory
PHIL 544 * (3) Political Theory

Religious Studies
RELG 256 (3) Women in Judaism and Islam
RELG 336 * (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 372 (3) Hindu Goddesses

Sexual Diversity Studies
SDST 250 (3) Introduction: Sexual Diversity Studies

Social Work
SWRK 377 (3) Women's Issues in Practice

Sociology
SOCI 247 (3) Family and Modern Society
SOCI 270 (3) Sociology of Gender
SOCI 321 (3) Gender and Work
SOCI 370 (3) Sociology: Gender and Development
SOCI 390 (3) Gender and Health
SOCI 425 (3) Sociology of the Body
SOCI 489 (3) Gender, Deviance and Social Control
SOCI 519 (3) Gender and Globalization
SOCI 530 (3) Sex and Gender
SOCI 535 (3) Sociology of the Family

Women's Studies
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 461 (3) Tutorial in Women's Studies 1
WMST 462 (3) Tutorial in Women's Studies 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science
Not offered in 2009-2010

JOINT HONOURS IN WOMEN'S STUDIES (36 credits)
The Joint Honours program offers a degree of analysis and depth of contemporary and historical critical issues centered on women, gender, and/or feminism beyond that of the Major. It culminates in the completion of an Honours thesis, supervised by a faculty member. Students secure the approval of a potential thesis advisor during the year before undertaking the thesis. Three credits are accorded to the thesis (graded by the thesis advisor), and 3 credits are accorded to work undertaken in the Colloquium which requires supplemental reading and writing assignments, training in research and thesis writing methods, presentation to the group of theses in progress, and response to the work of others.

Joint Honours students must maintain a program GPA of 3.30 and a CGPA of 3.00.

Required Courses (12 credits)
WMST 200 (3) Introduction to Women's Studies
WMST 303 (3) Feminist Theory and Research
WMST 495D1 (1.5) Honours/Joint Honours Colloquium
WMST 495D2 (1.5) Honours/Joint Honours Colloquium
WMST 497D1 (1.5) Honours/Joint Honours Thesis
WMST 497D2 (1.5) Honours/Joint Honours Thesis

Complementary Courses (24 credits)

24 credits of complementary courses selected as described below.

At least 6 of the 24 credits must be at the 400 or 500 level; no more than 12 credits can be at the 200 level.

3 credits chosen from the WMST courses below:
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science

9 credits from Complementary Course Group A:
Students must select a minimum of 9 credits from the following eight groupings of complementary courses. Students may take only one course from any particular grouping. Any additional credits taken above the 9 credits from Complementary Course Group A may count as credits towards Group B.

Group A-1
SOCI 270 (3) Sociology of Gender

Group A-2
PHIL 242 (3) Introduction to Feminist Theory

Group A-3
COMS 310 (3) Media and Feminist Studies

Group A-4, Gender Relations in Major Societal Institutions, 1 of:
SOCI 247 (3) Family and Modern Society
SOCI 321 (3) Gender and Work
SOCI 390 (3) Gender and Health

Group A-5, Transnational or National Histories of Women/Gender and Sexuality, 1 of:
EAST 370 (3) History of Sexuality in Japan
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2

Group A-6, Women/Gender and Literature, 1 of:
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
ENGL 323 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory

Group A-7, Women/Gender in a Religious Tradition, 1 of:
RELG 256 (3) Women in Judaism and Islam
RELG 338 (3) Women and the Christian Tradition
RELG 356 (3) Gender & Sexuality in Hinduism

Group A-8, Women and Health, 1 of:
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

12 credits from Complementary Course Group B.

Students select courses from the list in consultation with an advisor and identify an individual focus of study comprised of 9 credits.

Note: Complementary Course Group B includes topics courses marked by an asterisk "*". Courses with an asterisk "*" are acceptable ONLY when the topic is appropriate for Women's Studies, that is, it is relevant to women and/or gender and/or feminism in a given year and with documentation on file for the given year. Additions may be made during a particular calendar year depending on the topic of special courses. For final updates, go to www.mcgill.ca/mcrtw. Please note that not all courses are offered every year. Courses currently awaiting University approval to be cross-listed as Women's Studies courses will be added to the online Calendar (www.mcgill.ca/courses) and the MCRTW website.

Complementary Course Group B:

Anthropology
ANTH 341 (3) Women in Cross-cultural Perspective
ANTH 342 (3) Gender, Inequality and the State
ANTH 413 (3) Gender in Archaeology

Art History and Communication Studies
ARTH 352 (3) Feminism in Art and Art History
COMS 310 (3) Media and Feminist Studies
COMS 490 * (3) History and Theory of Media

Canadian Studies
CANS 406 * (3) Canadian Studies Seminar 6

Classics
CLAS 370 (3) Women in Greek Drama

East Asian Studies
EAST 350 (3) Gender and Sexuality in Chinese Literature
EAST 351 (3) Women Writers of China
EAST 370 (3) History of Sexuality in Japan
EAST 390 (3) The Chinese Family in History
EAST 453 * (3) Topics: Chinese Literature
EAST 466 (3) Feminism and Japan

Educational and Counselling Psychology
EDPE 515 (3) Gender Identity Development

English
ENGL 335 * (3) The 20th Century Novel 1
ENGL 345 * (3) Literature and Society
ENGL 362 * (3) Poetry of the 20th Century 2
ENGL 391 * (3) Special Topics: Cultural Studies 1
ENGL 396 (3) Women in Film and Media
ENGL 397 * (3) Feminist Approaches to Cultural Studies
ENGL 407 * (3) The 20th Century
ENGL 411 * (3) Studies in Canadian Fiction
ENGL 418 * (3) A Major Modernist Writer
ENGL 430 * (3) Studies in Drama
ENGL 431 * (3) Studies in Drama
ENGL 438 * (3) Studies in Literary Form
ENGL 443 (3) Contemporary Women's Fiction
ENGL 444 (3) Studies: Women's Writing and Feminist Theory
ENGL 480 * (3) Studies in History of Film 1
ENGL 490 * (3) Culture and Critical Theory 2

German Studies
GERM 362 * (3) 20th Century Literature Topics
GERM 364 (3) German Culture: Gender and Society
GERM 366 * (3) Postwar German Literature/Film
GERM 455 (3) Women of the Romantic Era

Hispanic Studies
HISP 358 (3) Women Writers Fiction Spanish-America

History
HIST 199 (3) FYS: Medieval Women and Men
HIST 323 (3) History and Sexuality 1
HIST 347 (3) History and Sexuality 2
HIST 398 * (3) Topics in Italian History
HIST 412 (3) Women and Gender in Modern Britain
HIST 420 (3) Gender and Sexuality in Modern China
HIST 424 (3) Gender, Sexuality & Medicine
HIST 426 * (3) Topics: British Cultural History
HIST 429 * (3) Topics: Canadian Family History
HIST 433 (3) British Queer History
HIST 439 (3) History of Women in China
HIST 448 (3) Women, Gender and Sexuality in the Middle East
HIST 463D1 (3) Topics: History of Women in Canada
HIST 463D2 (3) Topics: History of Women in Canada
HIST 470D1 * (3) Topics: Historical Interpretation
HIST 470D2 * (3) Topics: Historical Interpretation
HIST 493D1 * (3) Topics: Canadian Social History
HIST 493D2 * (3) Topics: Canadian Social History
HIST 525 (3) Women, Work and Family in Global History

Italian Studies
ITAL 363 (3) Gender, Literature and Society
ITAL 383 (3) Women's Writing since 1880

Jewish Studies
JWST 351 * (3) Studies in Modern Jewish Literature

Law
CMPL 504 (3) Feminist Legal Theory

Music
MUHL 220 (3) Women in Music

Nursing
HSEL 308 (3) Issues in Women's Health
HSEL 309 (3) Women's Reproductive Health

Philosophy
PHIL 242 (3) Introduction to Feminist Theory
PHIL 442 (3) Topics in Feminist Theory
PHIL 544 * (3) Political Theory

Religious Studies
RELG 256 (3) Women in Judaism and Islam
RELG 336 * (3) Contemporary Theological Issues
RELG 338 (3) Women and the Christian Tradition
RELG 339 (3) Gender & Sexuality in Buddhism
RELG 356 (3) Gender & Sexuality in Hinduism
RELG 372 (3) Hindu Goddesses

Sexual Diversity Studies
SDST 250 (3) Introduction: Sexual Diversity Studies

Social Work
SWRK 377 (3) Women's Issues in Practice

Sociology
SOCI 247 (3) Family and Modern Society
SOCI 270 (3) Sociology of Gender
SOCI 321 (3) Gender and Work
SOCI 370 (3) Sociology: Gender and Development
SOCI 390 (3) Gender and Health
SOCI 425 (3) Sociology of the Body
SOCI 489 (3) Gender, Deviance and Social Control
SOCI 519 (3) Gender and Globalization
SOCI 530 (3) Sex and Gender
SOCI 535 (3) Sociology of the Family

Women's Studies
WMST 301 (3) Women's Studies Current Topics 1
WMST 302 (3) Women's Studies Current Topics 2
WMST 401 (3) Women's Studies Special Topics 1
WMST 402 (3) Women's Studies Special Topics 2
WMST 461 (3) Tutorial in Women's Studies 1
WMST 462 (3) Tutorial in Women's Studies 2
WMST 501 (3) Advanced Topics 1
WMST 502 (3) Advanced Topics 2
WMST 513 (3) Gender, Race and Science
Not offered in 2009-2010

7 Bachelor of Arts and Science

Table of Contents

7.1 The Faculties, page 229
- 7.1.1 Location, page 229
- 7.1.2 Administrative Officers, page 229
- 7.1.3 Programs and Teaching in Arts and in Science, page 230
- 7.1.4 Science Office for Undergraduate Student Advising (SOUSA), page 230

7.2 Degree Admission Requirements, page 230

7.3 Degree Requirements, page 230
- 7.3.1 Minimum Credit Requirement, page 230
- 7.3.2 Residency, page 230
- 7.3.3 Cumulative Grade Point Average (CGPA), page 230
- 7.3.4 Time and Credit Limit for Completion of the Degree, page 230
- 7.3.5 Program Requirements, page 231
  - 7.3.5.1 Freshman Program, page 231
  - 7.3.5.2 Departmental Programs, page 231
- 7.3.6 Course Requirements, page 232
  - 7.3.6.1 Course Overlap, page 232
  - 7.3.6.2 Courses outside the Faculties of Arts and of Science, page 232
  - 7.3.6.3 Distance Education Courses, page 232
  - 7.3.6.4 Courses Taken Under the Satisfactory/Unsatisfactory Option, page 233
  - 7.3.6.5 Courses in English as a Second Language, page 233

7.4 Advising, page 233
- 7.4.1 Choosing a B.A. & Sc. Program, page 233
- 7.4.2 Preparation for Graduate School, page 234

7.5 Registration, page 234
- 7.5.1 Program Registration, page 234
- 7.5.2 Course Registration, page 234
  - 7.5.2.1 Registration for First-Year Seminars, page 234
  - 7.5.2.2 Freshman Interest Groups, page 234
  - 7.5.2.3 Registration in Multi-Term Courses, page 234
- 7.5.3 Apply to Graduate, page 235

7.6 Grading and Credit, page 235
- 7.6.1 Incomplete Grades, page 235

7.7 Examinations, page 235

7.8 Supplemental Assessments, page 235
- 7.8.1 Supplemental Examinations, page 235
- 7.8.2 Additional Work, page 235
- 7.8.3 Reassessments and Rereads, page 236

7.9 Academic Standing, page 236
- 7.9.1 Interim Satisfactory/Satisfactory Standing, page 236
- 7.9.2 Interim Probationary/Probationary Standing, page 236
- 7.9.3 Unsatisfactory Readmitted Standing, page 236
- 7.9.4 Interim Unsatisfactory/Unsatisfactory Standing, page 236
- 7.9.5 Incomplete Standings, page 237

7.10 Awards and Honorary Designations, page 237
- 7.10.1 Honours and First-Class Honours, page 237
- 7.10.2 Distinction, page 237
- 7.10.3 Dean's Honour List, page 237
- 7.10.4 Medals and Prizes, page 237

7.11 Programs in the B.A. & Sc., page 237
- 7.11.1 Major Concentrations, page 237
  - 7.11.1.1 Arts, page 237
  - 7.11.1.2 Science, page 238
- 7.11.2 Interfaculty Programs, page 238
- 7.11.3 Honours Programs, page 238
- 7.11.4 Joint Honours Programs, page 238
  - 7.11.4.1 Arts, page 238
  - 7.11.4.2 Science, page 238
- 7.11.5 Minor Concentrations or Minors, page 238
  - 7.11.5.1 Arts, page 238
  - 7.11.5.2 Science, page 239
- 7.11.6 Integrative Courses, page 239
  - 7.11.6.1 Required Integrative Course, page 239
  - 7.11.6.2 Complementary Integrative Course, page 239

7.12 Academic Programs, page 239
- 7.12.1 Required Integrative Course for B.A. & Sc., page 239
- 7.12.2 Programs in Arts or in Science, page 239
- 7.12.3 Biology (BIOL), page 239
- 7.12.4 Biomedical Sciences, page 240
- 7.12.5 Chemistry (CHEM), page 241
- 7.12.6 Cognitive Science, page 241
- 7.12.7 Computer Science, page 242
- 7.12.8 Earth, Atmosphere and Ocean Sciences, page 243
- 7.12.9 Environment, page 243
- 7.12.10 Geography (GEOG), page 243
- 7.12.11 Mathematics, page 244
- 7.12.12 Physics (PHYS), page 244
- 7.12.13 Psychology, page 244

7.1 The Faculties

7.1.1 Location

853 Sherbrooke Street West
Montreal, QC H3A 2T6
Canada

Telephone: 514-398-4210
Faculty websites:
www.mcgill.ca/arts and www.mcgill.ca/science

Degree website: www.mcgill.ca/science/sousa/basc

Science Office for Undergraduate Student Advising (SOUSA)
Website: www.mcgill.ca/science/sousa

The Science Office for Undergraduate Student Advising (SOUSA) Office of the Faculty of Science and the Office of the Director of Advising Services of the Faculty of Science are located in Dawson Hall, Rooms 110 and 115. The SOUSA Office serves students in the B.A. & Sc. and B.Sc. degrees.

7.1.2 Administrative Officers

For a listing of administrative officers in the Faculty of Arts, refer to section 6.1.2 "Administrative Officers", and for those in the Faculty of Science, refer to section 14.1.2 "Faculty Administrative Officers". Note that the Director of Advising Services, Science, is responsible for students pursuing a B.A. & Sc.

The B.A. & Sc. Program Administration Committee (PAC), which oversees the curriculum and regulations for the degree, consists of the following members:

Bruce A. Arndtsen; B.A.(Car. College), Ph.D.(Stan.)
Chemistry

André Costopoulos; B.A.(McG.), M.A.(Montr.), Ph.D.(Oulu)
Anthropology

Laurie Hendren; B.Sc., M.Sc.(Qu.), Ph.D.(C'nell)
Associate Dean (Academic), Faculty of Science

Louis Lefebvre; B.Sc., M.A., Ph.D.(Montr.) **Biology**

TBA
Associate Dean (Academic), Faculty of Arts

Gregory Mikkelson; B.A.(Trinity University), M.S., Ph.D.(Chic.)
Philosophy and School of Environment

7.1.3 Programs and Teaching in Arts and in Science

Programs and teaching in Arts are described in section 6.1.3 "Programs and Teaching in Arts". Those in Science are described in section 14.1.3 "Programs and Teaching in Science". The two faculties jointly offer the B.A. & Sc., so students pursuing that degree are at home in both Arts and Science.

7.1.4 Science Office for Undergraduate Student Advising (SOUSA)

The Science Office for Undergraduate Student Advising (SOUSA) provides ongoing advice and guidance on programs, degree requirements, registration, course change, procedures for withdrawal, deferred exams, supplemental exams, rereads, academic standing, inter-faculty transfer, year or term away, transfer credits, second programs, second degrees, and graduation.

SOUSA advisers offer help managing academic situations during periods of personal, financial or medical problems, by working with students to identify various possibilities and strategies for making informed decisions. SOUSA advisers can be contacted via email at adviser.science@mcgill.ca.

Special requests can be made, in writing, to the Director of Advising Services, Science, who is responsible for students pursuing a B.A. & Sc.

The Committee on Student Standing (CSS) of the Faculty of Science will consider appeals of the Director of Advising Services' decisions. For information about CSS, see the Director of Advising Services' assistant.

For more information, please refer to our website at www.mcgill.ca/science/sousa.

7.2 Degree Admission Requirements

For information about admission requirements to the B.A. & Sc., please refer to the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

For information about inter-faculty or inter-degree transfers, please refer to "Inter-Faculty Transfer", section 3.3.12, as well as to the relevant information posted on the Science Office for Undergraduate Student Advising (SOUSA) website at www.mcgill.ca/science/sousa.

7.3 Degree Requirements

Each student pursuing a B.A. & Sc. must be aware of the regulations as stated in this section of the Calendar and on the McGill and Science Office for Undergraduate Student Advising (SOUSA) websites.

While departmental and Faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of, program and degree requirements, and for the observance of regulations and deadlines rests with the student. It is the student's responsibility to seek guidance from the SOUSA Office if in any doubt; misunderstanding or misapprehension will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

To be eligible for a B.A. & Sc., students must fulfil all Faculty degree and program requirements as indicated below:
"Degree Requirements", section 7.3
"Minimum Credit Requirement", section 7.3.1
"Residency", section 7.3.2
"Cumulative Grade Point Average (CGPA)", section 7.3.3
"Time and Credit Limit for Completion of the Degree", section 7.3.4
"Program Requirements", section 7.3.5
"Course Requirements", section 7.3.6

7.3.1 Minimum Credit Requirement

Students must complete the minimum credit requirement for the degree as specified in the letter of admission.

Students are normally admitted to a four-year degree requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in the Diploma of Collegial Studies, International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests.

Students who are readmitted after interrupting their studies for a period of five consecutive years or more may be required to complete a minimum of 60 credits and satisfy the requirements of a program. In this case, a new GPA will be calculated. The Director of Advising Services, Science, in consultation with the appropriate department, may approve a lower minimum for students who had completed 60 credits or more before interrupting their studies.

Students who are readmitted after a period of absence are normally subject to the program and degree requirements in effect at the time of readmission.

7.3.2 Residency

To obtain a B.A. & Sc., students must satisfy the following residency requirements: a minimum of 60 credits of courses used to satisfy the B.A. & Sc. requirements must be taken and passed at McGill, exclusive of any courses completed as part of the math and science requirements of the B.A. & Sc. Freshman Program. At least two-thirds of all departmental program requirements (Multitrack, Honours, Interfaculty) must normally be completed at McGill. Exceptionally, students in Major Concentrations or Interfaculty or Honours programs who pursue an approved Study Away or Exchange program may, with prior approval from both their department and the Director of Advising Services, Faculty of Science, be exempted from the two-thirds rule. In addition, some departments may require that their students complete specific components of their program at McGill.

7.3.3 Cumulative Grade Point Average (CGPA)

Each candidate for a B.A. & Sc. must achieve a minimum cumulative grade point average (CGPA) of 2.00.

7.3.4 Time and Credit Limit for Completion of the Degree

Students who need 96 or fewer credits to complete their degree requirements are expected to complete their degree in no more than eight terms after their initial registration. Students in the Freshman Program become subject to these regulations one year after their initial registration. Students who need or wish to exceed this time limit must receive permission from the Director of Advising Services, Science, to continue their studies.

Students registered in the B.A. & Sc. are expected to complete the requirements of their programs and their degree within 120 credits. Students will receive credit for all courses (subject to degree regulations) taken up to and including the semester in which they obtain 120 credits. Students who wish to remain at McGill beyond that semester must also seek permission of the Director of Advising Services, Science. Permission for exceeding the time and/or credit limits will normally be granted only for valid academic reasons, such as a change of program (subject to departmental approval) and part-time status. If permission is granted, students will receive credit only for required and complementary courses necessary to complete program requirements.

7.3.5 Program Requirements

Students with specific career goals should consult an academic adviser about their choice of program within the B.A. & Sc. However, students intending to pursue further studies following the B.A. & Sc. should refer to the admissions requirements of particular programs for the appropriate prerequisite courses.

In particular, students should note the following:

- The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools.
- The Major Concentration in Psychology may not provide a sufficiently focused background for admission to many graduate programs in Psychology.
- The Major Concentration in Chemistry is not certified by the Ordre des Chimistes du Québec. Students interested in pursuing a career in Chemistry in Quebec are advised to take an appropriate B.Sc. program in Chemistry.

7.3.5.1 Freshman Program

Students who need to complete 97-120 credits to fulfil their degree requirements are admitted to the Freshman Program. The Freshman Program requirements include foundational courses in both Science and Arts which must be selected as follows:

B.A. & Sc. FRESHMAN PROGRAM (30 credits)
At least two mathematics courses selected from:

MATH 139	(4)	Calculus
or MATH 140	(3)	Calculus 1
or MATH 150	(4)	Calculus A
MATH 141	(4)	Calculus 2
or MATH 151	(4)	Calculus B
MATH 133	(3)	Vectors, Matrices and Geometry

At least three foundational science courses selected from:

BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
or CHEM 115	(4)	Accelerated General Chemistry: Giants in Science
CHEM 120	(4)	General Chemistry 2 Note: not open to students who have taken CHEM 115
PHYS 101	(4)	Introductory Physics - Mechanics
or PHYS 131	(4)	Mechanics and Waves
PHYS 102	(4)	Introductory Physics - Electromagnetism
or PHYS 142	(4)	Electromagnetism and Optics

At least three Arts courses (or 9 credits) to be chosen in two of the following three categories:

Social Sciences: Anthropology, Economics, History, Linguistics, Political Science, Sociology

Humanities (Literature and Civilization): Art History and Communications Studies, Classics, East Asian Studies, English, French Language and Literature, German Studies, Hispanic Studies, Islamic Studies, Italian studies, Jewish Studies, Philosophy, Religious Studies, Russian Studies

Languages (courses may be taken in this category to improve language skills): Classics (Latin, Ancient Greek or Modern Greek), East Asian Studies (Chinese, Japanese, Korean), English or French as a Second Language, French Language and Literature, German Studies, Hispanic Studies (Spanish), Islamic Studies (Arabic, Persian, Turkish, Urdu), Italian, Jewish Studies (Hebrew, Yiddish), Russian and Slavic Studies (Polish, Russian, Armenian)

A maximum of two courses (or 6 credits) may be chosen from one category, and no more than two courses (or 6 credits) can be taken in any one department.

No course may fulfil the requirements for more than one program, including the B.A. & Sc. Freshman Program.

Students who have completed the Diploma of Collegial Studies, Advanced Placement exams, Advanced Levels, the International Baccalaureate, the French Baccalaureate, or McGill placement examinations may receive exemption and/or credit for all or part of the Mathematics and foundational science courses as well as exemption from all or part of the Arts courses requirement of the Freshman Program. Similarly, students who have completed courses at other universities or colleges may receive exemptions and/or credits.

Advanced Placement Examination results with a score of 4 or 5 must be declared by the student at the time of initial registration at the University. For more information about advanced standing, please consult: www.mcgill.ca/student-records/transfercredits.

Students must carefully select their mathematics and science Freshman courses so that they have all the required prerequisites for their intended Departmental Programs.

For further details, refer to information about the B.A. & Sc. Freshman Program on the web at www.mcgill.ca/science/sousa/basc.

7.3.5.2 Departmental Programs

Students pursuing a B.A. & Sc., other than those registered in the Freshman Program, are required to have an approved program (Multi-track, Honours, Joint Honours, Interfaculty), and to select their courses in each term with a view to timely completion of their degree and program requirements. Students must complete one of the program streams described below.

In all cases, the degree also includes a **required integrative course (BASC 201; 3 credits)**, a **complementary integrative course (3 credits)** within or outside a student's programs selected from the complementary list in "Integrative Courses", section 7.11.6, plus electives (10-15 credits).

MULTI-TRACK SYSTEM

To recognize the diversity of student backgrounds and interests and the multiple routes to understanding provided by a modern university, the Faculties of Arts and of Science offer a 90-credit multi-track system that includes a Major Concentration in one faculty complemented by either a Major Concentration or two Minors/Minor Concentrations in the other faculty and that may be completed in one of the following ways:

Options

- Arts Major Concentration (36 credits) + Science Major Concentration (36-38 credits) (see "Programs in the B.A. & Sc.", section 7.11, for a list of programs open to students in the B.A. & Sc.)
- Major Concentration in Arts or Science (36-38 credits) + two Minors/Minor Concentrations in the other faculty (2 x 18 credits = 36 credits)

Regulations

- Programs offered by Computer Science, Mathematics and Statistics, and Psychology are considered Science programs for the purpose of the B.A. & Sc.
- Within both options, all Concentrations must be in different academic units. Thus, students may take a Geography program either in Arts or in Science, but not in both.
- Students will include within the 36 or 18 credits of their Major Concentrations or Minors or Minor Concentrations any university-level (200- or above) prerequisites to required courses within their programs.
- No course may fulfil the requirements for more than one program.

Definitions

Units: academic departments or administrative equivalents.

Programs: lists of required and complementary courses (including university level prerequisites for required courses) prepared and maintained by units.

Major Concentration: a program of 36-38 credits taken from a unit's course offerings.

Minor Concentration: a program of 18 credits taken from a unit's course offerings. Expandable Minor Concentrations are those that can, on the completion of 18 additional approved credits, be expanded into a Major Concentration within the appropriate unit.

HONOURS PROGRAM
Honours programs demand a high degree of specialisation, and require students to satisfy specific departmental and Faculty Honours requirements while maintaining good academic standing. They are designed to prepare students for graduate study. Students in the B.A. & Sc. who complete an approved Honours program must also complete an approved Minor Concentration or a Minor in the Faculties of Arts or of Science. Students must complete at least 30 credits in the Faculty of Arts and at least 30 in the Faculty of Science as part of their Honours program and their Minor Concentration or Minor program. See "Honours Programs" in section 7.11.3 for a list of available programs.

To choose the Honours option, students must meet the GPA/CGPA requirements set out in "Honours and First-Class Honours" in section 7.10.1.

JOINT HONOURS PROGRAM
Students who wish to study at the Honours level in two disciplines can combine a Joint Honours program component from an Arts discipline with one from a Science discipline; see section 7.11.4 "Joint Honours Programs" for a list of available programs. Each Joint Honours component consists of a maximum of 36-38 required and complementary credits (not including program prerequisites). In cases where a minimum of 24 credits are in courses normally restricted to Honours students, the total of required and complementary credits may be as few as 30.

To choose the Joint Honours option, students must meet the GPA/CGPA requirements set out in "Honours and First-Class Honours", section 7.10.1.

INTERFACULTY PROGRAM
An Interfaculty program is an approved selection of courses constituting a concentration in an intellectually coherent and inter-faculty field of studies. These courses must include approved selections from the Faculties of Arts and of Science and possibly other faculties. See section 7.11.2 "Interfaculty Programs" for a list of approved programs. Students in the B.A. & Sc. who complete an approved Interfaculty program must also complete an approved Minor Concentration or a Minor in the Faculties of Arts or of Science. Students must complete at least 30 credits in the Faculty of Arts and at least 30 in the Faculty of Science as part of their Interfaculty program and their Minor Concentration or Minor program.

7.3.6 Course Requirements

All required and complementary courses used to fulfil program requirements, including the Freshman Program, must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a required course must either pass the supplemental examination in the course or do additional work for a supplemental grade, if these options are available, or repeat the course. Course substitution will be allowed only in special cases; students should consult their academic adviser.

Normally, students are permitted to repeat a failed course only once. (Failure is considered to be a grade of less than C or the administrative failures of J and KF.) If a required course is failed a second time, a student must appeal to the Director of Advising Services, Science, for permission to take the course a third time. If permission is denied by the Director of Advising Services and/or by the Committee on Student Standing of the Faculty of Science, on appeal, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another appropriate complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once.

Full details of the course requirements for all programs as well as the locations of departmental advisory offices, program directors, and telephone numbers for further information are available as follows:

For a list of all programs available to B.A. & Sc. students, with links to program descriptions, see section 7.11 "Programs in the B.A. & Sc.".

For a list of the required and complementary integrative courses, see section 7.11.6 "Integrative Courses".

7.3.6.1 Course Overlap

Students will not receive additional credit towards their degree for any course for which the student has already received credit at McGill, CEGEP, at another university, or as a result of Advanced Placement, Advanced Level, International Baccalaureate, or French Baccalaureate exams. It is the student's responsibility to consult the Science Office for Undergraduate Student Advising (SOUSA) or the department offering the course as to whether or not credit can be obtained and to be aware of exclusion clauses specified in the course description in the Calendar.

Please refer to the following website for specific information about advanced standing credits and McGill course exemptions: www.mcgill.ca/student-records/transfercredits.

Sometimes two different departments offer the same course. Such courses are called "double-prefix" courses. When such courses are offered simultaneously, students should take the course offered by the department in which they are obtaining their degree. For example, in the case of double-prefix courses CHEM XYZ and PHYS XYZ, Chemistry students take CHEM XYZ and Physics students take PHYS XYZ. If different departments offer a double-prefix course in alternate years, students may take whichever course best fits their schedule.

Credit for computer science and statistics courses will be given with the stipulations specified in "Course Overlap", section 14.3.6.1 in the Science section of the Calendar.

7.3.6.2 Courses outside the Faculties of Arts and of Science

The following regulations apply to students in the B.A. & Sc. who wish to take courses outside the Faculties of Arts and of Science:

- Regardless of their minimum credit requirement towards their B.A. & Sc., students are allowed a maximum of 12 credits in ELECTIVE and/or COMPLEMENTARY courses taken in faculties other than the Faculties of Arts and of Science.
- Students in certain designated programs that include a number of REQUIRED and COMPLEMENTARY courses in other faculties are permitted a maximum of 30 credits outside the Faculties of Arts and of Science. These programs are the Interfaculty and Honours Programs in Environment, the Minor Concentration in Environment, and the Major Concentration in Geography (Urban Systems).
- Any courses taught at McGill University may be used towards the maximum allowed except for courses in Continuing Education, for which students receive credit only in Continuing Education.
- For the purpose of this policy, courses taught in other faculties and specifically listed in the Arts or Science section of the Calendar are considered as courses taught in the Faculties of Arts and of Science.
- **The maximum number of credits allowed will be strictly enforced.**

7.3.6.3 Distance Education Courses

- A maximum of 6 credits of courses taught through distance education may be used as electives towards the B.A. & Sc. degree at McGill.
- Courses taught through distance education from institutions other than McGill will be approved as transfer credits under the following conditions:
  - the course is given by a government-accredited, degree-granting institution acceptable to McGill;
  - the course counts for credit towards degrees granted at the institution giving the course;

- prior approval for the course is obtained from the Science Office for Undergraduate Student Advising (SOUSA).

- The combined total of regular course credits and distance education course credits may not exceed the permitted maximum number of credits per term according to the regulations for the B.A. & Sc.
- Courses taught through distance education may not be used to complete program requirements, except on an individual basis when serious, documented circumstances warrant it. In such cases, prior approval must be obtained from the student's program adviser and the Director of Advising Services, Science.

7.3.6.4 Courses Taken Under the Satisfactory/ Unsatisfactory Option

For more information and restrictions, please see section 3.3.6 "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option".

7.3.6.5 Courses in English as a Second Language

ESL courses are only open to students whose primary language is not English and who have studied for fewer than five years in English-language secondary institutions. Students in the B.A. & Sc. may take a maximum of 12 credits, including academic writing courses for non-anglophones.

7.4 Advising

Students who need 96 or fewer credits to complete their degree requirements must consult academic advisers in their proposed departments of study to obtain advice and approval of their course selection (please see "Departmental Programs" in section 7.3.5.2). To facilitate program planning, they must present their transcripts and letters of admission. Such students who have not fulfilled the B.A. & Sc. Freshman Program requirements should also seek advice from an adviser in the Science Office for Undergraduate Student Advising (SOUSA). For a detailed description of advising and registration procedures, students should refer to: "Registration", section 3.3; "Advising and Support", section 4; *Welcome to McGill,* which they receive upon acceptance from Enrolment Services; as well as information posted on the SOUSA website, www.mcgill.ca/science/sousa and the departmental websites.

Students who need 97-120 credits to complete their degree requirements will normally be registered in a Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. For a detailed description of advising and registration procedures, Freshman students should refer to *Welcome to McGill*, which they receive upon acceptance from Enrolment Services, as well as the SOUSA website, www.mcgill.ca/science/sousa.

Advising for all returning students takes place in March for the upcoming academic year. For more information, students should refer to the SOUSA website, www.mcgill.ca/science/sousa.

7.4.1 Choosing a B.A. & Sc. Program

The B.A. & Sc. is intended for students with well-defined interdisciplinary interests. There are several options for the main program, all of which specify 75-80 of the 90 credits, leaving only 10-15 credits for electives. Since there are relatively few electives, students entering a program in the B.A. & Sc. degree should have a clear idea of their objectives, goals, and intended areas of study, so that they can plan their curriculum carefully.

It should be noted that there also exists considerable flexibility within the B.A. (Faculty of Arts) and B.Sc. (Faculty of Science) programs. Students who are more interested in Arts, but would like to study some Science can do so within the B.A. degree. Similarly, students who are more interested in Science, but would like to study some Arts can do so within the B.Sc. degree. For example, B.Sc. students may complete minor concentrations in Arts and vice versa.

There are four ways to complete programs in the B.A. & Sc. degree:

1) Multi-track System

The multi-track system is intended for students who want a program that includes significant components from both Arts and from Science.

Students complete 36 credits of Arts, 36-38 credits of Science, and 6 credits of integrative courses. Students can either combine an Arts major concentration with a Science major concentration (36-38 credits) or they can select a major concentration from one faculty and two 18 credit minor concentrations from the other. Additional guidelines for the multi-track system can be found in "Departmental Programs", in section 7.3.5.2. Students will find the program descriptions for the major and minor concentrations in Science which are unique to the B.A. & Sc. within this section of the Calendar.

Descriptions of programs offered in Arts are located in the Arts section of the Calendar.

2) Interfaculty Programs

Interfaculty programs are interdisciplinary in nature. There are currently two such programs: Environment and Cognitive Science. Students in these programs complete 54 credits of the interfaculty program, a minor of 18 credits, and 6 credits of integrative courses. Students must complete at least 30 credits in the Faculty of Arts and at least 30 credits in the Faculty of Science as part of their interfaculty program and their minor concentration or program.

ENVIRONMENT

In contrast to other Environment programs offered through the McGill School of Environment, the B.A. & Sc. Interfaculty Environment Program does not have predefined themes and is intended for students who have a specific goal and want to define their own theme by choosing courses that help them progress towards that goal. Further information about Environment programs and academic advising can be found at www.mcgill.ca/mse.

COGNITIVE SCIENCE

The Interfaculty Program in Cognitive Science offered within the B.A. & Sc. degree is the only major program currently offered at McGill for students interested in this discipline. The requirements encourage students to choose courses in two of the five subject areas in Cognitive Science (Computer Science, Linguistics, Neuroscience, Philosophy, Psychology) as the focus of their program. In addition, students interested in research in this field may include up to 12 credits of research courses within their program.

3) Joint Honours

The Joint Honours option is similar to the multi-track system except that students complete two Joint Honours components, one in Arts and one in Science. At present, the choice of Science component is restricted to either Math or Psychology. However, there is a great range of choices for the Arts component.

To choose the Joint Honours option, students must meet the GPA/CGPA requirements set out in section 7.10.1 "Honours and First-Class Honours".

4) Honours

There are two B.A. & Sc. Honours programs. The Honours Program in Environment is similar to the Interfaculty Program in Environment but has additional GPA requirements and an additional 6-credit required research course. Likewise, the Honours Program in Cognitive Science is similar to the Interfaculty Program in Cognitive Science with additional GPA requirements and an additional 6-credit research course requirement. Students completing an honours program must also complete a minor concentration or program, and 6 credits of integrative courses. Students must complete at least 30 credits in the Faculty of Arts and at least 30 credits

in the Faculty of Science as part of their honours program and their minor concentration or program.

To choose the Honours option, students must meet the GPA/CGPA requirements set out in section 7.10.1 "Honours and First-Class Honours".

7.4.2 Preparation for Graduate School

Any choice of undergraduate degree and program constrains options for graduate school. The B.A. & Sc. provides good preparation for graduate degrees in integrated disciplines such as Cognitive or Environmental Science. Depending on the Arts or Science specific program you wish to enter in graduate school the B.A. & Sc. may or may not be adequate preparation. If you intend to pursue an Arts or Science specific program at the graduate level, you should consult academic advisers in that discipline at McGill and at universities where you intend to apply in order to find out whether the B.A. & Sc. will prepare you adequately. If you are considering continuing on in a specific Science graduate program, you should examine the difference between the preparation provided by the 36-credit major concentrations in the B.A. & Sc. Program versus the significantly more specialized major and honours programs offered in the B.Sc. programs.

7.5 Registration

All students register by Minerva, McGill's web-based registration system.

For detailed information about registration, please refer to "Registration" in section 3.3, *Welcome to McGill*, the Science Office for Undergraduate Student Advising website, www.mcgill.ca/science/sousa, and the Student Records website, www.mcgill.ca/student-records.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not re-register. However, students who can provide proof of extenuating circumstances that affected their academic performance may appeal to the Director of Advising Services, Science, for readmission. For more information, students should see section 3.3.13 "Readmission".

Students who have an outstanding fee balance from a previous term or outstanding fines will not be permitted to register. In addition, students who have registered for the upcoming academic year, but who subsequently take Summer courses without paying the fees, will have their registration cancelled. Registration will be denied until these debts are paid in full. Students must pay all debts before the end of the registration period to be permitted to register. Students with financial problems should consult the Student Aid Office, Brown Student Services Building.

Students who decide not to return to McGill after initiating registration must withdraw from all of their courses on Minerva or inform the Science Office for Undergraduate Student Advising (SOUSA) in writing. The deadline for withdrawal from the University is the same deadline as for a course withdrawal; see section 3.3.8 "Regulations Concerning Course Withdrawal" and section 3.3.9 "Regulations Concerning University Withdrawal". After the deadline, students may, under exceptional circumstances, be granted permission to withdraw from the University. Such students should contact the SOUSA Office for further information.

7.5.1 Program Registration

Students should refer to *Welcome to McGill* or to the Arts and Science Registration information on how to register for programs on the SOUSA website, www.mcgill.ca/science/sousa, or the Student Records website, www.mcgill.ca/student-records. For a list of programs that can be taken by students pursuing a B.A. & Sc., see section 7.11 "Programs in the B.A. & Sc."

7.5.2 Course Registration

All courses have limited enrolment. Students pursuing a B.A. & Sc. may register for, and take for credit, any course, unless otherwise indicated, in the sections of the Calendar applicable to the Faculties of Arts and of Science, subject to the course restrictions listed in this section.

Since the registration system is unable to verify whether or not degree regulations are respected, it is technically possible to register for courses that may not be credited towards the B.A. & Sc. When students' records are manually verified, however, any courses taken that violate the degree regulations will be flagged after the end of course change period as "not for credit towards the B.A. & Sc." As a result, the students' expected date of graduation may be delayed.

Some courses may require special permission. Students should consult this Calendar and/or the Class Schedule at www.mcgill.ca/courses well in advance of the course change (drop/add) period to determine if permission is required of the instructor, the department, or the Faculty for any course they wish to take.

Students who believe they have valid reasons to take a course that may not be credited towards the B.A. & Sc. must obtain the permission of the Director of Advising Services, Science.

7.5.2.1 Registration for First-Year Seminars

Registration for First-Year Seminars is limited to students in their first year of study at McGill, i.e., newly admitted students in U0 or U1. These courses are designed to provide a closer interaction with professors and better working relations with peers than is available in large introductory courses. These seminars endeavour to teach the latest scholarly developments and expose participants to advanced research methods. Registration is on a first-come, first-served basis. The maximum number of students in any seminar is 25, although some are limited to even fewer than that.

Students may take only one First-Year Seminar during their first year at McGill. Students who register for more than one will be obliged to withdraw from all but one of them.

A list of First-Year Seminars is available in the Arts General section (see section 6.5.2.1 "Registration for First-Year Seminars") and the Science General section (see section 14.5.2.1 "Registration for First-Year Seminars") of the Calendar.

7.5.2.2 Freshman Interest Groups

Freshman Interest Groups (FIGs) are groups of approximately 15 U0 students in the B.Sc. or B.A. & Sc., led by a professor in the Faculty of Science or Faculty of Medicine and an upper-year undergraduate student. They meet once every two weeks in the fall semester to discuss a wide range of topics, such as science in the news, program choices, undergraduate research opportunities, or just aspects of life in Montreal. The purpose of a FIG is to ease the transition to McGill and Montreal and to provide students an opportunity to interact with a professor and with other U0 students in a small group. FIGs carry no credit and there is no charge. For more information and to see how to register refer to www.mcgill.ca/science/student/fig.

7.5.2.3 Registration in Multi-Term Courses

Students who select a multi-term course are making a commitment to that course for its entirety. Students MUST register in the same section in all terms of a multi-term course. Credit will be jeopardized if students deliberately register in different sections of a multi-term course. A drop of the second term portion of a multi-term course in order to change sections is considered a withdrawal from the course. In exceptional cases, when circumstances are beyond the student's control, the SOUSA Office may grant permission to change sections mid-way through a multi-term course. Students must make their request in writing to the Director of Advising Services, Science, citing their reason for the request. The request must also have the written support of the instructors of the sections involved and of the coordinator of the course (if applicable).

7.5.3 Apply to Graduate

For more information, see section 3.9.2 "Apply to Graduate".

7.6 Grading and Credit

During the first week of lectures, each instructor will provide students with a written course outline. This information should include, where appropriate:

- whether there will be a final examination in the course;
- how term work will affect the final mark in the course;
- how term work will be distributed through the term;
- whether there will be a supplemental examination in the course, and if so, whether the supplemental exam will be worth 100% of the supplemental grade or whether term work will be included in the supplemental grade (courses with formal final examinations must have supplemental examinations);
- whether students with marks of D, F, J, or U will have the option of submitting additional work, and, if so, how the supplemental mark will be calculated with the extra work.

7.6.1 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of K (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to the Science Office for Undergraduate Student Advising (SOUSA) are as follows:

• students graduating in June:	
Fall, Winter, and multi-term courses	April 30
• non-graduating students:	
Fall courses	April 30
Winter and multi-term courses	July 30
Summer courses	Nov. 30

Students' deadlines for submitting their work must be sufficiently in advance of these dates to ensure that the work can be graded and the mark submitted on time.

It is important to note that instructors may impose earlier deadlines than those listed.

If marks to clear K's have not been submitted to the SOUSA Office by the deadline specified above for non-graduating students, the K is automatically changed to a KF and counts as an F in the GPA.

Students with a grade of K who have serious extenuating circumstances may request an extension of the K deadline (KE) from the Director of Advising Services, Science. Please see section 3.3 "Registration" for more information.

7.7 Examinations

Students should see "Examinations" in section 3.6 for information about final examinations and deferred examinations.

The exam schedules are posted on the McGill website, www.mcgill.ca, normally one month after the start of classes for the tentative Examination Schedule, and two months after the start of classes for the final Examination Schedule. Students should also refer to the SOUSA website at www.mcgill.ca/science/sousa for more information.

Students are warned not to make travel arrangements to leave Montreal prior to the scheduled end of any examination period.

7.8 Supplemental Assessments

7.8.1 Supplemental Examinations

Students who wish to write supplemental examinations for certain courses must apply to the Science Office for Undergraduate Student Advising (SOUSA) for permission. The following conditions apply:

- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- special permission from the Director of Advising Services, Science, is required if students wish to write supplemental exams totalling more than 8 credits in any supplemental exam period;
- only one supplemental examination is allowed in a course;
- the supplemental result may count for 100% of the final grade or may include the same proportion of class work as did the original grade; the instructor will announce the arrangements to be used for the course by the end of the drop/add period;
- the format and content of the supplemental examination will not necessarily be the same as for the final examination, so students should consult the instructor;
- the supplemental result will not erase the grade originally obtained; both the original mark and the supplemental result will be calculated in the CGPA;
- in courses in which both a supplemental examination and additional work are available, students may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work;
- additional credit will not be given for a supplemental exam where the original grade for the course was a D and the student already received credit for the course;
- students must apply to write a supplemental exam; the deadline for submission of applications is March 1 for Fall courses and July 30 for Winter courses and courses spanning Fall/Winter; a non-refundable fee for each supplemental exam is payable at the time of application; supplemental examination applications are available on Minerva as of January 30, 2009;
- students must write the supplemental exams at the time of the next supplemental examination period (for Fall courses during the month of May, and for Winter courses and courses spanning Fall/Winter during the last week of August for the Faculties of Arts and of Science);
- supplemental examinations in courses outside the Faculties of Arts or Science are subject to the deadlines, rules, and regulations of the relevant faculty;
- no supplemental examinations are available for students who fail to achieve satisfactory grades in deferred examinations.

Students who register for a supplemental examination and subsequently find themselves unprepared for it should not write it; except for the loss of the registration fee, there is no penalty for not writing a supplemental examination. Students should consult the SOUSA Office for further information.

7.8.2 Additional Work

Instructors of courses that include graded written term work may choose to provide the option of additional work to eligible students. The following conditions apply:

- if there is an option for additional work, it must be announced in the course outline at the beginning of the course;
- additional work involves revising one or more previously submitted papers or submitting new written work to replace the original work;
- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- students must apply for additional work: the deadline for submission of applications is March 7 for Fall courses and July 30 for Winter courses and courses spanning Fall/Winter; a

non-refundable fee is payable for each course at the time of application; additional work applications and further information are available in the SOUSA Office;
- the weight of the additional work, in calculating the supplemental mark, will be equal to the weight given the work revised or replaced when the original mark was submitted;
- the mark resulting from the revised or additional work will be recorded as a supplemental mark;
- the supplemental result will not erase the grade originally obtained; both the original mark and the supplemental mark will count in calculating the CGPA;
- in courses in which both a supplemental examination and additional work are available, students may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work;
- additional work in courses outside the Faculties of Arts and of Science is subject to the deadlines, rules, and regulations of the relevant faculty.

7.8.3 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner.

The Faculties of Arts and of Science recognize two types of reassessments or rereads:
- reassessment of coursework (term papers, mid-terms, assignments, quizzes, etc.);
- reread of a final exam.

Reassessments and rereads for Arts courses are subject to the deadlines, rules, and regulations outlined in "Reassessments and Rereads" in section 6.8.2. Reassessments and rereads for Science courses are subject to the deadlines, rules, and regulations outlined in "Reassessments and Rereads" in section 14.8.3. Reassessments and rereads in courses not in the Faculties of Arts and of Science are subject to the deadlines, rules, and regulations of the relevant faculty.

7.9 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing is assessed in January for the Fall term, in May for the Winter term, and in September for the Summer term. Academic standing in each term determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall-term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standings for the Fall term that are designated as interim should be interpreted as advisory. Note that interim standings will not appear on external transcripts. Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.

7.9.1 Interim Satisfactory/Satisfactory Standing

Students in interim satisfactory or satisfactory standing:
- may continue in their program;
- have a CGPA of 2.00 or greater.

7.9.2 Interim Probationary/Probationary Standing

Students in interim probationary standing (at the end of the Fall term):
- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- are strongly advised to consult a departmental adviser, before withdrawal deadlines, about their course selection;
- should see their faculty student adviser to discuss their overall academic plan.

Students in probationary standing:
- may continue in their program;
- must carry a reduced load (maximum 14 credits per term);
- must raise their CGPA to return to satisfactory standing (see above);
- should see their departmental adviser to discuss their course selection;
- should see their faculty student adviser to discuss their overall academic plan.

Students will be placed in probationary standing:
- if their CGPA falls between 1.50 and 1.99 and if they were previously in satisfactory standing;
- if their CGPA falls between 1.50 and 1.99 and their TGPA in Fall or Winter is 2.50 or higher, and if they were previously in probationary, or interim unsatisfactory standing;
- if their CGPA is less than 2.00, and if they were previously in unsatisfactory readmitted standing and have satisfied the relevant conditions specified in their letter of readmission.

7.9.3 Unsatisfactory Readmitted Standing

Students in unsatisfactory readmitted standing:
- were previously in unsatisfactory standing and were readmitted to the B.A. & Sc. by the Director of Advising Services, Science, or the Committee on Student Standing of the Faculty of Science;
- must meet the conditions specified in their letter of readmission to be allowed to continue in their program;
- should see their departmental adviser to discuss their course selection;
- should see their faculty student adviser to discuss their overall academic plan.

7.9.4 Interim Unsatisfactory/Unsatisfactory Standing

Students in interim unsatisfactory standing (at the end of the Fall term):
- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- are strongly advised to consult their faculty student adviser before the withdrawal deadlines, about their course selection for the Winter term.

Students in unsatisfactory standing:
- have failed to meet the minimum standards set by the faculties;
- may not continue in their program, and their registration will be cancelled.

Students will be placed in unsatisfactory standing:
- if their CGPA falls or remains below 1.50;
- if their TGPA in the Fall or Winter falls below 2.50 and their CGPA is below 2.00 and if they were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing;
- if they were previously in unsatisfactory standing and were readmitted to the B.A. & Sc. by the Director of Advising Services, Science, or the Committee on Student Standing of the Faculty of Science but have not at least satisfied the conditions specified in the letter of readmission.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Director of Advising Services, Science, no later than July 15 for readmission to the Fall term and November 15 for the Winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students in unsatisfactory standing for the second time must withdraw permanently.

Normally, supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Director of Advising Services, Science, for permission to write a

supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

7.9.5 Incomplete Standings

Standing awaits deferred exam.
Must clear Ks, Ls or Supplementals.
Standing Incomplete.

Students with incomplete standings in the Winter or Summer term may register for the Fall term, but their standing must be resolved by the end of the course change period for that term. Students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to unsatisfactory standing may not continue in their program, and their registration will be cancelled.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Director of Advising Services, Science, as soon as they are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of course change period should immediately consult with the Science Office for Undergraduate Student Advising (SOUSA).

At the end of the Winter term, students with a mark of K or L will be placed in the appropriate standing in June, if the outstanding mark in the course will not affect their standing. Otherwise the standing decision will only be made once their incomplete marks have been cleared. For more information about incomplete grades please refer to "Incomplete Grades" in section 7.6.1.

7.10 Awards and Honorary Designations

7.10.1 Honours and First-Class Honours

Departments may recommend to the Faculties of Arts and of Science that graduating students registered in Honours and Joint Honours programs be awarded Honours or First-Class Honours under the following conditions:

- students must complete all requirements imposed by the department;
- for Honours, the CGPA at graduation must be at least 3.00;
- students in a Joint Honours program must satisfy the above criteria for both Joint Honours components;
- for First-Class Honours, the CGPA at graduation must be 3.50 or better;
- students in a Joint Honours program must satisfy the above criteria for both Joint Honours components;
- some departments have additional requirements that must be met before students are recommended for Honours or First-Class Honours (see the departmental entries);
- Students in Honours or Joint Honours programs whose program GPA or CGPA is below 3.00 or who did not satisfy certain additional program requirements must consult their academic adviser to determine if they are eligible to graduate in a program other than Honours or Joint Honours.

7.10.2 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 "Distinction".

7.10.3 Dean's Honour List

For information on the designation of Dean's Honour List awarded at graduation, see section 3.9.1.1 "Dean's Honour List".

7.10.4 Medals and Prizes

Various medals, scholarships, and prizes are open to continuing and graduating students. Full details of these are set out in the *Undergraduate Scholarships and Awards Calendar*, available on the web at www.mcgill.ca/courses. Application may be required for some scholarships.

7.11 Programs in the B.A. & Sc.

7.11.1 Major Concentrations

7.11.1.1 Arts

The Arts Major Concentrations available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar. Since the B.A. & Sc. degree requires a certain number of credits in the Arts and in the Sciences, there are special requirements for B.A. & Sc. students. To be counted as an Arts Major Concentration, the program must include at least 30 credits of Arts courses. Similarly, to be counted as a Science Major Concentration, the program must include at least 30 credits of Science courses.

For example, a student completing the 36-credit Humanistic Studies Major Concentration in Arts must complete at least 30 of those credits in Arts courses and at most 6 credits in Science courses.

African Studies, page 127
Anthropology, page 129
Art History, page 132
Canadian Studies, page 135
Classics, page 138
East Asian Studies, page 143
Economics, page 147
English – Cultural Studies, page 151
English – Drama and Theatre, page 151
English – Literature, page 151
Geography, page 161
Geography (Urban Systems), page 161
German Language and Literature, page 165
German Literature and Culture, page 166
German Studies, Contemporary, page 165
Hispanic Languages, page 168
Hispanic Literature and Culture, page 168
History, page 170
Humanistic Studies, page 172
International Development Studies, page 173
Italian Civilization, page 176
Italian Language and Literature, page 176
Jewish Studies, page 178
Langue et littérature françaises – Études et pratiques littéraires, page 156
Langue et littérature françaises – Linguistique du français, page 157
Note: Program has been retired effective Fall 2009
Langue et littérature françaises – Traduction, page 156
Latin-American Studies, page 181
Linguistics, page 183
Middle East Studies, page 187
North American Studies, page 191
Philosophy, page 193
Philosophy and Western Religions, page 195
Political Science, page 201
Quebec Studies, page 206
Russian, page 213
Scriptures and Interpretations – see Religious Studies, page 209
Sociology, page 221
Women's Studies, page 223
World Religions – see Religious Studies, page 209

7.11.1.2 Science

The Science Major Concentrations available to B.A. & Sc. students are listed here and are described in detail either below in the Arts & Science (AS) section or in the Faculty of Arts (A) section of the Calendar as indicated.

Biology – Cell/Molecular Option (AS), page 239
Biology – Organismal Option (AS), page 240
Chemistry (AS), page 241
Computer Science (A), page 140
Earth, Atmosphere and Ocean Sciences (AS), page 243
Geography – Physical Geography Option (AS), page 243
Mathematics (A), page 186
Physics (AS), page 244
Psychology (A), page 203
Software Engineering (AS), page 242 – **new**

7.11.2 Interfaculty Programs

The Interfaculty Programs available to B.A. & Sc. students are listed here and are described in detail either below in the Arts & Science (AS) section or in the McGill School of Environment (E) section of the Calendar as indicated.

Cognitive Science (AS), page 241
Environment (E), page 310

7.11.3 Honours Programs

There are two Honours programs available to B.A. & Sc. students. The Honours Program in Environment is described in detail in "Honours Program in Environment", section 10.10 of the Calendar. The Honours Program in Cognitive Science is described in detail under Cognitive Science, page 242.

Students interested in an Honours degree should also consider the Joint Honours Programs in the next section.

7.11.4 Joint Honours Programs

Joint Honours programs in the B.A. & Sc. are created by combining a Joint Honours Program component from an Arts discipline with one from a Science discipline. Students must register for both Joint Honours Program components. Joint Honours students should consult an adviser in each department to discuss their course selection and their interdisciplinary research project (if applicable).

7.11.4.1 Arts

The Arts Joint Honours components available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar.

Anthropology, page 130
Art History, page 132
Canadian Studies, page 135
Classics, page 139
East Asian Studies, page 145
Economics, page 148
English – Cultural Studies, page 153
English – Drama and Theatre, page 153
English – Literature, page 153
Geography, page 163
German Studies, page 166
Hispanic Studies, page 169
History, page 170
International Development Studies, page 174
Italian Studies, page 176
Jewish Studies, page 179
Langue et littérature françaises – Études et pratiques littéraires, page 159
Langue et littérature françaises – Traduction, page 159
Linguistics, page 184
Middle East Studies, page 187
Philosophy, page 194
Philosophy and Western Religions, page 196
Political Science, page 202
Religious Studies, page 211
Russian, page 214
Sociology, page 222
Women's Studies, page 226

7.11.4.2 Science

There are currently only two Science Joint Honours components available to B.A. & Sc. students, which are listed here and are described in detail in the Faculty of Arts section of the Calendar.

Mathematics, page 186
Psychology, page 204

7.11.5 Minor Concentrations or Minors

7.11.5.1 Arts

The Arts Minor Concentrations available to B.A. & Sc. students are listed here and are described in detail in the Faculty of Arts section of the Calendar. Since the B.A. & Sc. degree requires a certain number of credits in the Arts and in the Sciences, there are special requirements for B.A. & Sc. students. To be counted as an Arts Minor or Minor Concentration, the program must include at least 15 credits of Arts courses. Similarly, to be counted as a Science Minor or Minor Concentration, the program must include at least 15 credits of Science courses.

For example, a student completing the 18-credit Humanistic Studies Minor Concentration in Arts must complete at least 15 of those credits in Arts courses and at most 3 credits in Science courses. As another example, a student completing a 24-credit Science Minor in Interdisciplinary Life Sciences must complete at least 15 credits in Science courses and at most 9 credits in Arts courses.

African Studies, page 127
Anthropology, page 129
Art History, page 132
Canadian Ethnic and Racial Studies, page 134
Canadian Studies, page 135
Catholic Studies, page 137
Classics, page 138
Communication Studies, page 133
Comparative Politics – see Political Science, page 200
East Asian Language and Literature, page 141
East Asian Cultural Studies, page 142
East Asian Studies, Advanced, page 143
Economics, page 146
English – Cultural Studies, page 151
English – Drama and Theatre, page 150
English – Literature, page 150
Geography, page 160
Geography (Urban Systems), page 161
German Language, page 164
German Literature, page 164
German Literature and Culture in Translation, page 164
Hispanic Languages, page 167
Hispanic Literature and Culture, page 168
History, page 170
History and Philosophy of Science, page 171
Humanistic Studies, page 172
International Development Studies, page 173
International Relations – see Political Science, page 200
Islamic Studies, page 175
Italian Civilization, page 176
Italian Language and Literature, page 176
Jewish Law, page 178
Jewish Studies, page 178
Langue et littérature françaises – Critique littéraire, page 156
Langue et littérature françaises – Études et pratiques littéraires, page 155
Langue et littérature françaises – Langue française, page 155
Langue et littérature françaises – Langue française et traduction, page 155
Langue et littérature françaises – Traduction, page 156

Linguistics, page 183
Middle East Languages, page 187
Middle East Studies, page 187
North American Studies, page 190
Philosophy, page 192
Philosophy and Western Religions, page 195
Political Economy – see Political Science, page 201
Political Science, page 198
Political Science: Canada/Quebec, page 199
Political Theory, page 200
Politics, Law and Society – see Political Science, page 201
Quebec Studies, page 205
Russian, page 212
Russian Culture, page 213
Scriptural Languages – see Religious Studies, page 208
Sexual Diversity Studies, page 217
Social Studies of Medicine, page 218
Sociology, page 221
South Asia – see Political Science, page 201
Women's Studies, page 222
World Religions – see Religious Studies, page 207

7.11.5.2 Science

The Science Minors (M) or Minor Concentrations (MC) available to B.A. & Sc. students are listed here and are described in detail either in the Faculty of Science (S) or Faculty of Arts (A), or Arts & Science (AS) section of the Calendar as indicated.

Atmospheric Science (M-S), page 407
Biology – Cell/Molecular (MC-AS), page 240
Biology – Organismal (MC-AS), page 240
Chemistry (M-S), page 421
Computer Science (MC-A), page 140
Earth and Planetary Sciences (M-S), page 427
Environment (M-S), page 306
Geographic Information Systems (M-S), page 432
Geography (M-S), page 432
Interdisciplinary Life Sciences (M-S), page 435
Mathematics (MC-A), page 185
Physics (M-S), page 451
Psychology (MC-A), page 203
Statistics (MC-A see Mathematics & Statistics), page 186

7.11.6 Integrative Courses

7.11.6.1 Required Integrative Course

BASC 201 Arts & Science Integrative Topics

7.11.6.2 Complementary Integrative Course

Students in the B.A. & Sc. are required to complete at least one other integrative course (at least 3 credits), possibly within one of their programs, chosen from the following:

ANTH 201 Prehistoric Archaeology
ANTH 203 Human Evolution
ANTH 227 Medical Anthropology
ANTH 312 Zooarchaeology
ATOC / EPSC 250 Natural Disasters
COMP 280 History and Philosophy of Computing
ECON 347 Economics of Climate Change
ENGC 200 Communications - Pre-Electronic Age
ENGC 210 History of Communication - Electronic Age
ENVR 200 The Global Environment
ENVR 201 Society and Environment
ENVR 202 The Evolving Earth
ENVR 203 Knowledge, Ethics and Environment
GEOG 200 Geographical Perspectives: World Environmental Problems
GEOG 203 Environmental Systems
GEOG 302 Environmental Management 1
GEOG 350 Ecological Biogeography
LING 390 Neuroscience of Language
LING 555 Language Acquisition 2
MATH 328 Computability and Mathematical Linguistics
MATH 330 Mathematical Finance
MATH 338 History and Philosophy of Mathematics
PHIL 220 Introduction to History and Philosophy of Science 1
PHIL 221 Introduction to History and Philosophy of Science 2
PHIL 341 Philosophy of Science 1
PHIL 350 History and Philosophy of Ancient Science
PHIL 361 18th Century Philosophy
PHIL 411 Topics in Philosophy of Logic and Mathematics
PHIL 441 Philosophy of Science 2
SOCI 225 Medicine & Health in Modern Society
SOCI 234 Population and Society
SOCI 235 Technology and Society
SOCI 338 Intro. to Biomedical Knowledge
SOCI 525 Health Care Systems in Comparative Perspective

As a substitute, students can fulfil the requirement for a complementary integrative course by conducting library or empirical research that integrates the components of their program as a 3- or 6-credit independent study course, thesis course, or research course, with approval of the Director of Advising Services, Science.

7.12 Academic Programs

7.12.1 Required Integrative Course for B.A. & Sc.

BASC 201 (Arts & Science Integrative Topics) is a required course in the B.A. & Sc., normally taken in U1. It introduces students to a variety of interdisciplinary topics that exemplify the benefits of applying scholarship from Arts and Science to a problem. It also provides students in the degree with a common experience and a reference group. For details, see the Course section of the Faculty of Science.

7.12.2 Programs in Arts or in Science

All B.A. & Sc. Arts programs are described in detail in the Faculty of Arts section of the Calendar. B.A. & Sc. Science programs that are open to B.A. students (i.e., programs in Computer Science, Mathematics and Statistics, and Psychology as well as some in Geography) are described in the Faculty of Arts section. Science Minors that are open to B.A. & Sc. students are described in the Faculty of Science section. B.A. & Sc. Science programs that are open only to B.A. & Sc. students are described below.

For information about where each B.A. & Sc. program is listed, see "Programs in the B.A. & Sc.", section 7.11.

7.12.3 Biology (BIOL)

The Department of Biology, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools (see section 7.3.5 "Program Requirements").

Advising Note: Freshman students should be aware that PHYS 101 and/or PHYS 102 are required for some of the courses in the major and minor concentrations in Biology.

MAJOR CONCENTRATION IN BIOLOGY - CELL/MOLECULAR OPTION (36 credits)

The Major Concentration in Biology, Cell/Molecular Option, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers"), is a planned sequence of courses designed to permit a degree of specialization in cell/molecular biology.

Required Courses* (29 credits)

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
BIOL 202	(3)	Basic Genetics
BIOL 205	(3)	Biology of Organisms
BIOL 215	(3)	Introduction to Ecology and Evolution

BIOL 300 (3) Molecular Biology of the Gene
BIOL 301 (4) Cell and Molecular Laboratory
BIOL 303 (3) Developmental Biology
CHEM 212** (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers") must be replaced by 3-credit courses from the Complementary Course List. Regardless of the substitution, students must take at least 36 credits in this program.

** Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

Complementary Courses (7 credits minimum)
at least 7 credits selected from:
BIOL 306 (3) Neural Basis of Behaviour
BIOL 313 (3) Eukaryotic Cell Biology
BIOL 314 (3) Molecular Biology of Oncogenes
BIOL 370 (3) Human Genetics Applied
BIOL 373 (3) Biometry
BIOL 413 (1) Directed Reading
BIOL 568 (3) Topics on the Human Genome
BIOL 575 (3) Human Biochemical Genetics
or other appropriate course at the 300 level or higher with permission of an adviser.

MAJOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION (37 credits)

The Major Concentration in Biology, Organismal Option, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers") is a planned sequence of courses designed to permit a degree of specialization in organismal biology.

Required Courses* (28 credits)
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
BIOL 205 (3) Biology of Organisms
BIOL 206 (3) Methods in Biology of Organisms
BIOL 215 (3) Introduction to Ecology and Evolution
BIOL 304 (3) Evolution
BIOL 308 (3) Ecological Dynamics
CHEM 212** (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers") must be replaced by 3-credit courses from the Complementary Course List. Regardless of the substitution, students must take at least 36 credits in this program.

** Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

Complementary Courses (9 credits)
9 credits selected from:
BIOL 303 (3) Developmental Biology
BIOL 305 (3) Animal Diversity
BIOL 306 (3) Neural Basis of Behaviour
BIOL 307 (3) Behavioural Ecology/Sociobiology
BIOL 310 (3) Large-scale Ecology
BIOL 331 (3) Ecology/Behaviour Field Course
BIOL 342 (3) Marine Biology
BIOL 350 (3) Insect Biology and Control
BIOL 352 (3) Vertebrate Evolution
BIOL 373 (3) Biometry
BIOL 427 (3) Herpetology
BIOL 435 (3) Natural Selection
BIOL 441 (3) Biological Oceanography
BIOL 465 (3) Conservation Biology
or other appropriate course at the 300 level or higher with permission of an adviser.

MINOR CONCENTRATIONS IN BIOLOGY

Advising Note: Students interested in a Minor Concentration in Biology must choose either the Cell/Molecular Option or the Organismal Option, but may not take both. Students interested in a more in-depth program in Biology should consider the Major Concentration.

MINOR CONCENTRATION IN BIOLOGY - CELL/MOLECULAR OPTION (18 or 19 credits)
The Minor Concentration in Biology, Cell/Molecular Option, is restricted to students in the B.A. & Sc. It is a sequence of courses designed to yield a broad introduction to cell/molecular biology.

Required Courses* (13 credits)
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
CHEM 212** (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. must be replaced by approved complementary courses. Regardless of the substitution, students must take at least 18 credits in this program.

** Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

Complementary Courses (6 credits)
Any biology course at the 300 level or higher approved by an adviser.

MINOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION (18 or 19 credits)
The Minor Concentration in Biology, Organismal Option, is restricted to students in the B.A. & Sc. It is a sequence of courses designed to yield a broad introduction to organismal biology.

Required Courses* (16 credits)
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 205 (3) Biology of Organisms
BIOL 215 (3) Introduction to Ecology and Evolution
CHEM 212** (4) Organic Chemistry 1

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. must be replaced by approved complementary courses. Regardless of the substitution, students must take at least 18 credits in this program.

** Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

Complementary Courses (3 credits)
Any biology course at the 300 level or higher approved by an adviser.

7.12.4 Biomedical Sciences

The Major Concentration in Biomedical Sciences has been retired. Students completing the program should refer to the Calendar at their time of entrance to the program for the program requirements and consult with their academic adviser.

Major Concentration in Biomedical Sciences - Program Advisers:

All U1 students pursuing a B.A. & Sc. Biomedical Science must meet with a Student Affairs Officer.

Professor Teresa Trippenbach, Department of Physiology
McIntyre Medical Sciences Building, Room 1116
Email: teresa.trippenbach@mcgill.ca
Telephone: 514-398-4331

Professor Ann Wechsler, Department of Physiology
McIntyre Medical Sciences Building, Room 1135

Email: ann.wechsler@mcgill.ca
Telephone: 514-398-4341

Student Affairs Officer, Department of Physiology
McIntyre Medical Sciences Building, Room 1022
Telephone: 514-398-3689

7.12.5 Chemistry (CHEM)

The Department of Chemistry, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

The Major Concentration in Chemistry is not certified by the Ordre des Chimistes du Québec. Students interested in pursuing a career in Chemistry in Quebec are advised to take an appropriate B.Sc. program in Chemistry. The minimum freshman science requirements in the B.A. & Sc. may not satisfy the introductory science requirements of all medical/dental schools (see section 7.3.5 "Program Requirements").

MAJOR CONCENTRATION IN CHEMISTRY (36 credits)
The Major Concentration in Chemistry, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers"), is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses* (18 credits)
CHEM 203 (3) Survey of Physical Chemistry
CHEM 212 (4) Introductory Organic Chemistry 1
CHEM 222 (4) Introductory Organic Chemistry 2
CHEM 253 (1) Introductory Physical Chemistry 1 Laboratory
CHEM 281 (3) Inorganic Chemistry 1
CHEM 287 (2) Introductory Analytical Chemistry
CHEM 297 (1) Introductory Analytical Chemistry Laboratory
* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. must be replaced by courses from the Complementary Course List equal to or exceeding their credit value. Regardless of the substitution, students must take at least 36 credits in this program.

Complementary Courses (18 credits)
18 credits selected from:
CHEM 219 (3) Introduction to Atmospheric Chemistry
CHEM 263 (1) Introductory Physical Chemistry 2 Laboratory
CHEM 302 (3) Introductory Organic Chemistry 3
CHEM 307 (3) Analytical Chemistry of Pollutants
CHEM 334 (3) Advanced Materials
CHEM 367 (3) Instrumental Analysis 1
CHEM 381 (3) Inorganic Chemistry 2
CHEM 382 (3) Organic Chemistry: Natural Products
CHEM 531 (3) Chemistry of Inorganic Materials
CHEM 571 (3) Polymer Synthesis
CHEM 582 (3) Supramolecular Chemistry
CHEM 591 (3) Bioinorganic Chemistry

7.12.6 Cognitive Science

Cognitive Science is the multidisciplinary study of cognition in humans and machines. The goal is to understand the principles of intelligence with the hope that this will lead to better comprehension of the mind and of learning and to the development of intelligent devices that constructively extend human abilities.

Ian Gold
Director, Program in Cognitive Science
3465 Peel Street, Room 401

Interdisciplinary Programs Adviser:
Wendy Brett
Email: wendy.brett@mcgill.ca
Telephone: 514-398-7330

Cognitive Science Committee Members:
Brendan Gillon (Linguistics)
Marco Leyton (Neuroscience)
Stephen McAdams (Music)
Joelle Pineau (Computer Science)
Debra Titone (Psychology)

Website: www.mcgill.ca/cogsci

An Interfaculty Program in Cognitive Science (54 credits) is offered by the following departments, which are described fully in the Faculty of Arts or Faculty of Science section of the Calendar:
Computer Science (COMP) (Science)
Linguistics (LING) (Arts)
Physiology (PHGY) (Science)
Philosophy (PHIL) (Arts)
Psychology (PSYC) (Science)

INTERFACULTY PROGRAM IN COGNITIVE SCIENCE
(54 credits)

The Interfaculty Program in Cognitive Science, which is restricted to students in the B.A. & Sc., is a planned sequence of courses designed to permit students to focus on at least two relevant areas of study.

Required Course (3 credits)
PSYC 532 (3) Cognitive Science

Complementary Courses (51 credits)
3 credits, one of:
COMP 230 (3) Logic and Computability
MATH 318 (3) Mathematical Logic
PHIL 210 (3) Introduction to Deductive Logic 1
18 credits from List A in one of Computer Science, Linguistics, Neuroscience, Philosophy, or Psychology.
12 credits from List A in one of the four remaining units.
18 credits chosen from Lists A and/or B in Computer Science, Linguistics, Neuroscience, Philosophy, Psychology and/or Research Courses of which at least 12 credits must be at the 400 level or higher.

Note 1: Students are responsible for ensuring that they meet all pre- and corequisites for all their courses.

Note 2: With the permission of the Director of the Cognitive Science program, students may be able to substitute courses in cognate departments, such as Anatomy and Cell Biology, Biology, Neurology, or Physiology. For further information, consult the Cognitive Science website: www.mcgill.ca/cogsci.

Note 3: B.A. & Sc. students who take Interfaculty programs must take at least 30 credits in Arts and 30 in Science across their interfaculty program and their minor or minor concentration.

COMPUTER SCIENCE
List A:
MATH 240 (3) Discrete Structures 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 302 (3) Programming Languages and Paradigms
COMP 424 (3) Artificial Intelligence
COMP 527 (3) Logic and Computation
List B:
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
COMP 280 (3) History and Philosophy of Computing
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 360 (3) Algorithm Design Techniques
COMP 400 (3) Technical Project and Report
COMP 409 (3) Concurrent Programming
COMP 417 (3) Introduction Robotics and Intelligent Systems
COMP 421 (3) Database Systems
COMP 490 (3) Introduction to Probabilistic Analysis of Algorithms
COMP 526 (3) Probabilistic Reasoning and AI
COMP 531 (3) Theory of Computation
COMP 558 (3) Fundamentals of Computer Vision

LINGUISTICS

List A:

LING 201	(3)	Introduction to Linguistics
LING 330	(3)	Phonetics
LING 331	(3)	Phonology 1
LING 355	(3)	Language Acquisition 1
LING 360	(3)	Introduction to Semantics
LING 371	(3)	Syntax 1
LING 390	(3)	Neuroscience of Language
LING 419	(3)	Linguistic Theory and its Foundations
LING 451	(3)	Acquisition of Phonology
LING 455	(3)	Second Language Syntax

List B:

LING 440	(3)	Morphology
LING 531	(3)	Phonology 2
LING 555	(3)	Language Acquisition 2
LING 560	(3)	Formal Methods in Linguistics
LING 565	(3)	Pragmatics
LING 571	(3)	Syntax 2
LING 590	(3)	Language Acquisition and Breakdown

PHILOSOPHY

List A:

PHIL 304	(3)	Chomsky
PHIL 306	(3)	Philosophy of Mind
PHIL 310	(3)	Intermediate Logic
PHIL 341	(3)	Philosophy of Science 1
PHIL 360	(3)	17th Century Philosophy
PHIL 370	(3)	Problems in Analytic Philosophy
PHIL 415	(3)	Philosophy of Language
PHIL 419	(3)	Epistemology
PHIL 441	(3)	Philosophy of Science 2
PHIL 506	(3)	Seminar: Philosophy of Mind
PHIL 507	(3)	Seminar: Cognitive Science

List B:

PHIL 410	(3)	Advanced Topics in Logic 1
PHIL 411	(3)	Topics in Philosophy of Logic and Mathematics
PHIL 421	(3)	Metaphysics
PHIL 470	(3)	Topics in Contemporary Analytic Philosophy
PHIL 474	(3)	Phenomenology
PHIL 510	(3)	Seminar: Advanced Logic 2
PHIL 511	(3)	Seminar: Philosophy of Logic and Mathematics
PHIL 519	(3)	Seminar: Epistemology
PHIL 521	(3)	Seminar: Metaphysics
PHIL 560	(3)	Seminar: 17th Century Philosophy

PSYCHOLOGY

List A/B:

ANTH 440	(3)	Cognitive Anthropology
MUMT 250	(3)	Music Perception and Cognition
PSYC 212	(3)	Perception
PSYC 213	(3)	Cognition
PSYC 301	(3)	Animal Learning & Theory
PSYC 304	(3)	Child Development
PSYC 305	(3)	Statistics for Experimental Design
PSYC 311	(3)	Human Cognition and the Brain
PSYC 315	(3)	Computational Psychology
PSYC 316	(3)	Psychology of Deafness
PSYC 317	(3)	Genes and Behaviour
PSYC 318	(3)	Behavioural Neuroscience 2
PSYC 340	(3)	Psychology of Language
PSYC 341	(3)	The Psychology of Bilingualism
PSYC 352	(3)	Cognitive Psychology Laboratory
PSYC 353	(3)	Laboratory in Human Perception
PSYC 410	(3)	Special Topics in Neuropsychology
PSYC 413	(3)	Cognitive Development
PSYC 470	(3)	Memory and Brain
PSYC 473	(3)	Social Cognition and the Self
PSYC 522	(3)	Neurochemistry and Behaviour
PSYC 529	(3)	Music Cognition
PSYC 537	(3)	Advanced Seminar in Psychology of Language
PSYC 545	(3)	Topics in Language Acquisition
PSYC 561	(3)	Methods: Developmental Psycholinguistics

NEUROSCIENCE

List A/B:

ANAT 321	(3)	Circuitry of the Human Brain
BIOL 514	(3)	Neurobiology of Learning and Memory
BIOL 530	(3)	Neural Basis of Behaviour
BIOL 588	(3)	Advances in Molecular/Cellular Neurobiology
NEUR 310	(3)	Cellular Neurobiology
NSCI 200	(3)	Introduction to Neuroscience 1
NSCI 201	(3)	Introduction to Neuroscience 2
PHGY 311	(3)	Channels, Synapses & Hormones
or BIOL 306	(3)	Neural Basis of Behaviour
PHGY 314	(3)	Integrative Neuroscience
PHGY 520	(3)	Ion Channels
PHGY 556	(3)	Topics in Systems Neuroscience
PSYC 311	(3)	Human Cognition and the Brain
PSYC 317	(3)	Genes and Behaviour
PSYC 318	(3)	Behavioural Neuroscience 2
PSYC 410	(3)	Special Topics in Neuropsychology
PSYC 502	(3)	Psychoneuroendocrinology
PSYC 522	(3)	Neurochemistry and Behaviour

RESEARCH COURSES

COGS 401	(6)	Research Cognitive Science 1
COGS 402	(6)	Research Cognitive Science 2

HONOURS PROGRAM IN COGNITIVE SCIENCE (60 credits)

The Honours Program in Cognitive Science, which is restricted to students in the B.A. & Sc., is an extension of the Interfaculty Program that offers students an opportunity to undertake a year-long research project in close association with professors in their main Arts and Science focus areas. Prior to selecting the Honours Program, students should meet with the program Director and review the B.A. & Sc. academic requirements for Honours and First Class Honours described in "Honours and First-Class Honours", section 7.10.1.

To receive an honours degree, students are required to achieve a minimum overall program GPA of 3.3 at graduation, and attain a grade of B+ (3.3) or better in COGS 444. Students must complete both the 60 credit Honours Program, plus an approved Minor Concentration or a Minor in the Faculties of Arts or of Science.

In addition to completing the requirements for the Interfaculty Program in Cognitive Science, students in the Honours Program complete COGS 444, a 6-credit honours research project.

Additional Required Course (6 credits)

COGS 444	(6)	Honours Research

7.12.7 Computer Science

The School of Computer Science and the discipline are described in the Faculty of Science section of the Calendar. Please see section 14.13.9 “Computer Science (COMP)”.

The following are considered Science programs in the B.A. & Sc.

Minor Concentration in Computer Science
Major Concentration in Computer Science
Major Concentration in Software Engineering

The requirements of the Software Engineering Program are described below while the requirements of the Computer Science programs are described in section 6.12.12 “Computer Science (COMP)” of the Faculty of Arts section of the Calendar.

MAJOR CONCENTRATION IN SOFTWARE ENGINEERING (36 - 37 credits)

This major concentration provides a program of study that covers the subject commonly known as “Software Engineering”. This program may be used to satisfy part of the requirements for a B.A. & Sc. degree. This program does not lead to certification as a Professional Engineer.

Required Courses (30 credits)

COMP 202*	(3)	Introduction to Computing 1
COMP 206	(3)	Introduction to Software Systems
COMP 250	(3)	Introduction to Computer Science
COMP 251	(3)	Data Structures and Algorithms
COMP 302	(3)	Programming Languages and Paradigms
COMP 303	(3)	Software Development
COMP 304	(3)	Object-Oriented Design
COMP 421	(3)	Database Systems
MATH 223	(3)	Linear Algebra
MATH 240	(3)	Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 and can replace it with additional Computer Science complementary course credits.

Complementary Courses (6 - 7 credits)

3 credits selected from:

COMP 335	(3)	Software Engineering Methods
ECSE 321	(3)	Introduction to Software Engineering

3 - 4 credits from:

COMP 322	(1)	Introduction to C++
COMP 361	(3)	Systems Development Project
COMP 529	(4)	Software Architecture
COMP 533	(3)	Object-Oriented Software Development

or any Computer Science course at the 300 level or above, excluding COMP 364, COMP 396, and COMP 431.

7.12.8 Earth, Atmosphere and Ocean Sciences

The following departments jointly offer a B.A. & Sc. program:
- Atmospheric and Oceanic Sciences (ATOC)
- Earth and Planetary Sciences (EPSC)

The departments, the disciplines, and specific courses are described in their respective entries in the Faculty of Science section of the Calendar.

MAJOR CONCENTRATION IN EARTH, ATMOSPHERE AND OCEAN SCIENCES (36 credits)

The Major Concentration in Earth, Atmosphere and Ocean Sciences, which is restricted to students in the B.A. & Sc., is a sequence of courses designed to permit a degree of specialization in these disciplines.

Required Courses (24 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 220	(3)	Introduction to Oceanic Sciences
ATOC 315	(3)	Water in the Atmosphere
EPSC 210	(3)	Introductory Mineralogy
EPSC 212	(3)	Introductory Petrology
EPSC 233	(3)	Earth and Life History
EPSC 243	(3)	Environmental Geology

Complementary Courses (12 credits minimum)

a minimum of 12 credits, at least 6 of which must be at the 300 level or higher, distributed as follows:

at least 6 credits selected from:

EPSC 203	(3)	Structural Geology
EPSC 220	(3)	Principles of Geochemistry
EPSC 231	(3)	Field School 1
EPSC 250 or ATOC 250	(3)	Natural Disasters
EPSC 320	(3)	Elementary Earth Physics
EPSC 331	(3)	Field School 2
EPSC 341	(3)	Field School 3
EPSC 425	(3)	Sediments to Sequences
EPSC 455	(3)	Sedimentary Geology
EPSC 542	(3)	Chemical Oceanography

6 credits selected from:

ATOC 219	(3)	Introduction to Atmospheric Chemistry
ATOC 250 or EPSC 250	(3)	Natural Disasters
ATOC 308 or GEOG 308	(3)	Principles of Remote Sensing
ATOC 412	(3)	Atmospheric Dynamics

7.12.9 Environment

The requirements for the B.A. & Sc. Interfaculty Program and the Honours Program in Environment are described in detail in the section on McGill School of Environment. Please see section 10.7 "B.A.&Sc. Interfaculty Program in Environment" or see section 10.10 "Honours Program in Environment".

7.12.10 Geography (GEOG)

The Department of Geography, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

Note that students may take a Geography program either in Arts or in Science, but not in both.

The following are considered Arts programs in the B.A. & Sc. and are described in the Faculty of Arts section of the Calendar:
- Major Concentration in Geography
- Major Concentration in Geography (Urban Systems)
- Minor Concentration in Geography
- Minor Concentration in Geography (Urban Systems)

The following are considered Science programs in the B.A. & Sc. and are described either below (Major Concentration) or in the Faculty of Science section (Minors) of the Calendar:
- Major Concentration in Geography (Physical Geography)
- Minor in Geographical Information Systems
- Minor in Geography

MAJOR CONCENTRATION PHYSICAL GEOGRAPHY OPTION (36 credits)

The Major Concentration in Geography, which is restricted to students in the B.A. & Sc., is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses (12 credits)

GEOG 201	(3)	Introductory Geo-Information Science
GEOG 202	(3)	Statistics and Spatial Analysis
GEOG 203	(3)	Environmental Systems
GEOG 272	(3)	Earth's Changing Surface

Complementary Courses (24 credits)

6 credits of analytical techniques selected from:

GEOG 306	(3)	Raster Geo-Information Science
GEOG 307	(3)	Socioeconomic Applications of GIS
GEOG 308	(3)	Principles of Remote Sensing
GEOG 351	(3)	Quantitative Methods

3 credits of field courses selected from:

GEOG 495	(3)	Field Studies - Physical Geography
GEOG 496	(3)	Geographical Excursion
GEOG 497	(3)	Ecology of Coastal Waters
GEOG 499	(3)	Subarctic Field Studies

9 - 15 credits in systematic physical geography selected from:

GEOG 305	(3)	Soils and Environment
GEOG 321	(3)	Climatic Environments
GEOG 322	(3)	Environmental Hydrology
GEOG 372	(3)	Running Water Environments
GEOG 470	(3)	Wetlands

0 - 6 credits in integrative and advanced topics selected from:

GEOG 302	(3)	Environmental Management 1
GEOG 501	(3)	Modelling Environmental Systems
GEOG 505	(3)	Global Biogeochemistry
GEOG 506	(3)	Advanced Geographic Information Science
GEOG 536	(3)	Geocryology
GEOG 537	(3)	Advanced Fluvial Geomorphology
GEOG 550	(3)	Historical Ecology Techniques
GEOG 555	(3)	Ecological Restoration

7.12.11 Mathematics

The requirements for the B.A. & Sc. Major Concentration in Mathematics are described in detail in section 6.12.36 "Mathematics and Statistics (MATH)" of the Faculty of Arts section of the Calendar.

7.12.12 Physics (PHYS)

The Department of Physics, the discipline, and specific courses are described in the Faculty of Science section of the Calendar.

MAJOR CONCENTRATION IN PHYSICS (36 credits)

The Major Concentration in Physics, which is restricted to students in the B.A. & Sc. or B.Sc./B.Ed., (see section 14.13.34 "Science or Mathematics for Teachers"), is a planned sequence of courses designed to permit a degree of specialization in this discipline.

Required Courses* (30 credits)

MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 257 (3) Experimental Methods 1
PHYS 333 (3) Thermal and Statistical Physics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 446 (3) Majors Quantum Physics

* Required courses taken at CEGEP or elsewhere that are not credited toward the B.A. & Sc. or B.Sc./B.Ed. (see section 14.13.34 "Science or Mathematics for Teachers") must be replaced by courses from the Complementary Course List.

Complementary Courses (6 credits)

6 credits selected from:

PHYS 214 (3) Introductory Astrophysics
PHYS 225 (3) Musical Acoustics
PHYS 241 (3) Signal Processing
PHYS 258 (3) Experimental Methods 2
PHYS 334 (3) Advanced Materials
PHYS 534 (3) Nanoscience and Nanotechnology

or any 300 or 400 level course approved by an adviser.

7.12.13 Psychology

The requirements for the B.A. & Sc. Major Concentration in Psychology, Joint Honours Component in Psychology and Minor Concentration in Psychology are described in detail in section 6.12.43 "Psychology (PSYC)" of the Faculty of Arts section of the Calendar.

8 Faculty of Education

Table of Contents

8.1 The Faculty, page 245
- 8.1.1 Location, page 245
- 8.1.2 Administrative Officers, page 245
- 8.1.3 The Faculty Then and Now, page 246
- 8.1.4 Faculty Facilities, page 246

8.2 Faculty Programs, page 248
- 8.2.1 Undergraduate Education Programs, page 248
  - 8.2.1.1 General Admission Requirements, page 248
  - 8.2.1.2 Credit Requirements, page 248
  - 8.2.1.3 Quebec Teacher Certification, page 249
- 8.2.2 Programs of Professional Development, page 249
- 8.2.3 Programs for First Nations and Inuit, page 250

8.3 Faculty Regulations for Undergraduate Programs, page 250
- 8.3.1 Code of Professional Conduct, page 250
- 8.3.2 English Language Requirement, page 250
- 8.3.3 Additional Requirements for Students admitted to B.Ed. TFSL program, page 250
- 8.3.4 Judicial Record Verification for Students in the Bachelor of Education Programs, page 250
- 8.3.5 Course and Program Regulations, page 251
- 8.3.6 Registration, page 251
- 8.3.7 Attendance, page 252
- 8.3.8 Grading, page 252
- 8.3.9 Incomplete Grades, page 252
- 8.3.10 Examinations, page 252
- 8.3.11 Academic Standing, page 252
  - 8.3.11.1 Satisfactory/Interim Satisfactory Standing, page 253
  - 8.3.11.2 Probationary/Interim Probationary Standing, page 253
  - 8.3.11.3 Unsatisfactory/Interim Unsatisfactory Standing, page 253
- 8.3.12 Graduation Requirements, page 254
- 8.3.13 Undergraduate Program Awards, page 254

8.4 Student Teaching/Field Experience, page 254
- 8.4.1 Code of Professional Conduct, page 255

8.5 Department of Educational and Counselling Psychology, page 256

8.6 Department of Integrated Studies in Education, page 257
- 8.6.1 Bachelor of Education Programs, page 258
  - 8.6.1.1 Bachelor of Education Secondary Program (120 credits), page 258
  - 8.6.1.2 Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program, page 259
  - 8.6.1.3 Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) Program (144 credits), page 260
  - 8.6.1.4 Bachelor of Education Kindergarten and Elementary Program (120 credits), page 261
  - 8.6.1.5 Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option), page 261
  - 8.6.1.6 Programme intensif de français Elementary Option, page 262
  - 8.6.1.7 Bachelor of Education Kindergarten and Elementary Program (Jewish Studies Option), page 262
  - 8.6.1.8 Baccalauréat en enseignement du français langue seconde (120 credits), page 262
  - 8.6.1.9 Bachelor of Education in Teaching English as a Second Language (121 credits), page 263
- 8.6.2 Programs for First Nations and Inuit, page 263
  - 8.6.2.1 Certificate in Education for First Nations and Inuit, page 263
  - 8.6.2.2 Certificate in Aboriginal Literacy Education, page 265
  - 8.6.2.3 Certificate in Middle School Education in Aboriginal Communities, page 265
  - 8.6.2.4 Certificate in First Nations and Inuit Educational Leadership, page 266
  - 8.6.2.5 Bachelor of Education for Certified Teachers (Elementary Education), page 266
  - 8.6.2.6 Certificate in Aboriginal Education for Certified Teachers, page 266
  - 8.6.2.7 Certificate in First Nations and Inuit Student Personnel Services, page 267

8.7 Department of Kinesiology and Physical Education, page 267
- 8.7.1 Bachelor of Education Programs, page 268
  - 8.7.1.1 Bachelor of Education Physical and Health Education, page 268
- 8.7.2 Bachelor of Science (Kinesiology), page 268

8.8 School of Information Studies, page 270

8.1 The Faculty

8.1.1 Location

3700 McTavish Street
Montreal, QC H3A 1Y2
Canada

Telephone: 514-398-7042
Fax: 514-398-4679
Website: www.mcgill.ca/education

8.1.2 Administrative Officers

Hélène Perrault; B.Sc.(C'dia), M.Sc., Ph.D.(Montr.)
Dean

Jamshid Beheshti; B.A.(S. Fraser), M.L.S., Ph.D.(W. Ont.)
Associate Dean (Administration and Finance)

Spencer Boudreau; B.A.(Don Bosco), B.A., M.A.(Sher.), Ph.D.(C'dia.)
Associate Dean (Teaching, Learning and Students)

Robert J. Bracewell; B.Sc., M.A.(McM.), Ph.D.(Tor.)
Associate Dean (Graduate Studies)

Elizabeth Wood; B.F.A.(York (Can.)), B.F.A.(C'dia), Dip.Ed., M.A., Ph.D.(McG.)
Associate Dean (Academic Affairs)

France Bouthillier; B.Ed.(UQAM), MBSI(Montr.), Ph.D.(Tor.)
Director, School of Information Studies

Steven Jordan; B.A.(Kent), M.Sc.(Lond.), Ph.D.(McG.)
Chair, Department of Integrated Studies in Education

Theodore E. Milner; B.Sc., M.Sc., Ph.D.(Alta.)	**Chair, Department of Kinesiology and Physical Education**
Susanne P. Lajoie; B.A., M.A.(McG.), Ph.D.(Stan.)	**Chair, Department of Educational and Counselling Psychology**
Anne Farray	**Assistant to the Dean/APR**
Christine Zilberman	**Senior Student Affairs Officer**
Susan Mao Cheia	**Financial Officer**

8.1.3 The Faculty Then and Now

The Faculty of Education traces its beginnings back to 1857, when the McGill Normal School was established at McGill by agreement between the University and the Government of Quebec. In 1907, it was renamed the School for Teachers and was moved to Sainte-Anne-de-Bellevue, where it became part of Macdonald College. At this time also, the Macdonald Chair of Education was endowed at McGill University and a Department of Education was created in the Faculty of Arts and Science for the purpose of preparing candidates for the High School Diploma. The first graduate program was inaugurated in 1930, and in 1953, the University established the B.Ed. degree.

In 1955, the School for Teachers and the Department of Education were combined to become the Institute of Education within the Faculty of Arts and Science. To these was joined, in 1957, the McGill School of Physical Education (founded in 1912).

The Institute was reconstituted as the Faculty of Education in 1965 and the work continued on both the McGill and Macdonald Campuses. The St. Joseph Teachers College and the Faculty of Education were amalgamated in 1970 and relocated in a new building on the McGill Campus. In 1996, the School of Information Studies became affiliated with the Faculty.

The Faculty serves approximately 2,000 students enrolled in undergraduate, graduate and professional development programs. The Faculty is organized into three departments and the School of Information Studies. In addition, the Faculty has a number of research and service centres, several of an interdisciplinary nature.

Like other faculties of education in Quebec and Canada, the Faculty has had a traditional role in the initial training of teachers and leaders in education-allied occupations. It is also concerned with constructing knowledge through research and scholarship and with providing professional development services to the wider educational community.

In recent years a number of links have been established with counterparts in other countries for teaching, research and development purposes. Current active projects, some of which involve students as well as staff, include those in Japan, Indonesia, South Africa and Mexico.

8.1.4 Faculty Facilities

Education Library and Curriculum Resources Centre

The Education Library and Curriculum Resources Centre, located on the first floor of the Education Building provides materials and services to support the teaching and research programs of the Faculty. The library collection includes over 122,000 monograph volumes, 500 periodical titles, microforms, government publications and access to a vast range of full-text electronic journals.

The Curriculum Resources Centre collection includes elementary and secondary school textbooks, teachers' resource guides, videos, DVDs, CDs, games, kits, puppets, big books, and equipment for viewing and listening. A Children's Literature Collection of fiction, non-fiction, poetry, folklore, and picture books is located on the left as you enter the Library.

Tours and instructional workshops are offered at the beginning of each term to individual students and to classes. These provide an introduction to library resources and information skills that will help you in preparing course assignments and writing research papers. They cover topics such as searching the Library Catalogue (MUSE), finding course materials on reserve, and locating articles and other materials via databases such as ERIC; PsychINFO; Education Full Text and others. EndNote workshops will show you how to easily create footnotes and reference lists when writing your term papers.

The Education Library provides computers for student use, tables and carrels to connect laptops, wireless access, as well as photocopiers, printers and scanners. You may select to work in the quiet study area of the E-Zone, prefer group study in the Curriculum Resources Centre or in one of the two group study rooms, or just relax on a lounge chair in an informal seating area.

Visit the Education Library website to learn more about library loans, hours, reserve readings, and links to important education sites. We look forward to seeing you in the Library.

Head Librarian: Marilyn Cohen
Telephone: 514-398-4689
Website: www.mcgill.ca/education-library

Education Undergraduate Society (EDUS)

The Society is the students' voice of undergraduates within the Faculty and its primary purpose is to serve and to inform the students. It also attempts to unify students through sponsorship of activities such as career placement, student orientation, participation in teachers' conventions, library donations and the organization of an Education Career Fair. Other activities include the assignment of lockers for students, selling merchandise in the Spirit Store, the coordination of the Graduation Ball, as well as fundraising and events throughout the academic year. Students are encouraged to participate and to make their opinions known. The Society Office is located in Room B179 of the Education Building.

Telephone: 514-398-7048
Fax: 514-398-2476
Email: president.edus@mail.mcgill.ca
Website: www.mcgilledus.ca

Media Services

Media Services specializes in helping all Education students and teaching staff use a broad selection of educational media technologies. We feature experienced technical support staff and provide free access to a wide range of multimedia, computer and audiovisual equipment and facilities for course and research work.

Highlighted in our educational equipment inventory is a 30-seat mobile laptop computer lab. This lab provides wireless access to the Internet in most of our classrooms. We also boast an eight-seat video editing lab featuring workstations with large 20" screens and DVD burners. This lab can support up to 50 concurrent video projects. While the lab is configured and used extensively for video editing, many other popular multimedia applications are also available. These include PowerPoint production, photo editing, audio editing, creation of PDF files and website development.

For course and research work students and staff can select from the following equipment loan inventory:

- Windows laptop computers
- Macintosh laptop computers
- Mobile 30 seat wireless laptop lab
- Mobile computer presentation carts with data projectors
- Portable data projectors for computer and video
- Document cameras
- Digital video cameras
- Digital still cameras
- Digital audio recorders
- Portable stereos (CD, MP3 and cassette playback)

In-class technical support services are provided as needed, both by appointment and in urgent situations, as well as through ongoing maintenance of classroom technology facilities. All classrooms in the Faculty have Internet access, most being equipped with wireless (wi-fi) connectivity. Most classrooms have permanently installed data projectors for computer and video display. Students and teaching staff can connect to these using their own laptop

computers or one borrowed from our equipment loan inventory. MP3 and audio CDs can also be played in these classrooms.

We provide free technical production services to all teaching staff for creating teaching materials and the recording of teaching events. This service requires advance reservation and carries charges for consumables. All free technical work is restricted to Faculty of Education courses. Production services include video, photography, websites, PowerPoint, booklets, pamphlets, posters, banners, and media duplication when not prohibited by copyright. Production services are also available to research and administration clientele at competitive pricing.

Conferences sponsored by the Faculty and held in the Education building have access to a full range of technical support services including preconference planning, promotional and conference day materials preparation, and extensive conference-day technical support staff.

Instructional functions comprise small group workshops and Media Services facilities tours (both by appointment only), individual equipment and software operation assistance and trouble-shooting, and technical support to courses.

Media Services manages and maintains the Faculty web server and participates in maintaining the Faculty website.

Sessional Hours (September to June):

Monday to Thursday	08:15 - 20:45
Friday	08:15 - 16:45

Summer Hours (July):

Monday to Thursday	08:15 - 16:45

Annual Closing (August):

Media Services reopens one week before Fall classes begin.

Please note that the above schedule varies slightly from year to year. Exact schedules will be posted at the Media Services entrance and on the website.

Media Services is closed on Saturdays, Sundays and holidays.

Media Services is located in Room 219 of the Faculty of Education.

Manager: Mr. Jim Harris
Telephone: 514-398-6950
Website: www.mcgill.ca/education/resources/media

Computer Facilities

The Faculty has a large computer complex located in Room 328 of the Education Building. It houses a lab with Windows computers, a second lab with Apple Macintosh computers, and a smaller work area with additional computers. Colour and black-and-white laser printing and scanning facilities are available. Consultants are available for help. This facility is available for courses, workshops and individual use by Education students and staff.

Closed Sundays, holidays and during August.
Hours for the Fall and Winter terms are:

Monday to Thursday	09:00 - 21:00
Friday	09:00 - 17:00
Saturday	11:00 - 16:00

Website: www.mcgill.ca/education/resources/ist

McGill Career Planning Service (CaPS)

Refer to the General University Information section for further information on this service.

For Information, contact:
Career Adviser: Antonella Nizzola
Telephone: 514-398-2484
Email: antonella.nizzola@mcgill.ca
Website: www.mcgill.ca/edu-sao/careerplanningservice

McGill Journal of Education

The *McGill Journal of Education* is an open-access, online journal that is posted at least three times a year: Winter, Spring, and Fall. It includes work in English and French from local, national, and international sources. The *Journal* publishes peer-reviewed research articles, essays, reports from the field, and book reviews. It is concerned with major issues in education from a variety of perspectives, practical and theoretical, personal and collective. Its policy is to bring new ideas and research into a context open to teacher educators and scholars, as well as to parents, teachers, and administrators.

Editor: Dr. Anthony Paré
Assistant Editor: Dr. Annie Savard
Managing Editor: Ann Keenan

Faculty of Education
McGill Journal of Education
3700 McTavish Street, Room 345
Montreal, QC H3A 1Y2
Telephone: 514-398-4246
Email: ann.keenan@mcgill.ca
Website: http://mje.mcgill.ca

A.S. Lamb Learning Centre

The A.S. Lamb Learning Centre, consisting of the Computer Laboratory, the multimedia unit and the reading room, is located on the second floor of the Sir Arthur Currie Memorial Gymnasium. The computer lab houses 25 computers connected to the McGill network and is available for courses, workshops and individual use by students and staff. Laser printing is also available at a cost. Access to the McGill wireless network is available for laptops equipped with a wireless card.

The multimedia unit features two IMAC computers with "Final Cut" DV and HDV video editing software, one VHS & DVD Recorder and a Flatbed Duplex high-speed Scanner. This facility is used for video editing, transfer of VHS, DV to DVD and high speed scanning.

LAN Tech.: Mr. Sanjeev Panigrahy
Location: McGill Sports Complex, Room 207A
475 Pine Avenue West
Website: www.mcgill.ca/edu-kpe/facilities/asllc
Hours: Monday to Friday 09:00 - 16:00

Evolution Education Research Centre (EERC)

Mission: “To advance the teaching and learning of biological evolution through research.” It opened its doors at McGill in 2001 with four McGill professors and four Harvard professors who have expertise in anthropology, biological evolution, educational psychology, geology, molecular biology, palaeontology, philosophy of science/education and science education.

Director: Dr. Brian Alters
Manager: Jason Wiles
Office: Education Building, Room 355
Telephone: 514-398-5469

Centre for the Study and Teaching of Writing

For information about writing courses please refer to http://www.mcgill.ca/conted-edu/programs/writing-centre.

Office of Student Teaching (OST)

The Office of Student Teaching is responsible for the planning and implementation of field experiences and arranging with school boards and schools for the placement of student teachers in the Bachelor of Education programs. The Office coordinates student teaching among Departments within the Faculty, and develops partnerships with the education community. The Office offers training to colleagues in schools.

Office Hours: Monday to Friday 08:30 - 17:00

Director: Professor Fiona J. Benson
Office: Education Building, Room 431A
Telephone: 514-398-7046
Fax: 514-398-3179
Website: www.mcgill.ca/ost

Student Affairs Office (SAO)

The Student Affairs Office is responsible for student records and registration as well as general academic information and advice on

undergraduate program and degree requirements, course change, withdrawal, supplemental and deferred exams, rereads, academic standing, inter-faculty transfer, readmission, study away, scholarships and awards, graduation and teacher certification.

Special requests can be made, in writing, to the Associate Dean (Teaching, Learning and Students).

Office: Education Building, Room 243
Telephone: 514-398-7042
Fax: 514-398-4679
Email: sao.education@mcgill.ca
Website: www.mcgill.ca/edu-sao

8.2 Faculty Programs

The Faculty of Education offers three different kinds of programs.

Undergraduate Programs
The Faculty offers programs leading to the Bachelor of Education (B.Ed.) degree for those wishing to become teachers, and a B.Sc.(Kinesiology). Advanced standing may be given to those already holding a university degree.

Programs of Professional Development
For qualified teachers wishing to enhance their knowledge and skills, the Faculty offers programs of professional development leading to specialized Certificates and Diplomas. Most courses that are required to complete these programs are offered in the evenings and in the summer.

Graduate Programs
The Faculty offers graduate programs for those already holding a university degree who wish to pursue advanced study and research leading to master's and doctoral degrees in various fields of education and psychology, and library and information studies.

Undergraduate programs of initial teacher education are described in this Calendar, programs of professional development are described in the most current *Centre for Continuing Education Calendar*, and graduate programs are described in the most current *Graduate and Postdoctoral Studies Calendar.*

8.2.1 Undergraduate Education Programs

The Faculty of Education offers the following Undergraduate programs. Details of each program may be found in this Calendar under the headings of the appropriate department. The credit weights given are for students who have completed a Quebec CEGEP degree, or have been granted 30 credits of advanced standing.

All Bachelor of Education programs have been accredited by the Comité d'agrément des programmes de formation à l'enseignement (CAPFE).

For "Bachelor of Education Secondary Program (120 credits)", see section 8.6.1.1, page 258. A 120-credit program offered by the Department of Integrated Studies in Education.

For "Bachelor of Education Kindergarten and Elementary Program (120 credits)", see section 8.6.1.4, page 261.

For "Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option)", see section 8.6.1.5, page 261. A 120-credit program, offered by the Department of Integrated Studies in Education.

For "Bachelor of Education Kindergarten and Elementary Program (Jewish Studies Option)", see section 8.6.1.7, page 262. Students taking this option take 126 credits, offered by the Department of Integrated Studies in Education.

For "Baccalauréat en enseignement du français langue seconde (120 credits)", see section 8.6.1.8, page 262. A 120-credit program, offered by the Department of Integrated Studies in Education jointly with the Université de Montréal.

For "Bachelor of Education in Teaching English as a Second Language (121 credits)", see section 8.6.1.9, page 263. A 120/121-credit program offered by the Department of Integrated Studies in Education.

For "Bachelor of Education Physical and Health Education", see section 8.7.1.1, page 268. A 120-credit program offered by the Department of Kinesiology and Physical Education.

For "Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) Program (144 credits)", see section 8.6.1.3, page 260. A 143/144-credit program offered jointly by the Department of Integrated Studies in Education and the Schulich School of Music. See also section 12.6.5 "B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program".

For "Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program", see section 8.6.1.2, page 259. This program is offered jointly by the Department of Integrated Studies in Education and the Faculty of Science.

A student who successfully completes any of the above programs, (and meets other requirements set out by the MELS (*Ministère de l'Éducation, du Loisir and du Sport*)) is recommended for certification as a teacher in the province of Quebec, see section 8.2.1.3 "Quebec Teacher Certification", on page 249.

For "Bachelor of Science (Kinesiology)", see section 8.7.2, page 268. A 90-credit program offered by the Department of Kinesiology and Physical Education.

The program entails a comprehensive understanding of human movement. Kinesiology is a multidisciplinary field viewing human movement from social, historical, psychological, or biological perspectives. The program provides students with a breadth of theoretical knowledge as well as an opportunity to explore related areas in greater depth, including minor programs available elsewhere within the University. Students may opt for either General or Applied emphasis, with an Honours program available for particularly strong students.

8.2.1.1 General Admission Requirements

For information about admission requirements to the B.Ed., B.Sc.(Kinesiology) or the Concurrent B.Sc. and B.Ed. or B.Mus. and B.Ed. programs please refer to the Undergraduate Admissions Guide, found at www.mcgill.ca/applying/undergrad. Applicants to the Concurrent B.Sc. and B.Ed. apply through the Faculty of Science, and to the Concurrent B.Mus. and B.Ed. apply through the Faculty of Music.

For information about Inter-Faculty Transfer or Readmission, please see section 3.3.12 "Inter-Faculty Transfer", or section 3.3.13 "Readmission", as well as information posted on the Student Affairs Office website, www.mcgill.ca/edu-sao/admissions.

Although no additional prerequisite courses are required, the Faculty recommends that applicants to the B.Ed. Secondary, Science & Technology, and B.Ed. Physical & Health Education programs have appropriate background science and mathematics courses, i.e., biology, chemistry, physics and mathematics. Students having other backgrounds will be considered for admission but will be required to complete prerequisite courses in mathematics and science that may increase the number of credits required for the degree.

Language Requirement for Applicants to B.Ed. TESL Program
Applicants to the B.Ed. TESL program are required to pass written and oral language tests in order to fulfil the admission requirements of this program. Upon admission to the program, students will be granted exemption from EDEC 215 (English Language Requirement).

8.2.1.2 Credit Requirements

Students are normally admitted to a five-year B.Ed. degree requiring the completion of 150 credits, or a four-year B.Sc.(Kinesiology) degree requiring the completion of 120 credits. Students who have

completed Quebec CEGEP, French Baccalaureate, International Baccalaureate or at least one year of university studies are normally enrolled in a four-year B.Ed. program, or three-year B.Sc.(Kinesiology) program.

Students entering the five-year B.Ed., or four-year B.Sc.(Kinesiology) degree are in Year 0 and are required to complete the freshman requirements applicable to their program.

Students who have completed previous university studies may be awarded transfer credits for their course work. This can only be determined after the formal application and all necessary supporting documents have been received by Enrolment Services. A minimum of 60 credits must be completed while in residence at McGill University in order to be eligible for a degree. Courses taken more than five (5) years before the time of admission are not permitted in subjects where there have been substantial content changes, nor in any pedagogy courses specific to the Quebec K-11 curriculum. Courses more than five (5) years old in other subject areas may be considered on an individual subject basis by the program director. For more details, see the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

8.2.1.3 Quebec Teacher Certification

Please note that graduates of teacher education programs are recommended by the University for Quebec Certification to the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS).

Teacher Certification in Quebec is the responsibility of the MELS. Students who complete requirements for the Bachelor of Education degree and who meet the MELS requirements (specified below) are recommended for certification.

All graduates of the Bachelor of Education Teacher Education programs who are Canadian citizens or Permanent Residents may apply for a permanent Teaching Diploma (Brevet) immediately upon graduation.

In order to be eligible for a "Permit to Teach" or a permanent Quebec Diploma, candidates must be either Canadian citizens or Permanent Residents.

In June 2005, the National Assembly of Quebec adopted an Act amending the Education Act and the Act respective of Private Education. The amendments concern the verification of judicial antecedents of persons holding or applying for a permit to teach in the youth, adult and vocational sectors.

Anyone seeking Teacher certification in the Province of Quebec is required to submit a confidential declaration concerning their judicial record to the Minister of Education. This document is available on the MELS website at www.mels.gouv.qc.ca/dftps/interieur/PDF/Antecedents_judiciaires_a.pdf.

In addition to meeting these requirements, candidates for Teacher certification must be recommended by McGill University in a series of core professional competencies specified in "Teacher Training Orientations – Professional Competencies" (MEQ 69-2099A).

Holders of a temporary Permit or of a permanent Diploma wishing to teach in another province or in another country must apply directly to the Teacher Certification Agency in the relevant province or country. Similarly, teachers from other provinces or countries who wish to teach in Quebec must apply to:

Ministère de l'Éducation du Loisir et du Sport
600 Fullum, 10e étage
Montréal, QC H2K 4L1
Telephone: 514-873-4630

Please refer to the following website for further information on obtaining a Quebec Teaching Licence: www.mels.gouv.qc.ca.

It is recommended that applicants intending to teach outside of Quebec obtain information beforehand concerning the requirements for certification.

Fluency (oral and written) in the language of instruction is a requirement for all those seeking certification.

8.2.2 Programs of Professional Development

The Faculty of Education offers programs of professional development in several fields. All such programs are 30 credits, unless otherwise indicated, and may be completed through part-time study. They are intended to provide an opportunity for teachers and other educators to enhance their existing knowledge and skills or to develop new ones, and thus are normally available only to those who are already certified as teachers.

Detailed information regarding general regulations, admission requirements and program profiles for the following certificates and diplomas may be found in the section for offering departments.

Department of Educational and Counselling Psychology
Certificate in Inclusive Education
Diploma in Human Relations and Family Life Education
Graduate Certificate in Counselling Applied to Teaching
Further information is available from the program coordinator:

Dean Thomson
Office: Education Building, Room 614
Telephone: 514-398-4248
Fax: 514-398-6968
Email: dean.thomson@mcgill.ca

Department of Integrated Studies in Education

First Nations and Inuit Education (FNIE)
The Office of First Nations and Inuit Education coordinates the work which the Faculty of Education carries out cooperatively with various Indigenous communities and institutions. All courses are normally given off campus. In collaboration with the Kativik School Board, the Cree School Board, the Kahnawake Education Centre, and various other Indigenous communities in Quebec, FNIE delivers field-based teacher education programs leading to initial teacher certification and to the B.Ed.Cert.Teach. degree. FNIE also works with departments to meet other educational needs of Indigenous peoples.

Director: Professor Donna-Lee Smith
Office: Education Building, Room 244
Telephone: 514-398-4533
Fax: 514-398-2553
Email: donnalee.smith@mcgill.ca
Website: www.mcgill.ca/edu-integrated

Centre for Educational Leadership (CEL)
CEL, a unit of the Department of Integrated Studies in Education, is committed to the development of leadership for all educational stakeholders through teacher preparation, graduate studies, research and varied approaches to professional development. The Centre seeks to promote dialogue, partnerships and projects among teachers, policy makers and other educational leaders in the local community and beyond through credit and non-credit work, research and development activities.

Director: Dr. Lynn Butler-Kisber
Office: Education Building, Room 442
Telephone: 514-398-1591
Fax: 514-398-7436
Website: www.mcgill.ca/edu-integrated

Courses offered through Continuing Education and Summer Studies

A wide range of courses, enabling students either to acquire prerequisite credits or to earn credit towards their degree, is offered through Continuing Education and Summer Studies. For courses offered, please check Minerva.

8.2.3 Programs for First Nations and Inuit

The following programs are offered for First Nations and Inuit teachers by the Faculty of Education. Information can be obtained by contacting:

Office of First Nations and Inuit Education (OFNIE)
3700 McTavish Street, Room 244
Montreal, QC H3A 1Y2
Telephone: 514-398-4533
Fax: 514-398-2553
Website: www.mcgill.ca/edu-integrated/fnie

Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option)
Detailed information about this program may be found in section 8.6.1.5 "Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option)".

Detailed information about the following programs may be found in section 8.6.2 "Programs for First Nations and Inuit":

B.Ed. for Certified Teachers (Elementary Education)

Certificate in Education for First Nations and Inuit

Certificate in First Nations and Inuit Student Personnel Services (This program is offered by the Department of Educational Psychology and Counselling through the Office of First Nations and Inuit Education. Restrictions apply to enrolment.)

Certificate in Middle School Education in Aboriginal Communities

Certificate in First Nations and Inuit Educational Leadership

Certificate in Aboriginal Education for Certified Teachers

Certificate in Aboriginal Literacy Education

8.3 Faculty Regulations for Undergraduate Programs

Please consult the General University Information section for regulations and procedures regarding registration, fees, course load, course change (drop/add), withdrawal, verification, examinations, inter-university transfer, and graduation. In addition, the following section provides regulations specific to Faculty of Education students.

Note: Each student in the Faculty of Education must be aware of and comply with the Faculty regulations as stated in this Calendar. While departmental and Faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for complete and correct course selection and registration, for compliance with, and completion of, program and degree requirements, for the observance of regulations and deadlines, and for academic records, rests with the student. It is the student's responsibility to seek guidance. Misunderstanding will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

Advising
Refer to section 4.1 "Undergraduate Advising", and the Student Affairs website, www.mcgill.ca/edu-sao/advising, for further information. Assistance is also available by emailing: sao.education@mcgill.ca.

All **newly admitted** students are required to attend the academic advising sessions scheduled during August prior to the beginning of the Fall term. For a detailed description of advising and registration procedures, students should refer to *Welcome to McGill*, which is sent to all newly admitted students by Enrolment Services upon their acceptance, as well as the Student Affairs website, www.mcgill.ca/edu-sao/advising.

Academic advising for all **returning students** takes place in March for the upcoming academic year. Detailed advising and registration information is posted on the Student Affairs website: www.mcgill.ca/edu-sao/advising. Students entering their graduating year are encouraged to meet with their adviser during this advising period.

All students admitted into the Freshman Year (Year 0) are required to meet with an adviser during the Advising period in August. Please see section 8.3 "Faculty Regulations for Undergraduate Programs" for further information.

A list of recommended courses for Freshman (Year 0) students is available on the website www.mcgill.ca/edu-sao/advising info/freshman.

8.3.1 Code of Professional Conduct

Faculty of Education programs have professional components and field placements. In all aspects of any program, on campus and off, students are expected to demonstrate ethical, responsible, and professional behaviour in the performance of their duties, to conduct themselves in accordance with the law (e.g., Youth Protection), and to meet the expectations of schools, boards and other host institutions receiving them for field placements. This applies to all aspects of professional conduct, including but not limited to respect for persons, property and confidentiality, appropriate dress and punctuality. Failure to meet these expectations, regardless of performance in courses or other formal program requirements will be taken into account in the assessment of the students' overall academic standing in the program and, in the most serious instance, may result in a requirement to withdraw from the program.

8.3.2 English Language Requirement

The Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS), and the Faculty of Education require that all students in teacher education programs demonstrate their proficiency in the language of instruction. To fulfil this obligation, all students are required to write an English Language Proficiency Test (EDEC 215) before the end of their first semester in the program. Students will be notified of the time and place after acceptance. Students who do not pass the test the first time and who wish to remain in the program will be required to take EDEC 208 in the winter term of their first year. They must receive a passing grade and, in their second year, they will be required to register and take the test again. Students who do not pass the test on their second attempt will be placed in unsatisfactory standing and must withdraw from the program. Permission may be granted to allow students to continue taking courses during the Winter semester only. Please see section 8.3.11.3 "Unsatisfactory/Interim Unsatisfactory Standing" for readmission procedures.

Note: This requirement does not apply to students in the B.Ed. TESL, B.Ed. TFSL or the Certificate in Education for First Nations and Inuit programs.

8.3.3 Additional Requirements for Students admitted to B.Ed. TFSL program

Students admitted to the B.Ed. TFSL program are required to write diagnostic tests in French Language and mathematics. Based on test results students may be required to successfully complete remedial courses above and beyond degree requirements. In addition there will be a compulsory French language test for TFSL students prior to their third Field Experience. Students will be required to pass this test in order to continue in the program.

8.3.4 Judicial Record Verification for Students in the Bachelor of Education Programs

Quebec's Education Act, section 261.0.2, grants school boards the right to verify the judicial record of any person regularly in contact with minors, and this includes student teachers. Each school board or private school may have its own administrative procedures for verification. Students are responsible for complying with their request. Anyone unable to obtain the required security

clearance will not be permitted to undertake their Field Experiences and consequently would have to withdraw from the program as this is a mandatory requirement of the program. More information can be found on the Student Affairs Office website.

8.3.5 Course and Program Regulations

Course Load

Undergraduate Education programs can normally only be followed on a full-time basis. Students must take a minimum of twelve (12) credits per term unless the Associate Dean (Teaching, Learning and Students) gives them special permission. Special permission must be requested prior to the end of Course Add/Drop period.

Any absence or reduction in course load that may impact the regular progression of a student's program must have written approval by the Associate Dean (Teaching, Learning and Students).

The normal course load per term is 15 credits. Students whose GPA is above 3.00 may take up to 17 credits per term. Overloads are not allowed in major field experience terms for students in the B.Ed. programs. Students in Probationary Standing take a maximum of 12 credits.

Time Limit and Credits for Completion of Degrees

Students are expected to complete their program in no more than five (5) years after their initial registration for the B.Ed. degree and after four (4) years for the B.Sc.(Kinesiology) degree. Students who enter into a freshman year become subject to these regulations one year after their initial registration. Students who exceed these limits must apply to the Faculty for permission to continue.

Students registered in the B.Ed. or B.Sc. are expected to complete the requirements of their programs and their degree within 150 or 120 credits respectively. Students will receive credits for all courses (subject to degree regulations) taken up to and including the semester in which they obtain the full degree credit requirements. Students who wish to remain at McGill beyond that semester must seek permission of the Associate Dean. Students who wish to exceed the specified minimum number of credits required for their degree must also seek permission of the Associate Dean. Credits over the credit limit will be flagged for no credit and the grades will not count in the CGPA.

Permission for exceeding the time and or credit limits will normally be granted only for valid academic reasons, such as change of program or approved part time status. If permission is granted, students will receive credit only for required and complementary courses necessary to complete their program requirements.

Course Requirements

All Required and Complementary courses used to fulfil program requirements must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a Required course must either pass the supplemental examination if available, or repeat the course. If the failed course is a Complementary course required by the program, a student may choose to replace it with another complementary course. If a student repeats a Required course in which a D was received, credit will only be given once. A failure (F, J, KF, WF) in any level of field experience or the English Language Proficiency Test (EDEC 215), second attempt, places a student in unsatisfactory standing requiring withdrawal from the program. Further details on requirements for Field Experience are listed in section 8.4 "Student Teaching/Field Experience".

Courses Taken as Transfer Credit

Students wishing to study away at a university outside of Quebec must obtain approval from their academic adviser and Student Affairs Office prior to taking a transfer course. Students will only be permitted to take courses required to complete their program. Students are not permitted to take transfer courses during their graduating term. Please refer to section 3.5.6 "Transfer Credits" for further information.

Inter-University Transfer Credit

Students may, with the permission of their academic adviser, register at any university in the province of Quebec for three (3), or exceptionally six (6) credits per term in addition to their registration at McGill. Students will only be permitted to take courses required to complete their program. Students are not permitted to take transfer courses during their graduating term. Please refer to section 3.3.5 "Quebec Inter-University Transfer Agreement (IUT)" for further information.

Note: This restriction does not apply to students in the Joint B.Ed. TFSL program.

Distance Education Courses

A maximum of 6 credits of elective courses taught through distance education may be used towards the B.Ed. or B.Sc.(Kinesiology) degree at McGill. Courses taught through distance education may not be used to complete program requirements, except on an individual basis when serious documented circumstances warrant it. In such cases, prior approval must be obtained from the student's program adviser and the Associate Dean.

Courses Taken under Satisfactory/Unsatisfactory Option

Required or Complementary courses cannot be taken under this option. Please consult section 3.3.6 "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option".

Course Equivalencies and Overlap

Students will not receive additional credit towards their degree for any course that is considered equivalent or that overlaps in content with a course for which they have already received credit at McGill, or any other institution. It is the student's responsibility to be aware of exclusion clauses specified in the course description in the Calendar and Minerva. Students should also refer to the following website for specific information about advanced standing credits and McGill course exemptions: www.mcgill.ca/student-records/transfercredits; as well as the following website for Faculty specific information: www.mcgill.ca/edu-sao/advancedstanding.

Dress Regulations

All students enrolled in teacher certification programs are advised that school boards and individual schools may have regulations concerning acceptable attire. Students must adhere to any such regulations.

Students in Kinesiology and Physical Education programs are required to wear appropriate clothing for activity courses as approved by the instructor(s). Students may also be responsible for providing some items of personal equipment.

8.3.6 Registration

All students register by Minerva, McGill's web-based registration system. For detailed information about registration please refer to section 3.3 "Registration", *Welcome to McGill*, the Student Affairs website, www.mcgill.ca/edu-sao, and to the Student Records website, www.mcgill.ca/student-records.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not re-register in the Faculty. Students who can provide proof of extenuating circumstances may appeal to the Associate Dean. Please refer to section 3.3.13 "Readmission", and to www.mcgill.ca/edu-sao/admissions/readmission for Faculty specific information.

Students who have an outstanding fee balance from a previous term or outstanding fines will not be permitted to register. Students with financial problems should consult the Student Aid Office, Brown Student Services Building.

Students who decide not to return to McGill must withdraw from all of their courses on Minerva or inform the Student Affairs Office in writing. Please refer to sections section 3.3.8 "Regulations Concerning Course Withdrawal" and section 3.3.9 "Regulations Concerning University Withdrawal" for further information.

Course Registration

Students in Faculty of Education programs should register for the courses as outlined in the individual program overviews and advising material posted on the Student Affairs Office website, www.mcgill.ca/edu-sao. For more information on registration, see section 3.3 "Registration".

Students in the B.Ed. programs who are required to be registered for Field Experience should consult section 8.4 "Student Teaching/Field Experience" for more information.

Some courses may require special permission. Students should consult the Calendar and/or the Class Schedule on Minerva well in advance of the Course Change period to determine if permission is required of the instructor, the department or the Faculty for any course they wish to take.

A number of courses have prerequisites which must be completed prior to course registration. Permission to waive a prerequisite requirement must be given in writing by an academic adviser.

Withdrawals: There are three course withdrawal periods published in the Calendar and on the University website, www.mcgill.ca/students, or section 3.3.8 "Regulations Concerning Course Withdrawal". Students may, under exceptional circumstances, be granted permission to withdraw after the published deadlines. Such students should contact the Student Affairs Office for further information.

Students withdrawing from a Field Experience should refer to section 8.4 "Student Teaching/Field Experience".

8.3.7 Attendance

The pattern of attendance necessary to satisfy the requirements of coursework will vary according to the nature of different subjects and the professors' approaches to them. A course constitutes a contractual, professional, academic and social obligation between the professor and the student. It is, therefore, the responsibility of the professor to make students aware of the unique requirements of a course and the manner in which they may be fulfilled, and the responsibility of the student to meet these requirements.

Field Experience Courses - Punctual attendance is required for the entire Field Experience. Absences are only excused in exceptional circumstances. Please refer to section 8.4 "Student Teaching/Field Experience".

Students in the B.Ed. programs should be aware that some Field Experiences may begin in August, and some are held in the spring.

Intensive Courses - While students are responsible for informing themselves of the attendance requirements for all courses, special attention should be made to the requirements for intensive courses scheduled around the Field Experiences. Missing classes in intensive courses may result in exclusion from the course. Students should refer to the individual course outlines.

8.3.8 Grading

During the first week of lectures, each instructor will provide students with a written course outline which should include a description of the means of evaluation to be used in the course.
For further information on Grading, please see section 3.5.3 "Grading and Grade Point Averages (GPA)".

8.3.9 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of "K" (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to the Student Affairs Office are as follows: April 30 for Fall term courses; July 30 for Winter term courses and November 30 for Summer courses. It is important to note that instructors may impose earlier deadlines than those listed. Please refer to section 3.5.5 "Incomplete Courses" for more information.

8.3.10 Examinations

Students should see section 3.6 "Examinations" for information about final examinations and deferred examinations. The exam schedules are posted on the McGill website, www.mcgill.ca/student-records/exam, normally one month after the start of classes for the Tentative Exam Schedule, and two months after the start of classes for the Final Examination schedule.

Students are warned not to make travel arrangements to leave Montreal prior to the scheduled end of any examination period.

Supplemental Examinations

Students who wish to write a supplemental examination for a course in which a supplemental examination is available must apply on Minerva within the published deadline. Please refer to the Student Record website, www.mcgill.ca/student-records/exam, for important information.

Students must be in satisfactory or probationary standing and have received a final grade of D, J, F, or U in the course.

Reassessment and rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner (see section 3.6.2.3 "Reassessments and Rereads").

The Faculty recognizes two types of reassessments or rereads:
1. Reassessment of course work (term papers, mid-terms, assignments, quizzes, etc.);
2. Reread of a final exam.

Reassessment of Course Work

Reassessment of course work is administered by the course instructor or the offering department. Requests, made by students, must be made within 10 working days of the date of return of the graded materials. The reviewer will assess the fairness of the original grade rather than remark the assignment as he or she would have graded it. Reassessments should normally be completed within 20 working days of the request. Grades may be lowered or raised, or they may remain the same, as a result of the reassessment. The grade obtained on the reassessment takes precedence over the original grade.

Rereads of Final Exams or Final Term Papers or Projects

These rereads are administered by the Student Affairs Office, but conducted by the units involved. Students must apply in writing to the Student Affairs Office by March 31 for courses in the Fall term, June 30 for courses in the Winter, and by September 30 for Summer term courses (these deadlines are strictly enforced and no requests will be accepted past them). Students are assessed a fee of $35.00 for such rereads. It is strongly recommended, but not required, that students consult with the instructor of the course before requesting an official reread. The reviewer will assess the fairness of the original grade rather than remark the assignment as he or she would have graded it. Grades may be lowered or raised, or they may remain the same, as a result of the reread. The grade obtained on the reread takes precedence over the original grade.

Reassessments and rereads in courses not in the Faculty of Education are subject to the deadlines, rules, and regulations of the particular faculty.

8.3.11 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). For students in the B.Ed. programs it is also based on their performance in the Field Experience courses, and the English Proficiency examination (EDEC 215). Academic standing, which is assessed after the end of term, determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration. Information about academic standing appears on records that are

internal to McGill for the information of students and others, such as academic advisers.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standing for the Fall term is designated as "interim" and should be interpreted as advisory. **Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.** Students who do not receive a Pass grade for a Fall term EDFE (Field Experience course), or their second attempt at EDEC 215 (English Language Proficiency) are placed in Unsatisfactory Standing. Permission may be granted to allow them to continue taking courses during the Winter semester only. Students may apply for readmission as per the regulations posted on the Student Affairs Office website: www.mcgill.ca/edu-sao/admissions/readmission.

8.3.11.1 Satisfactory/Interim Satisfactory Standing

Students in interim satisfactory or satisfactory standing:

- may continue in their program;
- have a CGPA of 2.00 or greater.

8.3.11.2 Probationary/Interim Probationary Standing

Interim Probationary Standing at the end of the Fall term

- may continue in their program;
- should evaluate their course load and reduce it;
- should consult with their program adviser before the withdrawal deadlines;
- are permitted to proceed with the next scheduled Field Experience course, i.e., Winter or Spring, for First- or Second-Year Field Experiences only.

Probationary Standing at the end of the Winter Term

- may continue in their program;
- must carry a reduced load (maximum of 12 credits per term);
- are not permitted to take any level student teaching/Field Experience course during the next academic year;
- must raise their TGPA and CGPA to return to satisfactory;
- should see their departmental adviser to discuss their course selection.

Students will be placed in Probationary Standing:

- if their CGPA falls between 1.50 and 1.99, and if they were previously in satisfactory standing;
- if they receive a grade of D for any level Field Experience course and were previously in satisfactory standing;
- if their CGPA falls between 1.50 and 1.99 and their TGPA in Fall or Winter is 2.50 or higher, and if they were previously in probationary or interim unsatisfactory standing;
- if their CGPA is between 1.50 and 1.99, and they were previously in unsatisfactory readmitted standing, and have satisfied the relevant conditions specified in their letter of readmission.

8.3.11.3 Unsatisfactory/Interim Unsatisfactory Standing

Interim Unsatisfactory standing at the end of the Fall term

- may continue in their program;
- should evaluate their course load and reduce it as appropriate;
- should consult a departmental adviser, before the withdrawal deadlines, about their course selection for the Winter term;
- will not be permitted to proceed with the next normally scheduled Field Experience.

Unsatisfactory Standing at the end of the Winter term

- have failed to meet the minimum standards set by the Faculty;
- may not continue in their program.

Readmitted Unsatisfactory Standing

Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean or the Committee on Student Standing will have their standing changed to readmitted unsatisfactory standing. Their course load is specified in their letter of readmission, as are the conditions they must meet to be allowed to continue in their program. They should see their departmental adviser to discuss their course selection.

Students will be placed in Unsatisfactory Standing (Winter or Summer term) or Interim Unsatisfactory Standing (Fall term):

- if their CGPA falls or remains below 1.50;
- if their TGPA falls below 2.50 and their CGPA is below 2.00 and they were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing;
- if they receive a failure (F, J, KF, WF) in any level of student teaching/Field Experience course;
- if they receive a failure in the English Language Requirement Test for the second time;
- if they were previously in unsatisfactory standing and were readmitted to the Faculty by the Associate Dean or the Committee on Student Standing and have not at least satisfied the conditions to attain probationary standing that were specified in the letter of readmission.

Note: Students in either the Concurrent B.Sc. and B.Ed. or B.Mus. and B.Ed. program who receive an F or J in any Education Field Experience course, or fail the English Language Proficiency Test for the second time, are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent program. They may, however, contact the Faculties of Science or Music regarding application to their general degrees.

Readmission

Appeals for readmission by students in unsatisfactory standing should be addressed to the Associate Dean no later than June 1 for readmission to the Fall term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students who have failed EDEC 215 twice must pass the examination as part of the readmission criteria.

Students in unsatisfactory standing for the second time must withdraw permanently. Students who were placed in unsatisfactory standing due to a failure in student teaching/Field Experience cannot apply for readmission for at least one full year. Please refer to the Student Affairs Office website for further information: www.mcgill.ca/edu-sao/admissions/readmission.

Incomplete Standings

- Standing awaits deferred or supplemental exams;
- Must clear K's, L's or Supplementals;
- Standing incomplete.

Students with incomplete standings in the Winter or Summer term may register for the Fall term, but their standing must be resolved by the end of the course change period for that term; students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to "unsatisfactory" may not continue in their program.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Associate Dean of Student Affairs as soon as they are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of course change period should immediately consult with the Student Affairs Office.

8.3.12 Graduation Requirements

To be eligible for a B.Ed. or the B.Sc.(Kinesiology) degree, students must fulfil all Faculty and program requirements. This includes completing the minimum credit requirements for the degree as stipulated in the letter of acceptance; obtaining a grade of C or better in all required and complementary courses; and achieving a minimum cumulative grade point average (CGPA) of 2.00. Students must satisfactorily complete a minimum of 60 credits at McGill University towards the fulfilment of the degree requirements. In addition, students must complete specific components of their program at McGill.

Students enrolled in Kinesiology and Physical Education programs are required, before the end of their final year of study, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

Students must complete their degree requirements within five (5) years after their initial registration for the B.Ed. degree and within four (4) years after their initial registration for the B.Sc.(Kinesiology) degree. Students in the part-time B.Ed. for Certified Teachers and B.Ed.(Vocational) programs are allowed a maximum of 12 years to complete the requirements for the degree.

It is the student's responsibility to ensure that all Faculty requirements are met before graduation.

Early in their graduating year all students should check with their adviser to make sure that they will meet all program requirements in time for graduation. It is essential that students in their final year indicate the expected date of graduation on Minerva and verify this date on Minerva; see section 3.9 “Graduation”. When a final-year student changes the expected date of graduation, the student must notify the Student Affairs Office immediately. It is also the student's responsibility to complete the required forms for teacher certification, and to check that his/her name appears on the graduation list. Further information is available on the Student Affairs Office website: www.mcgill.ca/edu-sao.

Students are not permitted to take courses outside McGill University during the last term prior to graduation. Students who fail to graduate as expected and who do not re-register must apply to the Associate Dean (Teaching, Learning and Students) to graduate. Application to graduate must be made sufficiently in advance of the expected graduation date to allow the Faculty to verify the student's record.

Information pertaining to the convocation ceremonies can be obtained on the McGill website: www.mcgill.ca/convocations.

8.3.13 Undergraduate Program Awards

Dean's Honour List Designation for Graduating Students

The designation Dean's Honour List may be awarded to graduating students under the following conditions:

- students must be among the top 10% of the Faculty's graduating students;
- students must have completed a minimum of 60 McGill credits to be considered;
- the designation is based on the cumulative academic record (CGPA).

Dean's Honour List Designation for In-course Students

The designation Dean's Honour List may be awarded to in-course students under the following conditions:

- students must be among the top 10% of the Faculty's students;
- students must have completed at least 27 graded credits during the academic year;
- the designation is based on the sessional GPA.

Scholarships and Awards

Various scholarships and awards are open to both graduating and in-course students. Full details may be found in the *Undergraduate Scholarships and Awards Calendar* available on the web at www.mcgill.ca/courses.

8.4 Student Teaching/Field Experience

The **Office of Student Teaching (OST)**, www.mcgill.ca/ost, is responsible for arranging the placement and evaluation of all student teachers in supervised Field Experiences.

Field Experiences:

- Are required courses (with the subject code EDFE) for all students in the B.Ed. Program from 1st through 4th year.
- Are the sole responsibility of the OST, and under no circumstances should students make their own placement arrangements.
- Should be taken in the required sequence.
- Require that 'Newly Admitted' and 'Returning Students' follow registration procedures (see below) or risk not being placed in a host school.
- Are completed in English schools in the province of Quebec in the majority of cases, with the exception of the B.Ed. TESL Program Field Experiences which take place in French schools in the province of Quebec.
- Can be specialized in some circumstances. Refer to the OST website for information regarding such opportunities (distance, special needs, resource room, adult education, etc.).
- Could require that students travel some distance to their host school and students should therefore budget a sum of money to offset such travel costs.
- Require that students be placed at host schools for specific periods of time ranging from 10 to 40 days.
- May begin before the first day of lectures or end after the last day of lectures.
- May continue during the University-scheduled Study Break in the Winter term.
- May continue through May in the Summer term (refer to the OST website or Minerva for exact dates).

Newly Admitted Students:

- In B.Ed. K/Elementary, B.Ed. TESL, B.Ed. Secondary programs must be registered for the first Field Experience by September 1.
- In B.Ed. Secondary Science and Math program should consult an advisor during the August advising sessions prior to registering for Field Experience courses.
- In B.Ed. Music, and B.Ed. Physical and Health Education programs must register in February for the first Field Experience (Summer session).
- Who are registered for a Field Experience will receive instructions for accessing the online Student Teaching Placement Form at their official @mail.mcgill.ca email address. Forms must be submitted by the date indicated in the email.
- Who have acquired **formal** teaching experience prior to admission to the Bachelor of Education program may be granted exemption for the first Field Experience. Written requests must be made to the Director of the OST by August 31 of the year of admission. Requirements for supporting documentation can be found on the OST website.

Returning Students:

- Must register for Field Experience 3 on Minerva by mid-April in the preceding academic year (see section 1 “Important Dates 2009-10” for deadline). Field Experience 3 begins in late August before the start of lectures. (See Minerva or OST website for details.)
- Must register for Field Experience 4 on Minerva by the beginning of November (see section 1 “Important Dates 2009-10” for deadline).
- Who are registered for a Field Experience will receive instructions for accessing the online Student Teaching Placement

Form at their official @mail.mcgill.ca email address. Forms must be submitted by the date indicated in the email.

- Must be in satisfactory standing and have satisfied all prerequisite and co-requisite course requirements (refer to www.mcgill.ca/edu-sao/returning).
- In the B.Ed. K/Elem, B.Ed. Secondary or B.Ed. TESL who wish to transfer from one program to the other will not be required to repeat 1st year Field Experience.

Field Experience Protocols
Students are responsible for familiarizing themselves with the guidelines governing their pedagogical and professional behaviour while on Field Experience (refer to the OST website).

Students should not engage in any type of employment, nor register for any course that might interfere with the successful outcome of a Field Experience.

Field Experience Courses
Punctual attendance is required at the assigned school for the entire Field Experience. Absences are only excused in exceptional circumstances and must be reported immediately to both the Office of Student Teaching and the cooperating teacher in the school to which they are assigned. Students will be required to make up for any absences.

Field Experience Evaluation
Students are responsible for familiarizing themselves with the objectives, evaluation criteria and forms for each level of Field Experience. Detailed information is included on the OST website, www.mcgill.ca/ost. Students must submit all completed evaluation forms immediately following their Field Experience in order to receive a grade.

Where a student is experiencing serious difficulties in a Field Experience but has demonstrated some potential to successfully reach the required standard, the student will be granted a "D" grade. In this case, the Director of the OST has the authority to grant special permission for a student to repeat a Field Experience during the next regularly scheduled session of the Field Experience. This special permission will be granted once only in a student's program.

Students must receive a Pass grade in order to proceed in the B.Ed. program. Failure (F, J, KF, WF) in any Field Experience places a student in "Unsatisfactory Standing", requiring withdrawal from the Teacher Education Program. Students who fail in a Fall term Field Experience may be allowed to continue taking courses in the program to enable transfer to another faculty.

A student may appeal a failing grade or termination of a Field Experience by making a formal application to the Associate Dean (Teaching, Learning, and Students).

Withdrawal from Field Experience

- Withdrawal (with refund) for any reason must be done at least two (2) weeks before the start date of the Field Experience. The student is responsible for notifying the OST in writing by this deadline.
- Students having to withdraw for any reason from a field experience that begins in less than two (2) weeks or that is underway must immediately inform the OST. Based on the circumstances of the withdrawal, the Director of the OST will determine the final outcome of the Field Experience and the SAO will determine eligibility for refund.

8.4.1 Code of Professional Conduct

CODE OF ETHICS FOR STUDENT TEACHERS

A. Preamble - A Student-centred Perspective

Mandate
A joint subcommittee consisting of members from two standing committees of the Faculty of Education (Faculty of Education Ethical Review Board and Student Standing) was created to develop a Code of Ethics for Student Teachers and to examine the ways in which this Code will be communicated to students, faculty members and educational partners.

Goals and Rationale
The interests of the two Standing Committees of the Faculty of Education in promoting appropriate ethical and professional conduct have led us to develop the following Code of Ethics for Student Teachers. This code seeks to respond to and address the following needs:

- The Code addresses the interdependent duties, rights and responsibilities of student teachers, faculty members and educational partners.
- By addressing common issues and needs, the Code seeks to articulate and make explicit ethical principles that transcend disciplinary boundaries. These principles reflect the fundamental values that are expressed in the duties, rights and responsibilities of all involved in Teacher Education.
- The Code requires a reasonable flexibility in the implementation of common principles. It is designed to help those involved in Teacher Education, as a matter of sound ethical reasoning, to understand and respect the contexts in which they work and accommodate the needs of others.
- The Code seeks to encourage continued reflection and thoughtful response to ethical issues. It does not seek definitive answers to all ethical questions or situations. Rather, it seeks to outline the guiding principles to ethical conduct and to identify major issues which are essential to the development and implementation of this Code.

Context of an Ethics Framework for Student Teachers
The principles and norms guiding ethical conduct are developed within an ever-evolving complex societal context, elements of which include the need for reflective action and ethical principles.

Education is premised on a fundamental moral commitment to advance and construct knowledge and to ensure human understanding and respect for individual and collective well-being and integrity.

The moral imperative of respect translates into the following ethical principles that assume a student-centred perspective as articulated in the Quebec Curriculum Reform and Competencies outlined for Teacher Education.

B. Academic Freedom and Responsibilities
Teachers enjoy, and should continue to enjoy, important freedoms and privileges. However, with freedoms come responsibilities and ethical challenges. This Code of Ethics is in keeping with the philosophy and spirit of the New Directions that are embedded in the document "Teacher Training: Orientations, Professional Competencies" (MEQ 2001) and the reflective practice literature.

The role of the teacher and the contexts of teaching have changed. Thus, new resources (knowledge, skills, attitudes) are required to practice the profession and meet the challenges of teaching and learning in whatever contexts student teachers may find themselves and to engage in professional development individually and with others.

C. Ethics and Law
"Teaching is governed by a legal and regulatory framework" (MEQ 2001, p. 120). The law affects and regulates the standards and norms of teaching behaviours in a variety of ways such as respecting privacy, confidentiality, intellectual property, competence. Human rights legislation prohibits discrimination and recognizes equal treatment as fundamental to human dignity and well being. Teachers should respect the spirit of the Canadian Charter of Rights and Freedoms, particularly the sections dealing with life, liberty and the security of the person, as well as those involving equality and discrimination and the Education Act that sets out the obligations and rights of teachers.

D. Guiding Ethical Principles
Ethical student teachers should respect the following guiding ethical principles:

1. Respect for Human Dignity

- Speaks and acts towards all students with respect and dignity; and deals judiciously with them at all times, always mindful of their individual rights and personal sensibilities.
- Respects the dignity and responsibilities of cooperating teachers, peers, principals, parents and other professionals or paraprofessionals within the school, school board and community.

2. Respect for Vulnerable Persons

- Respects and recognizes ethical obligations towards vulnerable persons. This principle recognizes that students are in a vulnerable position and that student teachers are in a privileged relationship with students and their families and will always refrain from exploiting that relationship in any form or manner.

3. Respect for Confidentiality and Privacy

- Respects the confidential nature of all information related to students and their families and will share such information in an appropriate manner only with those directly concerned with their welfare.
- Respects the confidential nature of all information related to all school personnel and will share such information in an appropriate manner.

4. Respect for Justice

- Respects and recognizes the right of individuals to be treated with fairness and equity and the importance of avoiding conflicts of interest.

5. Respect for Safety of Students

- Respects the right of individuals to expect that student teachers will engage in practices that aim to ensure the physical, psychological and emotional safety of students.

6. Respect for Existing Ethical Codes and Professional Standards

- Respects the authority, roles and responsibilities of the cooperating teacher and agrees to adhere to the responsibilities and obligations for teachers as outlined in the Education Act, Faculty and University handbooks as well as all local agreements by host school boards and schools.

7. Balancing Harm and Benefits

- Acknowledges that any potentially harmful practices (e.g., science labs and physical education activities) must be balanced with anticipated benefits and conducted in a prudent, informed manner.

E. Putting Principles into Practice: Venues for Communication

More than one principle may apply to a given case or situation. For meaningful and effective implementation of these principles, they must be widely communicated and applied in appropriate contexts.

8.5 Department of Educational and Counselling Psychology

Faculty of Education
3700 McTavish Street, Room 614
Montreal, QC H3A 1Y2

Telephone: 514-398-4242
Fax: 514-398-6968
Website: www.mcgill.ca/edu-ecp

Chair — Susanne P. Lajoie; B.A., M.A.(McG.), Ph.D.(Stan.) (*James McGill Professor*)

Emeritus Professors
Janet G. Donald; B.A., M.A.(W. Ont.), Ph.D.(Tor.)
Eigil Pedersen; B.A.(Sir G. Wms.), M.A.(McG.), Ed.D.(Harv.)
Howard A. Stutt; B.A.(Qu.), B.Ed., M.Ed.(Montr.), F.C.C.T.

Professors
Mark W. Aulls; B.S.(Ball St.), M.Ed.(Ind.), Ed.D.(Georgia)
Robert J. Bracewell; B.Sc., M.A.(McM.), Ph.D.(Tor.)
Jacob A. Burack; B.A.(Col.), M.S., M.Phil., Ph.D.(Yale)
Glenn F. Cartwright; B.A.(Sir G. Wms.), M.A.(McG.), Ph.D.(Alta.), F.A.A.S.P., F.C.C.T.
Kim Cornish; B.Sc.(Lanc.), Ph.D.(Lond.) (*Canada Research Chair, Tier 1*)
Jeffrey L. Derevensky; B.A.(C. W. Post), M.A., Ph.D.(McG.)
Nancy L. Heath; B.A.(McG.), M.Ed.(Ott.), Ph.D.(Tor.) (*William Dawson Scholar*)
Carl H. Frederiksen; B.A.(Harv.), M.A., Ph.D.(Ill.)
Susanne P. Lajoie; B.A., M.A.(McG.), Ph.D.(Stan.) (*James McGill Professor*)
Alenoush Saroyan; B.A.(Pahlavi), M.Ed.(Loyola-Ill.), Ph.D.(McG.)
Bruce M. Shore; B.Sc., M.A.(McG.), Ph.D.(Calg.)
Cynthia B. Weston; B.A.(G'town), M.L.S.(SUNY), D.Ed.(Wash.) (*joint appt. with Teaching and Learning Services*)

Associate Professors
Alain Breuleux; B.Sc., M.Sc., Ph.D.(Montr.)
Martin Drapeau; B.A.(Montr.), B.A.Ps.(UQTR), M.Ps.(Laval), Ph.D.(Montr.)
Marilyn Fitzpatrick; B.A.(Tor.), M.Ed., Ph.D.(McG.)
Michael L. Hoover; B.S.(Tulane), M.A., M.Phil., Ph.D.(Col.)
Evelyn Lusthaus; B.S., M.S., Ph.D.(SUNY Buffalo) (*on leave*)
Robert Savage; B.A.(Oxf.), M.Sc.(Camb.), M.Sc., Ph.D.(Lond.)
Ada L. Sinacore; B.A.(Montclair St.), M.A., M.Ed., Ph.D.(Col.)
Ingrid E. Sladeczek; B.A., M.S., Ph.D.(Ariz.), A.A.(Md.)
Ronald Stringer; B.Sc., M.A., Ph.D.(Tor.)

Assistant Professors
Tara Flanagan; B.A., M.A., Ph.D.(McG.)
Panayiota Kendeou; B.A., M.A., Ph.D.(U. Minn.)
Annett Körner; M.A., Ph.D.(Leipzig)
Krista Muis; B.A., M.A., Ph.D.(S. Fraser)
Jeeseon Park; B.A., M.A.(Yonsei), Ph.D.(Penn.)
Steven R. Shaw; B.S., M.Ed., Ed.S., Ph.D.(Flor.)
Nathan Smith; M.Sc., Ph.D.(VCU)
Victoria Talwar; M.A. Hons(St. Andr.), M.A., Ph.D.(Qu.)

Faculty Lecturer
Jack de Stefano; B.A.(Loy.Coll.Montr.), M.Ed., Ed.D.(McG.)

Associate Professor (Non-Tenure Track)
Renée Stevens; B.A.(Calif.-LA), M.A., Ph.D.(McG.) (*part-time*)

Adjunct Professors
Dermot Bowler, Bertha Dawang, Marcia Delcourt, Judith Gradinger, Anne Jordan, Calvin Kalman, Katherine Moxness, Judith Norton, Shana Ross, David Shore, Anastassios Stalikas, Harold Wynne

Associate Members
Reut Gruber, Daniel Levitin, Mary H. Maguire

Part-time Instructors
Gus Appignanesi, Maureen Baron, Antonio Bernardelli, Elana Bloom, Sam Bruzzese, Scott Conrod, Dominic D'Abate, Tamara Dawkins, Casey Finn-Lefsrud, Lisa French, Karen Gazith-Cohen, David Hoida, Marian Jazvac, Nancy Miodrag, Judith Norton, Monica Oala, Lisa Reisinger, Caroline Zanni-Dansereau

Educational Psychology encompasses a) the theoretical and applied study of learning, cognition, and instruction in a variety of educational settings across ages and domains; b) instructional technology and computers as cognitive tools in learning; c) cognitive and social processes in learning; d) evaluation and enhancement of learning and teaching; e) methods for fostering inclusive education; f) relationships of these or related phenomena to issues in human development, especially for children and adolescents; and g) the impact of family and community on children's learning and development.

At the undergraduate level, the Department of Educational and Counselling Psychology is responsible for the B.A., see section 6.12.16 "Educational Psychology Minor Concentration", under the Faculty of Arts, and for a variety of undergraduate courses in the areas of learning, cognition and development, inclusive education, gifted education, educational media and computers, and educational measurement and evaluation.

In professional development, the Department offers diploma or certificate programs in Human Relations and Family Life

Education, Inclusive Education, and First Nations and Inuit Student Personnel Services. For more information please consult our website, www.mcgill.ca/edu-ecp/undergraduate, or contact the Undergraduate Program Coordinator in Educational and Counselling Psychology:

Dean Thomson
Undergraduate Program Coordinator
Telephone: 514-398-4248
Email: dean.thomson@mcgill.ca

At the graduate level, the Department offers a Graduate Certificate in Counselling Applied to Teaching. In addition, there are graduate programs leading to Ph.D., M.A. in instructional psychology, applied cognitive psychology, special populations of learners, counselling psychology (thesis and non-thesis), school/applied child psychology, and health professions as well as M.Ed. without thesis in inclusive education, general educational psychology, and learning sciences. For further information, consult the most current *Graduate and Postdoctoral Studies Calendar*.

Special services offered by the Department include the McGill-EMSB Gifted Summer School (Explorations), and the Psychoeducational and Counselling Clinic, Neuroscience Lab for Research and Education in Developmental Disorders and the International Centre for Youth Gambling and High Risk Behaviour.

8.6 Department of Integrated Studies in Education

Faculty of Education
3700 McTavish Street, Room 244
Montreal, QC H3A 1Y2

Telephone: 514-398-6960
Website: www.mcgill.ca/edu-integrated

Undergraduate Programs:
Telephone: 514-398-4527
Fax: 514-398-4529

Graduate and Certificate Programs (Culture & Values, Second Language Education):

Telephone: 514-398-6985
Fax: 514-398-4529

Graduate and Certificate Programs (Leadership & Curriculum Studies):

Telephone: 514-398-1591
Fax: 514-398-4529

Chair — Steven Jordan

Director of Undergraduate Programs — Caroline Riches

Director of Graduate Programs — Mela Sarkar

Emeritus Professors
Patrick X. Dias; B.A., M.A.(Karachi), B.Ed., Ph.D.(Montr.)
Margaret Gillett; B.A., Dip.Ed.(Syd.), M.A.(Russel Sage), Ed.D.(Col.) (*William C. Macdonald Emeritus Professor of Education*)
Wayne C. Hall; B.A., M.A.(Bishop's) (*William C. Macdonald Emeritus Protessor of Education*)
Norman Henchey; B.A., B.Ped., Lic.Ped.(Montr.), Ph.D.(McG.)
Jacques J. Rebuffot; B.ès L., L.ès L., D.E.S.(Aix-Marseilles), Dip. I.E.P., Dr. 3rd Cy.(Stras.)
David C. Smith; B.Ed., M.A.(McG.), Ph.D.(Lond.), F.C.C.T., F.R.S.A.

Professors
David Dillon; B.A.(St. Columban's), M.S.(SW Texas St.), Ph.D.(Texas)
Ratna Ghosh; C.M., B.A.(Calc.), M.A., Ph.D.(Calg.) F.R.S.C., (*William C. Macdonald Professor of Education*) (*James McGill Professor*)
Barry Levy; B.A., M.A., BRE(Yeshiva), Ph.D.(NYU)
Denise Lussier; B.A.(Coll. Jesus Marie de Sillery), M.Ed.(Boston), M.A., Ph.D.(Laval)
Mary H. Maguire; B.A., B.Ed., M.A.(Montr.), M.Ed., Cert. Reading(McG.), Ph.D.(Ariz.)
Claudia A. Mitchell; B.A.(Brandon), M.A.(Mt. St. Vin.), Ph.D.(Alta.) (*James McGill Professor*)
Anthony Paré; B.Ed, M.Ed., Ph.D.(McG.)
Bernard Shapiro; B.A.(McG.), M.A.T., Ed.D.(Harv.)

Associate Professors
Helen Amoriggi; B.Sc., M.A.(Rhode Is.), Ed.D.(Boston)
Jon G. Bradley; B.A., M.A.(Sir G. Wms.)
Lynn Butler-Kisber; B.Ed., M.Ed.(McG.), Ed.D.(Harv.)
Eric Caplan; B.A.(Tor.), M.A.(Hebrew), Ph.D.(McG.)
Michael Doxtater; B.A.(McM.), M.Sc., Ph.D.(C'nell)
Michael Hoechsmann; B.A., M.A.(S. Fraser), Ph.D.(Tor.)
Steven Jordan; B.A.(Kent), M.Sc.(Lond.), Ph.D.(McG.)
Cathrine Le Maistre; B.Sc., Dip.Ed.(Exe.), M.Ed., Ph.D.(McG.)
Roy Lyster; B.A.(Regina), M.A.(Paris VII), B.Ed., M.Ed., Ph.D.(Tor.)
Kevin McDonough; B.A., B.Ed., M.Ed.(Alta.), Ph.D.(Ill.)
Christopher S. Milligan; B.A.(Sir G. Wms.), Dip.Ed., M.Ed.(McG.), Ed.D.(Tor.)
Ronald Morris; B.Ed., M.A., Ph.D.(McG.)
Joan Russell; B.Mus., L.Mus., M.Ed., Ph.D.(McG.)
Mela Sarkar; B.A.(McG.), M.A., Ph.D.(C'dia)
Gale Seiler; B.Sc.(Fairleigh Dickinson), M.Sc.(Montana), Ph.D.(Penn.)
Shaheen Shariff; B.A., M.A., Ph.D.(S. Fraser)
Shirley Steinberg; B.Ed., M.Ed.(Leth.), Ph.D.(Penn. St.)
Carolyn E. Turner; B.A.(Ariz.), M.Ed., Ph.D.(McG.)
Boyd White; B.A.(Sir G. Wms.), B.F.A.(C'dia), M.F.A.(Inst. Allende, Guanajuato), Ph.D.(C'dia)
Lise Winer; B.A.(Pitt.), M.A.(Minn.), Cert. Ped.(C'dia), Ph.D.(West Indies)
Elizabeth Wood; B.F.A.(York (Can.)), B.F.A.(C'dia), Dip.Ed., M.A., Ph.D.(McG.)

Assistant Professors
Spencer Boudreau; B.A.(Don Bosco), B.A., M.A.(Sherb.), Ph.D.(C'dia)
Abdul Aziz Choudry; Grad. Dip., Ph.D.(C'dia)
Bronwen Low; B.A.(Qu.), M.A.(Br. Col.), Ph.D.(York)
Annie Savard; B.Ed., M.A.(Laval)
Sylvia Sklar; Dip.Ed.(McG.), B.A.(C'dia), M.Ed.(McG.)
Doreen Starke-Meyerring; B.Ed.(Potsdam), M.A.(North Dakota), Ph.D.(Minn.)
Teresa Strong-Wilson; B.A.(Calg.), B.A., Dip.Ed.(McG.), M.A., Ph.D.(Vic. (BC))

Associate Members
Brian J. Alters; B.Sc., Ph.D.(USC) (*William Dawson Scholar*)
Richard Harris; B.A.(Oxf.), D.Phil.(Sus.)
Lynn McAlpine; B.A.(McG.), M.A.(C'dia), Ph.D.(Tor.)

Faculty Lecturers
Charlotte Hussey; B.A.(Wheaton), M.A.(C'dia), M.F.A.(W. Wilson), Ph.D.(McG.)
Caroline Riches; B.A., M.Sc.(Alta.), Ph.D.(McG.)
Louise Savoie; B.S.S.(Laval), M.A.(Ott.)
Donna-Lee Smith; B.A., M.A.(C'dia)
Sharron Wall; B.A., Dip.Human Relations, M.A.(McG.)

Adjunct Professors
Abigail Anderson; B.A., Dip.Ed., M.A.(McG.)
Luci Bobbish-Salt; B.Ed.(UQAC)
Tino Bordonaro; B.A.(Bishop's), M.A.(McG.)
Noel Burke; B.Ed., M.Ed.(McG.)
Gretta Chambers; B.A.(McG.)
Jessie Clunas; B.Ed.(McG.)
Thomas Cobb; B.A., M.A.(Manit.), Cert. Ed.(Wales), Ph.D.(C'dia)
Scott G. Conrod; B.Sc.(Sir G. Wms.), M.Ed.(McG.)
William E. B. Corrigan; M.T.M.(C'dia)
Deborah House-Cox; B.Ed.(Queb.)
Edward Cross; B.A.(Carl.), M.Ed.(McG.)
Walter Duszara; B.Ed., B.Sc.(Montr.), M.Ed.(McG.)

Valentina de Krom; B.A.(Ott.), M.A., Dip.Ed.(McG.)
Sarah Grey; B.Ed.(McG.)
James M. Heywood; B.A.(C'dia), M.Ed.(Montr.)
Kanahstatsi Howard; B.A.(C'dia), Dip.Ed.(McG.)
Kevin Kee; B.A., M.A., Ph.D.(Qu.)
Charley Levy; B.A.(Sir G.Wms.), M.A.(Middlebury)
Betsy Matt; B.Ed.(McG.)
Alex McComber; B.A.(St. Francis Coll.), M.Ed.(McG.)
Marianna McVey; B.A.(Carl.), M.A., Ed.D.(Syr.)
Howard G. Martin; M.Ed.(McG.)
Dan Mason; Ph.D.(Ott.)
Kevin O'Donnell; B.A.(Montr.)
Jacqueline Reid-Walsh; B.A.(Guelph), M.A.(Car.), Ph.D.(McG.)
J. Kenneth Robertson; B.Ed., M.A.(McG.), Ph.D.(Alta.)
Patrick Ryan; B.Sc.(Loyola), B.A.(C'dia), M.Ed.(McG.)
Howard Simpkin; B.Sc., Dip.Ed.(McG.), M.Sc.Ed.(SUNY)
Vicki Zack; B.A., Dip.Ed.(McG.), M.A.(Montr.), Ph.D.(McG.)

The Department of Integrated Studies in Education, created in September 2001, incorporates the programs and staff previously associated with the Departments of Culture and Values in Education, Educational Studies, Second Language Education and First Nations and Inuit Education.

The Department offers four-year programs for CEGEP graduates and five-year programs for out-of-province students leading to a B.Ed. degree. For B.Ed. program overviews, see www.mcgill.ca/edu-integrated/undergraduate/new.

The following programs are offered:

Bachelor of Education: Secondary Program (120 credits)
The aim of the B.Ed. Secondary is to prepare strong beginning teachers for the secondary school level. This integrated 120-credit program (150 credits for out-of-province students) consists of academic studies to provide background depth in subjects taught in the secondary school, professional studies centred on school-based practicum, supported by studies in pedagogy, curriculum and educational foundations. Students choose their teaching profiles from: English, Mathematics, Science and Technology, Social Sciences (History and Citizenship, and one of Geography or Ethics and Religious Culture).

Concurrent Bachelor of Education in Music/Bachelor of Music (Music Education) program (143/144 credits)
This program provides students with the opportunity to obtain a Bachelor of Music degree and a Bachelor of Education degree concurrently. The two degrees are awarded during the same convocation period.

Concurrent Bachelor of Science/Bachelor of Education (Secondary) (135 credits)
This program provides students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree concurrently. The two degrees are awarded during the same convocation period.

Bachelor of Education (Kindergarten and Elementary) (120 credits)
This program leads to certification to teach children between the ages of 5 and 11 years. It consists of four years of full-time study requiring the completion of 120 credits (150 credits or five years for out-of-province students) of academic and professional courses.

Options within the B.Ed. (Kindergarten and Elementary) program are:

- First Nations and Inuit Studies
- Jewish Studies (126 credits)
- Programme intensif de français **(under revision for 2009-10)**

Baccalauréat en enseignement du français langue seconde (120 credits) (B.Ed. TFSL)
This four-year program prepares specialist teachers to teach French as a second language, in Core French programs, immersion programs, intensive programs and *classes d'accueil*, at both the elementary and the secondary levels. Offered by the Department of Integrated Studies in Education jointly with the Université de Montréal (www.mcgill.ca/edu-integrated/undergraduate/new/tfsl).

Bachelor of Education in Teaching English as a Second Language (120 credits)
This program prepares specialist teachers to teach English as a second language at both the elementary level (including regular and intensive ESL) and the secondary level (including regular ESL and ESLA – English Second Language Arts). This integrated 120-credit program (150 credits for out-of province students) consists of academic and professional components. The academic components provide students with opportunities to develop a broad liberal education and to study language and language learning from linguistic, social, cultural and psychological perspectives. The professional components revolve around school-based Field Experiences which are supported by studies in pedagogy and educational foundations.

GRADUATE PROGRAMS

At the Graduate level, the Department offers M.A. programs with thesis and non-thesis options in the following areas: Culture and Values in Education, Educational Studies (Curriculum), Educational Studies (Leadership), and Second Language Education.

IN-SERVICE PROGRAMS

The Department of Integrated Studies in Education offers a number of in-service programs, such as a 90-credit Bachelor of Education (Vocational) program offered through the Centre for Continuing Education for practising vocational teachers possessing a provisional teaching authorization in a vocational area. (This program will not accept students in 2009-10.)

The Department also offers certificates in Leadership and Teaching English as a Second Language, see www.mcgill.ca/edu-integrated/graduate.

First Nations and Inuit Education offers a Certificate in Education for First Nations and Inuit, a Certificate in Aboriginal Literacy Education, a Certificate in Middle School Education in Aboriginal Communities, a Certificate in First Nations and Inuit Educational Leadership, a Certificate in Aboriginal Education for Certified Teachers, and a Bachelor of Education for Certified Teachers.

The Department is also involved in a variety of in-service activities with administrators, teachers, consultants and other educational leaders through the Centre for Educational Leadership (CEL).

8.6.1 Bachelor of Education Programs

8.6.1.1 Bachelor of Education Secondary Program (120 credits)

Students who have not completed Quebec CEGEP or other university level courses are admitted in Year 0 (U0), the Freshman Year. Please see www.mcgill.ca/edu-integrated/undergraduate/new/secondary. The department is committed to supporting students in the development and creation of their individual professional portfolios throughout their program.

Required Courses (45 credits)

EDEC 201	(1)	First Year Professional Seminar
EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 254	(1)	Second Professional Seminar (Secondary)
EDEC 351	(2)	Third Professional Seminar (Secondary)
EDEC 404	(3)	Fourth Year Professional Seminar (Sec)
EDES 350	(3)	Classroom Practices (Secondary)
EDPE 300	(3)	Educational Psychology
EDPE 304	(3)	Measurement and Evaluation
EDPI 309	(3)	Exceptional Students
EDPI 341	(3)	Instruction in Inclusive Schools
EDFE 200	(2)	First Field Experience (K/Elem & Secondary)
EDFE 254	(3)	Second Field Experience (Secondary)
EDFE 351	(8)	Third Field Experience (Secondary)

EDFE 451 (7) Fourth Field Experience (Secondary)

Complementary Course (15 credits)

One 3-credit course in Multicultural Education from the following:

EDEC 233 (3) First Nations and Inuit Education
EDEC 248 (3) Multicultural Education

one of:

EDEC 260 (3) Philosophical Foundations
EDEC 261 (3) Philosophy of Catholic Education

One 3-credit course in Media, Technology, Computers and Education from the following:

EDEC 262 (3) Media, Technology and Education
EDPE 310 (3) Educational Computer Applications
EDPT 200 (3) Integrating Educational Technology in Classrooms
EDPT 204 (3) Educational Media 1

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341 (3) Instructional Programming 1
EDPT 420 (3) Media Literacy for Education

Two 3-credit methods courses, associated with the respective MELS subject profile, from the following list:

EDER 372 (3) Ethics and Religious Culture (Secondary)
EDES 334 (3) Teaching Secondary Social Studies 1
EDES 335 (3) Teaching Secondary Science 1
EDES 353 (3) Teaching Secondary Mathematics 1
EDES 361 (3) Teaching Secondary English 1
EDES 434 (3) Teaching Secondary Social Studies 2
EDES 435 (3) Teaching Secondary Science 2
EDES 453 (3) Teaching Secondary Mathematics 2
EDES 461 (3) Teaching Secondary English 2

54 credits chosen according to MELS subject area profiles. Courses must be selected in consultation with academic advisors and/or posted academic advising materials.

For students in B.Ed. Secondary, English Profile:

Two 3-credit courses from the following list:

EDEC 203 (3) Communication in Education
EDSL 305 (3) L2 Learning: Classroom Settings
EDSL 350 (3) Essentials of English Grammar
ENGL 340 (3) History of the English Language
LING 200 (3) Introduction to the Study of Language
LING 201 (3) Introduction to Linguistics
LING 355 (3) Language Acquisition 1

48 credits in designated English profile courses
or 30 credits in designated English profile courses
and 18 credits in another designated "teachable" subject area (MELS profile) chosen in consultation with academic advisors and/or posted academic advising materials. In this case, students must also take an additional associated 3-credit methods course selected from the complementary list. This will count as 3 credits of elective.

For students in B.Ed. Secondary, Mathematics Profile:

54 credits in designated Mathematics profile courses
or 36 credits in designated Mathematics profile courses
and 18 credits in another designated "teachable" subject area (MELS profile).

For students in B.Ed. Secondary, Social Sciences (History & Citizenship, and Geography or Ethics & Religious Studies) Profile:

6 credits chosen from:

HIST 202 (3) Survey: Canada to 1867
HIST 203 (3) Survey: Canada since 1867

3 credits chosen from:

HIST 303 (3) History of Quebec
HIST 353 (3) History of Montreal

27 credits in designated History courses
18 credits in designated Geography courses
OR
18 credits in designated Ethics and Religious courses

For students in B.Ed. Secondary, Science and Technology Profile

36 credits in designated Physics, Biology or Chemistry courses
18 credits chosen from one of the other science areas not selected above

Elective Courses (6 credits)

8.6.1.2 Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program

Coordinator, Faculty of Education — Professor Gale Seiler

Coordinator, Faculty of Science — Professor Richard Harris

This program has been designed to provide students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree after **135 credits of study (165 credits for students who have not completed the basic sciences, see Note below)**.

To be admitted to the Concurrent program, students must satisfy the regular admission requirements of the Faculties of Science and Education. Normally, students will be admitted to both components of the Concurrent program simultaneously, however, it is possible for students in a B.Sc. or B.Ed. program to transfer into the Concurrent program at any time. Students in the Concurrent program may change to either a B.Sc. or a B.Ed., but may not subsequently switch back to the Concurrent program.

The two degrees are awarded during the same convocation period.

Note: Science students are normally admitted to a four-year program requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, Advanced Placement tests, or the Diploma of Collegial Studies (DCS). Quebec students with a DCS in Science are granted 30 credits advanced standing and will have normally completed the equivalent of, and are therefore exempt from, the basic science courses in biology, chemistry, mathematics and statistics, and physics. Students with satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests may be exempt from some or all of the basic science courses.

Students in the Concurrent B.Sc. and B.Ed. who receive an F or J in any Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent program. However, they may apply to transfer to the conventional B.Sc. program as outlined in Faculty of Science, "Science or Mathematics for Teachers", see section 14.13.34.

The two components of the Concurrent program are the B.Ed. Secondary program and one of the B.Sc. programs described in the Faculty of Science, "Science or Mathematics for Teachers", see section 14.13.34:

- biology, with chemistry
- biology, with physics
- chemistry, with biology
- chemistry, with physics
- physics, with biology
- physics, with chemistry
- mathematics

The requirements for the B.Ed. component are as described in the "Bachelor of Education Secondary Program (120 credits)", see section 8.6.1.1 with the following exceptions:

A. Students in the Concurrent B.Sc. and B.Ed. program must choose their 54 academic credits from the lists of required and complementary courses in their respective B.Sc. Major or Major Concentration with a Minor.

B. Students in the Concurrent B.Sc. and B.Ed. program must take EDEC 262 Media, Technology and Education.

8.6.1.3 Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) Program (144 credits)

The Bachelor of Education in Music is an integrated four-year 121-credit program of initial teacher training that leads to certification as a teacher in the Province of Quebec. When offered concurrently with the Bachelor of Music (Major in Music Education), the program offers students the opportunity to obtain a Bachelor of Education degree and a Bachelor of Music degree after the completion of 144 credits, normally five years (174 credits or six years for out-of-province students). The concurrent program combines academic studies in music, professional studies and field experience. The department is committed to supporting students in the development and creation of their individual professional portfolios throughout their program. The two degrees are awarded during the same convocation period.

Applicants to the music specialist teacher education program should apply to the Concurrent Bachelor of Education in Music/ Bachelor of Music (Music Education) program. Students who have partially completed a Bachelor of Music program are eligible to apply for advanced standing in the Concurrent program.

Application to the Concurrent B.Ed. and B.Mus. program may be made online at www.mcgill.ca/applying. Information is available on that site or may be obtained from:

Admissions Office
McGill University
Schulich School of Music
555 Sherbrooke Street West
Montreal, QC H3A 1E3
Telephone: 514-398-4546

Those who have completed a Bachelor of Music degree may apply for advanced standing in the Bachelor of Education in Music program. Application to the Bachelor of Education in Music may be made online at www.mcgill.ca/applying. Information is available on that site or may be obtained from:

Enrolment Services
McGill University
845 Sherbrooke Street West
Montreal, QC H3A 2T5
Telephone: 514-398-3910
Fax: 514-398-4193

Program details are available from:

Professor Caroline Riches, Program Director
Telephone: 514-398-5793

Department of Integrated Studies in Education
Telephone: 514-398-4527

The components of the 144-credit Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) are as follows:

54 professional credits,
78 music credits,
12 elective credits.

Students who wish to complete only the Bachelor of Education in Music have the option of doing so after the successful completion of the first two years of the concurrent program and MUIN 321 concentration exam or equivalent. Students who decide to complete only a Bachelor of Music may transfer at any time into the Bachelor of Music, Faculty Program.

Students who opt for the Bachelor of Education in Music would be required to complete 61 music credits, 6 elective credits, and 53/54 professional credits from the program given below, with the following notes:

1. These credits are required for the Bachelor of Music only.
2. These credits are required for the Bachelor of Music, complementary for the Bachelor of Education in Music.

For prerequisite requirements for the Concurrent Bachelor of Education in Music and Bachelor of Music (Music Education) Program, see section 12.6.5 "B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program" of the Schulich School of Music chapter in this Calendar.

Required Courses (114 credits)

EDEA 206	(1)	1st Year Professional Seminar
EDEA 407	(3)	Final Year Professional Seminar Music
EDEA 442	(3)	Elementary Music Curriculum and Instruction
EDEA 472	(3)	Secondary Music Curriculum and Instruction
EDEC 215	(0)	English Language Requirement
EDEC 233	(3)	First Nations and Inuit Education
or EDEC 248	(3)	Multicultural Education
EDEC 247	(3)	Policy Issues in Quebec Education
EDEE 355	(3)	Classroom-based Evaluation
or EDPE 304	(3)	Measurement and Evaluation
EDES 350	(3)	Classroom Practices (Secondary)
EDFE 205	(2)	First Field Experience (Music)
EDFE 208	(3)	Second Field Experience (Music)
EDFE 308	(8)	Third Field Experience (Music)
EDFE 407	(7)	Fourth Field Experience (Music)
EDPE 300	(3)	Educational Psychology
EDPI 309	(3)	Exceptional Students
MUCT 235	(3)	Vocal Techniques
MUGT 215	(1)	Basic Conducting Techniques
MUGT 354	(3)	Music for Children
MUGT 358	(3)	General Music for Adults and Teenagers (see Note 1 above)
MUGT 401	(3)	Issues in Music Education (see Note 2 above)
MUIT 202	(3)	Woodwind Techniques
MUIT 203	(3)	Brass Techniques
MUIT 204	(3)	Percussion Techniques
MUIT 356	(3)	Jazz Instruction: Philosophy and Techniques (see Note 2 above)
MUSP 229	(2)	Musicianship 3
MUSP 231	(2)	Musicianship 4
MUSP 329	(2)	Musicianship 5
MUSP 331	(2)	Musicianship 6
MUTH 210	(3)	Tonal Theory and Analysis 1
MUTH 211	(3)	Tonal Theory and Analysis 2
MUTH 310	(3)	Mid and Late 19th-Century Theory and Analysis
MUTH 311	(3)	20th-Century Theory and Analysis
MUTH 461	(2)	Choral and Keyboard Arranging 1 (see Note 1 above)

3 credits from:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Integrating Educational Technology in Classrooms
EDPT 204	(3)	Educational Media 1
EDPT 341	(3)	Instructional Programming 1
MUGT 301	(3)	Technology and Media for Music Education

Students are also required to take the following two 8-credit courses: Basic Ensemble Training, Practical Concentration.

Complementary Course (18 credits)

EDEA 362	(3)	Movement, Music and Communication

or any course with a prefix of MUIT or MUGT

EDEC 260	(3)	Philosophical Foundations
or EDEC 261	(3)	Philosophy of Catholic Education
MUCT 315	(3)	Choral Conducting 1
or MUIT 315	(3)	Instrumental Conducting
MUIT 201	(3)	String Techniques
or MUIT 250	(3)	Guitar Techniques

3 credits chosen from Music History (MUHL) offerings at the 300 level (see Note 1 above)

3 credits of Music History/Literature chosen from (see Note 1 above):

MUHL 389	(3)	Orchestral Literature
MUHL 397	(3)	Choral Literature after 1750

MUHL 398 (3) Wind Ensemble Literature after 1750

Elective Courses (12 credits)

8.6.1.4 Bachelor of Education Kindergarten and Elementary Program (120 credits)

Students who have not completed Quebec CEGEP or other university level courses are admitted into Year 0 (U0), the Freshman Year. Please see www.mcgill.ca/edu-integrated/undergraduate/new/k-elem for course selections.

The department is committed to supporting students in the development and creation of their individual professional portfolios throughout their program.

Required Courses (72 credits)

EDEC 201 (1) First Year Professional Seminar
EDEC 203 (3) Communication in Education
EDEC 215 (0) English Language Requirement
EDEC 247 (3) Policy Issues in Quebec Education
EDEC 253 (1) Second Professional Seminar (Kindergarten/Elementary)
EDEC 405 (3) Fourth Year Professional Seminar (K/Elem)
EDEE 223 (3) Language Arts
EDEE 230 (3) Elementary School Mathematics
EDEE 250 (2) The Kindergarten Classroom
EDEE 270 (3) Elementary School Science
EDEE 275 (2) Science Teaching
EDEE 280 (3) Geography, History and Citizenship Education
EDEE 282 (2) Teaching Social Sciences
EDEE 325 (3) Children's Literature
EDEE 332 (3) Teaching Mathematics 1
EDEE 353 (3) Teaching and Learning in the Elementary Classroom
EDEE 355 (3) Classroom-based Evaluation
EDFE 200 (2) First Field Experience (K/Elem & Secondary)
EDFE 256 (3) Second Field Experience (Kindergarten/Elementary)
EDFE 306 (8) Third Field Experience (Kindergarten/Elementary)
EDFE 406 (7) Fourth Field Experience (K/Elem)
EDER 360 (2) Ethics and Religious Culture (K/Elementary)
EDPE 300 (3) Educational Psychology
EDPI 309 (3) Exceptional Students
EDPI 341 (3) Instruction in Inclusive Schools

Complementary Course (42 credits)

One of:
EDEC 233 (3) First Nations and Inuit Education
EDEC 248 (3) Multicultural Education

One of:
EDEC 260 (3) Philosophical Foundations
EDEC 261 (3) Philosophy of Catholic Education

One of:
EDEC 262 (3) Media, Technology and Education
EDPT 341* (3) Instructional Programming 1
EDPT 420* (3) Media Literacy for Education

* courses for students with a background in computers or other media applications in education

One of:
EDER 309 (3) The Religious Quest
EDER 395 (3) Moral Values and Human Action
EDER 473 (3) Living with Insight
EDER 494 (3) Ethics in Practice
RELG 207 (3) The Study of World Religions 1

15 credits in "teachable" subject areas of the elementary school curriculum: English, Mathematics, Natural Sciences, Social Sciences, Art, Music, Physical Education, Ethics and Religious Culture, French. Courses are to be selected in consultation with an academic adviser.

9 credits, 3 credits from each of any three subject areas not chosen above.

One 3-credit methods course from:
EDEA 332 (3) Art Curriculum and Instruction - Elementary
EDEA 342 (3) Curriculum and Instruction in Drama Education
EDEA 345 (3) Music Curriculum and Instruction for Generalists

One 3-credit methods course from the list above or below:
EDKP 332 (3) Physical Education Curriculum and Instruction
EDSL 330* (3) L2 Literacy Development
EDSL 447* (3) Third-Year Methods in TESL

* EDSL 330 and EDSL 447 have as a prerequisite EDSL 350 Essentials of English Grammar

Elective Courses (6 credits)

8.6.1.5 Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option)

(Not offered in the 2009-10 academic year.)

Required Courses (108 credits)

EDEA 242 (3) Cultural Skills 1
EDEA 243 (3) Cultural Skills 2
EDEC 201 (1) First Year Professional Seminar
EDEC 203 (3) Communication in Education
EDEC 215 (0) English Language Requirement
EDEC 216 (0) Aboriginal Language Requirement
EDEC 247 (3) Policy Issues in Quebec Education
EDEC 253 (1) Second Professional Seminar (Kindergarten/Elementary)
EDEC 260 (3) Philosophical Foundations
EDEC 405 (3) Fourth Year Professional Seminar (K/Elem)
EDEE 223 (3) Language Arts
EDEE 230 (3) Elementary School Mathematics
EDEE 250 (2) The Kindergarten Classroom
EDEE 270 (3) Elementary School Science
EDEE 275 (2) Science Teaching
EDEE 280 (3) Geography, History and Citizenship Education
EDEE 282 (2) Teaching Social Sciences
EDEE 291 (3) Cultural Values and Socialization
EDEE 325 (3) Children's Literature
EDEE 332 (3) Teaching Mathematics 1
EDEE 342 (3) Intermediate Inuktitut/Amerindian Language
EDEE 344 (3) Advanced Inuktitut/Amerindian Language
EDEE 353 (3) Teaching and Learning in the Elementary Classroom
EDEE 355 (3) Classroom-based Evaluation
EDER 360 (2) Ethics and Religious Culture (K/Elementary)
EDFE 200 (2) First Field Experience (K/Elem & Secondary)
EDFE 256 (3) Second Field Experience (Kindergarten/Elementary)
EDFE 306 (8) Third Field Experience (Kindergarten/Elementary)
EDFE 406 (7) Fourth Field Experience (K/Elem)
EDKP 241 (3) Aboriginal Physical Activities
EDKP 292 (3) Nutrition and Wellness
EDPE 300 (3) Educational Psychology
EDPI 309 (3) Exceptional Students
EDPI 341 (3) Instruction in Inclusive Schools
EDSL 247 (3) Second Language Education in Aboriginal Communities
EDSL 305 (3) L2 Learning: Classroom Settings
EDSL 447 (3) Third-Year Methods in TESL
RELG 207 (3) The Study of World Religions 1

Complementary Course (12 credits)
6 credits from the following, according to language group and fluency (each course is 3 credits):

EDEC 241	(3)	Cree Language 1
EDEC 242	(3)	Cree Language 2
EDEE 296	(3)	Mohawk Second Language 1
EDEC 236	(3)	Mohawk Second Language 2
EDEE 297	(3)	Mohawk Language 1
EDEE 298	(3)	Mohawk Language 2
EDEE 293	(3)	Algonquin Second Language 1
EDEC 234	(3)	Algonquin Second Language 2
EDEE 294	(3)	Algonquin Language 1
EDEE 295	(3)	Algonquin Language 2
EDEE 249	(3)	Inuktitut Orthography and Grammar
EDEC 403	(3)	The Dialects of Inuktitut
EDEC 237	(3)	Mi'kmaq Second Language 1
EDEC 238	(3)	Mi'kmaq Second Language 2
EDEC 239	(3)	Mi'kmaq Language 1
EDEC 240	(3)	Mi'kmaq Language 2

One of the following 3-credit courses:

EDEC 262	(3)	Media, Technology and Education
EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

One of the following 3-credit courses:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education
EDPC 208	(3)	Native Families' Dynamics

8.6.1.6 Programme intensif de français Elementary Option

This option is currently under revision. Admission is suspended for 2009-10.

8.6.1.7 Bachelor of Education Kindergarten and Elementary Program (Jewish Studies Option)

The Bachelor of Education in Kindergarten and Elementary Education (Jewish Studies Option) leads to certification to teach Jewish and general studies to students between the ages of 5 and 11 years. The program consists of four years of full-time study requiring the completion of 126 credits (156 credits or 5 years for out-of-province students), academic and professional courses and practica. Students may apply directly into the B.Ed.Kindergarten/Elementary (Jewish Studies Option). This Option allows qualified candidates an opportunity to select specific academic and pedagogical Jewish Studies courses in place of selected education electives and academic courses. Additionally, students will have an opportunity to have one of their major field placements in a Jewish school environment.

Students are encouraged to acquire a strong general background in Bible, Jewish prayer, Jewish holidays and Jewish history prior to registering in the program. Students lacking the ability to teach in Hebrew should consider spending a semester at an Israeli university.

Students who wish to follow this option must contact:

Professor Eric Caplan
Department of Integrated Studies in Education
Faculty of Education
Telephone: 514-398-6544
Email: eric.caplan@mcgill.ca

8.6.1.8 Baccalauréat en enseignement du français langue seconde (120 credits)

This program is offered jointly by the Université de Montréal and McGill University. Students will be admitted into, and registered at, one of the two as their “home” university. Courses will be offered at the Université de Montréal during the Fall term and at McGill during the Winter term. Students should refer to section 8.3.3 “Additional Requirements for Students admitted to B.Ed. TFSL program”.

The Baccalauréat en enseignement du français langue seconde (B.Ed. in Teaching French as a Second Language) is a four-year integrated 120-credit program (150 credits for out-of-province students). It prepares specialist teachers to teach French as a second language in Core French programs, immersion programs, intensive programs and *classes d’accueil*, at both the elementary and the secondary levels.

The department is committed to supporting students in the development and creation of their individual professional portfolios throughout their program.

Required Courses (80 credits)

EDFE 261	(3)	Stage d'assistanat - 2e année (Field Exp.)
EDFM 260	(1)	Stage de familiarisation (Field Exp.)
EDPI 309	(3)	Exceptional Students
EDSL 260	(1)	Séminaire professionnel - 2e (Prof. Sem.)
EDSL 301	(3)	Étude de la langue
EDSL 444	(3)	Laboratoire d'enseignement en français langue seconde
EDUM 245	(3)	Français écrit pour futurs enseignants
EDUM 262	(3)	Système éducatif - profession enseignante
EDUM 263	(3)	Apprentissage et développement
EDUM 264	(3)	Phonétique et phonologie
EDUM 265	(3)	Acquisition-apprentissage-langues secondes
EDUM 266	(3)	Mathématiques au primaire
EDUM 267	(3)	Didactique des arts plastiques 1
EDUM 268	(3)	Intégration des TIC
EDUM 269	(3)	École et environnement social
EDUM 270	(3)	Morphologie et syntaxe
EDUM 271	(3)	Lexique et sémantique
EDUM 341	(3)	Littératie et Littérature Jeunesse en FLS
EDUM 392	(3)	Gestion de classe en langues secondes
EDUM 393	(3)	Adolescent et expérience scolaire
EDUM 402	(3)	Évaluation en français langue seconde
EDUM 491	(3)	Didactique des mathématiques en langues secondes
EDUM 492	(3)	Didactique des sciences-technologies
FREN 251	(3)	Littérature française depuis 1800
FREN 252	(3)	Littérature québécoise

9 credits to increase the student’s proficiency level in the teaching of French, the following courses (or equivalent courses if not available):

FREN 239	(3)	Stylistique comparée
FREN 245	(3)	Grammaire avancée
FREN 334	(3)	Méthodes d'analyse des textes littéraires 1

Complementary Course (40 credits)
One of:

EDEC 260	(3)	Philosophical Foundations
EDEC 261	(3)	Philosophy of Catholic Education

One of the following sets:

EDFE 362	(7)	Stage d'enseignement en français langue seconde
EDSL 320	(1)	Séminaire 3 professionnel

or:

EDFM 361	(7)	Stage d'enseignement 1
EDUM 394	(1)	Séminaire de stage-3e

and
One of the following sets:

EDFE 461	(9)	Stage d'enseignement - immersion
EDSL 420	(2)	Séminaire 4 professionnel

or

EDFM 460	(9)	Stage d'enseignement 2
EDUM 499	(2)	Séminaire de stage-4e

One of:

EDSL 345	(3)	Enseignement du FLS-immersion
EDUM 498	(3)	Didactique du français en accueil 2

One of:

EDSL 472	(3)	Enseignement du français langue seconde-secondaire

EDUM 391 (3) Didactique du français en accueil 1
One of:
EDUM 493 (3) Sciences humaines au primaire (Academic Component)
EDUM 494 (3) Didactique de l'univers social et TIC (Academic Component)
EDUM 495 (3) Recherche-résolution de problèmes (Professional Component: Pedagogical Support)
EDUM 496 (3) Laboratoire de formation professionnelle (Professional Component: Pedagogical Support)
EDUM 497 (3) Problématique en éducation préscolaire (Professional Component: Foundation)

3 credits, one of:
EDEC 248 (3) Multicultural Education
LING 350 (3) Linguistic Aspects of Bilingualism

6 credits of study of a second or third language, to be chosen from University offerings, so that students experience the learning processes that take place in the learning of a language.

8.6.1.9 Bachelor of Education in Teaching English as a Second Language (121 credits)

The B.Ed. in Teaching English as a Second Language (TESL) program prepares specialists to teach English as a second language (ESL) at both the elementary school and secondary school levels.

Students who have not completed Quebec CEGEP or other university level courses are admitted into Year 0 (U0), the Freshman Year. Please see www.mcgill.ca/edu-integrated/undergraduate/new/tesl.

This integrated 121-credit program (151 credits for out-of-province students) includes studies in language and language learning from linguistic, literary, social, cultural, and psychological perspectives, accompanied by field experiences. It prepares students to teach ESL at both the elementary school level (including regular and intensive ESL) and the secondary school level (including regular ESL and ESLA - English Second Language Arts), and provide a base for adult and other ESL teaching. The department is committed to supporting students in the development and creation of their individual professional portfolios throughout their program.

Required Courses (73 credits)
EDEC 203 (3) Communication in Education
EDEC 215 (0) English Language Requirement
EDEC 247 (3) Policy Issues in Quebec Education
EDFE 209 (2) First Field Experience (TESL)
EDFE 255 (3) Second Field Experience (TESL)
EDFE 359 (8) Third Field Experience (TESL)
EDFE 459 (7) Fourth Field Experience (TESL)
EDPE 300 (3) Educational Psychology
EDPI 309 (3) Exceptional Students
EDSL 210 (1) First Professional Seminar
EDSL 215 (3) Effective Communication in French
EDSL 255D1 (1) Second Professional Seminar
EDSL 255D2 (1) Second Professional Seminar
EDSL 300 (3) Foundations of L2 Education
EDSL 304 (3) Sociolinguistics and L2 Education
EDSL 305 (3) L2 Learning: Classroom Settings
EDSL 311 (3) Pedagogical Grammar
EDSL 315 (2) Third Year Professional Seminar
EDSL 330 (3) L2 Literacy Development
EDSL 334 (3) Teaching Oral Skills in ESL
EDSL 350 (3) Essentials of English Grammar
EDSL 412 (3) Assessment in TESL
EDSL 415 (3) Fourth Professional Seminar
EDSL 447 (3) Third-Year Methods in TESL
EDSL 458 (3) Fourth-Year Methods in TESL

Complementary Course (42 credits)
3 credits, one of the following courses:
EDEC 233 (3) First Nations and Inuit Education
EDEC 248 (3) Multicultural Education
3 credits, one of the following courses:
EDEC 260 (3) Philosophical Foundations
EDEC 261 (3) Philosophy of Catholic Education
3 credits, one of the following courses:
EDEC 262 (3) Media, Technology and Education
EDPT 200 (3) Integrating Educational Technology in Classrooms
EDPT 204 (3) Educational Media 1
EDPT 341 (3) Instructional Programming 1
EDPT 420 (3) Media Literacy for Education
3 credits, one of the following courses:
EDEE 325 (3) Children's Literature
EDES 366 (3) Literature for Young Adults
3 credits, one of the following courses:
EDPE 208 (3) Personality and Social Development
EDPE 377 (3) Adolescence and Education
EDPI 526 (3) Talented and Gifted Students
EDPI 527 (3) Creativity and its Cultivation
EDPI 543 (3) Family, School and Community
EDSL 390 (3) Teaching English as a Second Language in the Community
3 credits, one of the following courses:
EDPI 341 (3) Instruction in Inclusive Schools
EDPI 440 (3) Managing the Inclusive Classroom
3 credits, one of the following courses
LING 200 (3) Introduction to the Study of Language
LING 201 (3) Introduction to Linguistics
3 credits, one of the following courses:
LING 350 (3) Linguistic Aspects of Bilingualism
PSYC 341 (3) The Psychology of Bilingualism
6 - 9 credits from courses with the prefix ENGL (Department of English)
9 - 12 credits must be taken from the following areas:
Foreign Languages (0-9 credits)
Academic courses (3-12 credits)

Elective Courses (6 credits)

8.6.2 Programs for First Nations and Inuit

The following programs are offered in First Nations and Inuit communities for First Nations and Inuit students through the:

Faculty of Education
First Nations and Inuit Education (FNIE)
3700 McTavish Street, Room 244
Montreal, QC H3A 1Y2
Telephone: 514-398-4533
Fax: 514-398-2553
Website: www.mcgill.ca/edu-integrated

For details about the First Nations and Inuit Studies option within the Bachelor of Education Kindergarten and Elementary program, see section 8.6.1.5 "Bachelor of Education Kindergarten and Elementary Program (First Nations and Inuit Studies Option)".

8.6.2.1 Certificate in Education for First Nations and Inuit

This 60-credit program provides an opportunity for Algonquin, Cree, Inuit, Mi'kmaq and Mohawk people to become qualified as teachers. It is offered on a part-time basis in Indigenous communities throughout Quebec in collaboration with, for example, the Cree School Board, the Kativik School Board, and various Mi'kmaq, Mohawk and Algonquin education authorities.

Quebec graduates of this program are eligible to teach at the elementary level in First Nations and Inuit schools.

Admission to the Certificate in Education for First Nations and Inuit

An applicant will normally be employed as a teacher or as a classroom assistant, have a valid teaching authorization from the appropriate teaching authority or a community education committee, be recommended by the school principal and an officer of the education authority, be recommended by a local community

education committee, and be at least 21 years of age. Younger applicants will be considered for admission if they hold a Grade 12 High School Diploma or a Diploma of Collegial Studies. The right of final decision for acceptance of candidates rests with McGill.

Those intending to complete the programs offered in cooperation with the Kativik School Board must be fluent and literate in Inuktitut/Inuinnaqtun. Fluency in Algonquin, Cree, Mi'kmaq or Mohawk is not a condition for acceptance for applicants from these communities, but is considered an asset. Courses are available in all four of these languages for those teaching in immersion classes and other teaching situations where a knowledge of the first language is essential.

Time Limit

The time limit for completion of the 60-credit Certificate in Education for First Nations and Inuit is 12 years. The University reserves the right to request that a student retake a course or courses after a 5-year period if it is felt that too long a break has occurred in the ongoing nature of the training.

PROGRAM PROFILE – CERTIFICATE IN EDUCATION FOR FIRST NATIONS AND INUIT (60 credits)

On completion of the Certificate requirements, trainees may apply for admission to the B.Ed. for Certified Teachers program with up to 30 credits advanced standing. Certain non-credit academic upgrading courses may be required of B.Ed. applicants.

Required Courses (30 credits)

EDEC 203 (3) Communication in Education
EDEC 260 (3) Philosophical Foundations
EDEE 353 (3) Teaching and Learning in the Elementary Classroom
EDEM 202 (3) Native Family Dynamics & Supporting Institutions
EDPE 300 (3) Educational Psychology
EDPI 341 (3) Instruction in Inclusive Schools

Practicum

Students specializing in Physical Education will do a minimum of 6 credits in Physical Education settings

EDFE 214 (3) Aboriginal Education Practicum 1
EDFE 325 (3) Aboriginal Education Practicum 2
EDFE 326 (3) Aboriginal Education Practicum 3
EDFE 425 (3) Aboriginal Education Practicum 4

Complementary Courses for All Students Except Those Specializing in Physical Education (30 credits)

6 credits from the following according to language group and fluency:

EDEE 294 (3) Algonquin Language 1
EDEE 295 (3) Algonquin Language 2
EDEE 293 (3) Algonquin Second Language 1
EDEC 234 (3) Algonquin Second Language 2
EDEC 241 (3) Cree Language 1
EDEC 242 (3) Cree Language 2
EDEE 342 (3) Intermediate Inuktitut/Amerindian Language
EDEE 249 (3) Inuktitut Orthography and Grammar
EDEC 239 (3) Mi'kmaq Language 1
EDEC 240 (3) Mi'kmaq Language 2
EDEC 237 (3) Mi'kmaq Second Language 1
EDEC 238 (3) Mi'kmaq Second Language 2
EDEE 297 (3) Mohawk Language 1
EDEE 298 (3) Mohawk Language 2
EDEE 296 (3) Mohawk Second Language 1
EDEC 236 (3) Mohawk Second Language 2

6 credits from the following:

EDEA 242 (3) Cultural Skills 1
EDEE 223 (3) Language Arts

18 credits from the following (at least 12 credits should be in different subject areas with priority given to List A):

List A

EDEE 230 (3) Elementary School Mathematics
EDEE 241 (3) Teaching Language Arts
EDEE 250 (2) The Kindergarten Classroom
EDEE 270 (3) Elementary School Science
EDEE 275 (2) Science Teaching
EDEE 282 (2) Teaching Social Sciences
EDEE 291 (3) Cultural Values and Socialization
EDEE 332 (3) Teaching Mathematics 1
EDEE 355 (3) Classroom-based Evaluation
EDEC 262 (3) Media, Technology and Education

List B

EDEA 241 (3) Basic Art Media for Classroom
EDEC 200 (3) Introduction to Inuit Studies
EDEC 220 (3) Curriculum Development
EDEC 243 (3) Teaching: Multigrade Classrooms
EDEC 244 (3) Issues in Aboriginal Education
EDEC 403 (3) The Dialects of Inuktitut
EDEE 240 (3) Use and Adaptation of Curricula
EDEE 243 (3) Reading Methods in Inuktitut/Cree
EDEE 247 (6) Individualized Instruction
EDEE 248 (3) Reading and Writing Inuktitut/Cree
EDEE 261 (3) Reading Clinic - Early Childhood
EDEE 292 (3) Using Instructional Resources
EDEE 340 (3) Special Topics: Cultural Issues
EDEE 342 (3) Intermediate Inuktitut/Amerindian Language
EDEE 344 (3) Advanced Inuktitut/Amerindian Language
EDEE 345 (3) Literature and Creative Writing 1
EDEE 346 (3) Literature and Creative Writing 2
EDEE 444 (3) First Nations and Inuit Curriculum
EDKP 204 (3) Health Education
EDKP 224 (3) Foundations of Movement Education
EDKP 342 (3) Physical Education Methods
EDKP 494 (3) Physical Education Curriculum Development
EDPE 377 (3) Adolescence and Education
EDSL 247 (3) Second Language Education in Aboriginal Communities

Complementary Courses For Students Specializing in Physical Education (30 credits)

6 credits from the following, according to language group and fluency:

EDEE 294 (3) Algonquin Language 1
EDEE 295 (3) Algonquin Language 2
EDEE 293 (3) Algonquin Second Language 1
EDEC 234 (3) Algonquin Second Language 2
EDEC 241 (3) Cree Language 1
EDEC 242 (3) Cree Language 2
EDEE 342 (3) Intermediate Inuktitut/Amerindian Language
EDEE 249 (3) Inuktitut Orthography and Grammar
EDEC 239 (3) Mi'kmaq Language 1
EDEC 240 (3) Mi'kmaq Language 2
EDEC 237 (3) Mi'kmaq Second Language 1
EDEC 238 (3) Mi'kmaq Second Language 2
EDEE 297 (3) Mohawk Language 1
EDEE 298 (3) Mohawk Language 2
EDEE 296 (3) Mohawk Second Language 1
EDEC 236 (3) Mohawk Second Language 2

9 credits from the following:

EDKP 241 (3) Aboriginal Physical Activities
EDKP 342 (3) Physical Education Methods
EDKP 493 (3) Administration

6 credits from the following:

EDKP 214 (1) Basketball 1
EDKP 216 (1) Gymnastics 1
EDKP 217 (2) Track & Field / Cross Country
EDKP 218 (1) Volleyball 1
EDKP 223 (2) Games: Principles and Practice
EDKP 226 (1) Badminton
EDKP 229 (1) Ice Hockey 1
EDKP 240 (1) Winter Activities

9 credits from the following (should be in different subject areas with priority given to List A):

List A

EDEE 230	(3)	Elementary School Mathematics
EDEE 241	(3)	Teaching Language Arts
EDEE 250	(2)	The Kindergarten Classroom
EDEE 270	(3)	Elementary School Science
EDEE 275	(2)	Science Teaching
EDEE 282	(2)	Teaching Social Sciences
EDEE 291	(3)	Cultural Values and Socialization
EDEE 332	(3)	Teaching Mathematics 1
EDEE 355	(3)	Classroom-based Evaluation
EDEC 262	(3)	Media, Technology and Education

List B

EDEA 241	(3)	Basic Art Media for Classroom
EDEC 200	(3)	Introduction to Inuit Studies
EDEC 220	(3)	Curriculum Development
EDEC 243	(3)	Teaching: Multigrade Classrooms
EDEC 244	(3)	Issues in Aboriginal Education
EDEC 403	(3)	The Dialects of Inuktitut
EDEE 240	(3)	Use and Adaptation of Curricula
EDEE 243	(3)	Reading Methods in Inuktitut/Cree
EDEE 247	(6)	Individualized Instruction
EDEE 248	(3)	Reading and Writing Inuktitut/Cree
EDEE 261	(3)	Reading Clinic - Early Childhood
EDEE 292	(3)	Using Instructional Resources
EDEE 340	(3)	Special Topics: Cultural Issues
EDEE 342	(3)	Intermediate Inuktitut/Amerindian Language
EDEE 344	(3)	Advanced Inuktitut/Amerindian Language
EDEE 345	(3)	Literature and Creative Writing 1
EDEE 346	(3)	Literature and Creative Writing 2
EDEE 444	(3)	First Nations and Inuit Curriculum
EDKP 204	(3)	Health Education
EDKP 224	(3)	Foundations of Movement Education
EDKP 342	(3)	Physical Education Methods
EDKP 494	(3)	Physical Education Curriculum Development
EDPE 377	(3)	Adolescence and Education
EDSL 247	(3)	Second Language Education in Aboriginal Communities

8.6.2.2 Certificate in Aboriginal Literacy Education

This 30-credit program is designed for Algonquin, Cree, Inuit, Mi'kmaq and Kanienkehaka (Mohawk) students who wish to gain a deeper understanding of their Indigenous language, especially in its written form. It is aimed mainly at those who will be teaching their Indigenous language.

Admission to the Program in Aboriginal Literacy Education

Students admitted to this program will be recommended by their communities (as is presently the case with the Certificate in Education for First Nations and Inuit). If the program is used for professional development, students will be Indigenous teachers employed in local schools. As with the Certificate in Education for First Nations and Inuit, they must be mature students, or hold a Secondary V diploma or equivalent. The right of final decision for acceptance of candidates rests with McGill.

This certificate may be taken concurrently and completed within the B.Ed. for Certified Teachers if the required B.Ed. profile is fulfilled. See section 8.6.2.5 "Bachelor of Education for Certified Teachers (Elementary Education)".

PROGRAM PROFILE – CERTIFICATE IN ABORIGINAL LITERACY EDUCATION (30 credits)

Required Courses (6 credits)

EDEE 342	(3)	Intermediate Inuktitut/Amerindian Language
EDEE 344	(3)	Advanced Inuktitut/Amerindian Language

Complementary Courses (18 credits)

A beginning course (3 credits) in the Indigenous language as a first language (e.g., EDEC 241 Cree Language 1).

A second-level course (3 credits) in the same language (e.g. EDEC 242 Cree Language 2).

Four courses (12 credits) to be chosen from the following list:

EDEA 242	(3)	Cultural Skills 1
EDEC 220	(3)	Curriculum Development
EDEC 403	(3)	The Dialects of Inuktitut
EDEE 223	(3)	Language Arts
EDEE 224	(3)	Language Arts Part 2
EDEE 240	(3)	Use and Adaptation of Curricula
EDEE 243	(3)	Reading Methods in Inuktitut/Cree
EDEE 247	(6)	Individualized Instruction
EDEE 248	(3)	Reading and Writing Inuktitut/Cree
EDEE 345	(3)	Literature and Creative Writing 1
EDEE 346	(3)	Literature and Creative Writing 2
EDES 365	(3)	Experiences in Communications
EDPE 304	(3)	Measurement and Evaluation

Elective Courses (6 credits)

Two suitable 3-credit courses approved by the Director of First Nations and Inuit Education.

8.6.2.3 Certificate in Middle School Education in Aboriginal Communities

This 30-credit program focuses on developing the particular skills and abilities required of the Indigenous teacher in the middle school of his/her community. It does not lead to provincial certification. Rather, it prepares Indigenous teachers who are bilingual or have some knowledge of their Indigenous language and who have already established themselves as teachers to teach students at this level in ways that are developmentally and culturally appropriate. The program focuses on the particular psychological, emotional and social needs of Aboriginal adolescents and the teacher's role in facilitating the transition between elementary and high school.

Admission to the Certificate in Middle School Education in Aboriginal Communities

Applicants will normally have completed or be completing their B.Ed. for Certified Teachers. It is strongly recommended that they have some competence in their Indigenous language as indicated by the successful completion of at least two language courses. For those applying with degrees from other universities, additional courses may be required to match the McGill B.Ed. for Certified Teachers profile. As the program and courses will be delivered in the partnership communities, applicants must be recommended by their school boards or teaching authorities. The right of final decision for acceptance of candidates rests with McGill.

PROGRAM PROFILE – CERTIFICATE IN MIDDLE SCHOOL EDUCATION IN ABORIGINAL COMMUNITIES (30 credits)

Required Courses (27 credits)

EDEC 245	(3)	Middle School Teaching
EDEC 246	(3)	Middle School Curriculum
EDEC 302	(3)	Language and Learning - Curriculum (for teachers of first language students)
or EDSL 305	(3)	L2 Learning: Classroom Settings (for teachers of second language students)
EDFE 210	(3)	Middle School Practicum
EDPE 377	(3)	Adolescence and Education

Two 3-credit courses in the major subject area of the B.Ed. for Certified Teachers.

Two 3-credit courses in the minor subject area of the B.Ed. for Certified Teachers.

Elective Course (3 credits)

One chosen from:

EDEA 241	(3)	Basic Art Media for Classroom
EDEC 220	(3)	Curriculum Development
EDEC 243	(3)	Teaching: Multigrade Classrooms

EDEE 291 (3) Cultural Values and Socialization
EDEE 444 (3) First Nations and Inuit Curriculum
EDKP 241 (3) Aboriginal Physical Activities
EDPT 200 (3) Integrating Educational Technology in Classrooms
EDSL 247 (3) Second Language Education in Aboriginal Communities
EDSL 305 (3) L2 Learning: Classroom Settings
or other courses which may be approved by the Director of First Nations and Inuit Education.

This certificate may be taken concurrently and completed within the "Bachelor of Education for Certified Teachers (Elementary Education)", see section 8.6.2.5, if the required B.Ed. profile is fulfilled.

8.6.2.4 Certificate in First Nations and Inuit Educational Leadership

This 30-credit program is designed for First Nations and Inuit organizations to develop their role as leaders within the educational community. The program will focus on developing the core competencies of educational leaders, e.g., decision making and problem solving; fostering a self-reflective leader able to partner with parents to create community outreach; cultivating awareness of the holistic learning and developmental cycles of a child and the role of the educational leader in enhancing that development; maintaining the continuity of community and cultural values and aspirations within the structure of the administration of the school and other educational milieu; and understanding and supporting the pedagogical objectives and the administrative framework of the educational system.

Admission to the Certificate in First Nations and Inuit Educational Leadership

Students admitted to this program will be recommended by their communities. They must be mature students (21 years of age), or hold a Secondary V diploma or equivalent. Students must speak, read, and write fluently the language of instruction as agreed upon between the unit and the client School Board or Education Centre. For Nunavik applicants, students must have experience in a Nunavik educational or community organization. The right of final decision for acceptance of candidates rests with McGill.

PROGRAM PROFILE – CERTIFICATE IN FIRST NATIONS AND INUIT EDUCATIONAL LEADERSHIP (30 credits)

Required Courses (15 credits)
EDEC 221 (3) Leadership and Group Skills
EDEC 222 (3) Personnel Management and Support
EDEC 233 (3) First Nations and Inuit Education
EDEC 311 (3) Resource Management
EDEC 312 (3) Practicum in Educational Leadership

Complementary Courses (15 credits)

Five of the following:
EDEC 220 (3) Curriculum Development
EDEC 244 (3) Issues in Aboriginal Education
EDEE 240 (3) Use and Adaptation of Curricula
EDEE 245 (3) Orientation to Education
EDEE 340 (3) Special Topics: Cultural Issues
EDEM 202 (3) Native Family Dynamics & Supporting Institutions
EDES 365 (3) Experiences in Communications
EDPI 341 (6) Instruction in Inclusive Schools
or any other course approved by the Director of First Nations and Inuit Education.

This certificate may be taken concurrently and completed within the "Bachelor of Education for Certified Teachers (Elementary Education)", see section 8.6.2.5, if the required B.Ed. profile is fulfilled.

It may also be followed concurrently with the "Certificate in Education for First Nations and Inuit", see section 8.6.2.1.

8.6.2.5 Bachelor of Education for Certified Teachers (Elementary Education)

The 90-credit program is designed for teachers who are already certified to teach in elementary schools and who wish to earn a B.Ed. degree. Normally, a minimum of 60 credits must be taken in the program, and no more than 30 credits may be transferred from other institutions. Credits may be transferred from programs leading to the Certificates in Educational Technology, Second Language Teaching, Inclusive Education, or Aboriginal Literacy Education taken concurrently. Credit may also be transferred from the Certificate in Education for First Nations and Inuit, which is normally completed before the B.Ed.

Students completing the Bachelor of Education for Certified Teachers following the Certificate in Education for First Nations and Inuit will have accumulated a total of 120 credits, 60 for the Certificate and a further 60 for the B.Ed.

This program does not lead to further certification.

Admission Requirements for the B.Ed. for Certified Teachers

Applicants apply on the basis of having completed the Certificate in Education for First Nations and Inuit or equivalent and must have the continued support of their education authority to attend the field-based program. The right of final decision for acceptance of candidates rests with McGill.

PROGRAM PROFILE – B.ED. FOR CERTIFIED TEACHERS (90 credits)

Candidates enrolled in the program complete coursework within the following general pattern:

CREDITS

COMPLEMENTARY COURSES

Academic Concentration **30**
In five (5) subject areas relevant to elementary education in a 12-9-3-3-3 pattern (i.e., 12 credits in one subject, 9 credits in a second subject, and 3 credits in each of three other subject areas), or 30 academic credits in three subject areas in a 15-9-6 pattern.

Note: Subject areas relevant to elementary education, in broad terms, are the Arts (Art, Music and Drama), English, French, Science, Mathematics, Physical Education, Moral and Religious Education, Social Studies, Educational Technology, or an Aboriginal language.

Cultural Development **15**
Chosen from courses which will enhance the candidate's cultural development, these are to be chosen in consultation with the Director of First Nations and Inuit Education.

ELECTIVE COURSES **15**
Courses selected by the candidate after consultation with the Director of the First Nations and Inuit Education.

EDUCATION CONCENTRATION **30**
Normally the Education concentration is completed within the Certificate in Education for First Nations and Inuit.

TOTAL CREDITS **90**

The Certificate in Aboriginal Literacy Education, the Certificate in Middle School Education in Aboriginal Communities, or the Certificate in First Nations and Inuit Educational Leadership may be taken concurrently and completed within the B.Ed. for Certified Teachers if the required B.Ed. profile is fulfilled.

8.6.2.6 Certificate in Aboriginal Education for Certified Teachers

This 30-credit program provides training to assist mainstream teachers in becoming more effective teachers in First Nations and Inuit communities. It is designed to address subjects of particular interest and need in First Nations and Inuit schools, such as cultural socialization, cooperative learning, second language teaching, and curriculum development.

Admission to the Certificate in Aboriginal Education for Certified Teachers

Applicants must provide the following:

- a Diploma of Collegial Studies (DEC) or its equivalent;
- evidence of having completed teacher training at an approved institution;
- a letter of recommendation from a competent authority.

All courses (except EDEC 233) are normally given off-campus and are normally limited to students enrolled in off-campus programs delivered through First Nations and Inuit Education. The right of final decision for acceptance of candidates rests with McGill.

PROGRAM PROFILE – CERTIFICATE IN ABORIGINAL EDUCATION FOR CERTIFIED TEACHERS (30 credits)

Required Courses (18 credits)

EDEC 220	(3)	Curriculum Development
EDEC 233	(3)	First Nations and Inuit Education
EDEE 240	(3)	Use and Adaptation of Curricula
EDEE 291	(3)	Cultural Values and Socialization
EDEE 444	(3)	First Nations and Inuit Curriculum
EDSL 247	(3)	Second Language Education in Aboriginal Communities

Complementary Courses (12 credits)

One introductory language course (3 credits) in the language of the community, e.g., EDEE 341 Inuktitut for Beginners.
9 credits selected from:

EDEA 242	(3)	Cultural Skills 1
EDEC 200	(3)	Introduction to Inuit Studies
EDEE 247	(6)	Individualized Instruction
EDEE 290	(3)	Cooperative Learning
EDEM 202	(3)	Native Family Dynamics & Supporting Institutions

or any other suitable course approved by the Director of First Nations and Inuit Education.

8.6.2.7 Certificate in First Nations and Inuit Student Personnel Services

This program is offered by the Department of Educational and Counselling Psychology through First Nations and Inuit Education.

This program is designed to provide Aboriginal school personnel advisers with a training program which will enable them to learn about the principles and practice of personnel services as generally applied in educational settings, to help Aboriginal student personnel advisers develop their personal skills, and to modify or adapt their services and the content to best suit the cultural and educational needs of Aboriginal students; to encourage Aboriginal student personnel advisers to take leadership in developing educational programs which address the social needs of their communities, to upgrade their academic qualifications and professional development; and to develop and make available, in English and the languages of instruction, collections of professional and scholarly knowledge about students' needs, and services in First Nations and Inuit communities.

Bearers of this Certificate will be qualified to work as Educational and School Personnel Advisers within the employ of an Aboriginal educational authority.

Admission Requirements

1. Speak, read, and write fluently the language of instruction as agreed upon between the Department and the contracting school board.
2. Hold a student adviser position in an Aboriginal community. This may be a new appointment concurrent with registration in the program. The position must be sufficient to meet the practicum requirements of the program.
3. Be recommended by the local education authority.
4. Be at least 21 years of age (except for special permission). By this means students will qualify for admission as Mature Students under McGill regulations, and thereby not be required to have a Diploma of Collegial Studies (DEC).
5. Be recommended and selected by the school administration in collaboration with McGill personnel.

The right of final decision for acceptance of candidates rests with McGill.

PROGRAM PROFILE – CERTIFICATE IN FIRST NATIONS AND INUIT STUDENT PERSONNEL SERVICES (30 credits)

Required Courses (21 credits)

EDPC 201	(3)	Introduction to Student Advising
EDPC 202	(3)	Helping Skills Practicum 1
EDPC 203	(3)	Helping Skills Practicum 2
EDPC 205	(3)	Career/Occupational Development
EDPC 208	(3)	Native Families' Dynamics
EDPC 209	(3)	Basic Crisis Intervention Skills
EDPC 210	(3)	Field Experience

Complementary Courses (9 credits)

9 credits from the following:

EDEM 202	(3)	Native Family Dynamics & Supporting Institutions
EDKP 204	(3)	Health Education
EDPC 206	(3)	Group Leadership Skills
EDPC 207	(3)	Aboriginal Adolescent Development
EDPC 211	(3)	Special Topics in Student Personnel Services
EDPI 211	(3)	Social and Emotional Development

or any other suitable course approved by the Program Coordinator.

Registration in EDEM 202, EDKP 204 or any other courses offered by departments other than Educational and Counselling Psychology, or in other programs of this Department is dependent on availability (e.g., through a concurrently offered program) or through an arrangement made with that department or program. The Program Coordinator will attempt to make these contacts whenever required.

8.7 Department of Kinesiology and Physical Education

Currie Gym
475 Pine Avenue West
Montreal, QC H2W 1S4

Telephone: 514-398-4184
Fax: 514-398-4186
Website: www.mcgill.ca/edu-kpe
Email: kin.physed@mcgill.ca

Chair — Theodore E. Milner

Director of Undergraduate Programs — Gordon Bloom

Director of Graduate Programs — René A. Turcotte

Professors
Ross E. Andersen; B.Ed., M.A.(McG.), Ph.D.(Temple) (*Canada Research Chair*)
Theodore E. Milner; B.Sc., M.Sc., Ph.D.(Alta.)
Hélène Perrault; B.Sc.(C'dia), M.Sc., Ph.D.(Montr.)
Greg Reid; B.Ed.(P.E.)(McG.), M.S.(Calif.), Ph.D.(Penn. St.)

Associate Professors
Gordon Bloom; M.A.(W. Ont.), M.A.(York (Can.)), Ph.D.(Ott.)
David J. Pearsall; B.A., B.P.H.E., M.Sc., Ph.D.(Qu.)
René A. Turcotte; H.B.P.H.E.(Lauren.), M.Sc., Ph.D.(Alta.)

Assistant Professors
Julie Côté; B.Sc., M.Sc.(Wis., Madison), Ph.D.(Montr.)
Enrique Garcia; BPE, INEF(Madrid), M.Sc.(Laval), Ph.D.(Alta.)
William Harvey; B.Ed., M.A., Ph.D.(McG.)
Dilson Rassier; BPE, M.Sc.(Brazil), Ph.D.(Calg.)

Catherine M. Sabiston; B.Sc.K.(Dal.), M.H.K.(Windsor), Ph.D.(Br. Col.)
Paul James Stapley; B.A.(Leeds Poly.), M.Sc.(Northumbria), Ph.D.(Université de Bourgogne)
Tanja Taivassalo; B.Sc., Ph.D.(McG.)

Adjunct Professors
Bernard Aguilaniu; M.D., Ph.D.(Grenoble)
Robert Boushel; B.A.(P.E.)(Acadia), M.A.(S. Florida), D.Sc.(Boston)

Associate Members
Isabelle Cossette; D.Mus.(Montr.), M.Mus.(McG.)
Christian Duval; B.Sc.(UQTR), M.Sc.(UQAM), Ph.D.(McG.)
Robert Thomas Jagoe; B.A.(Camb.), M.B. B.Chir., MRCP(UK), CCST(Resp. and General (Internal) Med.), Ph.D.(Newcastle (UK)), FRCP

The Department of Kinesiology and Physical Education offers one program leading to a B.Ed. degree, one program leading to a B.Sc. degree and a Minor in "Kinesiology for Science Students", see section 14.13.19.

The Department also offers programs at the graduate level leading to an M.A. and M.Sc., and possibilities for doctoral studies. For further information, see the most current *Graduate and Post-doctoral Studies Calendar.*

8.7.1 Bachelor of Education Programs

8.7.1.1 Bachelor of Education Physical and Health Education

This four-year, 120-credit (150 credits for out-of-province students) specialist program prepares students to teach physical and health education at the elementary and secondary levels. This program interweaves academic studies, professional coursework, and teaching practices in mutually beneficial ways throughout the four years.

Graduation Requirement
All students in Physical Education programs are required, before graduation, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

PROGRAM PROFILE – B.ED. PHYSICAL AND HEALTH EDUCATION (120 credits)

Required Courses (94 credits)

EDEC 215	(0)	English Language Requirement
EDEC 247	(3)	Policy Issues in Quebec Education
EDEC 260	(3)	Philosophical Foundations
EDFE 246	(3)	First Field Experience (Physical Education)
EDFE 373	(3)	Second Field Experience (Physical Education)
EDFE 380	(7)	Third Field Experience (Physical Education)
EDFE 480	(7)	Fourth Field Experience (Physical Education)
EDKP 204	(3)	Health Education
EDKP 208	(3)	Applied Biomechanics
EDKP 213	(1)	Aquatics 1
EDKP 214	(1)	Basketball 1
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 217	(2)	Track and Field/Cross Country
EDKP 218	(1)	Volleyball 1
EDKP 223	(2)	Basic Games
EDKP 233	(1)	Soccer
EDKP 252	(2)	Racquet Sports
EDKP 253	(2)	Gymnastics
EDKP 254	(2)	Principles of Dance
EDKP 261	(3)	Motor Development
EDKP 292	(3)	Nutrition and Wellness
EDKP 293	(3)	Anatomy and Physiology
EDKP 307	(3)	Evaluation in Physical Education
EDKP 330	(3)	Physical Activity and Health
EDKP 391	(3)	Physiology in Sport and Exercise
EDKP 394	(3)	Historical Perspectives
EDKP 396	(3)	Adapted Physical Activity
EDKP 443	(3)	Research Methods
EDKP 448	(3)	Exercise and Health Psychology
EDKP 498	(3)	Sport Psychology
EDPE 208	(3)	Personality and Social Development
EDPE 300	(3)	Educational Psychology

Complementary Course (11 credits)

5 physical activity credits offered by the Department of Kinesiology and Physical Education

3 credits in Multicultural Education from the following:

EDEC 233	(3)	First Nations and Inuit Education
EDEC 248	(3)	Multicultural Education

3 credits in Media, Technology, Computers and Education from the following:

EDEC 262	(3)	Media, Technology and Education
EDPT 200	(3)	Media, Technology and Education
EDPT 204	(3)	Integrating Educational Technology in Classrooms

For students with a background in computers or other media applications in education, the following courses may be substituted for the above:

EDPT 341	(3)	Instructional Programming 1
EDPT 420	(3)	Media Literacy for Education

Elective Courses (15 credits)

15 credits chosen from any of the University's offerings to contribute to the student's academic proficiency and professional preparation.

8.7.2 Bachelor of Science (Kinesiology)

Received accreditation from CCUPEKA (Canadian Council of University Physical Education and Kinesiology Administrators) in April 2007.

The focus of the 90-credit (120 credits for out-of-province students) Bachelor of Science (Kinesiology) is a comprehensive understanding of human movement. Kinesiology is a multidisciplinary field viewing human movement from social, historical, psychological, or biological perspectives. The program provides students with a breadth of theoretical knowledge as well as an opportunity to explore related areas in greater depth, including Minor programs available elsewhere within the University.

Students may opt for either General or Applied emphasis, with an Honours program available for particularly strong students. Students must obtain a CGPA of 3.3 after two years in Kinesiology to qualify for the Honours Program, and must retain this CGPA until graduation.

Students admitted into the 120-credit B.Sc.(Kinesiology) must register in and successfully complete the Freshman Profile, which is designed to provide the basic science foundation for the subsequent three-year Major programs.

Students in the B.Sc.(Kinesiology) Major are encouraged to select a Minor program in a given discipline or interdisciplinary area. A maximum of 6 credits of overlap is allowed between the Minor and the primary program. Science Minors consist of up to 24 credits. Arts Minor Concentrations consist of 18 credits. A minimum of 18 new credits must be completed in the Minor or Minor Concentration. For a list of approved Minors and Minor Concentrations, please refer to the Faculty of Science, "Minor Programs", see section 14.11.7, and "Faculty of Arts Major and Minor Concentration Programs Available to Science Students", see section 14.11.11.

Graduation Requirement

Students are required, before graduation, to show proof of certification in Standard Level Safety Oriented First Aid, and Level C in Cardiopulmonary Resuscitation, or equivalencies.

B.SC.(KINESIOLOGY) – FRESHMAN PROFILE (29 - 30 credits)

Students admitted to the 120-credit B.Sc.(Kinesiology) complete the courses below in their first year of studies (U0).

Required Courses (29 - 30 credits)

BIOL 111	(3)	Principles: Organismal Biology
CHEM 110	(4)	General Chemistry 1
MATH 139	(4)	Calculus
or MATH 140	(3)	Calculus 1
or MATH 150	(4)	Calculus A
PHYS 101	(4)	Introductory Physics - Mechanics
or PHYS 131	(4)	Mechanics and Waves
BIOL 112	(3)	Cell and Molecular Biology
CHEM 120	(4)	General Chemistry 2
MATH 141	(4)	Calculus 2
or MATH 151	(4)	Calculus B
PHYS 102	(4)	Introductory Physics - Electromagnetism
or PHYS 142	(4)	Electromagnetism and Optics

B.SC.(KINESIOLOGY) – MAJOR IN APPLIED KINESIOLOGY (90 credits)
(not offered in 2009-2010 academic year.)

Required Courses (43 credits)

CHEM 212	(4)	Introductory Organic Chemistry 1
EDKP 206	(3)	Biomechanics of Human Movement
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 261	(3)	Motor Development
EDKP 292	(3)	Nutrition and Wellness
EDKP 330	(3)	Physical Activity and Health
EDKP 394	(3)	Historical Perspectives
EDKP 395	(3)	Exercise Physiology
EDKP 396	(3)	Adapted Physical Activity
EDKP 443	(3)	Research Methods
EDKP 447	(3)	Motor Control
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
EDKP 405	(3)	Sport in Society

Complementary Courses (33 credits)

3 credits from the following:

ANAT 214	(3)	Systemic Human Anatomy
or ANAT 316	(2)	Human Visceral Anatomy
and EDKP 239	(1)	Medical Imaging of Anatomy

3 credits, one of the following courses:

ANAT 315	(4)	Anatomy/Limbs and Back
EDKP 205	(3)	Structural Anatomy

6 credits, one of the following course sets:

PHGY 201	(3)	Human Physiology: Control Systems
and PHGY 202	(3)	Human Physiology: Body Functions
or PHGY 209	(3)	Mammalian Physiology 1
and PHGY 210	(3)	Mammalian Physiology 2

3 credits, one of the following courses:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
MGCR 271	(3)	Business Statistics
PSYC 204	(3)	Introduction to Psychological Statistics
SOCI 350	(3)	Statistics in Social Research

18 credits chosen from the following courses:

EDKP 200	(1)	Weight Training
EDKP 201	(3)	Physical Activity Leadership
EDKP 249	(1)	Physical Activity Appraisal
EDKP 250	(3)	Practicum 1
EDKP 252	(2)	Racquet Sports
EDKP 254	(2)	Principles of Dance
EDKP 311	(3)	Athletic Injuries
EDKP 350	(3)	Physical Fitness Evaluation Methods
EDKP 450	(3)	Practicum 3
EDKP 451	(3)	Personal Trainer Practicum
EDKP 452	(3)	Fitness & Lifestyle Consulting
EDKP 553	(3)	Physical Activity Assessments

Elective Courses (14 credits)

Students are encouraged to obtain all, or part, of their remaining program credits by completing one of the Minor/Minor Concentrations (18 - 24 credits) available in the Faculties of Arts, Science, and Management.

B.SC.(KINESIOLOGY) – MAJOR IN GENERAL KINESIOLOGY (90 credits)

Required Courses (46 credits)

BIOL 200	(3)	Molecular Biology
CHEM 212	(4)	Introductory Organic Chemistry 1
EDKP 206	(3)	Biomechanics of Human Movement
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 261	(3)	Motor Development
EDKP 292	(3)	Nutrition and Wellness
EDKP 330	(3)	Physical Activity and Health
EDKP 394	(3)	Historical Perspectives
EDKP 395	(3)	Exercise Physiology
EDKP 396	(3)	Adapted Physical Activity
EDKP 443	(3)	Research Methods
EDKP 447	(3)	Motor Control
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
EDKP 405	(3)	Sport in Society

Complementary Courses (24 credits)

3 credits from the following:

ANAT 214	(3)	Systemic Human Anatomy
or ANAT 316	(2)	Human Visceral Anatomy
and EDKP 239	(1)	Medical Imaging of Anatomy

3 credits, one of the following courses:

ANAT 315	(4)	Anatomy/Limbs and Back
EDKP 205	(3)	Structural Anatomy

6 credits, one of the following course sets:

PHGY 201	(3)	Human Physiology: Control Systems
and PHGY 202	(3)	Human Physiology: Body Functions
or PHGY 209	(3)	Mammalian Physiology 1
and PHGY 210	(3)	Mammalian Physiology 2

3 credits, one of the following courses:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics
SOCI 350	(3)	Statistics in Social Research

9 credits chosen from the following courses:

EDKP 200	(1)	Weight Training
EDKP 201	(3)	Physical Activity Leadership
EDKP 244	(1)	Dance and Fitness
EDKP 249	(1)	Physical Activity Appraisal
EDKP 250	(3)	Practicum 1
EDKP 311	(3)	Athletic Injuries
EDKP 350	(3)	Physical Fitness Evaluation Methods
EDKP 444	(3)	Ergonomics
EDKP 445	(3)	Exercise Metabolism
EDKP 446	(3)	Physical Activity and Ageing
EDKP 448	(3)	Exercise and Health Psychology
EDKP 449	(3)	Exercise Pathophysiology 2
EDKP 450	(3)	Practicum 3
EDKP 451	(3)	Personal Trainer Practicum
EDKP 452	(3)	Fitness & Lifestyle Consulting
EDKP 453	(3)	Research Practicum in Kinesiology
EDKP 542	(3)	Environmental Exercise Physiology
EDKP 553	(3)	Physical Activity Assessments
EDKP 566	(3)	Advanced Biomechanics Theory

NUTR 503 (3) Bioenergetics and the Lifespan

Elective Courses (20 credits)
Students are encouraged to obtain some of their remaining program credits by completing one of the Minor/Minor Concentrations (18 credits) available in the Faculties of Arts, Science, and Management.

B.SC.(KINESIOLOGY) – HONOURS IN KINESIOLOGY
(90 credits)
Students must obtain a CGPA of 3.3 after two years in Kinesiology to qualify for the Honours Program, and must retain this CGPA until graduation.

Required Courses (49 credits)

BIOL 200	(3)	Molecular Biology
CHEM 212	(4)	Introductory Organic Chemistry 1
EDKP 206	(3)	Biomechanics of Human Movement
EDKP 215	(0)	Standard First Aid/Cardio-Pulmonary Resuscitation Level C
EDKP 261	(3)	Motor Development
EDKP 292	(3)	Nutrition and Wellness
EDKP 330	(3)	Physical Activity and Health
EDKP 393	(3)	Skill Learning and Expertise
EDKP 394	(3)	Historical Perspectives
EDKP 395	(3)	Exercise Physiology
EDKP 396	(3)	Adapted Physical Activity
EDKP 443	(3)	Research Methods
EDKP 453	(3)	Research Practicum in Kinesiology
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
EDKP 405	(3)	Sport in Society

Complementary Courses (27 credits)

3 credits from the following:

ANAT 214	(3)	Systemic Human Anatomy
or ANAT 316	(2)	Human Visceral Anatomy
and EDKP 239	(1)	Medical Imaging of Anatomy

3 credits, one of the following courses:

ANAT 315	(4)	Anatomy/Limbs and Back
EDKP 205	(3)	Structural Anatomy

6 credits, one of the following course sets:

PHGY 201	(3)	Human Physiology: Control Systems
and PHGY 202	(3)	Human Physiology: Body Functions
or PHGY 209	(3)	Mammalian Physiology 1
and PHGY 210	(3)	Mammalian Physiology 2

3 credits, one of the following courses:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics
SOCI 350	(3)	Statistics in Social Research

12 credits chosen from the following courses:

EDKP 444	(3)	Ergonomics
EDKP 445	(3)	Exercise Metabolism
EDKP 446	(3)	Physical Activity and Ageing
EDKP 447	(3)	Motor Development 2
EDKP 448	(3)	Exercise and Health Psychology
EDKP 449	(3)	Exercise Pathophysiology 2
EDKP 542	(3)	Environmental Exercise Physiology
EDKP 566	(3)	Advanced Biomechanics Theory
NUTR 503	(3)	Bioenergetics and the Lifespan

Elective Courses (14 credits)
To be chosen from the 200-, 300-, 400- or 500-level in consultation with the Undergraduate Program Director or Student Adviser.

8.8 School of Information Studies

McLennan Library Building, Room MS 57F
3459 McTavish Street
Montreal, QC H3A 1Y1

Telephone: 514-398-4204
Fax: 514-398-7193
Email: sis@mcgill.ca
Website: www.mcgill.ca/sis

Director — France Bouthillier

Professors
J. Andrew Large; B.Sc.(Lond.), Ph.D.(Glas.), Dip.Lib.(Lond.) (*CN-Pratt-Grinstad Professor of Information Studies*)
Peter F. McNally; B.A.(W. Ont.), B.L.S., M.L.S., M.A.(McG.)

Associate Professors
Jamshid Beheshti; B.A.(S. Fraser), M.L.S., Ph.D.(W. Ont.)
France Bouthillier; B.Ed.(UQAM), M.B.S.I.(Montr.), Ph.D.(Tor.)
Kim Dalkir; B.Sc., M.B.A.(McG.), Ph.D.(C'dia)
Eun Park; B.A.(Pusan), M.L.I.S.(Ill.), M.B.A.(Pitt.), Ph.D.(Calif.-LA)

Assistant Professors
Joan Bartlett; B.Sc., M.L.S., Ph.D.(Tor.)
Catherine Guastavino; B.Sc.(McG.), M.Sc.(Aix-Marseille), Ph.D.(Paris)
Elaine Ménard; B.A., M.A., M.S.I.(Montr.)

Adjunct Professors
Joy Bennett; B.A., M.A.(C'dia), M.L.I.S.(McG.), Ph.D.(C'dia)
Frances Groen; B.A., B.L.S.(Tor.), M.A.(Pitt.)

Associate Members
Gordon Burr; B.A., M.L.I.S.(McG.)
Pierre Pluye; M.D.(Toulouse), M.Sc., Ph.D.(Montr.)
Richard Virr; B.A.(Tulane), M.A.(Qu.), Ph.D.(McG.)

Professional Associate
Edward Bilodeau; B.Sc., M.L.I.S.(McG.)

Faculty Lecturers
Clement Arsenault; B.A.(Montr.), M.L.I.S.(McG.), Ph.D.(Tor.)
Tanya Abramovitch; B.A., M.L.I.S., M.A.(McG.)
Leanne Bowler; B.A., M.L.I.S., M.Ed., Ph.D.(McG.)
Louise Carpentier; B.L.S.(Tor.), M.Bibl.(Montr.), M.P.P.PA.(C'dia)
April Colosimo; B.Sc.(McG.), M.Sc.(Sher.), M.L.I.S.(McG.)
Danielle Dennie; B.Sc.(Laur.), M.Sc.(Inst. Armand-Frappier), M.L.I.S.(McG.)
Jocelyn Godolphin; B.A.(Man.), M.A.(Ore.), M.L.S.(Br. Col.)
Andrea Harland; B.A.(McG.), M.A.C.(Qu.), M.L.I.S.(McG.)
Michele Jenkins; B.A.(Calif.), M.L.I.S.(McG.)
Charles-Antoine Julien; B.Eng., M.Sc.(École Poly., Montr.)
Vivek Venkatesh; B.Sc.(Sing.), M.A., Ph.D.(C'dia)

The School of Information Studies focuses upon the knowledge and skills necessary to identify, acquire, organize, retrieve and disseminate information so as to meet people's varied information needs.

The School of Information Studies offers four programs at the graduate level. Its 48-credit Master of Library and Information Studies (MLIS) has three areas of specialization: Archival Studies, Knowledge Management, and Librarianship. Accredited by the American Library Association, the MLIS program prepares professionals to manage information resources and services in libraries and the wider information industries. Its 30-credit Graduate Diploma in Library and Information Studies and 15-credit Graduate Certificate in Library and Information Studies are designed to provide a formal environment in which information professionals can update, specialize, and redirect their careers for advanced responsibilities. Its Ph.D. (ad hoc) program provides an opportunity to undertake research at the doctoral level in library and information studies within an interdisciplinary context.

For further information concerning programs, requirements, and courses, consult the School of Information Studies section of the most current *Graduate and Postdoctoral Studies Calendar* or the School website.

9 Faculty of Engineering, including Schools of Architecture and Urban Planning

Table of Contents

9.1 The Faculty, page 272
- 9.1.1 Location, page 272
- 9.1.2 Administrative Officers, page 272
- 9.1.3 Historical Note, page 272
- 9.1.4 The Faculty Today, page 272
- 9.1.5 Special Facilities and Related Programs, page 272
  - 9.1.5.1 Engineering Microcomputing Facility, page 272
  - 9.1.5.2 Bioresource Engineering, page 273
  - 9.1.5.3 Department of Biomedical Engineering, page 273
- 9.1.6 Library Facilities, page 273

9.2 General Information, page 273
- 9.2.1 Admission Requirements, page 273
- 9.2.2 Exchange Programs, page 273
- 9.2.3 Transfer Credits for University-level Courses, page 273
- 9.2.4 Registration, page 273
  - 9.2.4.1 Course Load, page 273
  - 9.2.4.2 Registration for Continuing Education Courses, page 273
  - 9.2.4.3 Course Withdrawal after the Course Change (Drop/Add) Deadline, page 273
- 9.2.5 Advising, page 274
- 9.2.6 Student Activities, page 274
- 9.2.7 Scholarships and Bursaries, page 274
- 9.2.8 Graduation Honours, page 274
  - 9.2.8.1 Dean's Honour List, page 274
  - 9.2.8.2 Distinction, page 274
- 9.2.9 EIP: Engineering Internship Program and IP: Industrial Practicum, page 274
- 9.2.10 Calculators in Faculty Tests and Examinations, page 274

9.3 Academic Requirements, page 274
- 9.3.1 Degree Requirements, page 274
  - 9.3.1.1 Entrance Requirements, page 274
  - 9.3.1.2 Basic Science Requirements for Students Entering from Outside Quebec, page 275
  - 9.3.1.3 Architecture – Basic Science Requirements for Students Entering from Outside Quebec, page 275
  - 9.3.1.4 General Engineering – Basic Science Requirements for Students Entering from Outside Quebec Admitted to the General Engineering Program (B.Eng. (Undeclared)), page 275
- 9.3.2 Degrees and Requirements for Professional Registration, page 275
- 9.3.3 Prerequisites and/or Corequisites, page 276
- 9.3.4 Complementary Studies, page 276
- 9.3.5 Student Progress, page 276
  - 9.3.5.1 Letter Grades, page 276
  - 9.3.5.2 Satisfactory/Unsatisfactory Option, page 276
  - 9.3.5.3 Course Credits, page 277
  - 9.3.5.4 Extra Courses, page 277
  - 9.3.5.5 Academic Standing Decisions, page 277
  - 9.3.5.6 Repeated Courses, page 277
  - 9.3.5.7 Reassessments and Rereads, page 277
  - 9.3.5.8 Examination Regulations, page 278
  - 9.3.5.9 Supplemental Examinations, page 278
  - 9.3.5.10 Deferred Examinations, page 278

9.4 Degrees and Programs Offered, page 279
- 9.4.1 CO-OP Programs, page 279
- 9.4.2 Major Programs, page 279
- 9.4.3 Honours Programs, page 279
- 9.4.4 Minors, page 279

9.5 Academic Programs, page 279
- 9.5.1 School of Architecture, page 279
- 9.5.2 Department of Chemical Engineering, page 281
- 9.5.3 Department of Civil Engineering and Applied Mechanics, page 283
- 9.5.4 Department of Electrical and Computer Engineering, page 285
- 9.5.5 Department of Mechanical Engineering, page 289
- 9.5.6 Department of Mining and Materials Engineering, page 293
- 9.5.7 School of Urban Planning, page 295

9.6 Minor Programs, page 296
- 9.6.1 Arts Minor, page 296
- 9.6.2 Biomedical Engineering Minor, page 296
- 9.6.3 Biotechnology Minor, page 297
- 9.6.4 Chemistry Minor, page 298
- 9.6.5 Computer Science Courses and Minor Program, page 298
- 9.6.6 Construction Engineering and Management Minor, page 298
- 9.6.7 Economics Minor, page 299
- 9.6.8 Environmental Engineering Minor, page 299
- 9.6.9 Minor in Environment, page 300
- 9.6.10 Minor Programs in Finance, Management, Marketing, and Operations Management, page 300
- 9.6.11 Materials Engineering Minor, page 301
- 9.6.12 Mathematics Minor, page 301
- 9.6.13 Mining Engineering Minor, page 301
- 9.6.14 Physics Minor, page 301
- 9.6.15 Technological Entrepreneurship Minor, page 302
- 9.6.16 Software Engineering Minor, page 302

9.1 The Faculty

9.1.1 Location

Macdonald Engineering Building
817 Sherbrooke Street West
Montreal, QC H3A 2K6
Canada

Telephone: 514-398-7257
Faculty website: www.mcgill.ca/engineering

The Student Affairs Office and the Offices of the Associate Dean, Student Affairs and Associate Dean, Academic are located within the Engineering Student Centre, at:

3450 University Street
Montreal, QC H3A 2A7
Frank Dawson Adams Building, Suite 22

9.1.2 Administrative Officers

Christophe Pierre; Ph.D.(Duke), M.Sc.(Prin.), B.Eng.(École Centrale, Paris) (*Canada Research Chair*) **Dean**

James Clark; B.A.Sc., Ph.D.(Br. Col.) **Associate Dean, Academic**

Subhasis Ghoshal; B.C.E.(Jadavpur), M.S.(Missouri), Ph.D.(Carn. Mell) (*William Dawson Scholar*) **Associate Dean, Student Affairs**

Andrew Kirk; B.Sc.(Brist.), Ph.D.(Lond.) (*William Dawson Scholar*) **Associate Dean, Research and Graduate Education**

Luc Mongeau; B.Sc., M.Sc.(École Poly., Montr.), Ph.D.(Penn. St.) (*Canada Research Chair*) **Associate Dean, Academic Affairs**

Michael Jemtrud; B.A., B.Sc., B.Arch.(Penn. St.), M.Arch.(McG.), M.R.A.I.C. **Director, School of Architecture**

Dimitrios Berk; B.Sc.(Bosphorus), M.E.Sc.(W. Ont.), Ph.D.(Calg.), P.Eng. **Chair, Department of Chemical Engineering**

Denis Mitchell; B.A.Sc., M.A.Sc., Ph.D.(Tor.), F.A.C.I., F.C.A.E., F.C.S.C.E., F.E.I.C., F.R.S.C., Eng. (*James McGill Professor*) **Chair, Department of Civil Engineering and Applied Mechanics**

David V. Plant; M.S., Ph.D.(Brown), F.O.S.A. (*James McGill Professor*) **Chair, Department of Electrical and Computer Engineering**

Arun K. Misra; B.Tech.(IIT, Kharagpur), Ph.D.(Br. Col.), P.Eng., F.A.A.S., A.F.A.I.A.A. (*Thomas Workman Professor of Mechanical Engineering*) **Chair, Department of Mechanical Engineering**

Steve Yue; B.Sc., Ph.D.(Leeds) **Chair, Department of Mining and Materials Engineering**

David F. Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheff.) **Director, School of Urban Planning**

Colin Rogers; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Syd.), P.Eng. **Secretary of Faculty**

Christine Tutt **Director of Administration**

Debbie Morzajew **Manager, EMF**

Jonathan Rousham **Facilities Manager**

Tania Chomyk **Area Personnel Officer**

Enza De Martinis **Financial Officer**

Judy Pharo **Associate Director, Engineering Student Centre**

9.1.3 Historical Note

The Faculty of Engineering began in 1871 as the Department of Practical and Applied Science in the Faculty of Arts with degree programs in Civil Engineering and Surveying, Mining Engineering and Assaying, and Practical Chemistry. Diploma courses had been offered from 1859, and by 1871 the staff and enrolments had increased sufficiently to justify the creation of the Department. Continued growth led to the formation of the Faculty of Applied Science in 1878. By 1910 there were ten degree programs offered, including Architecture and Railroad Engineering. Subsequent changes in the overall pattern of the University led to the creation of the Faculty of Engineering in 1931 with a departmental structure very similar to that which exists at present.

9.1.4 The Faculty Today

The Faculty currently includes five engineering departments and two schools:

The Departments
- Chemical Engineering
- Civil Engineering and Applied Mechanics
- Electrical and Computer Engineering
- Mechanical Engineering
- Mining and Materials Engineering

The Schools
- Architecture
- Urban Planning

The Faculty serves approximately 2,630 undergraduate students and 900 graduate students in a wide variety of academic programs.

Undergraduate programs leading to professional bachelor degrees are offered in all Engineering Departments. These programs are designed to qualify the graduates for immediate employment in a wide range of industries and for membership in the appropriate professional bodies. Additionally, a non-professional undergraduate degree is offered in the School of Architecture for those who plan to work in related fields not requiring professional qualification. The curricula are structured to provide suitable preparation for those who plan to continue their education in postgraduate studies either at McGill or elsewhere. The professional degrees in Architecture and Urban Planning are offered at the Master's level and are described in the *Graduate and Postdoctoral Studies Calendar* found at www.mcgill.ca/courses.

The academic programs are divided into required and complementary sections. The required courses emphasize those basic principles which permit graduates to keep abreast of progress in technology throughout their careers. Exposure to current technology is provided by the wide variety of complementary courses which allow students to pursue in depth a particular interest. For program details refer to section 9.5 "Academic Programs".

An internship program involving a paid 8, 12 or 16 month work experience is available to Engineering students. Generally, students will enter the internship program before starting their final year of undergraduate studies. Details can be found in section 9.2.9 "EIP: Engineering Internship Program and IP: Industrial Practicum". In addition, CO-OP programs are offered in Mining Engineering and in Materials Engineering.

Postgraduate programs leading to Master's and doctoral degrees are offered in all sectors of the Faculty. Numerous areas of specialization are available in each of the departments and schools. All postgraduate programs, including the professional degree programs in Architecture and in Urban Planning are described in the *Graduate and Postdoctoral Studies Calendar* found at www.mcgill.ca/courses.

9.1.5 Special Facilities and Related Programs

9.1.5.1 Engineering Microcomputing Facility

In addition to the services provided by Central Information Technology Resources, the Faculty, in conjunction with its departments and schools, maintains specialized computing and information resources in support of teaching and research. These vary from desktop PCs distributed throughout the Engineering complex to very high performance scientific workstations found in the research laboratories. Each unit organizes and maintains facilities that are designed around specific roles, e.g., CAD/CAM,

microelectronic design, software engineering, circuit simulation, process control, polymers, structural mechanics, metal processing, etc., in addition to systems dedicated to administrative support.

The role of the Faculty is to provide access to computing resources on a 24-hour basis and to provide services that are not covered by individual units. Further information is available at www.mcgill.ca/emf.

9.1.5.2 Bioresource Engineering

The Faculty of Engineering cooperates with the Faculty of Agricultural and Environmental Sciences in providing courses of instruction for a curriculum in agricultural and biosystems engineering to meet requirements for a professional degree awarded in the Faculty of Agricultural and Environmental Sciences. For details of the curriculum, see section 5.6.2 "Bachelor of Engineering (Bioresource) - B.Eng.(Bioresource)".

Some of the courses offered by the Department of Bioresource Engineering (Subject Code BREE) may be of interest to students in the Faculty of Engineering.

9.1.5.3 Department of Biomedical Engineering

Lyman Duff Medical Sciences Building
3775 University Street
Montreal, QC H3A 2B4
Telephone: 514-398-8278

Some of the courses offered by the Department of Biomedical Engineering (subject code BMDE) may be of interest to Engineering students, and may be approved as complementary courses. The Faculty of Engineering also offers a minor in Biomedical Engineering; for more information, students should refer to section 9.6.2 "Biomedical Engineering Minor".

9.1.6 Library Facilities

Second largest of the 13 branches of the McGill Library, the Schulich Library of Science and Engineering provides resources and services to support the research and teaching programs in Engineering, Architecture, Urban Planning and the Physical Sciences. The Library holds more than 260,000 books, journals and other materials covering the spectrum of engineering and the physical sciences. There is also an extensive collection of online resources, with thousands of electronic journals, e-books and databases. Other branch libraries of interest to students in the Faculty of Engineering are: Blackader-Lauterman Library of Architecture and Art, Life Sciences Library, Macdonald Campus Library, Walter Hitschfeld Geographic Information Centre, Edward Rosenthall Mathematics and Statistics Library, and the Howard Ross Management Library.

The Schulich Library of Science and Engineering has over 100 networked computer workstations and the entire building is a McGill wireless zone. You may choose to work in the quiet or group study areas, with copy and print facilities on site. The Library provides support for users with disabilities, including wheelchair access and an adaptive workstation. The Library also offers a range of tours and workshops designed to help users effectively find, assess and use information.

Visit the website, phone or email us to learn more about the Library's services, collections and facilities. We look forward to seeing you in the Library.

www.mcgill.ca/schulich
514-398-4769
schulich.library@mcgill.ca

9.2 General Information

9.2.1 Admission Requirements

The Faculty of Engineering offers programs leading to the degrees of B.Eng., B.S.E. and B.Sc.(Arch.). Enrolment in Engineering programs is limited.

Specific information on admissions requirements can be found in the *Undergraduate Admissions Guide 2009-10*, found at www.mcgill.ca/applying/undergrad.

9.2.2 Exchange Programs

The Faculty of Engineering participates in a number of bilateral exchange programs that provide undergraduates with an opportunity to study in various countries including Australia, Austria, Canada, Denmark, France, Germany, Hong Kong, Mexico, New Zealand, Singapore, Sweden, United Kingdom, and the U.S. Applicants must have completed at least one year of study and have maintained an average of 3.00 or better. Further information may be obtained from the Faculty of Engineering Student Affairs Office in the Engineering Student Centre (www.mcgill.ca/engineering/student/sao/current/exchange) and the Office of Student Exchanges and Study Abroad (www.mcgill.ca/studyabroad).

9.2.3 Transfer Credits for University-level Courses

In certain cases, credits may be granted for university-level courses passed with a grade of C or better that were taken at other institutions prior to admission. The number of transfer credits granted will be limited to ensure that the student must complete a minimum of 60 credits of program related courses at McGill University, excluding those taken to satisfy the basic science requirements listed under section 9.3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

9.2.4 Registration

Students who are currently registered and intend to return to the same degree program in the following academic session are required to register following procedures outlined in this Calendar; see section 3.3 "Registration". **It is mandatory for all returning students to see a departmental academic adviser for course confirmation during the first two weeks of the Fall term and, if changes are being made, during the first two weeks of the Winter term.**

Information regarding course registration is sent to new students at the time of admission. **All new students must see a departmental academic adviser during the advising period.**

9.2.4.1 Course Load

For students in the Faculty of Engineering the normal course load is 15 to 18 credits per term. Students who register for fewer than 12 credits per term are considered to be part-time in that term. A student who wishes to register for more than 18 credits in a term may do so only with special permission from their departmental adviser. Students on probationary standing may register for a maximum of 13 credits per term, including repeated courses. Students with deferred exams may register for no more than 18 credits or write no more than 6 examinations per term, whichever is greater. Where appropriate, students must ensure that they register for sufficient credits to satisfy visa, financial aid and/or scholarship requirements.

9.2.4.2 Registration for Continuing Education Courses

Students may register for Continuing Education courses through Minerva. Students must refer to the Centre for Continuing Education Calendar and Schedule for course information and deadlines. For further information, contact the Faculty of Engineering Student Affairs Office in the Engineering Student Centre.

9.2.4.3 Course Withdrawal after the Course Change (Drop/Add) Deadline

Students may still withdraw from a course after the Course Change deadline without academic penalty provided they do so within the appropriate withdrawal deadlines for the term. After this time their names will appear on the mark reports and, in the event that they do not take the examination, they will be given a J grade. For more information on course withdrawal, see section 3.3.8 "Regulations Concerning Course Withdrawal".

9.2.5 Advising

All students are required to meet with an Academic Adviser prior to the start of classes. Students admitted to Year 0 who are seeking transfer credits are initially advised by the Faculty Student Affairs Office followed by advising in their respective departments. Students admitted to Year 0 who are not seeking transfer credits and students admitted to Year 1 should contact the department/school directly. Additional information may be obtained by calling:

Student Affairs Office	514-398-7257
Architecture	514-398-6702
Chemical Engineering	514-398-4494
Civil Engineering and Applied Mechanics	514-398-6860
Electrical and Computer Engineering	514-398-3943
Mechanical Engineering	514-398-8070
Mining and Materials Engineering	514-398-4755
Urban Planning	514-398-4075

For more information on advising, see section 4 "Advising and Support".

9.2.6 Student Activities

The campus offers a wide variety of extracurricular activities for students. All are encouraged to participate. Many of these are organized within the Faculty under the auspices of the Engineering Undergraduate Society (EUS) or the Architectural Student Association (ASA). Both of these organizations publish handbooks describing their operations and the activities of various Faculty clubs and societies. All undergraduate students automatically become members of the EUS or the ASA, as appropriate.

9.2.7 Scholarships and Bursaries

Scholarships, bursaries and loans are open to students in the Faculty of Engineering. Students should consult the *Undergraduate Scholarships and Awards Calendar* available at www.mcgill.ca/courses. Specific information concerning these awards may be obtained from the Faculty of Engineering Student Affairs Office in the Engineering Student Centre (www.mcgill.ca.engineering/student/sao/scholarships).

9.2.8 Graduation Honours

9.2.8.1 Dean's Honour List

For information on the designation of Dean's Honour List awarded at graduation, see section 3.9.1.1 "Dean's Honour List".

9.2.8.2 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 "Distinction".

9.2.9 EIP: Engineering Internship Program and IP: Industrial Practicum

Employers value experience. The EIP (8, 12 or 16 months) and the Industrial Practicum (4 months) allow undergraduate students in Engineering to gain professional work experience during the course of their undergraduate studies while earning a salary within the average range for entry-level professional positions. Other benefits include:

- improved employment prospects upon graduation at a higher starting salary;
- the opportunity to explore career options prior to graduation;
- the opportunity to develop communication skills and to acquire a business perspective that cannot be learned in school.

Employment begins in January, May or September. EIP Internships are 8, 12 or 16 months, while the IP is 4 months. Employers choose the most suitable students for their organization through the application and interview process. While employed by the participating companies, students work on assignments related to their field of study. Completion of an IP or EIP will be noted on the students' transcript. Successful completion of an 8-, 12- or 16-month Internship or two Industrial Practicums qualifies students to graduate with the Internship Program designation.

STUDENT ELIGIBILITY

All students participating in the EIP or IP must:

- have a CGPA of 2.00 or higher;
- be in good financial standing with the university;
- be registered full-time in their program before and after the EIP or IP;
- remain a degree candidate while on internship;
- return to complete their studies at McGill (Internship students will receive an automatic extension for the completion of their studies). Students are not allowed to complete their undergraduate degree during the Internship period. Students must have a minimum of 15 credits to complete their program.
- International students are eligible to apply for an EIP and Summer IPs (a few restrictions may apply).

Further information can be obtained at www.mecc.mcgill.ca or by sending an email to careers4engineers@mcgill.ca

Important Information

- While on internship, students are expected to complete any deferrals they may have been granted, regardless of the location of the internship. Students who do not write a deferred exam as scheduled will receive a final grade of J. The J grade will calculate as a failure in both the TGPA and CGPA.
- International students must ensure that their health coverage remains in force during their internship.
- During their time as EIP interns, students are not considered to be in full-time status. Students' government loans will become due and payable within the prescribed grace period (usually 6 months).
- Students who officially accept an internship position but subsequently decline the position will no longer be eligible for the Engineering Internship Program.

9.2.10 Calculators in Faculty Tests and Examinations

The use of calculators during tests and examinations is at the discretion of the course instructor. If a calculator is permitted in the examination, the Faculty requires that the students use a Faculty Standard Calculator, i.e., the CASIO fx-115, CASIO fx-991, CASIO fx-570ms, SHARP EL-520, or SHARP EL-546. Under these circumstances, *no other calculators will be permitted*, regardless of their level of sophistication. **Non-regulation calculators will be removed and no replacement calculator will be provided.** All Engineering students are expected to own one of the above listed Faculty Standard Calculators.

9.3 Academic Requirements

9.3.1 Degree Requirements

In order to obtain a Bachelor's degree, students must complete one of the departmental programs described in section 9.5 "Academic Programs".

9.3.1.1 Entrance Requirements

The degree programs in the Faculty of Engineering are designed for students who have completed a general and basic science program. This basic science requirement consists of two terms of calculus, chemistry, physics, one term of vectors, matrices and geometry and one term of humanities or social sciences.

Students entering the Faculty of Engineering from Quebec complete these courses at CEGEP and enter a seven-term program.

Students entering from outside Quebec with a high school diploma generally enter an eight-term program and complete the basic science requirements at McGill.

Students who have completed Advanced Placement Exams, Advanced Levels, the International Baccalaureate, the French Baccalaureate, or McGill placement and/or advanced credit examinations may receive exemptions and/or credits for all or part of the basic science requirements. Similarly, students who have completed courses at other universities or colleges may receive exemptions and/or credits. Please see www.mcgill.ca/engineering/student/sao/newstudents/credit for specific information on transfer credits.

9.3.1.2 Basic Science Requirements for Students Entering from Outside Quebec

Generally, students admitted to Engineering from outside Quebec are required to complete the basic science requirements outlined below, in addition to the departmental programs described in section 9.5 "Academic Programs".

CHEM 110	(4 credits)	General Chemistry 1
CHEM 120	(4 credits)	General Chemistry 2
MATH 140	(3 credits)	Calculus 1
or MATH 139	(4 credits)	Calculus
MATH 141	(4 credits)	Calculus 2
MATH 133	(3 credits)	Vectors, Matrices and Geometry
PHYS 131	(4 credits)	Mechanics and Waves
PHYS 142	(4 credits)	Electromagnetism and Optics
FACC 100	(1 credit)	Introduction to the Engineering Profession
XXX XXX	(3 credits)	Humanities/Social Sciences course*

* 3 credits selected from the approved list of courses in humanities and social sciences or administrative studies and law. See section 9.3.4 "Complementary Studies".

Students who successfully complete one or more McGill Placement Exams will obtain credit(s) for the equivalent(s), i.e., CHEM 110, CHEM 120, MATH 140, MATH 141, MATH 133, PHYS 131, PHYS 142. Please see www.mcgill.ca/student-records/exam/placement for specific information on McGill Placement Exams.

Students entering with advanced standing credits (Advanced Placements, Advanced Levels, International Baccalaureate examinations, McGill Placement Exams) are required to meet with an adviser in the Student Affairs Office in the Engineering Student Centre to finalize their program of study. (This must be done prior to meeting with their departmental adviser.) An information session will be held prior to the advising sessions to process these advanced credits. All of the above information is available at www.mcgill.ca/engineering/student/sao/newstudents/credit.

9.3.1.3 Architecture – Basic Science Requirements for Students Entering from Outside Quebec

Generally, students admitted to Architecture from outside Quebec are required to complete the following courses:

CHEM 110	(4 credits)	General Chemistry 1
CHEM 120	(4 credits)	General Chemistry 2
MATH 139	(4 credits)	Calculus
or MATH 140	(3 credits)	Calculus 1
MATH 141	(4 credits)	Calculus 2
MATH 133	(3 credits)	Vectors, Matrices and Geometry
PHYS 131	(4 credits)	Mechanics and Waves
PHYS 142	(4 credits)	Electromagnetism and Optics

Students may write McGill Placement Tests to obtain credit for CHEM 110, CHEM 120, MATH 140, MATH 141, MATH 133, PHYS 131 and PHYS 142, in the event that they have studied similar material previously. Details on the advanced placement examinations are provided in the *Welcome to McGill* guide for new students. All of the above information is available at www.mcgill.ca/engineering/student/sao/newstudents/credit.

9.3.1.4 General Engineering – Basic Science Requirements for Students Entering from Outside Quebec Admitted to the General Engineering Program (B.Eng. (Undeclared))

This is a 30-31 credit course of study for the first year of a Bachelor of Engineering degree for students who have not completed a Quebec CEGEP diploma who have been admitted to the General Engineering program. Upon successful completion of these requirements, students will transfer into a B.Eng. program.

CHEM 110	(4 credits)	General Chemistry 1
CHEM 120	(4 credits)	General Chemistry 2
MATH 140	(3 credits)	Calculus 1
or MATH 139	(4 credits)	Calculus
MATH 141	(4 credits)	Calculus 2
MATH 133	(3 credits)	Vectors, Matrices and Geometry
PHYS 131	(4 credits)	Mechanics and Waves
PHYS 142	(4 credits)	Electromagnetism and Optics
FACC 100	(1 credit)	Introduction to the Engineering Profession
XXX XXX	(3 credits)	Humanities/Social Sciences course*

* 3 credits selected from the approved list of courses in humanities and social sciences or administrative studies and law. See section 9.3.4 "Complementary Studies".

Students who successfully complete one or more McGill Placement Exams will obtain credit(s) for the equivalent(s), i.e., CHEM 110, CHEM 120, MATH 133, MATH 140, MATH 141, PHYS 131, PHYS 142. Please see www.mcgill.ca/student-records/exam/placement for specific information on McGill Placement Exams.

9.3.2 Degrees and Requirements for Professional Registration

Non-Professional:

Bachelor of Science (Architecture)

The first professional degree in architecture is the Master of Architecture (Professional). Further information can be found in the *Graduate and Postdoctoral Studies Calendar* at www.mcgill.ca/courses.

Professional:

Bachelor of Engineering
Bachelor of Engineering (Honours)
Bachelor of Software Engineering

The B.Eng. and B.S.E. programs are accredited by the Canadian Engineering Accreditation Board (CEAB) of Engineers Canada and fulfil the academic requirements for admission to the provincial engineering professional organizations. Engineers Canada has also negotiated agreements with engineering organizations in other countries to grant Canadian license engineering the same privileges accorded to professional engineering in those countries. See the Engineers Canada website for further information (www.engineerscanada.ca). All students are expected to seek professional registration after graduation.

To become a Professional Engineer in Canada, a graduate must pass an examination on legal aspects and on the principles of professional practice, and acquire two to four years of engineering experience, depending on the province. Only persons duly registered may use the title of "engineer" and perform the professional activities reserved for engineers by the provincial laws and regulations.

In Quebec, the professional engineering body is the Ordre des ingénieurs du Québec (OIQ). In order to better prepare new graduates for the practice of their profession, McGill organizes seminars in cooperation with the OIQ on various aspects of the profession. The OIQ also has a student section. As soon as students have accumulated 60 credits in a B.Eng. or B.S.E. program, they can join the Student Section of the OIQ. Registration is free.

For more information, visit the websites of the Ordre des ingénieurs du Québec, www.oiq.qc.ca, and of Engineers Canada, www.engineerscanada.ca.

9.3.3 Prerequisites and/or Corequisites

Prerequisites and/or corequisites must be completed prior to course registration, if applicable. If a student has registered for a course and did not satisfy the prerequisites and/or corequisites, the course may be dropped from his/her record automatically by Minerva.

Those students who have received advance credits/exemptions or passed a placement exam, and are blocked from registration in a course due to a prerequisite and/or corequisite error, must go to their respective department in order to receive the appropriate override.

Further information may be obtained from the Student Affairs Office in the Engineering Student Centre.

9.3.4 Complementary Studies

Engineering students must complete 6 credits of additional complementary courses as follows:

I) Three credits on the impact of technology on society are to be chosen from the following list of courses:

CHEE 230 Environmental Aspects of Technology
CIVE 469 Infrastructure and Society
ECON 225 Economics of the Environment
ENVR 201 Society and Environment
GEOG 200 Geographical Perspectives: World Environmental Problems
GEOG 203 Environmental Systems
GEOG 205 Global Change: Past, Present and Future
GEOG 302 Environmental Management 1
MIME 308 Social Impact of Technology
PHIL 343 Biomedical Ethics
SOCI 235 Technology and Society
SOCI 312 Sociology of Work and Industry

II) Three credits in the humanities and social sciences, administrative studies and law are to be chosen from the following list of courses:

A. Humanities and Social Sciences

Any course at the 200 level or above from the departments of:

- Anthropology (Subject Code ANTH)
- Economics (any 200- or 300-level course excluding ECON 208, ECON 217, ECON 227, ECON 259 and ECON 337)
- History (Subject Code HIST)
- Philosophy (excluding PHIL 210 and PHIL 310)
- Political Science (Subject Code POLI)
- Psychology (excluding PSYC 204, PSYC 305 and PSYC 435 but including PSYC 100)
- Religious Studies (Subject Code RELG)
- School of Social Work (Subject Code SWRK)
- Sociology (excluding SOCI 350)

or ARCH 350 The Material Culture of Canada
or ENVR 203 Knowledge, Ethics and Environment
or ENVR 400 Environmental Thought
or MATH 338 History and Philosophy of Mathematics

B. Administrative Studies and Law

Faculty of Engineering

FACC 220 Law for Architects and Engineers
FACC 500 Technology Business Plan Design
FACC 501 Technology Business Plan Project

Desautels Faculty of Management

(Management courses have limited enrolment and registration dates; see section 1 “Important Dates 2009-10”.)
BUSA 465 Technological Entrepreneurship
INDR 294 Introduction to Labour-Management Relations
MGCR 222 Introduction to Organizational Behaviour
MGCR 352 Marketing Management 1
MRKT 360 Marketing of Technology
ORGB 321 Leadership
ORGB 423 Human Resources Management

C. Language Courses

Any language course that is deemed by the academic adviser to have a sufficient cultural component or, in the case of a student who was not already proficient in a specific language, 3 program credits will be given for a successfully completed, academically approved 6-credit language course.

9.3.5 Student Progress

The B.Eng. and B.S.E. programs may be completed in a minimum of eight terms. The B.Sc.(Arch.) program may be completed in six or eight terms, depending upon point of entry.

A student must successfully complete the B.Eng., B.S.E., or B.Sc.(Arch.) programs within six years of entry. Candidates admitted to a lengthened program, or to a shortened program because of advanced standing, or who are participating in the EIP: Engineering Internship Program, will have a correspondingly greater or lesser period in which to complete their program. Extensions may be granted by the Committee on Standing in cases of serious medical problems or where other similarly uncontrollable factors have affected a student's progress.

9.3.5.1 Letter Grades

In the Faculty of Engineering, letter grades are assigned according to the grading scheme adopted by the professor in charge of a particular course. They have the designations:

A, A-	Very Good	J	Unexcused Absence
B+, B, B-	Good	K	Incomplete
C+, C	Satisfactory	KF	Incomplete Failed
D	Conditional Pass	L	Deferred
F	Failed		

Grades A, B and C indicate satisfactory results. Grade D indicates marginal results which may be acceptable for peripheral courses but not for required core courses. The classification of a course as core or peripheral depends on the individual student's program and will be decided by the department concerned. Grade F is a permanent grade indicating unsatisfactory results. Grade J indicates an unexcused absence from a final examination. It is equivalent to an F grade.

9.3.5.2 Satisfactory/Unsatisfactory Option

The Satisfactory/Unsatisfactory Option (S/U) may be used for complementary studies involving a humanities and social sciences course or a course dealing with the impact of technology on society, or for elective courses taken outside the School of Architecture by architecture students. It does not apply to the "technical complementaries" or "architectural complementaries", or to any other category of the Engineering or Architecture programs.

Students must specify courses as S/U at the time of registration. The option will not be manually added or removed from a student's record after the Course Change (drop/add) deadline. Once a mark has been submitted, this option will not be reversed.

- A grade of C is considered as Satisfactory (S) under the University Satisfactory/Unsatisfactory option. (Students should note that the Faculty of Engineering accepts a D grade as a pass when courses eligible for the S/U option are taken in the conventional manner.)
- Only students in satisfactory standing will be permitted to take a course under the Satisfactory/Unsatisfactory option. Only one course (3 credits) per term, to a maximum of 10% of a student's credits taken at McGill, may be taken this way. Grades will be reported in the normal fashion by the instructor; grades of C and above will be converted to Satisfactory (S) and grades of D and F will be converted to Unsatisfactory (U).
- Courses taken under this option will be excluded from the GPA, but will be included in the number of credits.
- **Note for Faculty of Engineering Students Only:** If the S/U option is selected for a core course and not removed by the Course Change deadline, the Student Affairs Office in the

Engineering Student Centre will remove the option and notify the student of the change.

- Courses that are taken to satisfy a minor cannot be taken under the S/U option.

Note: To be considered for scholarships/renewal of awards, students must complete at least 27 credits in the regular academic session exclusive of courses completed under this option.

9.3.5.3 Course Credits

The credit assigned to a particular course reflects the amount of effort it demands of the student. One credit normally represents three hours total work per week. This is, in general, a combination of lecture hours and other contact hours such as laboratory periods, tutorials and problem periods as well as personal study hours. As a guide, the average division of time for a course is indicated in hours in the course listing after the course credit. For example, (3) (3-0-6) indicates a three-credit course consisting of three lecture hours per week, no other contact hours and six hours of personal study per week.

9.3.5.4 Extra Courses

Courses that a student elects to take which lie outside their program may be classified as "extra", provided the student chooses this option at the time of registration. Extra courses are indicated on the student's transcript and grades earned in those courses do not affect the grade point average. The option will not be added to a student's record after the Course Change (drop/add) deadline. Courses that are taken to satisfy the student's engineering program or a Minor cannot be designated as extra.

9.3.5.5 Academic Standing Decisions

In the Faculty of Engineering, a decision on the student's academic standing is based on the CGPA (Cumulative Grade Point Average) according to the criteria listed below.

- Satisfactory standing - CGPA equal to 2.00 or greater.
- Probationary standing - CGPA less than or equal to 1.99 or equal to or greater than 1.20.
- Unsatisfactory standing - CGPA less than 1.20 or failure to meet the conditions of Probationary standing as described below (if this is the student's first term, the student is normally readmitted to Probationary Standing by Faculty decision).

Note: The Faculty makes academic standing decisions after the completion of each term (Fall, Winter and Summer) based on academic results to date. Thus, if a student has been granted permission to defer one or more examinations, the standing decision will be made regardless of such deferrals.

Satisfactory Standing
Students in satisfactory standing may proceed, with the following conditions:

All core courses in which D or F grades were obtained must either be repeated successfully (grade C or better) or be replaced by an alternative approved course which is completed successfully.

All other courses in which F grades were obtained must either be repeated successfully before graduation or be replaced by an alternative approved course which is completed successfully before graduation.

Probationary Standing
Students in probationary standing may proceed with their studies under the following conditions:

Students must reduce their credit load to a maximum of 13 credits per term and must achieve at the end of the term either a CGPA of 2.00 or better, or a term GPA (TGPA) of 2.50 or better in order to continue.

If students have already registered for more than 13 credits, they are required to meet with an adviser in their department/school in order to obtain assistance in decreasing their credit load prior to the Course Change (drop/add) deadline of the subsequent term.

A student whose TGPA is 2.50 or better but whose CGPA is less than 2.00 may continue on with his/her studies, but will remain on probationary standing.

Failure to achieve either the TGPA or CGPA requirements noted above will result in the student being placed in “unsatisfactory standing” (see below). Students will remain on probationary standing until they achieve a CGPA equal to or exceeding 2.00, at which time their standing will be changed to “satisfactory”.

Students placed on probationary standing who need to reduce their credit load but are unable to drop course(s) must complete a Request for Course Drop due to Probationary Standing form and submit it to the Student Affairs Office in the Engineering Student Centre. The course(s) will be deleted from the student's record.

Unsatisfactory Standing
Students in unsatisfactory standing will be asked to withdraw from the Faculty of Engineering for a minimum of one term. Courses for which the student is currently registered will be deleted automatically from the student's record by the Faculty.

Students currently in unsatisfactory standing who wish to return to the Faculty of Engineering after a compulsory absence of a minimum of one term must apply for readmission on Minerva no later than November 1 (Winter term) and June 1 (Fall term). More information regarding readmission can be found at www.mcgill.ca/engineering/student/sao/current/faculty_transfer_readmission. Upon readmission, the student will be placed back on probationary standing (see conditions and regulations regarding probationary standing above).

Students who fail to achieve the required TGPA will be permanently withdrawn from the program with no chance of readmission. In addition, students who have returned to satisfactory standing, but whose CGPA falls below 2.00 in a subsequent term, will be required to permanently withdraw from the program with no chance of readmission.

9.3.5.6 Repeated Courses

Students who fail to achieve the required results in a course must either repeat it successfully or complete an alternative course approved by their department.

9.3.5.7 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner.

After further discussion with the instructor, a student can request a formal reread of a final exam. The student must complete a Request for a Reread of a Final Exam form and submit it to the Student Affairs Office in the Engineering Student Centre.

The following conditions apply:

- Requests for rereads in more than one course per term will not be accepted, unless permission is given by the Faculty of Engineering.
- Grades may be either raised or lowered as the result of a reread.

Rereads in courses not in the Faculty of Engineering are subject to the deadlines, rules and regulations of the relevant faculty.

The deadlines to apply for a formal reread of a final exam are:

- Fall courses - the last working day of March.
- Winter courses - the last working day of July.
- Summer courses - the last working day of November.

A $35.00 fee for each reread will be assessed directly to the student’s McGill account if the result remains the same or is lowered. If the grade is increased, no charge is made.

For further information, students may consult the Student Affairs Office in the Engineering Student Centre.

9.3.5.8 Examination Regulations

For information regarding the Faculty of Engineering examination regulations and procedures, please refer to the Engineering website at www.mcgill.ca/engineering/student/sao/policies/examinations/examination.

9.3.5.9 Supplemental Examinations

Courses administered by the Faculty of Engineering do not have supplemental examinations; however, Engineering students may be eligible to write a supplemental examination in courses administered by the Faculties of Arts and Science (some Science, Humanities and Social Sciences courses). All requests to write a supplemental exam must be submitted online through Minerva by March 1st for Fall term courses and July 15th for Winter term courses and courses spanning Fall/Winter terms. The supplemental examination period for Fall courses is during the months of April and May; for Winter courses and courses spanning Fall/Winter, the supplemental examination period is during the last week of August. It is the student's responsibility to confirm the date and time of the supplemental exam.

- Students are required to verify on Minerva the status of their supplemental exam application at any given time and for any additional information required or provided by the Student Affairs Office in the Engineering Student Centre.
- Students will receive a confirmation email once a supplemental exam application has been approved.

Eligible courses for Engineering students:

- CHEM 110, CHEM 120, CHEM 212, CHEM 234, COMP 202, MATH 133, MATH 140, MATH 141, MATH 150, MATH 152, MATH 247, MATH 248, MATH 317, PHYS 131, PHYS 142, some Science courses administered by the Faculty of Science, and Humanities and Social Sciences courses administered by the Faculty of Arts.

Rules and regulations concerning supplemental exams for the Faculty of Engineering:

- Students must be in satisfactory or probationary standing; those with an unsatisfactory standing are not permitted to write supplementals.
- Students are permitted to write a supplemental for courses in which they've received a mark of D, F, J or U.
- Students must write the supplemental exam during the next supplemental examination period.
- Only one supplemental examination is allowed in a course.
- The supplemental result may or may not include the same proportion of class work as did the original grade. The instructor will announce the arrangements to be used for the course by the end of the change course period.
- In courses in which both a supplemental examination and additional work are available, the student may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work.
- The format of the supplemental examination (e.g., multiple-choice or essay questions) will not necessarily be the same as the format of the final examination, so students should consult the instructor about the format of the supplemental.
- **The supplemental result will not erase the grade originally obtained; both the original mark and the supplemental result will be calculated in the CGPA.**
- Additional credit will not be given for a supplemental exam where the original grade for the course was a D and the student already received credit for the course.
- There are no supplemental examinations for Summer courses.
- No supplemental examinations are available for students who fail to achieve a satisfactory grade in a course with a deferred examination.
- A $35.00 non-refundable fee for each supplemental exam application is assessed at the time of application and charged directly to the student's McGill account.

Students should consult the Student Affairs Office in the Engineering Student Centre for more information.

9.3.5.10 Deferred Examinations

Students who have been unable to write one or more exams for serious reasons such as illness or family affliction may receive permission to defer their final exam. All requests to defer a final exam must be submitted online through Minerva no later than one week after the missed exam via the deferred exam application. Please refer to www.mcgill.ca/engineering/student/sao/policies/examinations/deferrals for further information.

- A detailed letter in support of the application must be entered in the "reason(s) for deferral" section of the application.
- Medical certificate(s) covering the date of the missed exam and the nature of the illness must be submitted to the Student Affairs Office in the Engineering Student Centre by January 15 for Fall term courses and May 15 for Winter term courses.
- Students are required to frequently verify the status of their deferred application on Minerva to determine whether any additional information is required by the Student Affairs Office.
- Students will receive a confirmation email once a deferred exam application decision has been made.

Rules and regulations concerning deferred exams for the Faculty of Engineering are as follows:

- For each deferred exam that is approved, an L (deferred) will appear on the student's record beside the course, but will not appear on official transcripts after the final grade has been determined. In calculating the mark in the course, the mark the student receives in the deferred exam will take the place of the mark the student would have received in the original final exam. An L grade will be replaced by a J, should the students miss the NEXT deferred or regular examination in the course, whichever occurs first.
- The format of the deferred exam will not necessarily be identical to the final exam of the same course. Students are responsible for contacting the professor of the course should they require information about the deferred exam format.
- Students who have already written an examination may not subsequently request that the exam be deferred.
- Students are not permitted to redo any portion of the coursework such as assignments, projects, labs, midterms, quizzes, etc. (i.e., all grades previously obtained will be calculated with the final grade of the deferred exam received in order to determine the final course grade).
- Once a deferred exam has been granted, a student may write no more than 6 final examinations per term. This will provide a student with sufficient time during the semester and the exam period to properly prepare for deferred examinations.
- Students may submit a written letter and supporting documentation in order to request a withdrawal from a deferral. Students should be aware that withdrawals from deferred examinations are granted only for compelling reasons, verified and accepted by the Student Affairs Office. Students who are not granted a withdrawal or who are not able to write a deferred exam as scheduled will receive a final grade of J, which will calculate as a failure in both the TGPA and CGPA.

Engineering Courses

Deferred exams for courses administered by the Faculty of Engineering are offered during the final examination period the next time the course is given. The final examination schedule is available at www.mcgill.ca/student-records/exam/schedules. If taking the deferred examination at this time will result in an unreasonable delay for graduation, students should indicate this in their deferral application on Minerva. The Student Affairs Office may grant an earlier deferral exam in such cases. The decision of an earlier

deferred exam will be communicated to the student via their McGill email.

Non-Engineering Courses

Deferred exams for courses administered by the following faculties are offered during the supplemental/deferred examination period:

- Faculty of Arts (Engineering: Humanities and Social Science courses)
- Faculty of Agricultural and Environmental Sciences
- Faculty of Education
- Desautels Faculty of Management
- Faculty of Religious Studies (Engineering: Humanities and Social Science courses)
- Faculty of Science (Engineering: Year 0 and faculty-specific science courses)
- School of Physical and Occupational Therapy
- School of Social Work

The supplemental/deferred examination schedule is available at www.mcgill.ca/student-records/exam/schedules.

Continuing Education Courses

Deferred exams for courses administered by Continuing Education are offered during the next term's final examination period. The final examination schedule for Continuing Education courses is available at www.mcgill.ca/conted-cms/exams.

Summer Studies

Deferred exams for courses administered by Summer Studies are to be requested no later than one week after the date of the missed final examination and are required to be written within two weeks of the date of the original exam. The date will be determined by Summer Studies and students will be notified via their McGill email. The final examination schedule for Summer Studies courses is available at www.mcgill.ca/summer/exams.

9.4 Degrees and Programs Offered

9.4.1 CO-OP Programs

Materials Engineering, page 293
Mining Engineering, page 293

9.4.2 Major Programs

Architecture (B.Sc.), page 280
Chemical Engineering (B.Eng.), page 282
Civil Engineering (B.Eng.), page 284
Computer Engineering (B.Eng.), page 288
Electrical Engineering (B.Eng.), page 286
Mechanical Engineering (B.Eng.), page 290
Software Engineering (B.S.E.), page 288

9.4.3 Honours Programs

Electrical Engineering (B.Eng.), page 286
Mechanical Engineering (B.Eng.), page 291

9.4.4 Minors

Arts, page 296
Biomedical Engineering, page 296
Biotechnology, page 297
Chemistry, page 298
Computer Science, page 298
Construction Engineering and Management, page 298
Economics, page 299
Environment Engineering, page 299
Environment, page 300
Finance, Management, Marketing, and Operations Management, page 300
Materials Engineering, page 301
Mathematics, page 301
Mining Engineering, page 301
Physics, page 301
Technological Entrepreneurship, page 302
Software Engineering, page 302

9.5 Academic Programs

The curricula described in the following pages and the courses listed under "Course Information, Regulations and Descriptions" have been approved for the 2009-10 session, but the Faculty reserves the right to introduce changes as may be deemed necessary or desirable.

9.5.1 School of Architecture

Macdonald-Harrington Building, Room 201
815 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-6700
Fax: 514-398-7372
Website: www.mcgill.ca/architecture

Director — Michael Jemtrud

Emeritus Professors
Derek Drummond; B.Arch.(McG.), F.R.A.I.C., O.A.A. (*William C. Macdonald Emeritus Professor of Architecture*)
Radoslav Zuk; B.Arch.(McG.), M.Arch.(MIT), D.Sc. (Ukr. Acad. Art), F.R.A.I.C., F.R.S.A., F.A.R.C., O.A.Q., O.A.A.

Professors
Annmarie Adams; B.A.(McG.), M.Arch., Ph.D.(Calif., Berk.), M.R.A.I.C. (*William C. Macdonald Professor of Architecture*)
Vikram Bhatt; N.Dip.Arch.(Ahmedabad), M.Arch.(McG.), M.R.A.I.C.
Avi Friedman; B.Arch.(Technion), M.Arch.(McG.), Ph.D.(Montr.), O.A.Q., I.A.A.
Alberto Pérez-Gómez; Dipl.Eng.(Nat.Pol.Inst.Mexico), M.A., Ph.D.(Essex) (*Saidye Rosner Bronfman Professor of Architectural History*)
Adrian Sheppard; B.Arch.(McG.), M.Arch.(Yale), F.R.A.I.C., O.A.Q., A.A.P.P.Q.

Associate Professors
Martin Bressani; B.Sc.(Arch.), B.Arch.(McG.), M.Sc.Arch., Diplômes des études approfondies, Docteur de l'Université de Paris-Sorbonne(Paris IV)
Ricardo Castro; B.Arch.(Los Andes), M.Arch., M.A.(Art History) (Ore.), M.R.A.I.C.
David Covo; B.Sc.(Arch.), B.Arch.(McG.), F.R.A.I.C., O.A.Q.
Michael Jemtrud; B.Sc., B.A., B.Arch.(Penn. State), M.Arch.(McG.)
Robert Mellin; B.Arch., M.Sc.(Arch.)(Penn.State), M.Arch.(McG.), M.Sc., Ph.D.(Penn.), M.R.A.I.C., N.A.A.
Pieter Sijpkes; B.Sc.(Arch.), B.Arch.(McG.)

Assistant Professors
Nik Luka; B.A.A.(Ryerson), M.Arch.(Laval), Ph.D.(Tor.), M.C.I.P.
Aaron Sprecher; B.Arch.(Bezalel), M.Arch.(Calif.-LA)

Adjunct Professors
Robert Claiborne, Howard Davies, François Émond, Julia Gersovitz, Richard Klopp, Phyllis Lambert, Joanna Nash, Mark Poddubiuk, Conor Sampson, Jozef Zorko

Planetary Society Visiting Professor in Architecture
Torben Berns

Course Lecturers
Tom Balaban, Ewa Bieniecka, Lawrence Bird, Diana Cheng, Nancy Dunton, Maud Francoeur, Byeong Joon Kang,

Andrew King, Annie Lebel, Sybil McKenna, Carlos Rueda, Pierina Saia, Sheila Theophanides

Senior Critic
Dan Hanganu

Visiting Critics and Lecturers
Each year visitors are involved in the teaching of certain courses as critics and lecturers. These visitors change from year to year. In 2008, they were:

Gavin Affleck, Cecile Baird, Pierre-Félix Breton, Joe Carter, Henri Clienge, Georges Drolet, Leila Farah, Maxime Gagné, Benjamin Gianni, Amahl Hazelton, John Lawlor, Louis Lemay, Andrea MacElwee, Romolo Martemucci, Rafik Matta, Colin Munro, Steven Peck, Mark Pimlott, Tom Strickland, Jan Vrana, Alain Youkel.

ARCHITECTURAL CERTIFICATION IN CANADA

In Canada, all provincial associations recommend a degree from an accredited professional degree program as a prerequisite for licensure. The Canadian Architectural Certification Board (CACB), which is the sole agency authorized to accredit Canadian professional degree programs in architecture, recognizes two types of accredited degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance, with established educational standards.

Master's degree programs may consist of a preprofessional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

Since all provincial associations in Canada recommend any applicant for licensure to have graduated from a CACB-accredited program, obtaining such a degree is an essential aspect of preparing for the professional practice of architecture. While graduation from a CACB-accredited program does not assure registration, the accrediting process is intended to verify that each accredited program substantially meets those standards that, as a whole, comprise an appropriate education for an architect.

PROGRAMS OF STUDY

McGill's professional program in architecture is structured as a four-and-a-half-year, or nine-term, course of study divided into two parts.

The first part, for students entering with the Diploma of Collegial Studies in Pure and Applied Science or the equivalent, is a six-term design program leading to a non-professional degree, Bachelor of Science (Architecture). [Most students from outside Quebec are admitted to an eight-term B.Sc.(Arch.) program and enter a first year which includes courses outlined in section 9.3.1.3 "Architecture – Basic Science Requirements for Students Entering from Outside Quebec".

The second part, for students with the McGill B.Sc.(Arch.) degree, is a one-and-a-half-year, or three-term, program leading to the Master of Architecture (Professional) degree. The M.Arch. (Professional) degree is accredited by the Canadian Architectural Certification Board (CACB), and is recognized as accredited by the National Council of Architectural Registration Boards (NCARB) in the U.S.

Students in the B.Sc.(Arch.) program who intend to proceed to the professional degree must satisfy certain minimum requirements including:

1. complete the B.Sc.(Arch.) degree, including the series of required and complementary courses stipulated for professional studies, with a minimum CGPA of 3.00;
2. submit a portfolio of work executed in the sequence of six design studios, as well as samples of professional and personal work;
3. complete the minimum period of relevant work experience according to the current Work Experience Guidelines.

Further information on the M.Arch. (Professional) program is available at www.mcgill.ca/architecture.

Student Exchanges

A limited number of qualified students may participate in an exchange with schools of architecture at other universities which have agreements with the McGill School of Architecture, for a maximum of one term in the second year of the B.Sc.(Arch.) program. These include: Università Iuav di Venezia, Venice, Italy; Fakultät für Raumplanung und Architektur, Technische Universität Wien, Vienna, Austria; Institut Supérieur d'Architecture, Saint-Luc Bruxelles, Brussels, Belgium; École Nationale Supérieure d'architecture de Grenoble, Grenoble, France; École Nationale Supérieure d'architecture de Clermont-Ferrand, Clermont-Ferrand, France; Facoltà di Architettura Civile Politecnico di Milano (Boviso), Milan, Italy; The Royal Danish Academy of Fine Arts, School of Architecture, Copenhagen, Denmark.

ANCILLARY ACADEMIC FACILITIES

Laboratories and Workshops

Architectural Workshops – David Speller, Technician

Communications Laboratory, including Photo Lab – Carrie Henzie, Media Technician

Computers in Architecture Laboratories – Professors Robert Mellin and Aaron Sprecher

Library

Blackader-Lauterman Library of Architecture and Art, located in the Redpath Library – Marilyn Berger

Collections

Visual Resources Collection, including slides, film, video and other materials – Dr. Annmarie Adams

The John Bland Canadian Architecture Collection, housed in the Blackader-Lauterman Library – Ann Marie Holland, Preservations Librarian

Orson Wheeler Architectural Model Collection – Professor Pieter Sijpkes

Materials Resource Centre – Dr. Avi Friedman

CURRICULUM FOR THE B.Sc.(Arch.) DEGREE

Current information on program structure and courses is posted on the School of Architecture website at www.mcgill.ca/architecture.

REQUIRED COURSES		COURSE CREDIT	
Non-Departmental Subjects			
CIVE 284	Structural Engineering Basics	4	
CIVE 385*	Structural Steel and Timber Design	3	
CIVE 388*	Foundation and Concrete Design	3	
CIVE 492*	Structures	2	
FACC 220	Law for Architects and Engineers	3	**15**
* Candidates intending not to proceed to the M.Arch. (Professional) degree may substitute other courses of equal total weight for any of these.			
Architectural Subjects			
ARCH 201	Communication, Behaviour and Architecture	6	
ARCH 202	Architectural Graphics and Elements of Design	6	
ARCH 217	Freehand Drawing 1	1	
ARCH 218	Freehand Drawing 2	1	
ARCH 240	Organization of Materials in Building	3	
ARCH 241	Architectural Structures	3	
ARCH 242	Digital Representation	2	
ARCH 250	Architectural History 1	3	
ARCH 251	Architectural History 2	3	
ARCH 303	Design and Construction 1	6	
ARCH 304	Design and Construction 2	6	
ARCH 321	Freehand Drawing 3	1	
ARCH 322	Freehand Drawing 4	1	
ARCH 324	Sketching School	1	
ARCH 354	Architectural History 3	3	

ARCH 355	Architectural History 4	3	
ARCH 375	Landscape	2	
ARCH 377	Energy, Environment and Buildings	3	
ARCH 405	Design and Construction 3	6	
ARCH 406	Design and Construction 4	6	
ARCH 447	Lighting	2	
ARCH 451	Building Regulations and Safety	2	**70**

COMPLEMENTARY COURSES **9**

Students must complete 9 credits of architectural complementaries from the following list in order to qualify for the B.Sc.(Arch.) degree:

ARCH 318	Design Sketching	3	
ARCH 319	The Camera and Perception	3	
ARCH 350	The Material Culture of Canada	3	
ARCH 352	Art and Theory of House Design	3	
ARCH 363	Structure, Organization and Form	2	
ARCH 378	Site Usage	3	
ARCH 379	Summer Course Abroad	3	
ARCH 383	Geometry and Architecture	3	
ARCH 461	Freehand Drawing and Sketching	1	
ARCH 471	Computer-Aided Building Design	2	
ARCH 490	Selected Topics in Design	2	
ARCH 512	Architectural Modelling	3	
ARCH 514	Community Design Workshop	4	
ARCH 515	Sustainable Design	3	
ARCH 520	Montreal: Urban Morphology	3	
ARCH 521	Structure of Cities	3	
ARCH 522	History of Domestic Architecture in Quebec	3	
ARCH 523	Significant Texts and Buildings	3	
ARCH 524	Critical Design Strategies	3	
ARCH 525	Seminar on Analysis and Theory	3	
ARCH 526	Philosophy of Structure	3	
ARCH 527	Civic Design	3	
ARCH 528	History of Housing	3	
ARCH 529	Housing Theory	3	
ARCH 531	Architectural Intentions Vitruvius - Renaissance	3	
ARCH 532	Origins of Modern Architecture	3	
ARCH 533	New Approaches to Architectural History	3	
ARCH 534	Architectural Archives	3	
ARCH 535	History of Architecture in Canada	3	
ARCH 536	Heritage Conservation	3	
ARCH 540	Selected Topics in Architecture 1	3	
ARCH 541	Selected Topics in Architecture 2	3	
ARCH 554	Mechanical Services	2	
ARCH 555	Environmental Acoustics	2	
OCC1 442	Environments for the Disabled	2	

ELECTIVE COURSES **6**

6 credits must be completed outside the School of Architecture, subject to approval by the Student adviser.

TOTAL **100**

9.5.2 Department of Chemical Engineering

M.H. Wong Building, Room 3060
3610 University Street
Montreal, QC H3A 2B2

Telephone: 514-398-4494
Fax: 514-398-6678
Website: www.mcgill.ca/chemeng

Chair — Dimitrios Berk

Emeritus Professors
John M. Dealy; B.S.(Kansas), M.S.E., Ph.D.(Mich.), Eng.
Musa R. Kamal; B.S.(Ill.), M.S., Ph.D.(Carn. Mell), Eng.
Martin E. Weber; B.S.E.(Prin.), Sc.D.(MIT), P.Eng.
Juan H. Vera; B.Mat.(Chile), Ing.Quim.(U.T.E.), M.S.(Calif., Berk.), Dr.Ing.(Santa Maria), Ing.

Professors
David G. Cooper; B.Sc., Ph.D.(Tor.)
Richard J. Munz; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(McG.), Eng.
Alejandro D. Rey; B.Ch.Eng.(CCNY), Ph.D.(Calif., Berk.) (*James McGill Professor*)

Associate Professors
Dimitrios Berk; B.Sc.(Bosphorus), M.E.Sc.(W. Ont.), Ph.D.(Calg.), P.Eng.
Sylvain Coulombe; B.Sc., M.Sc.A.(Sherb.), Ph.D.(McG.), Ing.
Reghan James Hill; B.Eng., Ph.D.(C'nell)
Richard L. Leask; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Tor.), P.Eng.
Jean-Luc Meunier; Dipl.Ing., EPFL(Lausanne), M.Sc., Ph.D., INRS(Varennes), Ing.
Sasha Omanovic; Dipl.Ing., Ph.D.(Zagreb)
Thomas Quinn; B.Sc.(Qu.), S.M., Ph.D.(MIT)

Assistant Professors
Elizabeth Jones; B.A.Sc.(Waterloo), MS, Ph.D.(Cal. Tech.)
Milan Maric; B.Sc., B.Eng. & Mgmt(McM.), Ph.D.(Minn.), P.Eng.
Phillip Servio; B.Sc., Ph.D.(Minn.)
Nathalie Tufenkji; B.Eng.(McG.), M.Sc., Ph.D.(Yale)
Viviane Yargeau; B.Eng., M.Sc.A., Ph.D.(Sher.), Ing.

Post-Retirement
W.J. Murray Douglas; B.Sc.(Qu.), M.S.E., Ph.D.(Mich.)

PAPRICAN Adjunct Professor
George J. Kubes; B.Eng., M.Eng.(Prague), Ph.D.(Bratislava)

Adjunct Professors
T. Addona, P. Bisaillon, M. Davidovsky, M. Fokas, D.J. McKeagan, B. McNicoll, A. De Mori, M. Perrier, B.E. Sarkis, J. Simandl, B. Théorét, R.C. Urquhart

The central purpose of engineering is to pursue solutions to technological problems in order to satisfy the needs and desires of society. Chemical engineers are trained to solve the kinds of problems that are typically found in the "chemical process industries", which include the chemical manufacturing, plastics, water treatment, pulp and paper, petroleum refining, ceramics, and paint industries as well as substantial portions of the food processing, textile, nuclear energy, biochemical, biomedical and pharmaceutical industries. The technological problems and opportunities in these industries are often closely linked to social, economic and environmental concerns. For this reason, practitioners of chemical engineering often deal with these questions when they are working in management, pollution abatement, product development, marketing and equipment design.

The discipline of chemical engineering is distinctive in being based equally on physics, mathematics and chemistry. Application of these three fundamental sciences is basic to a quantitative understanding of the process industries. Those with an interest in the fourth major science, biology, will find several courses in the chemical engineering curriculum which integrate aspects of the biological sciences relevant to process industries such as food processing, fermentation, biomedical and water pollution control. Courses on the technical operations and economics of the process industries are added to this foundation. The core curriculum concludes with process design courses taught by practising design engineers. Problem-solving, experimenting, planning and communication skills are emphasized in courses throughout the core curriculum.

By means of complementary courses, students can also obtain further depth in technical areas and breadth in non-technical subjects. Some students elect to complete a minor in biotechnology, management, materials engineering, computer science, environmental engineering or chemistry.

The solution to many environmental problems requires an understanding of technological principles. A chemical engineering degree provides an ideal background. In addition to relevant material learned in the core program, a selection of environmental complementary courses and minor programs is available. The involvement of many chemical engineering staff members in environmental research provides the opportunity for undergraduate students to carry out research projects in this area.

The curriculum also provides the preparation necessary to undertake postgraduate studies leading to the M.Eng. or Ph.D.

degrees in chemical engineering. Students completing this curriculum acquire a broad, balanced education in the natural sciences with the accent on application. Thus, for those who do not continue in chemical engineering, it provides an exceptionally balanced education in applied science. For others, it will form the basis of an educational program that may continue with a variety of studies such as business administration, medicine or law. Versatility is, then, one of the most valuable characteristics of the graduate of the chemical engineering program.

ACADEMIC PROGRAM

For those who have completed the Quebec CEGEP-level program in Pure and Applied Sciences, the Chemical Engineering Program comprises 111 credits as outlined below. Certain students who take advantage of summer session courses can complete the departmental programs in three calendar years. Students who have passed Chemistry 202 or 302 at the CEGEP level may be exempt from course CHEM 212 or CHEM 234, respectively (Introductory Organic Chemistry 1 and Selected Topics in Organic Chemistry), the corresponding courses are transferred from required courses to electives.

For appropriately qualified high school graduates from outside Quebec, an extended credit program is available, as described in section 9.3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

In some cases students from university science disciplines have sufficient credits to complete the requirements for the B.Eng. (Chemical) program in two years. Those concerned should discuss this with their adviser.

Students must obtain a grade of C or better in all core courses. For the Department of Chemical Engineering, core courses include all required courses (departmental and non-departmental) as well as complementary courses (departmental).

CURRICULUM FOR THE B.ENG. DEGREE IN CHEMICAL ENGINEERING

REQUIRED COURSES		COURSE CREDIT	
Non-Departmental Courses			
CHEM 212	Introductory Organic Chemistry 1	4	
CHEM 234	Topics in Organic Chemistry	3	
COMP 208	Computers in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	**24**
Chemical Engineering Courses			
CHEE 200	Introduction to Chemical Engineering	4	
CHEE 204	Chemical Manufacturing Processes	3	
CHEE 220	Chemical Engineering Thermodynamics	3	
CHEE 291	Instrumental Measurement Laboratory	4	
CHEE 310	Physical Chemistry for Engineers	3	
CHEE 314	Fluid Mechanics	4	
CHEE 315	Heat and Mass Transfer	4	
CHEE 340	Process Modelling	3	
CHEE 351	Separation Processes	3	
CHEE 360	Technical Paper 1	1	
CHEE 370	Elements of Biotechnology	3	
CHEE 380	Materials Science	3	
CHEE 392	Project Laboratory 1	4	
CHEE 393	Project Laboratory 2	5	
CHEE 423	Chemical Reaction Engineering	4	
CHEE 453	Process Design	4	
CHEE 455	Process Control	4	
CHEE 456	Design Project 1	1	
CHEE 457	Design Project 2	5	
CHEE 462	Technical Paper 2	1	
CHEE 474	Biochemical Engineering	3	
CHEE 484	Materials Engineering	3	**72**

COMPLEMENTARY COURSES	
Courses to be selected from those approved by the Department (see list of technical complementaries below).	**9**
Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.	**6**
Note: Out-of-province (high school) students completing the basic science requirements for students entering outside Quebec (see section 9.3.1.2) need an additional 3 credits of pre-engineering Humanities and Social Sciences (HSS) courses.	
TOTAL	**111**

For students starting their B.Eng. studies in September who have completed the Quebec Diploma of Collegial Studies, a program for the first two terms of study is given below:

Term 1		**Credits**	
CHEE 200	Introduction to Chemical Engineering	4	
CHEE 291	Instrumental Measurement Laboratory	4	
CHEM 212	Introductory Organic Chemistry 1	4	
MATH 262	Intermediate Calculus	3	
MIME 221	Engineering Professional Practice	2	**17**
Term 2			
CHEE 204	Chemical Manufacturing Processes	3	
CHEE 220	Chemical Engineering Thermodynamics	3	
CHEM 234	Topics in Organic Chemistry	3	
COMP 208	Computers in Engineering	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	**15**

Students entering their second year of study or who are starting in January must plan their program of studies in consultation with their Departmental adviser.

Additional information can be found on the Faculty website at www.mcgill.ca/engineering, as well as in section 9.3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

TECHNICAL COMPLEMENTARIES

A minimum of 9 credits of complementary courses must be chosen from a list of technical complementaries approved by the Department. The purpose of this requirement is to provide students with an area of specialization within the broad field of chemical engineering. Alternatively, some students use the technical complementaries to increase the breadth of their chemical engineering training.

At least two (2) technical complementary courses are to be selected from those offered by the Department (list below). Permission is given to take the third complementary course from other suitable undergraduate courses in the Faculty of Engineering.

The Technical Complementary courses currently approved by the Department are as follows:

BIOT 505	Selected Topics in Biotechnology (Biotechnology Minor students only)
CHEE 363	Projects Chemical Engineering 1
CHEE 438	Engineering Principles in Pulp and Paper Processes
CHEE 452	Particulate Systems
CHEE 458	Computer Applications
CHEE 464	Projects in Chemical Engineering 2
CHEE 487	Chemical Processing: Electronics Industry
CHEE 494	Research Project and Seminar 1
or CHEE 495	Research Project and Seminar 2
or CHEE 496	Environmental Research Project
CHEE 541	Electrochemical Engineering
CHEE 543	Plasma Engineering
CHEE 561	Introduction to Soft Tissue Biophysics
CHEE 562	Engineering Principles in Physiological Systems

CHEE 563	Biofluids and Cardiovascular Mechanics
or MECH 563	Biofluids and Cardiovascular Mechanics
CHEE 571	Small Computer Applications: Chemical Engineering
CHEE 582	Polymer Science & Engineering
CHEE 584	Polymer Processing
CHEE 591	Environmental Bioremediation
CHEE 592	Industrial Air Pollution Control
or MECH 534	Air Pollution Engineering
CHEE 593	Industrial Water Pollution Control
or CIVE 430	Water Treatment and Pollution Control
CHEE 594	Biocolloids in Environmental Systems
CHEE 595	Energy Recovery, Use, & Impact

Courses CHEE 582 and CHEE 584 comprise a Polymeric Materials sequence. Additional courses in this area are available in the Chemistry Department (e.g., CHEM 455) or at the graduate level (CHEE 681 to CHEE 684). The Department has considerable expertise in the polymer area.

Courses CHEE 370 and CHEE 474 make up a sequence in Biochemical Engineering-Biotechnology. Students interested in this area may take additional courses, particularly those offered by the Department of Food Science and Agricultural Chemistry, Faculty of Agricultural and Environmental Sciences, and courses in biochemistry and microbiology. The food, beverage and pharmaceutical industries are large industries in the Montreal area and these courses are relevant to these industries and to the new high-technology applications of biotechnology.

The third area in which there is a sequence of courses is Pollution Control. The Department offers three courses in this area: CHEE 591, CHEE 592, and CHEE 593. As some water pollution control problems are solved by microbial processes, course CHEE 474 is also relevant to the pollution control area. Likewise, as the solution to pollution problems frequently involves removal of particulate matter from gaseous or liquid streams, course CHEE 452 is also relevant. Additional courses in this area are listed under section 9.6.8 “Environmental Engineering Minor”.

A Minor in Biotechnology is also offered in the Faculties of Engineering and of Science with emphasis on Molecular Biology and Chemical Engineering Processes. A full description of the program appears in section 9.6.3 “Biotechnology Minor”.

Note that many of the technical complementaries are offered only in alternate years. Students should, therefore, plan their complementaries as far ahead as possible. With the approval of the instructor and academic adviser, students may take graduate (CHEE 500-level) courses as technical complementaries.

ELECTIVE COURSES

Students who have obtained exemptions for courses, i.e., for CEGEP courses equivalent to CHEM 212 or CHEM 234, or who take more than the minimum requirements for the degree, may choose university-level courses in any field. Approval of an elective course requires only that no timetable conflicts are created and that it not be a repetition of material already covered in the curriculum or already mastered by the student.

CURRICULUM COMMITTEE

The Curriculum Committee is composed of three students, elected by their classes, and three staff members. This Committee provides a forum for all matters involving undergraduate student/staff interactions. While the primary concern is with matters of curriculum and courses (their content, evaluation, scheduling, etc.), the Committee has also taken up a number of other matters in recent years, e.g., working space, facilities (equipment and libraries), etc.

CANADIAN SOCIETY FOR CHEMICAL ENGINEERING

The Chemical Engineering Student Society has for many years been affiliated both with the CSChE (Canadian Society for Chemical Engineering) and with the AIChE (American Institute of Chemical Engineers). For a nominal fee students receive *Canadian Chemical News*, a monthly publication, and the AIChE Student Members Bulletin as well as other privileges of student membership in the two societies. The student chapter also organizes a series of local social, educational and sporting events. For example, recent events have included student-professor banquets and Christmas parties, dances, speakers, broomball games and joint meetings with the Montreal Section of the CSChE. The latter gives students a chance to mix with practising chemical engineers.

9.5.3 Department of Civil Engineering and Applied Mechanics

Macdonald Engineering Building, Room 492
817 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-6860
Fax: 514-398-7361
Website: www.mcgill.ca/civil

Acting Chair — Van-Thanh-Van Nguyen

Emeritus Professors

Philip J. Harris; B.Sc.(Manit.), M.Eng., Ph.D.(McG.), F.E.I.C., F.C.S.C.E., Eng.
M. Saeed Mirza; B.Eng.(Karachi), M.Eng., Ph.D.(McG.), F.A.C.I., F.E.I.C., F.C.S.C.E., Hon. F.I.E.P., Eng.
Richard G. Redwood; B.Sc.(Eng.)(Brist.), M.A.Sc.(Tor.), Ph.D.(Brist.), F.C.S.C.E., F.I.Struct.Eng., Eng.
Stuart B. Savage; B.Eng.(McG.), M.S.Eng.(Cal. Tech.), Ph.D.(McG.), F.R.S.C.

Professors

Vincent H. Chu; B.S.Eng.(Taiwan), M.A.Sc.(Tor.), Ph.D.(MIT), Eng.
Denis Mitchell; B.A.Sc., M.A.Sc., Ph.D.(Tor.), F.A.C.I., F.C.A.E., F.C.S.C.E., Eng. *(James McGill Professor)*
Van-Thanh-Van Nguyen; B.M.E.(Vietnam), M.C.E.(A.I.T.), D.A.Sc.(Montr.), Eng.
James Nicell; B.A.Sc., M.A.Sc., Ph.D.(Windsor), P.Eng. (*William Dawson Scholar*)
A. Patrick S. Selvadurai; M.S.(Stan.), Ph.D., D.Sc.(Nott.), F.E.I.C., F.I.M.A., F.C.S.C.E., P.Eng. (*William Scott Professor of Civil Engineering, James McGill Professor*)
Suresh C. Shrivastava; B.Sc.(Eng.)(Vikram), M.C.E.(Del.), Sc.D.(Col.), Eng.

Associate Professors

Luc E. Chouinard; B.Ing., M.Ing.(Montr.), B.C.L.(McG.), Sc.D.(MIT), Eng.
Susan J. Gaskin; B.Sc.(Qu.), Ph.D.(Cant.), P.Eng.
Ronald Gehr; B.Sc.(Eng.)(Rand), M.A.Sc., Ph.D.(Tor.), P.Eng.
Subhasis Ghoshal; B.C.E.(Jadavpur), M.S.(Missouri), Ph.D.(Carn. Mell), P.Eng., Associate Dean (*William Dawson Scholar*)
Ghyslaine McClure; B.Ing.(Montr.), S.M.C.E.(MIT), Ph.D.(Montr.), Eng., Graduate Program Director
Colin Rogers; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Syd.), P.Eng.
Yixin Shao; B.S., M.S.(Tongji), Ph.D.(N’western), P.Eng., Undergraduate Program Director

Assistant Professors

Andrew J. Boyd; B.Sc.Eng.(New Br.) M.A.Sc.(Tor.), Ph.D.(Br. Col.), P.Eng., F.A.C.I.
Dominic Frigon; B.Sc.(Agr.Sci.), M.Sc.(McG.), Ph.D.(Env.Sci.)(Ill.)
Mohamed Abdel-Meguid; B.Sc.(Cairo, Azhar), M.Sc., Ph.D.(W. Ont.), P.Eng.
Luis Miranda-Morena; B.Sc., M.Eng.(Mexico), M.Sc., Ph.D.(Wat.)

Adjunct Professors

Sofia Babarutsi, Richard Edwards, John Hadjinicolaou, Jalal Hawari, Konrad Jones, Angela Keane, Zoubir Lounis, Pierre Lundahl, Patrick Maillard, Charles Manatakos, Thanh Son Nguyen, Paul Rodrigue, Sandro Scola, William Taylor, Marc Villeneuve, Jan Vrana

Civil engineers have traditionally applied scientific and engineering knowledge to the task of providing the built environment, from its conception and planning to its design, construction, maintenance and rehabilitation. Examples include buildings, bridges, roads, railways, dams, and facilities for water supply and treatment, and waste disposal. With the aging and deterioration of an already vast

infrastructure, its maintenance and rehabilitation has become an increasingly important role of the civil engineering profession. Also, with worldwide concern about the detrimental impact of human activities on the environment, civil engineers are now in the forefront of developing and providing the means for both prevention and remediation of many aspects of environmental pollution.

The program in Civil Engineering is comprehensive in providing the fundamentals in mechanics and engineering associated with the diverse fields of the profession, in offering choices of specialization, and in fully reflecting the advances in science, mathematics, engineering and computing that have transformed all fields of engineering in recent years. The resulting knowledge and training enables graduates to not only enter the profession thoroughly well prepared, but also to adapt to further change.

The required courses ensure a sound scientific and analytical basis for professional studies through courses in solid mechanics, fluid mechanics, soil mechanics, environmental engineering, water resources management, structural analysis, systems analysis and mathematics. Fundamental concepts are applied to various fields of practice in both required and complementary courses.

By a suitable choice of complementary courses, students can attain advanced levels of technical knowledge in the specialized areas mentioned above. Alternatively, students may choose to develop their interests in a more general way by combining complementary courses within the Department with several from other departments or faculties.

Students who wish to extend their knowledge in certain areas beyond the range that the program complementary courses allow can also take a Minor program. Minors are available in fields such as Arts, Economics, Management, Environmental Engineering, and Construction Engineering and Management. These require additional credits to be taken from a specified list of topics relating to the chosen field. Further information on the various Minor programs may be found in section 9.6 “Minor Programs”. Details of how the Minors can be accommodated within the Civil Engineering program will be made available at the time of preregistration counselling.

ACADEMIC PROGRAMS

Considerable freedom exists for students to influence the nature of the program of study which they follow in the Department of Civil Engineering and Applied Mechanics. A variety of advanced complementary courses is offered in five main groupings: Environmental Engineering, Geotechnical and Geoenvironmental Engineering, Water Resources and Hydraulic Engineering, Structural Engineering, and Transportation Engineering.

Guidance on the sequence in which required core courses should be taken is provided for students in the form of a sample program which covers the entire period of study. The technical complementary courses selected, usually in the last two terms of the program, will depend upon the student's interests. All students must meet with their adviser each term to confirm the courses for which they are registered.

Courses taken in Term 3 or later will depend on a student's interests and ability. Information and advice concerning different possibilities are made available in the Department prior to registration. All programs require the approval of a staff adviser. Programs for students transferring into the Department with advanced standing will be dependent upon the academic credit previously achieved, and such a program will be established only after consultation with a staff adviser.

CURRICULUM FOR THE B.ENG. DEGREE IN CIVIL ENGINEERING

REQUIRED COURSES		COURSE CREDIT	
Non-departmental courses			
COMP 208	Computers in Engineering	3	
EDEC 206	Communication in Engineering	3	
EPSC 221	General Geology	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MECH 261	Measurement Laboratory	2	
MECH 289	Design Graphics	3	
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	**28**
Departmental courses			
CIVE 202	Construction Materials	4	
CIVE 205	Statics	3	
CIVE 206	Dynamics	3	
CIVE 207	Solid Mechanics	4	
CIVE 208	Civil Engineering Systems Analysis	3	
CIVE 210	Surveying	2	
CIVE 225	Environmental Engineering	4	
CIVE 290	Thermodynamics and Heat Transfer	3	
CIVE 302	Probabilistic Systems	3	
CIVE 311	Geotechnical Mechanics	4	
CIVE 317	Structural Engineering 1	3	
CIVE 318	Structural Engineering 2	3	
CIVE 319	Transportation Engineering	3	
CIVE 320	Numerical Methods	4	
CIVE 323	Hydrology and Water Resources	3	
CIVE 324	Construction Project Management	3	
CIVE 327	Fluid Mechanics and Hydraulics	4	
CIVE 418	Design Project	4	
CIVE 432	Technical Paper	1	**60**
COMPLEMENTARY COURSES			
A minimum of six credits to be selected from list (a) and the remaining nine credits to be selected from lists (a) or (b) or from other suitable undergraduate or 500-level courses.			**15**
(a) Design Technical Complementaries			
CIVE 416	(3) Geotechnical Engineering		
CIVE 421	(3) Municipal Systems		
CIVE 428	(3) Water Resources and Hydraulic Engineering		
CIVE 430	(3) Water Treatment and Pollution Control		
CIVE 462	(3) Design of Steel Structures		
CIVE 463	(3) Design of Concrete Structures		
(b) General Technical Complementaries			
CIVE 433	(3) Urban Planning		
CIVE 440	(3) Traffic Engineering		
CIVE 446	(3) Construction Engineering		
CIVE 451	(3) Geoenvironmental Engineering		
CIVE 460	(3) Matrix Structural Analysis		
CIVE 470	(3) Undergraduate Research Project		
CIVE 512	(3) Advanced Civil Engineering Materials		
CIVE 527	(3) Renovation and Preservation: Infrastructure		
CIVE 540	(3) Urban Transportation Planning		
CIVE 550	(3) Water Resources Management		
CIVE 551	(3) Environmental Transport Processes		
CIVE 553	(3) Stream Pollution and Control		
CIVE 555	(3) Environmental Data Analysis		
CIVE 572	(3) Computational Hydraulics		
CIVE 573	(3) Hydraulic Structures		
CIVE 574	(3) Fluid Mechanics of Water Pollution		
CIVE 577	(3) River Engineering		
CIVE 584	(3) Groundwater Engineering		
CIVE 587	(3) Pavement Design		
Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 “Complementary Studies” for further information.			**6**
TOTAL CREDITS			**110**

9.5.4 Department of Electrical and Computer Engineering

Department of Electrical and Computer Engineering
Undergraduate Programs Office
Lorne Trottier Building, Room 2060
3630 University Street
Montreal, QC H3A 2B2

Telephone: 514-398-3943
Fax: 514-398-4653
Website: www.mcgill.ca/ece

Chair — David V. Plant
Associate Chair, Operations — Benoit Boulet
Associate Chair, Undergraduate Studies — Jonathan P. Webb
Associate Chair, Graduate Studies — Fabrice Labeau

Emeritus Professors
Eric L. Adler; B.Sc.(Lond.), M.A.Sc.(Tor.), Ph.D.(McG.), F.I.E.E.E., Eng.
Pierre R. Bélanger; B.Eng.(McG.), S.M., Ph.D.(MIT), F.I.E.E.E., Eng.
Maier L. Blostein; B.Eng., M.Eng.(McG.), Ph.D.(Ill.), F.I.E.E.E., Eng.
Gerry W. Farnell; B.A.Sc.(Tor.), S.M.(MIT), Ph.D.(McG.), F.I.E.E.E., Eng.
Tomas J.F. Pavlasek; B.Eng., M.Eng., Ph.D.(McG.), Eng.
Nicholas C. Rumin; B.Eng., M.Sc., Ph.D.(McG.), Eng.

Post-Retirement
Clifford H. Champness; M.Sc.(Lond.), Ph.D.(McG.)

Professors
Peter E. Caines; B.A.(Oxf.), D.I.C., Ph.D.(Lond.), F.R.S.C., F.I.E.E.E., F.C.I.A.R. (*James McGill Professor*) (*Macdonald Professor*)
James Clark; B.A.Sc., Ph.D.(Br. Col.), *Associate Dean, Academic*
Frank Ferrie; B.Eng., Ph.D.(McG.)
Francisco D. Galiana; B.Eng.(McG.), S.M., Ph.D.(MIT), F.I.E.E.E., Eng.
Vincent Hayward; Dip.Ing.(ENSM, Nantes), Doc.Ing.(Orsay), Eng.
Geza Joos; B.Sc.(C'dia), M.Eng., Ph.D.(McG.) (*CRC Chair*)
Peter Kabal; B.A.Sc., M.A.Sc., Ph.D.(Tor.)
Tho Le-Ngoc; M.Eng.(McG.), Ph.D.(Ott.), F.I.E.E.E.
Harry Leib; B.Sc.(Technion), Ph.D.(Tor.)
Martin D. Levine; B.Eng., M.Eng.(McG.), Ph.D.(Lond.), F.C.I.A.R., F.I.E.E.E., Eng.
David A. Lowther; B.Sc.(Lond.), Ph.D.(C.N.A.A.), F.C.A.E., Eng. (*James McGill Professor*)
Lorne Mason; B.Eng., Ph.D.(Sask.)
Boon-Teck Ooi; B.E.(Adel.), S.M.(MIT), Ph.D.(McG.), Eng.
David V. Plant; M.S., Ph.D.(Brown), P.Eng., F.I.E.E.E., F.O.S.A. (*James McGill Professor*)
Gordon Roberts; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.), Eng., F.I.E.E.E. (*James McGill Professor*)
Jonathan Webb; B.A., Ph.D.(Cant.)

Associate Professors
Jan Bajcsy; B.Sc.(Harv.), M.Eng., Ph.D.(Prin.)
Benoit Boulet; B.Sc.(Laval), M.Eng.(McG.), Ph.D.(Tor.) (*William Dawson Scholar*)
Benoit Champagne; B.Eng., M.Eng.(Montr.), Ph.D.(Tor.)
Lawrence Chen; B.Eng.(McG.), M.A.Sc., Ph.D.(Tor.)
Jeremy R. Cooperstock; B.Ap.Sc.(Br. Col.), M.Sc., Ph.D.(Tor.)
Mark Coates; B.Eng.(Adel.), Ph.D.(Camb.)
Mourad El-Gamal; B.Sc.(Cairo), M.Sc.(Nashville), Ph.D.(McG.) (*William Dawson Scholar*)
Dennis Giannacopoulos; M.Eng., Ph.D.(McG.)
Roni Khazaka; M.Eng., Ph.D.(Car.)
Andrew Kirk; B.Sc.(Brist.), Ph.D.(Lond.), *Associate Dean, Research and Graduate Education* (*William Dawson Scholar*)
Fabrice Labeau; M.S., Ph.D.(Louvain)
Steve McFee; B.Eng., Ph.D.(McG.)
Hannah Michalska; B.Sc., M.Sc.(Warsaw), Ph.D.(Lond.)
Milica Popovich; B.Sc.(Colo.), M.Sc., Ph.D.(N'western)
Ioannis Psaromiligkos; B.Sc.(Patras), M.Sc., Ph.D.(Buffalo)
Richard Rose; B.Sc., M.S.(Ill.), Ph.D.(GIT)
Ishiang Shih; M.Eng., Ph.D.(McG.)
Zeljko Zilic; B.Eng.(Zagreb), M.Sc., Ph.D.(Tor.)

Assistant Professors
Ramesh Abhari; M.A.Sc.(Tehran), Ph.D(Tor.)
Tal Arbel; M.Eng., Ph.D.(McG.)
Vamsy Chodavarapu; B.Eng.(India), M.S., Ph.D.(NYU)
Warren Gross; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.)
Anas Hamoui; M.Eng.(McG.), Ph.D.(Tor.)
Odile Liboiron-Ladouceur; M.Sc., Ph.D.(Col.)
Shie Mannor; B.A., B.Sc., Ph.D.(Haifa)
Zetian Mi; B.A.Sc.(China), M.Sc.(Iowa), PhD.(Mich.)
Sam Musallam; B.Sc., M.Sc., Ph.D.(Tor.)
Michael Rabbat; B.S.(Ill.), M.S.(Texas), Ph.D.(Wis.)
Martin Rochette; B.A., M.Eng., Ph.D.(Laval)
Thomas Szkopek; B.A.Sc., M.A.Sc.(Tor.) Ph.D.(Calif.-LA)
Mai Vu; M.S., Ph.D.(Stan.)

Lecturer
Kenneth L. Fraser; B.Eng., M.Eng.(McG.)

Associate Members
D.L. Collins; Ph.D.(McG.)
Gregory Dudek; B.Sc.(Qu.), M.Sc., Ph.D.(Tor.)
Alan C. Evans; M.Sc.(Surrey), Ph.D.(Leeds)
William R. Funnell; M.Eng., Ph.D.(McG.)
Henrietta L. Galiana; M.Eng., Ph.D.(McG.)
Jean Gotman; M.E.(Dart.), Ph.D.(McG.)
Robert E. Kearney; M.Eng., Ph.D.(McG.)
Frank Verhaegen; Ph.D.(Ghent)

Adjunct Professors
Ray Bartnikas, Eric Boisvert, Charalambos Charalambous, Robert DiRaddo, Danny Grant, Cedric Guss, Cheng K. Jen, Irene Leszkowicz, Miguel Marin, Douglas O'Shaughnessy, Farouk Rizk, Anthony Rodolakis, Robert Sabourin.

The Department of Electrical and Computer Engineering offers undergraduate degree programs in Electrical Engineering, Electrical Engineering (Honours), Computer Engineering, and Software Engineering. All programs provide students with a strong background in mathematics, basic sciences, engineering science, engineering design and complementary studies, in conformity with the requirements of the Canadian Engineering Accreditation Board (CEAB).

The program in Electrical Engineering gives students a broad understanding of the key principles that are responsible for the extraordinary advances in the technology of computers, micro-electronics, automation and robotics, telecommunications and power systems. These areas are critical to the development of our industries and, more generally, to our economy. A graduate of this program is exposed to all basic elements of electrical engineering and can function in any of our client industries. This breadth is what distinguishes an engineer from, say, a computer scientist or physicist.

The program in Electrical Engineering (Honours) is designed for students who wish to pursue postgraduate work and look to a career in advanced research and development. The technical complementaries are selected from graduate courses, facilitating the transition to postgraduate studies. Students in this curriculum benefit from smaller classes and have more contact with professorial staff and graduate students. However, the program is quite demanding. Students are expected to register for at least 14 credits per term; they may register for a smaller number only with the permission of the Chair of this Department. Students in the Honours program must maintain a minimum GPA of 3.30. Those who fail to maintain this standard are transferred to the regular program.

The program in Computer Engineering provides students with greater depth and breadth of knowledge in the hardware and software aspects of computers. Students are exposed to both theoretical and practical issues of both hardware and software in well-equipped laboratories. Although the program is designed to meet the growing demands by industry for engineers with a strong background in modern computer technology, it also provides the underlying depth for graduate studies in all fields of Computer Engineering.

The program in Software Engineering offers students the opportunity to focus their studies on the skills needed to design and develop complex software systems. This emerging field of engineering is a major component of the growing Information Technology (IT) sector of the economy, in which the demand for qualified personnel continues to outstrip supply. Graduates of this program will have a solid foundation for careers in the software industry. This program has been recently accredited by the Canadian Engineering Accreditation Board.

In addition to technical complementary courses, students in all three programs take general complementary courses in social sciences, administrative studies and humanities. These courses allow students to develop specific interests in areas such as psychology, economics, management or political science.

Entry into the Honours Program (Electrical Engineering)

The Honours program is a limited enrolment program and entry is highly competitive. There is no direct entry to the Honours program in the first year. Students may enter the Honours program in the following ways:

- Students from CEGEP will be admitted, on the basis of their grades, at the start of the third term.
- Students from outside Quebec will be admitted, on the basis of their grades, at the start of the fifth term.

Though not required to do so, students in the Honours program or wishing to enter the Honours program are encouraged to take the following advanced math and physics courses:

MATH 325	Honours Ordinary Differential Equations	instead of MATH 263
MATH 247	Honours Applied Linear Algebra	instead of MATH 271
MATH 248	Honours Advanced Calculus	instead of MATH 264
MATH 249	Honours Complex Variables	instead of MATH 381
PHYS 251	Honours Classical Mechanics 1	instead of CIVE 281

To remain in the Honours program and to be awarded the Honours degree, a student must have completed at least 14 credits in each term since entering Electrical and Computer Engineering, except for the final two terms of their degree, and maintained a CGPA of at least 3.30 since entering Electrical and Computer Engineering. In either of their final two full terms (i.e., Fall and Winter, or Winter and Fall) students may drop below 14 credits, provided the combined load for the two terms is at least 16 credits. For more information, please contact the Departmental office at 514-398-3943.

CURRICULUM FOR THE B.ENG. DEGREE IN ELECTRICAL ENGINEERING (HONOURS)

REQUIRED COURSES		COURSE CREDIT	
Non-Departmental Courses			
COMP 202	Introduction to Computing 1	3	
EDEC 206	Communication in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 247*	Honours Applied Linear Algebra	3	
or MATH 271	Linear Algebra and Partial Differential Equations (3)		
MATH 248*	Honours Advanced Calculus	3	
or MATH 264	Advanced Calculus ENG		
MATH 249	Honours Complex Variables	3	
or MATH 381	Complex Variables and Transforms (3)		
MATH 325	Honours Ordinary Differential Equations	3	
or MATH 263	Ordinary Differential Equations and Linear Algebra (3)		
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	
PHYS 251	Honours Classical Mechanics 1	3	
or CIVE 281	Analytical Mechanics (3)		
PHYS 271	Introduction to Quantum Physics	3	**32**

* *CGPA of 3.30 is required to register for MATH 247 and MATH 248.*

Departmental Courses			
ECSE 200	Electric Circuits 1	3	
ECSE 210	Electric Circuits 2	3	
ECSE 211	Design Principles and Methods	3	
ECSE 212	Properties of Materials in Electrical Engineering	3	
or MIME 262	Properties of Materials in Electrical Engineering (3)		
ECSE 221	Introduction to Computer Engineering	3	
ECSE 291	Electrical Measurements Laboratory	2	
ECSE 303	Signals and Systems 1	3	
ECSE 304	Signals and Systems 2	3	
ECSE 305	Probability and Random Sig. 1	3	
ECSE 322	Computer Engineering	3	
ECSE 323	Digital System Design	5	
ECSE 330	Introduction to Electronics	3	
ECSE 334	Introduction to Microelectronics	3	
ECSE 351	Electromagnetic Fields	3	
ECSE 352	Electromagnetic Waves	3	
ECSE 361	Power Engineering	3	
ECSE 434	Microelectronics Laboratory	2	
ECSE 498	Honours Thesis 1	3	
ECSE 499	Honours Thesis 2	3	
ECSE 543	Numerical Methods in Electrical Engineering	3	**60**

COMPLEMENTARY COURSES **9**

Technical Complementaries

Three technical complementary courses (9 credits). Each courses must be either a 500-level ECSE course, or one of the following (no more than one 400-level course can be chosen as a technical complementary).

COMP 535	Computer Networks 1
ECSE 425	Computer Organization and Architecture
ECSE 427	Operating Systems
ECSE 451	EM Transmission and Radiation

Laboratory Complementaries **2-3**

One course must be chosen from the following list:

ECSE 426	Microprocessor Systems
ECSE 431	Introduction to VLSI CAD
ECSE 435	Mixed-Signal Test Techniques
ECSE 436	Signal Processing Hardware
ECSE 450	Electromagnetic Compatibility
ECSE 485	IC Fabrication Laboratory
ECSE 486	Power Laboratory
ECSE 487	Computer Architecture Laboratory
ECSE 488	High Frequency Laboratory
ECSE 490	Digital Signal Processing Laboratory
ECSE 491	Communication Systems Laboratory
ECSE 493	Control and Robotics Laboratory

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 “Complementary Studies” for further information.

TOTAL CREDITS **109-110**

CURRICULUM FOR THE B.ENG. DEGREE IN ELECTRICAL ENGINEERING (REGULAR)

REQUIRED COURSES		COURSE CREDIT
Non-Departmental Courses		
CIVE 281	Analytical Mechanics	3
COMP 202	Introduction to Computing 1	3
EDEC 206	Communication in Engineering	3
MATH 262	Intermediate Calculus	3

MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MATH 271	Linear Algebra and Partial Differential Equations	3	
MATH 381	Complex Variables and Transforms	3	
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	
PHYS 271	Introduction to Quantum Physics	3	**32**

Departmental Courses

ECSE 200	Electric Circuits 1	3	
ECSE 210	Electric Circuits 2	3	
ECSE 211	Design Principles and Methods	3	
ECSE 212	Properties of Materials in Electrical Engineering	3	
or MIME 262	Properties of Materials in Electrical Engineering (3)		
ECSE 221	Introduction to Computer Engineering	3	
ECSE 291	Electrical Measurements Laboratory	2	
ECSE 303	Signals and Systems 1	3	
ECSE 304	Signals and Systems 2	3	
ECSE 305	Probability and Random Sig. 1	3	
ECSE 322	Computer Engineering	3	
ECSE 323	Digital System Design	5	
ECSE 330	Introduction to Electronics	3	
ECSE 334	Introduction to Microelectronics	3	
ECSE 351	Electromagnetic Fields	3	
ECSE 352	Electromagnetic Waves	3	
ECSE 361	Power Engineering	3	
ECSE 434	Microelectronics Laboratory	2	
ECSE 443	Introduction to Numerical Methods of Electrical Engineering	3	
ECSE 474	Design Project 1	1	
ECSE 475	Design Project 2	2	**57**

COMPLEMENTARY COURSES

Technical Complementaries **12**

Four courses must be taken from the following list:

ECSE 404	Control Systems	3
ECSE 405	Antennas	3
ECSE 411	Communications Systems 1	3
ECSE 412	Discrete Time Signal Processing	3
ECSE 413	Communications Systems 2	3
ECSE 414	Introduction to Telecommunication Networks	3
ECSE 420	Parallel Computing	3
ECSE 421	Embedded Systems	3
ECSE 422	Fault Tolerant Computing	3
ECSE 423	Fundamentals of Photonics	3
ECSE 424	Human-Computer Interaction	3
ECSE 425	Computer Organization and Architecture	3
ECSE 426	Microprocessor Systems	3
ECSE 427	Operating Systems	3
ECSE 430	Photonic Devices and Systems	3
ECSE 431	Introduction to VLSI CAD	3
ECSE 432	Physical Basis: Transistor Devices	3
ECSE 435	Mixed-Signal Test Techniques	3
ECSE 436	Signal Processing Hardware	3
ECSE 450	Electromagnetic Compatibility	3
ECSE 451	EM Transmission and Radiation	3
ECSE 460	Appareillage électrique (Electrical Power Equipment)	3
ECSE 462	Electromechanical Energy Conversion	3
ECSE 464	Power System Analysis 1	3
ECSE 465	Power Electronic Systems	3
ECSE 467	Comportement des réseaux électriques	3
ECSE 468	Electricité industrielle (Industrial Power Systems)	3
ECSE 469	Protection des réseaux électriques	3

Laboratory Complementaries **2-3**

One course must be chosen from the following list:

ECSE 426	Microprocessor Systems	3
ECSE 431	Introduction to VLSI CAD	3
ECSE 435	Mixed-Signal Test Techniques	3
ECSE 436	Signal Processing Hardware	3
ECSE 450	Electromagnetic Compatibility	3
ECSE 485	IC Fabrication Laboratory	2
ECSE 486	Power Laboratory	2
ECSE 487	Computer Architecture Laboratory	2
ECSE 488	High Frequency Laboratory	2
ECSE 489	Telecommunication Network Lab	2
ECSE 490	Digital Signal Processing Laboratory	2
ECSE 491	Communication Systems Laboratory	2
ECSE 493	Control and Robotics Laboratory	2

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL CREDITS **109-110**

*** Enhanced Power Concentration**

(Students following this program must complete 15 credits of technical complementary courses.)

The Institute for Electrical Power Engineering was recently established as a province-wide centre for electrical power engineering education. It is funded by industry, mostly Hydro-Québec, and provides a comprehensive program and state-of-the-art laboratory facilities, and a point of contact between industry and universities involved in power engineering.

- This program is open to students in the regular Electrical Engineering program only.

  The benefits of the Concentration are:
  - a complete and up-to-date final-year program in electrical power engineering, with industry-sponsored and supported courses;
  - access to industry-sponsored projects, internships and new employment opportunities.

Eligibility criteria: To be considered in September 2009, the applicant must:

- be registered in the B.Eng. program (regular Electrical Engineering);
- have a cumulative GPA of at least 2.70;
- have completed or be registered in ECSE 361 (Power Engineering);
- be able to complete the degree requirements by Spring 2010;
- agree to follow the curriculum requirements set out below.

Selection criteria: The number of students selected, expected to be between 5 and 10, will be the subject of a specific agreement between the University and the Institute. Selection criteria to the Institute will be based on CGPA and on the curriculum vitae. The selection process for the scholarship may involve an interview with the committee presided by Hydro-Québec. There is a possibility of an internship with Hydro-Québec.

Curriculum requirements for selected students: Generally, unless the University has authorized specific substitutions, students must complete the degree requirements set out in the 2009-10 *Undergraduate Programs Calendar* with the following specifications:

Technical Complementaries and Laboratories:
All students must take (or have taken) five courses from the following list, for a total of 15 credits:

Required Courses **9**

ECSE 462	Electromechanical Energy Conversion	3
ECSE 464	Power System Analysis 1	3

ECSE 465	Power Electronic Systems	3	

Complementary Courses **6**

ECSE 404	Control Systems	3	
ECSE 460	Appareillage électrique (Electrical Power Equipment)	3	
ECSE 467	Comportement des réseaux électriques	3	
ECSE 468	Electricité industrielle (Industrial Power Systems)	3	
ECSE 469	Protection des réseaux électriques	3	

Courses ECSE 460, ECSE 467, ECSE 468 and ECSE 469 are taught in French. ECSE 460, ECSE 464 (Fall semester). ECSE 465, ECSE 467, ECSE 468 and ECSE 469 are courses sponsored by the Institute and taught at École Polytechnique de Montréal.

In addition, students must complete ECSE 474 and 475 (Electrical Engineering Design Projects 1 and 2) on a practical project in power engineering, preferably at the Institute or with a company sponsoring the Institute.

CURRICULUM FOR THE B.ENG. DEGREE IN COMPUTER ENGINEERING

REQUIRED COURSES **COURSE CREDIT**

Non-Departmental Courses

CIVE 281	Analytical Mechanics	3	
COMP 202	Introduction to Computing 1	3	
COMP 250	Introduction to Computer Science	3	
COMP 251	Data Structures and Algorithms	3	
EDEC 206	Communication in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MATH 270	Applied Linear Algebra	3	
MATH 363	Discrete Mathematics	3	
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	**35**

Departmental Courses

ECSE 200	Electric Circuits 1	3	
ECSE 210	Electric Circuits 2	3	
ECSE 211	Design Principles and Methods	3	
ECSE 221	Introduction to Computer Engineering	3	
ECSE 291	Electrical Measurements Laboratory	2	
ECSE 305	Probability and Random Sig. 1	3	
ECSE 306	Fundamentals of Signals and Systems	3	
ECSE 321	Introduction to Software Engineering	3	
ECSE 322	Computer Engineering	3	
ECSE 323	Digital System Design	5	
ECSE 330	Introduction to Electronics	3	
ECSE 334	Introduction to Microelectronics	3	
ECSE 353	Electromagnetic Fields and Waves	3	
ECSE 425	Computer Organization and Architecture	3	
ECSE 426	Microprocessor Systems	3	
ECSE 427	Operating Systems	3	
ECSE 474	Design Project 1	1	
ECSE 475	Design Project 2	2	
ECSE 414	Introduction to Telecommunication Networks	3	**55**

COMPLEMENTARY COURSES

Basic Science Complementary courses (for CEGEP students only). 0-3

Students from CEGEP are required to complete one approved 3-credit course, 200-level or higher, from the following science departments:

Atmospheric and Oceanic Sciences (ATOC)
Biology (BIOL)
Chemistry (CHEM)
Earth and Planetary Sciences (EPSC)
Earth System Science (ESYS)
Physics (PHYS)

Technical Complementaries **9**

One course must be chosen from List A and two courses from List B. The course chosen from List A is meant to enhance the Body of Knowledge while the courses chosen from List B are to provide breadth.

List A

ECSE 424	Human-Computer Interaction
ECSE 428	Software Engineering Practice
ECSE 431	Introduction to VLSI CAD

List B

ECSE 404	Control Systems
ECSE 411	Communications Systems 1
ECSE 412	Discrete Time Signal Processing
ECSE 420	Parallel Computing
ECSE 421	Embedded Systems
ECSE 422	Fault Tolerant Computing
ECSE 429	Software Validation
ECSE 436	Signal Processing Hardware
ECSE 443	Introduction to Numerical Methods of Electrical Engineering
ECSE 450	Electromagnetic Compatibility
ECSE 526	Artificial Intelligence
or COMP 424	Topics: Artificial Intelligence 1
ECSE 530	Logic Synthesis
ECSE 532	Computer Graphics
ECSE 548	Introduction to VLSI Systems

Laboratory Complementaries **2-3**

One course must be chosen from the following list. Note that the lab course is intended to strengthen the practical knowledge within one of the BOK core units and as such should complement one of the BOK core unit lecture courses, namely ECSE 334, ECSE 425, or COMP 535 (ECSE 414).

ECSE 434	Microelectronics Laboratory
ECSE 436	Signal Processing Hardware
ECSE 487	Computer Architecture Laboratory
ECSE 489	Telecommunication Network Lab
ECSE 490	Digital Signal Processing Laboratory
ECSE 491	Communication Systems Laboratory
ECSE 493	Control and Robotics Laboratory

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 “Complementary Studies” for further information.

TOTAL CREDITS **107 -111**

CURRICULUM FOR THE BACHELOR OF SOFTWARE ENGINEERING (B.S.E.)

REQUIRED COURSES **COURSE CREDIT**

COMP 202	Introduction to Computing 1	3
COMP 206	Introduction to Software Systems	3
COMP 250	Introduction to Computer Science	3
COMP 251	Data Structures and Algorithms	3
COMP 302	Programming Languages and Paradigms	3
COMP 360	Algorithm Design Techniques	3
COMP 361	Systems Development Project	3
COMP 420	Secondary Storage Algorithms and Data Structures	3
ECSE 221	Introduction to Computer Engineering	3
ECSE 321	Introduction to Software Engineering	3
ECSE 322	Computer Engineering	3

ECSE 420	Parallel Computing	3	
ECSE 427	Operating Systems	3	
ECSE 428	Software Engineering Practice	3	
ECSE 429	Software Validation	3	
ECSE 476	Software Engineering Design Project 1	3	
ECSE 477	Software Engineering Design Project 2	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MATH 270	Applied Linear Algebra	3	
MATH 363	Discrete Mathematics	3	**63**

Engineering Breadth Required Courses

ECSE 200	Electric Circuits 1	3	
ECSE 210	Electric Circuits 2	3	
ECSE 291	Electrical Measurements Laboratory	2	
ECSE 305	Probability and Random Sig. 1	3	
ECSE 306	Fundamentals of Signals and Systems	3	
ECSE 330	Introduction to Electronics	3	
EDEC 206	Communication in Engineering	3	
MIME 310	Engineering Economy	3	
MIME 221	Engineering Professional Practice	2	**25**

Basic Science Complementary courses (for CEGEP students only). 0-6

Students from CEGEP are required to complete one approved 6-credit course, 200 level or higher from the following science departments:

Atmospheric and Oceanic Sciences (ATOC)
Biology (BIOL)
Chemistry (CHEM)
Earth and Planetary Sciences (EPSC)
Earth System Science (ESYS)
Physics (PHYS)

Technical Complementaries **12 - 14**

Students should take 12-14 credits of which 6 credits must be taken from group A and 6-8 credits from group B. It is possible that not all the courses listed will be offered in a given year. Please refer to the up-to-date course assignments before selecting any course. Permission will not be granted to take Technical Complementary courses that are not on this list.

Group A Technical Complementaries

COMP 330	Theoretical Aspects: Computer Science
COMP 350	Numerical Computing
COMP 409	Concurrent Programming
COMP 424	Topics: Artificial Intelligence 1
or ECSE 526	Artificial Intelligence
COMP 520	Compiler Design
COMP 566	Discrete Optimization 1
COMP 575	Fundamentals of Distributed Algorithms
ECSE 529	Image Processing and Communication

Group B Technical Complementaries

ECSE 323	Digital Systems Design
ECSE 404	Control Systems
ECSE 411	Communications Systems 1
ECSE 412	Discrete Time Signal Processing
ECSE 413	Communications Systems 2
ECSE 414	Introduction to Telecommunication Networks
or COMP 535	Computer Networks 1
ECSE 421	Embedded Systems
ECSE 422	Fault Tolerant Computing
ECSE 424	Human-Computer Interaction
ECSE 425	Computer Organization and Architecture
ECSE 426	Microprocessor Systems
ECSE 504	Sampled Data Control
ECSE 530	Logic Synthesis
ECSE 532	Computer Graphics
or COMP 557	Fundamentals of Computer Graphics

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL CREDITS **106-114**

9.5.5 Department of Mechanical Engineering

Macdonald Engineering Building, Room 270
817 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-6296
Fax: 514-398-7365
Website: www.mcgill.ca/mecheng

Chair — Arun K. Misra

Emeritus Professors

Abdul M. Ahmed; B.Sc.(Dhaka), M.Eng., Ph.D.(McG.), Eng. *(Thomas Workman Emeritus Professor of Mechanical Engineering)*
Romuald Knystautas; B.Eng., M.Eng., Ph.D.(McG.), Eng.
Michael P. Païdoussis; B.Eng.(McG.), Ph.D.(Camb.), Eng., F.I.Mech.E., F.A.S.M.E., F.A.A.M., F.C.S.M.E., F.R.S.C., F.C.A.E. (*Thomas Workman Emeritus Professor of Mechanical Engineering*)

Post-Retirement

Glen Bach; B.Sc.(Alta.), M.Sc.(Birm.), Ph.D.(McG.)
Lucjan Kops; B.Eng., M.Eng., D.Sc.Eng.(Krakow Tech.), Eng., F.C.I.R.P., F.A.S.M.E., F.C.S.M.E., M.S.M.E.
Stuart J. Price; B.Sc., Ph.D.(Brist.), P.Eng.

Professors

Marco Amabili; B.Eng.(Ancona), Ph.D.(Bologna)
Jorge Angeles; B.Eng., M.Eng.(UNAM Mexico), Ph.D.(Stan.), Eng., F.A.S.M.E., F.C.S.M.E., F.R.S.C. (*James McGill Professor*)
Bantwal R. Baliga; B.Tech.(IIT, Kanpur), M.Sc.(Case West.), Ph.D.(Minn.)
Eliot Fried; A.B.(Calif., Berk.), M.S., Ph.D.(Cal. Tech.)
Wagdi G. Habashi; B. Eng., M. Eng.(McG.), Ph.D.(C'nell), P.Eng., F.C.A.E., F.A.S.M.E., F.R.S.C. (*NSERC-J. Armand Bombardier Industrial Research Chair in Multidisciplinary CFD*)
John H.S. Lee; B.Eng.(McG.), M.Sc.(MIT), Ph.D.(McG.), P.Eng. F.R.S.C.
Dan Mateescu; M.Eng.(Univ-Poli.Bucharest), Ph.D.(Rom. Acad. Sci.), Doctor Honoris Causa(Univ-Poli.Bucharest), F.C.A.S.I., A.F.A.I.A.A., Erskine Fellow(Cant.)
Arun K. Misra; B.Tech.(IIT, Kharagpur), Ph.D.(Br. Col.), P.Eng., F.A.A.S., A.F.A.I.A.A. (*Thomas Workman Professor of Mechanical Engineering*)
Luc Mongeau; B.S.M.E., M.S.(École Poly., Montr.), Ph.D.(Penn. St.) (*Canada Research Chair*), *Associate Dean, Academic Affairs*
Christophe Pierre; B.Eng.(École Centrale, Paris), M.Sc.(Prin.), Ph.D.(Duke), (*Tier 1 Canada Research Chair*), *Dean, Faculty of Engineering*

Associate Professors

Luca Cortelezzi; M.Sc., Ph.D.(Cal. Tech.)
David L. Frost; B.A.Sc.(Br. Col.), M.S., Ph.D.(Cal. Tech.), P.Eng., *Graduate Program Director*
Andrew J. Higgins; B.Sc.(Ill.), M.S., Ph.D.(Wash.)
Pascal Hubert; B.Eng., M.Sc.(École Poly., Montr.), Ph.D.(Br. Col.), P.Eng.(*Canada Research Chair*), *Aerospace Program Coordinator*
Tim Lee; M.S.(Port. St.), Ph.D.(Idaho)
Larry B. Lessard; B.Eng.(McG.), M.Sc., Ph.D.(Stan.), P.Eng.
R. Mongrain; B.Sc., M.Sc.(Montr.), Ph.D.(École Poly., Montr.), Eng., (*William Dawson Scholar*), *Associate Chair*
Laurent Mydlarski; B.A.Sc.(Wat.), Ph.D.(C'nell), Eng.
Meyer Nahon; B.Sc.(Qu.), M.Sc.(Tor.), Ph.D.(McG.), P.Eng., *Associate Dean, Graduate and Postdoctoral Studies*

Peter Radziszewski; B.A.Sc.(Br. Col.), M.Sc., Ph.D.(Laval), Ing.
Inna Sharf; B.A.Sc., Ph.D.(Tor.), P.Eng.
Vince Thomson; B.Sc.(Windsor), Ph.D.(McM.) (*Werner Graupe Professor of Manufacturing Automation*)
Paul J. Zsombor-Murray; B.Eng., M.Eng., Ph.D.(McG.), Eng. F.C.S.M.E.

Assistant Professors
Francois Barthelat; M.Sc.(Roch.), Ph.D.(N'western)
Jeffrey M. Bergthorson; B.Sc.(Man.), M.Sc., Ph.D.(Cal. Tech.)
József Kövecses; M.Sc.(U. Miskolc), Ph.D.(Hung. Acad. Sci.), P.Eng., *Undergraduate Program Coordinator, Honours Program Coordinator*
Siva Nadarajah; B.Sc.(Math), B.Sc.(Aero.Eng.)(Kansas), M.Sc., Ph.D.(Stan.)
Damiano Pasini; M.Sc.(Pavia), Ph.D.(Brist.), P.Ing.
Evgeny V. Timofeev; M.Sc., Ph.D.(STU, St. Peters.), Eng., A.F.A.I.A.A.
Srikar T. Vengallatore; B.Tech(BHU), Ph.D.(MIT) (*Canada Research Chair*)

Laboratory Superintendents
A. Micozzi, G. Savard, G. Tewfik

Adjunct Professors/Course Lecturers
H. Attia, K. Mackenzie, C. Marsden, C.A. Rabbath, R. Sumner, S. Tafazoli, D. Zorbas

Mechanical engineers are traditionally concerned with the conception, design, implementation and operation of mechanical systems. Typical fields of work are aerospace, energy, manufacturing, machinery, and transportation. Because of the very broad nature of the discipline there is usually a high demand for mechanical engineers.

Many mechanical engineers follow other career paths. Graduate studies are useful for the specialists working in research establishments, consulting firms, or in corporate research and development.

To prepare the mechanical engineer for a wide range of career possibilities, there is a heavy stress in our curriculum on the fundamental analytical disciplines. This is balanced by a sequence of experimental and design engineering courses which include practice in design, manufacture and experimentation. In these courses students learn how to apply their analytical groundwork to the solution of practical problems.

Specialist interests are satisfied by selecting appropriate complementary courses from among those offered with a specific subject concentration, such as management, industrial engineering, computer science, controls and robotics, bio-engineering, aeronautics, combustion, systems engineering, etc.

The Department offers an Honours Program which is particularly suitable for those with a high aptitude in mathematics and physics and which gives a thorough grounding in the basic engineering sciences. The complementary courses in this program can be utilized to take courses with applied engineering orientation, such as those offered in the regular program, or if preferred, to obtain an even more advanced education in engineering science.

Concentrations in Aeronautical Engineering, Mechatronics and Design are available for students in either the Regular or Honours program who wish to specialize in these areas.

While the program is demanding, there is time for many extracurricular activities. Students are active in such professional societies as CASI (Canadian Aeronautics and Space Institute), SAE (Society of Automotive Engineers), and ASME (American Society of Mechanical Engineers) and in various campus organizations.

Relations between faculty and students are extremely close. Social functions, at which students and professors meet to exchange views and get to know each other better, are organized frequently.

CURRICULUM FOR THE B.ENG. DEGREE IN MECHANICAL ENGINEERING (REGULAR)

REQUIRED COURSES		COURSE CREDIT	
Non-Departmental Subjects			
CIVE 207	Solid Mechanics	4	
COMP 208	Computers in Engineering	3	
ECSE 461	Electric Machinery	3	
EDEC 206	Communication in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MATH 271	Linear Algebra and Partial Differential Equations	3	
MIME 221	Engineering Professional Practice	2	
MIME 260	Materials Science and Engineering	3	
MIME 310	Engineering Economy	3	**33**
Departmental Courses			
MECH 201	Introduction to Mechanical Engineering	2	
MECH 210	Mechanics 1	2	
MECH 220	Mechanics 2	4	
MECH 240	Thermodynamics 1	3	
MECH 260	Machine Tool Laboratory	2	
MECH 262	Statistics and Measurement Laboratory	3	
MECH 289	Design Graphics	3	
MECH 292	Conceptual Design	3	
MECH 309	Numerical Methods in Mechanical Engineering	3	
MECH 314	Dynamics of Mechanisms	3	
MECH 315	Mechanics 3	4	
MECH 321	Mechanics of Deformable Solids	3	
MECH 331	Fluid Mechanics 1	3	
MECH 341	Thermodynamics 2	3	
MECH 346	Heat Transfer	3	
MECH 362	Mechanical Laboratory 1	2	
MECH 383	Applied Electronics and Instrumentation	3	
MECH 393	Machine Element Design	3	
MECH 412	Dynamics of Systems	3	
MECH 430	Fluid Mechanics 2	3	
MECH 463D1	Mechanical Engineering Project	3	
MECH 463D2	Mechanical Engineering Project	3	**64**
COMPLEMENTARY COURSES			**15**

Two courses (6 credits) at the 300 level or higher to be selected from Mechanical Engineering courses. One of these two courses must be chosen from the following list:

MECH 497	Value Engineering
MECH 498	Interdisciplinary Design Project 1
MECH 499	Interdisciplinary Design Project 2
MECH 513	Control Systems
MECH 524	Computer Integrated Manufacturing
MECH 526	Manufacturing and the Environment
MECH 528	Product Design
MECH 541	Kinematic Synthesis
MECH 543	Design with Composite Materials
MECH 553	Design and Manufacture of Microdevices
MECH 554	Microprocessors for Mechanical Systems
MECH 557	Mechatronic Design
MECH 563	Biofluids and Cardiovascular Mechanics
or CHEE 563	Biofluids and Cardiovascular Mechanics
MECH 565	Fluid Flow and Heat Transfer Equipment
MECH 573	Mechanics of Robotic Systems
MECH 577	Optimum Design
MECH 593	Design Theory and Methodology

One course (3 credits), subject to Departmental approval, at the 300 level or higher from the Faculty of Engineering or in the Faculty of Science, including Mathematics.

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL CREDITS **112**

Students entering in September must plan their program of studies in accordance with the regulations posted on the Faculty website at www.mcgill.ca/engineering. After registering, students must consult with their academic adviser.

Additional information can be found in section 9.3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

CURRICULUM FOR THE B.ENG. DEGREE IN MECHANICAL ENGINEERING (HONOURS)

REQUIRED COURSES			COURSE CREDIT
Non-Departmental Subjects			
CIVE 207	Solid Mechanics	4	
EDEC 206	Communication in Engineering	3	
COMP 208	Computers in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MATH 271	Linear Algebra and Partial Differential Equations	3	
MIME 221	Engineering Professional Practice	2	
MIME 310	Engineering Economy	3	**27**
Departmental Courses			
MECH 201	Introduction to Mechanical Engineering	2	
MECH 210	Mechanics 1	2	
MECH 220	Mechanics 2	4	
MECH 240	Thermodynamics 1	3	
MECH 260	Machine Tool Laboratory	2	
MECH 262	Statistics and Measurement Laboratory	3	
MECH 289	Design Graphics	3	
MECH 292	Conceptual Design	3	
MECH 309	Numerical Methods in Mechanical Engineering	3	
MECH 321	Mechanics of Deformable Solids	3	
MECH 331	Fluid Mechanics 1	3	
MECH 341	Thermodynamics 2	3	
MECH 346	Heat Transfer	3	
MECH 362	Mechanical Laboratory 1	2	
MECH 383	Applied Electronics and Instrumentation	3	
MECH 403D1	Thesis (Honours)	3	
MECH 403D2	Thesis (Honours)	3	
MECH 404	Honours Thesis 2	3	
MECH 419	Advanced Mechanics of Systems	4	
MECH 430	Fluid Mechanics 2	3	
MECH 494	Honours Design Project	3	**61**
COMPLEMENTARY COURSES			**24**

One course from the following (3 credits):
to be chosen with the approval of either the thesis supervisor or the coordinator of the Honours Program, when a thesis supervisor has not as yet been secured.

MATH 327 Matrix Numerical Analysis
MATH 381 Complex Variables and Transforms
MATH 417 Mathematical Programming

plus

Two of the following three courses (6 credits):
MECH 546 Finite Element Methods in Solid Mechanics
MECH 562 Advanced Fluid Mechanics
MECH 578 Advanced Thermodynamics

Two courses (6 credits) at the 300 level or higher to be selected from Mechanical Engineering, one of these two courses must be chosen from the following list:
MECH 497 Value Engineering
MECH 498 Interdisciplinary Design Project 1
MECH 499 Interdisciplinary Design Project 2
MECH 513 Control Systems
MECH 524 Computer Integrated Manufacturing
MECH 526 Manufacturing and the Environment
MECH 528 Product Design
MECH 541 Kinematic Synthesis
MECH 543 Design with Composite Materials
MECH 553 Design and Manufacture of Microdevices
MECH 554 Microprocessors for Mechanical Systems
MECH 557 Mechatronic Design
MECH 563 Biofluids and Cardiovascular Mechanics
or CHEE 563 Biofluids and Cardiovascular Mechanics
MECH 565 Fluid Flow and Heat Transfer Equipment
MECH 573 Mechanics of Robotic Systems
MECH 577 Optimum Design
MECH 593 Design Theory and Methodology

One course (3 credits), subject to Departmental approval, at the 300 level or higher from the Faculty of Engineering or MIME 260 or in the Faculty of Science, including Mathematics.

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL CREDITS **112**

Students entering in September must plan their program of studies in accordance with the regulations posted on the Faculty website at www.mcgill.ca/engineering. After registering, students must consult with their academic adviser.

Additional information can be found in section 9.3.1.2 "Basic Science Requirements for Students Entering from Outside Quebec".

LIST OF COMPLEMENTARY COURSES (DEPARTMENTAL)
(Each is 3 credits)

MECH 432 Aircraft Structures
MECH 447 Combustion
MECH 474 Selected Topics in Operations Research
MECH 497 Value Engineering
MECH 498 Interdisciplinary Design 1
MECH 499 Interdisciplinary Design Project 2
MECH 500 Selected Topics in Mechanical Engineering
MECH 501 Special Topics: Mechanical Engineering
MECH 502 Special Topics: Mechanical Engineering
MECH 513 Control Systems
MECH 515 Unsteady Gasdynamics 1
MECH 516 Computational Gasdynamics
MECH 522 Production Systems
MECH 524 Computer Integrated Manufacturing
MECH 526 Manufacturing and the Environment
MECH 528 Product Design
MECH 529 Discrete Manufacturing Systems
MECH 530 Mechanics of Composite Materials
MECH 531 Aeroelasticity
MECH 532 Aircraft Performance, Stability and Control
MECH 533 Subsonic Aerodynamics
MECH 534 Air Pollution Engineering
MECH 535 Turbomachinery and Propulsion
MECH 537 High-Speed Aerodynamics
MECH 538 Unsteady Aerodynamics
MECH 539 Computational Aerodynamics
MECH 541 Kinematic Synthesis
MECH 542 Spacecraft Dynamics
MECH 543 Design with Composite Materials
MECH 544 Processing of Composite Materials
MECH 546 Finite Element Methods in Solid Mechanics
MECH 553 Design and Manufacture of Microdevices
MECH 554 Microprocessors for Mechanical Systems
MECH 557 Mechatronic Design
MECH 561 Biomechanics of Musculoskeletal Systems
MECH 562 Advanced Fluid Mechanics
MECH 563 Biofluids and Cardiovascular Mechanics
MECH 565 Fluid Flow and Heat Transfer Equipment

MECH 566 Fluid-Structure Interactions
MECH 572 Introduction to Robotics
MECH 573 Mechanics of Robotic Systems
MECH 576 Computer Graphics and Geometrical Modelling
MECH 577 Optimum Design
MECH 578 Advanced Thermodynamics
MECH 593 Design Theory and Methodology

TYPICAL PROGRAM OF STUDIES FOR REGULAR OR HONOURS

For students starting their B.Eng. studies in September 2009 who have completed the Quebec Diploma of Collegial Studies, a program for the first two terms of study is given below. Students will be advised by the Department whether they should follow Stream A or Stream B.

STREAM A:

Term 1 (Fall)
COMP 208 Computers in Engineering
MATH 262 Intermediate Calculus
MECH 201 Introduction to Mechanical Engineering
MECH 210 Mechanics 1
MECH 260 Machine Tool Laboratory
MIME 221 Engineering Professional Practice

Term 2 (Winter)
MATH 263 Ordinary Differential Equations and Linear Algebra
MATH 264 Advanced Calculus ENG
MECH 220 Mechanics 2
MECH 262 Statistics and Measurement Laboratory
MECH 289 Design Graphics

STREAM B:

Term 3 (Fall) (Term 1 for CEGEP students)
COMP 208 Computers in Engineering
MATH 262 Intermediate Calculus
MECH 201 Introduction to Mechanical Engineering
MECH 260 Machine Tool Laboratory
MECH 289 Design Graphics

Term 4 (Winter) (Term 2 for CEGEP students)
MATH 263 Ordinary Differential Equations and Linear Algebra
MATH 264 Advanced Calculus ENG
MECH 210 Mechanics 1
MECH 262 Statistics and Measurement Laboratory
MIME 260 Materials Science and Engineering
MIME 221 Engineering Professional Practice

For non-CEGEP entry students, a program for the first two terms of study is given below. Students will be advised by the Department whether they should follow Stream A or Stream B.

STREAM B: (Option 1)

Term 1 (Fall)
CHEM 110 General Chemistry 1
MATH 133 Vectors, Matrices & Geometry
MATH 140 Calculus 1
PHYS 131 Mechanics & Waves
XXX XXX PreEng HSSA

Term 2 (Winter)
CHEM 120 General Chemistry 2
MATH 141 Calculus 2
PHYS 142 Electromagnetism & Optics
XXX XXX HSSA/Impact
MIME 310 Engineering Economy

STREAM B: (Option 2)

Term 1 (Fall)
CHEM 110 General Chemistry 1
MATH 133 Vectors, Matrices & Geometry
MATH 140 Calculus 1
PHYS 131 Mechanics & Waves

Term 2 (Winter)
CHEM 120 General Chemistry 2
MATH 141 Calculus 2
PHYS 142 Electromagnetism & Optics
XXX XXX PreEng HSSA

For all Minors and Concentrations, students should complete a special form available from the Student Affairs Office (Engineering Student Center) or from the Undergraduate Program Secretary indicating their intention to take the Minor or the Concentration.

AERONAUTICAL ENGINEERING CONCENTRATION

Students in this Concentration should take five courses in the area of Aeronautical Engineering.

Required Courses (6 credits):
MECH 532 (3) Aircraft Performance, Stability and Control
MECH 533 (3) Subsonic Aerodynamics

Complementary Courses (9 credits)
at least one of the following two courses:
MECH 432 (3) Aircraft Structures
MECH 435 (3) Turbomachinery and Propulsion

the remaining two courses may be chosen from the above or from the following courses:
MECH 531 (3) Aeroelasticity
MECH 537 (3) High-Speed Aerodynamics
MECH 538 (3) Unsteady Aerodynamics
MECH 539 (3) Computational Aerodynamics
MECH 565 (3) Fluid Flow and Heat Transfer Equipment

All courses must be passed at a grade of C or better.

Students should also discuss the matter with their adviser and complete a special form indicating their intention to take this Concentration.

DESIGN CONCENTRATION

Students in this Concentration should take five courses in the area of Design, including the completion of an interdisciplinary design project.
Of the five courses, two are required:
MECH 498 Interdisciplinary Design Project 1
MECH 499 Interdisciplinary Design Project 2

The remaining three courses are to be chosen from the list below:
ARCH 515 Sustainable Design
CHEE 453 Process Design
MECH 497 Value Engineering
MECH 526 Manufacturing and the Environment
MECH 528 Product Design
MECH 530 Mechanics of Composite Materials
MECH 541 Kinematic Synthesis
MECH 543 Design with Composite Materials
MECH 554 Microprocessors for Mechanical Systems
MECH 557 Mechatronics Design
MECH 565 Fluid Flow and Heat Transfer Equipment
MECH 576 Computer Graphics and Geometric Modeling
MECH 577 Optimum Design
MECH 593 Design Theory and Methodology

MECHATRONICS CONCENTRATION

Students in this Concentration should take six courses in the area of Control, Robotics and/or CAD/CAM. They must take the following four required courses:

MECH 513 Control Systems
MECH 554 Microprocessors for Mechanical Systems
MECH 557 Mechatronic Design
MECH 572 Introduction to Robotics

and two of the following:
MECH 528 Product Design
MECH 541 Kinematic Synthesis
MECH 573 Mechanics of Robotic Systems
MECH 576 Computer Graphics and Geometrical Modelling

9.5.6 Department of Mining and Materials Engineering

Wong Building, Room 2160
3610 University Street
Montreal, QC H3A 2B2

Website: www.mcgill.ca/minmat

Materials

Telephone: 514-398-1040 Fax: 514-398-4492

Mining

Telephone: 514-398-2215 Fax: 514-398-7099

Chair — Stephen Yue

Associate Chair, Student Affairs — Frank Mucciardi

Associate Chair, Research — James A. Finch

Associate Chair, Graduate Studies — George P. Demopoulos

Emeritus Professors
John E. Gruzleski; B.Sc., M.Sc.(Qu.), Ph.D.(Tor.), Eng. (*Gerald G. Hatch Emeritus Professor*)
John J. Jonas; B.Eng.(McG.), Ph.D.(Camb.), Eng.(*Henry Birks Emeritus Professor*)
Gordon W. Smith; B.Eng., M.Eng., Ph.D.(McG.), Eng.
William M. Williams; B.Sc., M.Sc.(Brist.), Ph.D.(Tor.), Eng. (*Henry Birks Emeritus Professor*)

Professors
George P. Demopoulos; Dipl. Eng.(NTU Athens), M.Sc., Ph.D.(McG.), Eng.
Roussos Dimitrakopoulos; B.Sc., M.Sc.(Alta.), Ph.D.(École Poly., Montr.)
James A. Finch; B.Sc.(Birm.), M.Eng., Ph.D.(McG.), Eng. (*Gerald G. Hatch Professor*)
Raynald Gauvin; B.Ing., Ph.D.(Montr.), Eng.
Roderick I.L. Guthrie; B.Sc., Ph.D.(Lond.), D.I.C., A.R.S.M., Eng. (*William C. Macdonald Professor*)
Faramarz (Ferri) P. Hassani; Ph.D.(Nott.), (*George Boyd Webster Professor*)
Hani S. Mitri; B.Sc.(Cairo), M.Eng., Ph.D.(McM.), Eng.
Jerzy Szpunar; B.Sc., M.Sc., Ph.D., D.Sc.(Krakow) (*Henry Birks Professor*)
Stephen Yue; B.Sc., Ph.D.(Leeds) (*James McGill Professor*)

Associate Professors
Mainul Hasan; B.Eng.(Dhaka), M.Sc.(Dhahran), Ph.D.(McG.)
Frank Mucciardi; B.Eng., M.Eng., Ph.D.(McG.), Eng.
Mihriban Pekguleryuz; B.Eng., M.Eng.(Flor.), Ph.D. (McG.)

Assistant Professors
Mathieu Brochu; B.Eng.(Laval), Ph.D.(McG.)
Richard Chromik; B.Sc.(Penn. St.), M.Sc., Ph.D.(SUNY, Binghampton)
In-Ho Jung; B.Sc.(South Korea), Ph.D.(École Poly., Montr.)
Showan Nazhat; B.Eng., M.Sc., Ph.D.(Lond.)

Faculty Lecturers
Florence Paray; B.Eng.(CSP), M.Eng., Ph.D.(McG.)

Adjunct Professors
Mostafa Benzaazoua, Marc Betournay, Martin Bureau, Robin A.L. Drew, Daryoush Emadi, Elhachmi Essadiqi, Carlton Fuerst, Bryn Harris, Ahmad Hemami, Mohammad Jahazi, Raad Jassim, Wynand Kleingeld, Louis-Philippe Lefebvre, Eric Lifshin, Martin Pugh, Abdel-Hafez Abdel Sabour Dabry, Serge Vézina

CO-OP Program Liaison Officers
Genevieve Snider (Materials)
TBA (Mining)

The Department of Mining and Materials Engineering offers programs leading to the Bachelor of Engineering degree in Materials Engineering or Mining Engineering. In addition to regular courses and laboratories, the curriculum includes seminars, colloquia and student projects reinforced by field trips to industrial operations.

Materials Engineering (CO-OP) The Materials Engineering degree is a cooperative program leading to a B.Eng. and includes formal industrial work periods. It is built on a strong background of mathematics, basic sciences, computer skills and applications, and specific engineering and design courses to provide up-to-date training in materials engineering. Students take core courses covering processing, fabrication, applications and performance of materials, namely metals, ceramics, polymers and composites. The program is fully accredited by the Canadian Engineering Accreditation Board (CEAB) and is designed to offer students exceptional training for employment in the field. The core courses are supplemented by complementary courses which provide a diverse selection of specialties for the graduating engineer. The course structure is reinforced with laboratory exercises. Graduates find employment in a wide range of industries, including the resource and manufacturing sectors. Students in the CO-OP program benefit from practical learning experience gained from work-term employment in meaningful engineering jobs, as well as non-tangible learning experiences arising from the responsibilities required to obtain and successfully complete the work terms.

Regarding CO-OP Program fees, an amount of $200 will be billed during 10 consecutive terms for a total amount of $2,000 before graduation. These fees cover expenses directly related to the operation of the CO-OP program. Students must register for each of the above-mentioned industrial training courses and pay the associated fees by the Minerva course registration deadlines or late fees will apply. Before registering for any work term course, students must contact the Materials CO-OP Liaison Officer for approval.

Mining Engineering (CO-OP) McGill is proud to be the host of the oldest mining engineering program in Canada, which started in 1871. The program is known for the excellence of its courses as well as the training it provides in mining technology, mineral economics and mine design. The minerals industry is currently going through an expansion phase that has never been seen before. This is highly beneficial to both our graduate and undergraduate students. Tremendous career opportunities are available in Canada and around the world. There have been rapid technical developments in recent years, presenting a challenge to the creative student with a strong interest in engineering and a taste for innovative solutions.

The Department offers a cooperative program leading to the accredited B.Eng. degree in Mining Engineering. It includes four paid industrial work terms. The CO-OP program is offered in collaboration with the mining engineering program at École Polytechnique in Montreal. Students registered at McGill are required to take a series of mining courses at École Polytechnique in the latter part of the program. These courses are designated in the course outline under the Subject Code MPMC.

Students must pay a two-credit course fee for each work term (MIME 290, MIME 291, MIME 392, MIME 494). In addition, a fee of $300 will be paid for each work term to cover expenses directly related to the operation of the CO-OP program. Students must register for each work term and pay associated fees by MINERVA registration deadline or else late fees will apply. Before registering for any work term course, students must contact the Mining CO-OP Liaison Officer, for approval.

Scholarships
The Department offers renewable Entrance Scholarships every year, valued at $3,000 each. A substantial number of other scholarships and bursaries are also awarded by the Department as well as by the Canadian Mineral Industry Education Foundation.

Student Advising
Students entering the Mining or Materials Engineering programs must plan their schedule of studies in consultation with one of the departmental advisers: Professor Showan Nazhat or Professor Richard Chromik (Materials); Professor Ferri Hassani or Mr. John Mossop (Mining).

CURRICULUM FOR THE B.ENG. DEGREE IN MATERIALS ENGINEERING – CO-OP PROGRAM

REQUIRED COURSES		COURSE CREDITS	
Non-Departmental Courses			
CHEM 233	Topics in Physical Chemistry	3	
CIVE 205	Statics	3	
CIVE 207	Solid Mechanics	4	
COMP 208	Computers in Engineering	3	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MECH 289	Design Graphics	3	**25**
Departmental Courses			
MIME 202	Engineering Communication Skills	2	
MIME 209	Mathematical Applications	3	
MIME 212	Engineering Thermodynamics	3	
MIME 221	Engineering Professional Practice	2	
MIME 250	Introduction to Extractive Metallurgy	3	
MIME 261	Structure of Materials	3	
MIME 280	Industrial Training 1	2	
MIME 310	Engineering Economy	3	
MIME 311	Modelling and Automatic Control	3	
MIME 317	Analytical and Characterization Techniques	3	
MIME 337	Electrotechnology	2	
or ECSE 461	Electric Machinery	3	
MIME 341	Introduction to Mineral Processing	3	
MIME 345	Applications of Polymers	3	
MIME 350	Extractive Metallurgical Engineering	3	
MIME 352	Hydrochemical Processing	3	
MIME 356	Heat, Mass and Fluid Flow	4	
MIME 360	Phase Transformations: Solids	3	
MIME 362	Mechanical Properties	3	
MIME 367	Electronic Properties of Materials	3	
MIME 380	Industrial Training 2	2	
MIME 442	Modelling and Control: Mineral Processing	3	
MIME 452	Process and Materials Design	4	
MIME 455	Advanced Process Engineering	3	
MIME 456	Steelmaking and Steel Processing	3	
MIME 465	Ceramic Engineering	3	
MIME 480	Industrial Training 3	2	**74 or 75**

COMPLEMENTARY COURSES

Technical Complementaries **12**

9 - 12 credits from the following:

CIVE 512	(3)	Advanced Civil Engineering Materials
MECH 530	(3)	Mechanics of Composite Materials
MIME 410	(3)	Research Project
MIME 457	(3)	Light Metals Extraction and Processing
MIME 470	(3)	Engineering Biomaterials
MIME 512	(3)	Corrosion and Degradation of Materials
MIME 542	(3)	Transmission Electron Microscopy
MIME 544	(3)	Analysis: Mineral Processing Systems 1
MIME 545	(3)	Analysis: Mineral Processing Systems 2
MIME 551	(3)	Electrochemical Processing
MIME 552	(3)	Environmental Controls in Metallurgical Plants
MIME 556	(3)	Sustainable Materials Processing
MIME 558	(3)	Engineering Nanomaterials
MIME 559	(3)	Aluminum Physical Metallurgy
MIME 560	(3)	Joining Processes
MIME 561	(3)	Advanced Materials Design
MIME 563	(3)	Hot Deformation of Metals
MIME 564	(3)	X-ray Diffraction Analysis of Materials
MIME 565	(3)	Aerospace Metallic-Materials and Manufacturing Processes
MIME 566	(3)	Texture, Structure & Properties of Polycrystalline Materials
MIME 568	(3)	Topics in Advanced Materials
MIME 569	(3)	Electron Beam Analysis of Materials
MIME 571	(3)	Surface Engineering
MIME 572	(3)	Computational Thermodynamics

0 - 3 credits from the following:

BMDE 504	(3)	Biomaterials and Bioperformance
CHEM 455	(3)	Introductory Polymer Chemistry
CHEM 585	(3)	Colloid Chemistry
PHYS 558	(3)	Solid State Physics

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL **117 or 118**

CURRICULUM FOR THE B.ENG. DEGREE IN MINING ENGINEERING – CO-OP PROGRAM

REQUIRED COURSES		COURSE CREDITS	
Non-Departmental Courses			
CIVE 205	Statics	3	
CIVE 207	Solid Mechanics	4	
COMP 208	Computers in Engineering	3	
EPSC 221	General Geology	3	
EPSC 225	Properties of Minerals	1	
MATH 262	Intermediate Calculus	3	
MATH 263	Ordinary Differential Equations and Linear Algebra	3	
MATH 264	Advanced Calculus ENG	3	
MECH 289	Design Graphics	3	**26**
Departmental Mining Courses			
MIME 200	Introduction to the Minerals Industry	3	
MIME 202	Engineering Communication Skills	2	
MIME 203	Mine Surveying (2 weeks at beginning of summer)	2	
MIME 209	Mathematical Applications	3	
MIME 221	Engineering Professional Practice	2	
MIME 260	Materials Science and Engineering	3	
MIME 290	Industrial Work Period 1	2	
MIME 291	Industrial Work Period 2	2	
MIME 310	Engineering Economy	3	
MIME 322	Rock Fragmentation	3	
MIME 323	Rock and Soil Mass Characterization	3	
MIME 325	Mineral Industry Economics	3	
MIME 333	Materials Handling	3	
MIME 337	Electrotechnology	2	
or ECSE 461	Electric Machinery	3	
MIME 340	Applied Fluid Dynamics	3	
MIME 341	Introduction to Mineral Processing	3	
MIME 392	Industrial Work Period 3	2	
MIME 419	Surface Mining	3	
MIME 420	Feasibility Study	3	
MIME 422	Mine Ventilation	3	
MIME 426	Development and Services	3	
MIME 484	Mining Project	3	**59 or 60**

École Polytechnique Mining Courses

MPMC 321	Mécanique des roches et contrôle des terrains	3	
MPMC 326	Recherche opérationnelle I	3	
MPMC 328	Environnement et gestion des rejets miniers	3	
MPMC 329	Géologie minière	2	
MPMC 330	Géotechnique minière	3	
MPMC 421	Exploitation en souterrain	3	**17**

COMPLEMENTARY COURSES

Either Choice I or II **11 or 12**

Choice I (11 credits)

MIME 494	(2)	Industrial Work Period 4
and	(9)	three Technical Complementaries

or Choice II (12 credits)

MIME 350	(3)	Extractive Metallurgical Engineering
MIME 544	(3)	Analysis: Mineral Processing Systems 1
and	(6)	two Technical Complementaries

General Complementaries **6**

Two courses (6 credits), selected from an approved list: one course on the impact of technology on society and one in the humanities and social sciences, administrative studies and law. See section 9.3.4 "Complementary Studies" for further information.

TOTAL **119-121**

Technical Complementaries

Courses selected from those listed below or any other approved technical course(s) in Engineering, Management or Science. Note: not all courses are given annually; verification with course instructor is advised.

MIME 320	(3)	Extraction of Energy Resources
MIME 442	(3)	Modelling and Control: Mineral Processing
MIME 513	(3)	Mine Planning Optimization Under Uncertainty.
MIME 520	(3)	Stability of Rock Slopes
MIME 521	(3)	Stability of Underground Openings
MIME 525	(3)	Stochastic Orebody Modelling.
MIME 526	(3)	Mineral Economics
MIME 528	(3)	Mining Automation
MIME 544	(3)	Analysis: Mineral Processing Systems 1
MIME 545	(3)	Analysis: Mineral Processing Systems 2
MPMC 320	(3)	CAO et informatique pour les mines
MPMC 327	(3)	Hydrogéologie appliquée

9.5.7 School of Urban Planning

Macdonald-Harrington Building, Room 400
815 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-4075
Fax: 514-398-8376
Email: admissions.planning@mcgill.ca
Website: www.mcgill.ca/urbanplanning

Director — David F. Brown

Emerita Professor
Jeanne M. Wolfe; B.Sc.(Lond.), M.Sc.(W. Ont.), M.A.(McG.)

Associate Professors
Madhav G. Badami; B.Tech., M.S.(IIT, Madras), M.E.Des.(Calg.), Ph.D.(Br. Col.) (*joint appoint. with McGill School of Environment*)
Lisa Bornstein; B.Sc.(Calif., Berk.), M.R.P.(C'nell), Ph.D.(Calif., Berk.)
David F. Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheffield)
Raphaël Fischler; B.Eng. (V. Tech. Eindhoven), M.S. Arch.S., M.C.P.(MIT), Ph.D.(Calif., Berk.)

Assistant Professors
Ahmed Elgeneidy; B.S., M.S.(Alexandria), Ph.D.(Port. St.)
Nik Luka; B.A.(Ryerson), M.Arch.(Laval), Ph.D.(Tor.) (*joint appoint. with Architecture*)

Instructor
Danielle Labbe; B.Arch., M.Sc.(Laval)

Adjunct Professors
David Farley; B.Arch.(McG.), M.Arch., M.C.P.(Harv.)
Mario Polèse; B.A.(CUNY), M.A., Ph.D.(Penn.)
Ray Tomalty; B.A., M.P.A..(Qu.), Ph.D.(Wat.)

Guest Lecturers
Hatem Touman Abdelhamid, Daniel Hodder, Andrew Hoffmann, Paul Le Cavalier, Marc-André Lechasseur, Brenda Lee, Tom Leest, Eric Peissel, Carlos Rueda Plata, Richard Sheamur, Larry Sherman, Alain Trudeau, Martin Wexler, Joshua Wolfe.

Modern urban planning developed into a profession in the early decades of the 20th century, largely as a response to the appalling sanitary, social and economic conditions of rapidly developing industrial cities. Initially, the disciplines of architecture, landscape architecture, civil engineering and public health provided the nucleus of concerned professionals; beautification schemes and infrastructure works marked the early stages of public intervention in the 19th century. Architects, engineers and public health specialists were joined by economists, sociologists, lawyers and geographers as the complexities of the city's problems came to be more fully understood and public pressure mounted for their solution. Contemporary urban and regional planning techniques for survey, analysis, design and implementation developed from an interdisciplinary synthesis of these various fields.

Today, urban planning can be described as the collective management of urban development. It is concerned with the welfare of communities, control of the use of land, design of the built environment, including transportation and communication networks, and protection and enhancement of the natural environment. It is at once a technical and a political process which brings together actors from the public, private and community spheres. Planners participate in that process in a variety of ways, as designers and analysts, advocates and mediators.

McGill University was the first institution in Canada to offer a full-time planning program. An interdisciplinary program was established in 1947, in which students combined a master's degree in Urban Planning with one in a related field. An autonomous program was established in 1972. It became the School of Urban Planning in 1976.

Students come to the School from diverse backgrounds, the physical sciences, the traditional professions, such as architecture and engineering, and the social sciences. Alumni of the School work as planners and designers at various levels of government, in non-profit organizations and with private consulting firms. Their expertise ranges from historic preservation to transportation planning, from housing development to computer imaging. They devote their efforts in increasing numbers to environmental planning and sustainable development.

The School is a partner in the Montreal Interuniversity Group "Urbanization and Development", a consortium recognized by CIDA as a Centre of Excellence, which is devoted to the study of urban problems and the formulation of policies in developing regions. Faculty and students collaborate actively with members of other McGill departments, notably Architecture, Geography, Civil Engineering and Law, and with colleagues at other institutions in Canada and abroad.

The objective of the School is to produce qualified professional urban planners for the public, private and not-for-profit sectors. Training is provided at the postgraduate level; the degree offered is the Master of Urban Planning (M.U.P.). Upon completion of the two-year program of studies, graduates are expected to have acquired basic planning skills, a broad understanding of urban issues, and specialized knowledge in a field of their own choice.

The program of study offered by the School is fully recognized by the Ordre des Urbanistes du Québec (O.U.Q.) and the Canadian Institute of Planners (C.I.P.). Graduates can become full members of the O.U.Q. and other provincial planning associations by meeting their respective internship and examination

requirements; this, in turn, will make them eligible for membership in the C.I.P. Admission to the American Institute of Certified Planners and other such organizations is also possible on the basis of the M.U.P. degree.

For details of the M.U.P. admission requirements and curriculum, consult the *Graduate and Postdoctoral Studies Calendar*, available at www.mcgill.ca/courses.

The following undergraduate courses are taught by the faculty of the School:

ARCH 520	Montreal: Urban Morphology
ARCH 521	Structure of Cities
ARCH 550	Urban Planning and Development
URBP 201	Planning the 21st Century City
URBP 501	Principles and Practice 1
URBP 505	Geographic Information Systems
URBP 506	Environmental Policy and Planning
URBP 507	Planning and Infrastructure
URBP 519	Sustainable Development Plans
URBP 520	Globalization: Planning and Change
URBP 530	Urban Environmental Planning

9.6 Minor Programs

Minors are coherent sequences of courses that may be taken in addition to the courses required for the B.Eng. degree. Minor programs normally consist of 18 to 24 credits, allowing 9 to 12 credits of overlap with the degree program. The real credit cost to the student is typically 9 to 15 credits, representing one term beyond the B.Eng. degree program. All courses in a Minor program must be passed with a grade of C or better.

Students of the Faculty have a considerable variety of complementary course choices that fall into the categories of technical and complementary studies. Students should refer to their respective departments for information concerning complementary course selections. Departments also publish, in this Calendar and in separate documents, information regarding the choice of courses. Students should also consult their course advisers.

General information concerning Minors that are designed for students registered in the Faculty of Engineering is listed below.

Note: In addition, students are also permitted to register for Minor Concentrations offered through the various departments in the Faculty of Arts. Students are advised to seek approval from the specific department in the Faculty of Arts as well as the Faculty of Engineering Student Affairs Office, Engineering Student Centre, Frank Dawson Adams, Suite 22, prior to embarking on these Minors.

9.6.1 Arts Minor

Engineering students may obtain a Minor in Arts as part of their B.Eng. degree by satisfying the 24-credit requirement described below. In general, complementary studies courses given in the Faculty of Arts and listed under: (i) "3 credits of studies of the Impact of Technology on Society" and (ii) "the remaining credits to be social science and humanities courses" (see section 9.3.4 "Complementary Studies") may be used to satisfy some of these requirements. In no case will more than 9 credits taken from these complementary studies requirements be credited toward the Minor in Arts.

Requirements

1. The program must consist of 24 credits as follows:
   a) at least two areas of concentration from within the Faculty of Arts must be chosen, with the minimum number of credits in any one area being 6;
   b) at least 12 credits must be at the 300 or higher level.
2. All courses in the Minor program must be passed with a grade of C or better.
3. The selection of courses for the Minor is to be done in consultation with an adviser in the Student Affairs Office, Engineering Student Centre, or Donald Sedgwick, Senior Faculty Adviser, Faculty of Arts.

9.6.2 Biomedical Engineering Minor

The Minor in Biomedical Engineering is intended to allow interdisciplinary preparation by providing access to otherwise unavailable courses in either the basic life sciences or the applied math tools required in the interdisciplinary field of Biomedical Engineering.

The Minor consists of 21 to 25 credits as outlined below.

Complementary Introductory Courses in Live Sciences
(3-7 credits)
One course from the following list (equivalents can be approved):

ANAT 212	Molecular Mechanisms of Cell Function
BIOL 200	Molecular Biology
BIOL 201	Cell Biology and Metabolism
BIOC 212	Molecular Mechanisms of Cell Function
CHEM 212	Introductory Organic Chemistry 1
PHGY 201	Human Physiology: Control Systems
PHGY 202	Human Physiology: Body Functions
PHGY 209	Mammalian Physiology 1
PHGY 210	Mammalian Physiology 2

Specialization Courses (Minimum of 12 credits)
A minimum of 6 credits must be taken from a department other than the student's department and at least one BMDE course must be selected. These BMDE courses are best taken near the end of the program, when prerequisites are satisfied.

Artificial Cells and Organs

BMDE 505	Cell and Tissue Engineering
PHGY 311	Channels, Synapses & Hormones
PHGY 312	Intermediate Physiology 2
PHGY 313	Intermediate Physiology 3
PHGY 517	Artificial Internal Organs
PHGY 518	Artificial Cells

Bioinformatics, Genomics and Proteomics

ANAT 365	Cellular Trafficking
ANAT 458	Membranes and Cellular Signaling
or BIOC 458	Membranes and Cellular Signaling
BIOC 311	Metabolic Biochemistry
BIOC 312	Biochemistry of Macromolecules
BMDE 506	Molecular Biology Techniques
COMP 302	Programming Languages and Paradigms
COMP 360	Algorithm Design Techniques
COMP 421	Database Systems
COMP 424	Topics: Artificial Intelligence 1
COMP 462	Computational Biology Methods
COMP 526	Probabilistic Reasoning and AI

Biomaterials, Biosensors & Nanotechnology

BMDE 504	Biomaterials and Bioperformance
BMDE 505	Cell and Tissue Engineering
CHEE 380	Materials Science
ECSE 424	Human-Computer Interaction
MECH 553	Design and Manufacture of Microdevices
MIME 360	Phase Transformations: Solids
MIME 362	Mechanical Properties
PHYS 534	Nanoscience and Nanotechnology

Biomechanics and Prosthetics

BMDE 503	Biomedical Instrumentation
CHEE 563	Biofluids and Cardiovascular Mechanics
or MECH 563	Biofluids and Cardiovascular Mechanics
MECH 315	Mechanics 3
MECH 321	Mechanics of Deformable Solids
MECH 530	Mechanics of Composite Materials
MECH 561	Biomechanics of Musculoskeletal Systems
MIME 360	Phase Transformations: Solids
MIME 362	Mechanical Properties

Medical Physics and Imaging

BMDE 519	Biomedical Signals and Systems
COMP 302	Programming Languages and Paradigms
COMP 360	Algorithm Design Techniques
COMP 423	Data Compression
COMP 424	Topics: Artificial Intelligence 1
COMP 558	Fundamentals of Computer Vision
ECSE 303	Signals and Systems 1
ECSE 304	Signals and Systems 2
ECSE 412	Discrete Time Signal Processing
PHYS 557	Nuclear Physics

Neural Systems and Biosignal Processing

BMDE 501	Selected Topics in Biomedical Engineering.
BMDE 502	BME Modelling and Identification
BMDE 503	Biomedical Instrumentation
BMDE 519	Biomedical Signals and Systems
ECSE 526	Artificial Intelligence
PHYS 413	Physical Basis of Physiology

Complementary Courses (Maximum of 6 credits)
Up to 6 credits in the Bachelor's program can also be credited to the Minor, where permitted by the department and to be approved by the Minor Coordinator. In particular, the 200-level and above prerequisite courses to certain Specialization Courses would be eligible. As a result, by careful selection among the complementary courses, the 21 to 25 credit Minor can be satisfied with 9 additional credits in the undergraduate program or a maximum of 12 credits overlap with the degree program.

To complete the Minor in Biomedical Engineering, students must obtain a grade of C or better in all approved courses in the Minor and satisfy the requirements of both the Bachelor's program and the Minor.

9.6.3 Biotechnology Minor

The Faculties of Engineering and of Science offer a Minor in Biotechnology for students interested in taking additional courses in this area.

For Engineering students, the Minor has been designed specifically for students within the Chemical Engineering Department; however, other Engineering students are invited to contact the Minor program supervisor, Professor Bennett, or an adviser in the Student Affairs Office, Engineering Student Centre for further information.

Students should identify an interest in the Minor to their academic adviser and the supervisor of the program during the U1 year, and at the time of registration for the U2 year. With the agreement of the academic adviser, students should submit their course list to the program supervisor, who will certify that the proposed program conforms to the requirements for the Minor.

The Biotechnology Minor Program is administered by the Faculty of Engineering Student Affairs Office, Engineering Student Centre, and by the Faculty of Science by Prof. H. Bennett, Sheldon Biotechnology Centre (Lyman Duff Building).

PROGRAM FOR STUDENTS IN THE FACULTY OF ENGINEERING*

Required Courses (12 credits)

BIOT 505	(3)	Selected Topics in Biotechnology
CHEE 200	(3)	Introduction to Chemical Engineering
CHEE 204	(3)	Chemical Manufacturing Processes
CHEE 474	(3)	Biochemical Engineering

Complementary Courses (12 credits)
selected from courses outside the department of the main program, these may be taken from those listed as required courses for Science students. Alternatively, or in addition, courses may be taken from the lists below, in which case at least three courses must be taken from one area of concentration as grouped.

* As 18 credits must be applied exclusively to the Minor, approved substitutions must be made for any of the specified courses that are part of the student's main program.

Biomedicine

ANAT 541	Cell and Molecular Biology of Aging
EXMD 504	Biology of Cancer
PATH 300	Human Disease

Chemistry

CHEM 382	Organic Chemistry: Natural Products
CHEM 502	Advanced Bio-organic Chemistry
CHEM 552	Physical Organic Chemistry

Immunology

ANAT 261	Introduction to Dynamic Histology
BIOC 503	Immunochemistry
MIMM 314	Immunology
MIMM 414	Advanced Immunology
PHGY 513	Cellular Immunology

Management**

ECON 208	Microeconomics Analysis and Applications
MGCR 211	Introduction to Financial Accounting
MGCR 341	Finance 1
MGCR 352	Marketing Management 1
MGCR 472	Operations Management

** These courses may not also be used for a Management Minor, nor for complementary, by Engineering students.

Microbiology

MIMM 323	Microbial Physiology
MIMM 324	Fundamental Virology
MIMM 413	Parasitology
MIMM 465	Bacterial Pathogenesis
MIMM 466	Viral Pathogenesis

Molecular Biology (Biology)

BIOL 300	Molecular Biology of the Gene
BIOL 314	Molecular Biology of Oncogenes
BIOL 520	Gene Activity in Development
BIOL 551	Molecular Biology: Cell Cycle
BIOL 524	Topics in Molecular Biology

Molecular Biology (Biochemistry)

BIOC 311	Metabolic Biochemistry
BIOC 312	Biochemistry of Macromolecules
BIOC 450	Protein Structure and Function
BIOC 454	Nucleic Acids
BIOC 455	Neurochemistry

Physiology

EXMD 401	Physiology and Biochemistry Endocrine Systems
EXMD 502	Advanced Endocrinology
EXMD 503	Advanced Endocrinology
PHAR 562	General Pharmacology 1
PHAR 563	General Pharmacology 2
PHGY 517	Artificial Internal Organs
PHGY 518	Artificial Cells

Pollution***

CIVE 225	Environmental Engineering
CIVE 430	Water Treatment and Pollution Control
CIVE 526	Solid Waste Management
CIVE 553	Stream Pollution and Control

*** These courses may not also be used for an Environmental Engineering Minor by Engineering students.

General

MIME 310	Engineering Economy

A Chemical Engineering student may complete the Biotechnology Minor by taking BIOL 200, BIOL 201, BIOL 202, MIMM 211, BIOT 505, plus one course from the list of additional courses not including MIME 310. The Department of Chemical Engineering permits students in the Minor program to complete BIOT 505 as one of their technical complementary requirements. The total course credit required for the Chemical Engineering student is 15 credits beyond the 111-credit B.Eng. program.

9.6.4 Chemistry Minor

The Departments of Chemistry and Chemical Engineering offer a Minor Program in Chemistry, of particular interest to Chemical Engineering students, and a Minor in Chemical Engineering, of interest to Chemistry students (described under the Faculty of Science). The Minor in Chemistry consists of 25 credits as follows:

1. Required courses, 10 credits: CHEM 212 and CHEM 234 (or CEGEP equivalent) and either CHEM 233 or CHEE 310.
2. At least 15 credits from the following list, two of which must be laboratory courses (* indicates lab). Note that CHEM 212 is a prerequisite for most of the courses listed below, as are CHEM 223 and CHEM 243 or their equivalents, for the physical chemistry courses. If students take CHEM 222* instead of CHEM 234, they will receive credit for one of the two laboratories that are required but they must have a total of 25 Chemistry credits for the Minor.

Inorganic Chemistry

CHEM 281	Inorganic Chemistry 1
CHEM 371	Inorganic Chemistry Laboratory*
CHEM 381	Inorganic Chemistry 2
CHEM 591	Bioinorganic Chemistry

Analytical Chemistry

CHEM 257D1	Introductory Analytical Chemistry*
CHEM 257D2	Introductory Analytical Chemistry*
or CHEM 277D1	Analytical Chemistry*
CHEM 277D2	Analytical Chemistry*
CHEM 307	Analytical Chemistry of Pollutants
CHEM 367	Instrumental Analysis 1
CHEM 377	Instrumental Analysis 2

Organic Chemistry

CHEM 302	Introductory Organic Chemistry 3
CHEM 352	Structural Organic Chemistry
CHEM 362	Advanced Organic Chemistry Laboratory*
CHEM 382	Organic Chemistry: Natural Products

Physical Chemistry

CHEM 345	Molecular Properties and Structure 1
CHEM 355	Molecular Properties and Structure 2
CHEM 393	Physical Chemistry Laboratory 2*
CHEM 455	Introductory Polymer Chemistry

Please consult the program coordinators for more information: Professor D. Cooper (Chemical Engineering) and Dr. G. Wilczek (Chemistry). A passing grade for courses within the Minor is a C.

9.6.5 Computer Science Courses and Minor Program

The School of Computer Science offers an extensive range of courses for Engineering students interested in computers. The course explicitly for Engineering students (COMP 208) and other courses in the core of the various Engineering programs are listed below. Descriptions of these and other Computer Science courses can be found on Class Schedule or in the Courses section.

COMP 202 Introduction to Computing 1
COMP 208 Computers in Engineering
COMP 250 Introduction to Computer Science
COMP 302 Programming Languages and Paradigms

Engineering students may obtain a Minor in Computer Science as part of their B.Eng. degree by satisfying the 24-credit requirement described below. In general, some complementary courses within Engineering departmental programs may be used to satisfy some of these requirements, but the Minor in Computer Science will require at least 12 extra credits from Computer Science (COMP) courses beyond those needed for the B.Eng. degree. Students should consult their departments about the use of complementaries, and credits that can be double counted.

Students should see the Undergraduate Secretary in the Lorne Trottier Building, Room 2060, to obtain the appropriate forms and to make an appointment to see the Minor adviser for approval of their course selection. Forms must be approved before the end of the Course Change (drop/add) period of the student's final term.

For further information, please check the School of Computer Science website, www.cs.mcgill.ca.

Minor in Computer Science for Engineering Students

The program must consist of 24 credits, from courses passed with a grade of C or better, as follows:

Required Course (6 credits)

COMP 206	(3)	Introduction to Software Systems
COMP 302	(3)	Programming Languages and Paradigms

Complementary Courses (18 credits)

3 credits – one of the following courses:

COMP 203	(3)	Introduction to Computing 2
COMP 250	(3)	Introduction to Computer Science

3 credits – one of the following courses:

COMP 273	(3)	Introduction to Computer Systems
ECSE 221	(3)	Introduction to Computer Engineering

3 credits – one of the following courses:

COMP 350	(3)	Numerical Computing
MECH 309	(3)	Numerical Methods in Mechanical Engineering

9 credits chosen from Computer Science courses numbered 251 or at the 300 level or higher. Courses from other departments making considerable use of computing and approved by the School of Computer Science may also be selected. Students should consult with their advisers about counting specific courses.

Note:

A. COMP 202 and COMP 208 (compulsory for some Engineering students) do not form part of the Minor.
B. COMP 203 and COMP 250 are considered to be equivalent from a prerequisite point of view, and cannot both be taken for credit.
C. COMP 208 may be taken before COMP 250; however, it cannot be taken for credit in the same term or afterwards.

9.6.6 Construction Engineering and Management Minor

Students in the Faculty of Engineering may obtain a Minor in Construction Engineering and Management by completing 24 to 25 credits chosen from the required and complementary courses listed below. For further information, contact Professor L. Chouinard at 514-398-6446, Room 488, Macdonald Engineering Building.

Prerequisites:

CIVE 208	Civil Engineering Systems Analysis or an equivalent course in Operations Research
CIVE 302	Probabilistic Systems or equivalent
COMP 208	Computers in Engineering or equivalent
MIME 310	Engineering Economy

Requirements:

The 24 to 25 credits listed below must be completed with a grade of C or higher in order to fulfil the requirements of the Minor.

1. Management and Law: 15 credits, as follows:

FACC 220	(3)	Law for Architects and Engineers
INDR 294	(3)	Introduction to Labour-Management Relations
MGCR 211	(3)	Introduction to Financial Accounting
MGCR 341	(3)	Finance 1

and one of:

CIVE 324	(3)	Construction Project Management
MECH 472	(3)	Case Studies in Project Mgmt

2. Either 3 or 4 credits, as follows:

a) 4 credits - Any two of the following relating to Building Structures:

ARCH 447	(2)	Lighting
ARCH 451	(2)	Building Regulations and Safety
ARCH 554	(2)	Mechanical Services
CIVE 492	(2)	Structures

or
b) 3 credits - One of the following relating to Heavy Construction:
MIME 322 (3) Rock Fragmentation
MIME 333 (3) Materials Handling

3. Other Construction-Related Complementaries: 6 credits
Any two of the following:
BUSA 462 (3) Management of New Enterprises
CIVE 446 (3) Construction Engineering
CIVE 527 (3) Renovation and Preservation: Infrastructure
CIVE 586 (3) Earthwork Engineering
ECSE 461 (3) Electric Machinery
FINE 445 (3) Real Estate Finance
MIME 520 (3) Stability of Rock Slopes
MIME 521 (3) Stability of Underground Openings
MPMC 321 (3) Mécanique des roches et contrôle des terrains

Total requirement: 24 or 25 credits

9.6.7 Economics Minor

The Minor consists of 18 credits of required and complementary courses given in the Economics Department. In addition, it is presumed that all Engineering students will have a sufficient background in statistics. Engineering Economy, MIME 310, does not form part of this Minor. Engineering students who want to complete a minor in economics are required to complete the following program rather than one of the minor concentrations offered by the Department of Economics in the Faculty of Arts section of the Calendar, unless they have obtained permission from the Faculty of Engineering. For more information see the Department of Economics, Room 443, Leacock Building.

Required Courses (9 credits)
ECON 230D1* Microeconomic Theory
ECON 230D2* Microeconomic Theory
ECON 209** Macroeconomic Analysis and Applications

Complementary Courses (9 credits) from:
ECON 225 Economics of the Environment
ECON 302D1 Money and Banking
ECON 302D2 Money and Banking
ECON 303D1 Canadian Economic Policy
ECON 303D2 Canadian Economic Policy
ECON 305 Industrial Organization
ECON 306D1 Labour Economics and Institutions
ECON 306D2 Labour Economics and Institutions
ECON 308 Governmental Policy Towards Business
ECON 311 United States Economic Development
ECON 313 Economic Development 1
ECON 314 Economic Development 2
ECON 316 The Underground Economy
ECON 321 The Quebec Economy
ECON 326 Ecological Economics
ECON 329 Economics of Confederation
ECON 330D1 Macroeconomic Theory
ECON 330D2 Macroeconomic Theory
ECON 331 Economic Development: Russia and USSR
ECON 335 The Japanese Economy
ECON 337 Introductory Econometrics 1
ECON 344 The International Economy, 1830 - 1914
ECON 345 The International Economy Since 1914
ECON 347 Economics of Climate Change
ECON 348 Urban Economics
ECON 404 Transportation
ECON 405 Natural Resource Economics
ECON 406 Topics in Economic Policy
ECON 408D1 Public Sector Economics
ECON 408D2 Public Sector Economics
ECON 411 Economic Development: A World Area
ECON 416 Topics in Economic Development 2
ECON 420 Topics in Economic Theory
ECON 423D1 International Trade and Finance
ECON 423D2 International Trade and Finance
ECON 426 Labour Economics
ECON 434 Current Economic Problems
ECON 440 Health Economics
ECON 447 Economics of Information and Uncertainty
ECON 467D1 Econometrics - Honours
ECON 467D2 Econometrics - Honours
ECON 525 Project Analysis
ECON 534 Pension Crisis
ECON 546 Game Theory

Mining Engineering students will be permitted to include Mineral Economics (MIME 526) among these 18 credits.

* Students may, with consent of instructor, take ECON 250D1/ ECON 250D2 Introduction to Economic Theory: Honours, in place of ECON 230D1/ECON 230D2.

** This requirement is waived for students who choose ECON 330D1/ECON 330D2 from the list of complementaries. Students may **not** take both ECON 209 and ECON 330D1/ ECON 330D2.

9.6.8 Environmental Engineering Minor

The Environmental Engineering Minor is offered for students in Engineering and in the Department of Bioresource Engineering wishing to pursue studies in this area.

The Minor program consists of 21 credits. A maximum of 12 credits of coursework in the student's B.Eng. program may double-count with the Minor.

To complete the Minor in Environmental Engineering, students must obtain a grade of C or better in all approved courses in the Minor, and satisfy the requirements of the Minor and of their departmental program.

The Environmental Engineering Minor Program is administered by the Department of Civil Engineering and Applied Mechanics. Further information may be obtained from Professor Gehr, Room 487, Macdonald Engineering Building.

Note: Not all courses listed are offered every year. Students should consult with the department concerned about the courses that are offered in a given year.

Minor Requirements (21 credits)
Introductory course (3 credits minimum) – one of:
CHEE 230 (3) Environmental Aspects of Technology
CIVE 225 (4) Environmental Engineering

plus a minimum of 18 credits,

EITHER

15 credits* (minimum) Engineering courses and 3 credits (minimum) Non-Engineering courses, from the course lists below

* A minimum of 6 credits must be from outside the student's department. A maximum of 6 credits of research project courses may be counted toward this category, provided the project has sufficient environmental engineering content (project proposal requires approval of project supervisor and Coordinator of the Minor).

OR

15 credits specified for the section 15.3.2 "Barbados Field Study Semester", provided the project for CIVE/AGRI/URBP 519 Sustainable Development Plans has sufficient environmental engineering content (project proposal requires approval of the Coordinator of the Minor) and

3 credits chosen from the Engineering Course List below, excluding CHEE 496

Engineering Course List
(Environmental Engineering Minor)

Agricultural Engineering (Macdonald Campus)
BREE 217 (3) Hydrology and Water Resources (not open to students who have passed CIVE 323)
BREE 322 (3) Organic Waste Management
BREE 416 (3) Engineering for Land Development
BREE 518 (3) Bio-Treatment of Wastes

Chemical Engineering
CHEE 351 (3) Separation Processes
CHEE 370 (3) Elements of Biotechnology
CHEE 430 (3) Technology Impact Assessment (not open to students who have passed WILD 437)
CHEE 452 (3) Particulate Systems (offered in alternate years)
CHEE 496 (3) Environmental Research Project
CHEE 591 (3) Environmental Bioremediation
CHEE 592 (3) Industrial Air Pollution Control
CHEE 593 (3) Industrial Water Pollution Control

Civil Engineering and Applied Mechanics
CIVE 225 (4) Environmental Engineering
CIVE 323 (3) Hydrology and Water Resources (not open to students who have passed BREE 217)
CIVE 421 (3) Municipal Systems
CIVE 428 (3) Water Resources and Hydraulic Engineering
CIVE 430 (3) Water Treatment and Pollution Control
CIVE 451 (3) Geoenvironmental Engineering
CIVE 526 (3) Solid Waste Management
CIVE 550 (3) Water Resources Management
CIVE 553 (3) Stream Pollution and Control
CIVE 555 (3) Environmental Data Analysis
CIVE 572 (3) Computational Hydraulics
CIVE 573 (3) Hydraulic Structures
CIVE 574 (3) Fluid Mechanics of Water Pollution
CIVE 577 (3) River Engineering
CIVE 585 (3) Groundwater Hydrology

Mechanical Engineering
MECH 434 (3) Turbomachinery
MECH 447 (3) Combustion
MECH 526 (3) Manufacturing and the Environment
MECH 534 (3) Air Pollution Engineering

Mining and Materials Engineering
MIME 412 (3) Corrosion and Degradation
MIME 422 (3) Mine Ventilation
MIME 451 (3) Environmental Controls: Met'l Plants
MPMC 327 (3) Hydrogéologie appliquée
MPMC 328 (3) Environnement et gestion des rejets miniers

Urban Planning
URBP 506 (3) Environmental Policy and Planning

Non-Engineering Course List
(Environmental Engineering Minor)

Agricultural Sciences (Macdonald Campus)
MICR 230 (3) Introductory Microbiology (not open to students who have passed CHEE 370)
MICR 331 (3) Microbial Ecology (not open to students who have passed CHEE 370)
MICR 341 (3) Mechanisms of Pathogenicity
SOIL 210 (3) Principles of Soil Science (not part of the Minor for Agricultural Engineering Students)
SOIL 331 (3) Soil Physics
WILD 375 (3) Issues: Environmental Sciences
WILD 415 (2) Conservation Law
WILD 437 (3) Assessing Environmental Impact (not open to students who have passed CHEE 430)
WOOD 420 (3) Environmental Issues: Forestry
ZOOL 315 (3) Science of Inland Waters

Anthropology
ANTH 206 (3) Environment and Culture

Atmospheric and Oceanic Sciences
ATOC 210 (3) Introduction to Atmospheric Science (not open to students who have passed GEOG 321)
ATOC 220 (3) Introduction to Oceanic Sciences

Biology
BIOL 205 (3) Biology of Organisms
BIOL 432 (3) Limnology

Chemistry
CHEM 307 (3) Analytical Chemistry of Pollutants

Earth and Planetary Sciences
EPSC 243 (3) Environmental Geology (not open to students who have passed or who will take EPSC 221)
EPSC 549 (3) Groundwater Hydrology

Economics
ECON 225 (3) Economics of the Environment
ECON 326 (3) Ecological Economics
ECON 347 (3) Economics of Climate Change

Geography
GEOG 200 (3) Geographical Perspectives: World Environmental Problems
GEOG 201 (3) Introductory Geo-Information Science
GEOG 203 (3) Environmental Systems
GEOG 205 (3) Global Change: Past, Present and Future
GEOG 302 (3) Environmental Management 1
GEOG 308 (3) Principles of Remote Sensing
GEOG 321 (3) Climatic Environments (not open to students who have passed ATOC 210)
GEOG 404 (3) Environmental Management 2

Law
CMPL 580 (3) Environment and the Law

Microbiology and Immunology
MIMM 211 (3) Introductory Microbiology

Religious Studies (Macdonald Campus)
RELG 270 (3) Religious Ethics and the Environment

Sociology
SOCI 328 (3) Environmental Sociology

9.6.9 Minor in Environment

Environmental studies involve the interactions between humans and their natural or technological environment. Environmental problems are frequently comprehensive and complex, and their satisfactory solutions require the synthesis of humanistic, scientific, and institutional knowledge.

The Minor in Environment is offered and administered by the McGill School of Environment (MSE). Inquiries should be directed to Ms. Kathy Roulet, MSE Program Adviser; email: kathy.roulet@mcgill.ca, or telephone: 514-398-4306.

Since the program comprises a total of 18 credits for the Minor, additional credits beyond those needed for the B.Eng. degree are required. Students wishing to receive the Minor should prepare a program and have it approved by both their regular Engineering adviser and the MSE adviser. For program details, see section 10.5 "Minor in Environment".

9.6.10 Minor Programs in Finance, Management, Marketing, and Operations Management

Prerequisite:
Engineering Economy MIME 310 introduces the concept of cost into evaluations of engineering projects and architectural proposals. The Faculty of Engineering requires that students complete MIME 310 with a grade of C or better prior to embarking on a Management minor.

Many engineers begin to assume management functions within a few years of graduation. They can, at this stage, take up the study of economics, behavioural science and other management

subjects. Students wishing to include such studies in their undergraduate program can take suitable courses from Engineering and Management.

Courses are available, subject to timetable requirements, from the core program of the Desautels Faculty of Management. Some courses from the Management core program have considerable overlap with Engineering courses and thus are not available to Engineering students. Further information is available at www.mcgill.ca/engineering/degrees/minors.

A student embarking on a Minor must be prepared to take credits additional to the normal Engineering program. Students may choose the Complementary Studies (Humanities and Social Sciences) courses(s) (maximum of 6 credits) in his/her program to count toward both the Engineering program and the Minors where applicable. For more information, see section 9.3.4 "Complementary Studies".

Students considering this Minor should consult an adviser or the Faculty of Engineering Student Affairs Office, Engineering Student Centre.

Students must have a CGPA of 3.0 or better to be considered for this minor. Students planning to take any course with statistics as a prerequisite must have completed MGCR 271 (Business Statistics) or an equivalent course approved by the BCom Student Affairs Office.

Detailed information on this minor can be found in the Desautels Faculty of Management chapter, section 11.10 "Minors for Non-Management Students".

9.6.11 Materials Engineering Minor

Engineering students may obtain a Minor in Materials Engineering by completing 24 credits chosen from the required and complementary courses listed below. By a careful selection of complementary courses, Engineering students may obtain this Minor with a minimum of 15 additional credits. For further information, please contact the coordinator, Prof. J. Szpunar, Room 2M020, Wong Building.

Required Courses (15 credits)

MIME 260	Materials Science and Engineering
or CHEE 380	Materials Science
MIME 367	Electronic Properties of Materials
MIME 465	Ceramic Engineering
CHEE 481	Polymer Engineering
CHEE 484	Materials Engineering

Complementary Courses (9 credits)

Three courses to be chosen from the following list:

CHEE 487	Chemical Processing: Electronics Industry
CHEM 455	Introductory Polymer Chemistry
ECSE 545	Microelectronics Technology
MECH 530	Mechanics of Composite Materials
MIME 360	Phase Transformations: Solids
MIME 361	Liquid State Processing of Materials
MIME 412	Corrosion and Degradation
MIME 560	Joining Processes
MIME 561	Advanced Materials Design
MIME 563	Hot Deformation of Metals
MIME 566	Texture, Structure & Properties of Polycrystalline Materials
MIME 569	Electron Beam Analysis of Materials

9.6.12 Mathematics Minor

The Minor in Mathematics for students in the Faculty of Engineering requires satisfactory passes in 24 credits of approved courses in Mathematics not including the following:

MATH 247 (and MATH 223)
MATH 262 (and MATH 222 and MATH 260)
MATH 263 (and MATH 261 and MATH 315 and MATH 325)
MATH 264 (and MATH 248 and MATH 265 and MATH 314)
MATH 270
MATH 271 (and MATH 266)
MATH 319

At least 18 credits must be chosen from the Mathematics and Statistics courses approved for the Mathematics Major or Honours program, or from MATH 249, MATH 363, MATH 381. The remaining credits may be chosen from mathematically allied courses.

In addition to an Engineering adviser, each student in the Minor program must have an adviser designated by the Department of Mathematics and Statistics, normally beginning in the U2 year. The selection of courses for the Minor is to be done in conjunction with the Minor adviser. Please consult the Department of Mathematics and Statistics for an adviser.

9.6.13 Mining Engineering Minor

Students in Engineering may obtain a minor in Mining Engineering by completing 24 credits chosen from the required and complementary courses listed below.

One of the required courses is a work term for which enrolment may be limited. Interested students should contact the coordinator, Professor Hani Mitri, Room 121, Adams Building.

Required Courses (12 credits)

MIME 200	Introduction to the Minerals Industry
MIME 291	Industrial Work Period 2
MIME 313	Mining Science and Technology Seminar
MIME 322	Rock Fragmentation
MIME 333	Materials Handling

Complementary Courses (12 credits)

Courses to be chosen from the following lists:

List A: Mining Engineering (minimum 6 credits)

MIME 320	Extraction of Energy Resources
MIME 323	Rock and Soil Mass Characterization
MIME 325	Mineral Industry Economics
MIME 341	Introduction to Mineral Processing
MIME 419	Surface Mining
MIME 422	Mine Ventilation
MIME 426	Development and Services
MIME 520	Stability of Rock Slopes
MIME 521	Stability of Underground Openings
MIME 526	Mineral Economics

List B: Mechanical Engineering (maximum 6 credits)

MECH 497	Value Engineering
MECH 554	Microprocessors for Mechanical Systems
MECH 557	Mechatronic Design
MECH 572	Introduction to Robotics
MECH 573	Mechanics of Robotic Systems
MECH 577	Optimum Design

List C: Civil Engineering (maximum 6 credits)

CIVE 416	Geotechnical Engineering
CIVE 451	Geoenvironmental Engineering
CIVE 462	Design of Steel Structures
CIVE 463	Design of Concrete Structures
CIVE 527	Renovation and Preservation: Infrastructure

List D: Chemical Engineering (maximum 6 credits)

CHEE 453	Process Design
CHEE 455	Process Control
CHEE 484	Materials Engineering

9.6.14 Physics Minor

Students in Honours Electrical Engineering may obtain a Minor in Physics as part of their B.Eng. degree by satisfying the 18-credit requirement listed below:

PHYS 253 Thermal Physics
PHYS 357 Honours Quantum Physics 1
PHYS 457 Honours Quantum Physics 2

and at least 9 credits chosen from the following:
PHYS 332 Physics of Fluids
PHYS 362 Statistical Mechanics
PHYS 451 Honours Classical Mechanics 2
PHYS 514 General Relativity

PHYS 551 Quantum Theory
PHYS 557 Nuclear Physics
PHYS 558 Solid State Physics
PHYS 559 Advanced Statistical Mechanics
PHYS 562 Electromagnetic Theory
PHYS 567 Particle Physics

Students who take PHYS 357 and PHYS 457 can omit PHYS 271 from their normal Electrical Engineering program. Please consult the Department of Physics for an adviser.

9.6.15 Technological Entrepreneurship Minor

Engineering students may obtain a Minor in Technological Entrepreneurship by completing six courses (18 credits) as listed below. Up to two courses (6 credits) may be double-counted for credit toward the Humanities and Social Sciences Complementary Courses.

This Minor is offered jointly by the Faculties of Engineering and Management. It will appeal to those students who have a concept, process or product idea in mind and who want to explore the opportunity of commercializing it. It will also be of interest to students who have a general interest in entrepreneurship and intend to pursue a career in small and medium-sized high technology/engineering companies.

Students considering the Minor should consult with a faculty adviser in the Student Affairs Office, Engineering Student Centre, Frank Dawson Adams, Suite 22.

Complementary Courses (18 credits)
any 6 courses (18 credits) from the following list:
BUSA 465 (3) Technological Entrepreneurship
FACC 500 (3) Technology Business Plan Design
FACC 501 (3) Technology Business Plan Project
MGCR 352 (3) Marketing Management 1
MGCR 423 (3) Organizational Policy
MRKT 360 (3) Marketing of Technology
ORGB 321 (3) Leadership
ORGB 423 (3) Human Resources Management

9.6.16 Software Engineering Minor

This Minor will prepare an engineering student for a career in software engineering. It will provide a foundation in basic computer science, computer programming and software engineering practice.

The Minor consists of 24 credits (8 courses). Up to four of the courses (12 credits) may be double-counted for credit towards the B. Eng. degree in Electrical Engineering or Computer Engineering. Students in other programs may double-count up to three courses (9 credits).

Students considering this Minor should consult with a faculty adviser in the Student Affairs Office, Engineering Student Centre, Frank Dawson Adams, Suite 22.

Required Courses (9 credits)
ECSE 221 (3) Introduction to Computer Engineering
ECSE 321 (3) Introduction to Software Engineering
ECSE 428 (3) Software Engineering Practice

Complementary Courses (15 credits)
one course (3 credits), either:
COMP 203 (3) Introduction to Computing 2
or COMP 250 (3) Introduction to Computer Science

At least one course (3 credits) must be selected from the following list of engineering courses:
CHEE 458 (3) Computer Applications
CHEE 571 (3) Small Computer Applications: Chemical Engineering
CIVE 460 (3) Matrix Structural Analysis
CIVE 550 (3) Water Resources Management
CIVE 572 (3) Computational Hydraulics
ECSE 322 (3) Computer Engineering
ECSE 420 (3) Parallel Computing
ECSE 421 (3) Embedded Systems
ECSE 422 (3) Fault Tolerant Computing
ECSE 424 (3) Human-Computer Interaction
ECSE 427 (3) Operating Systems
ECSE 429 (3) Software Validation
ECSE 526 (3) Artificial Intelligence
ECSE 532 (3) Computer Graphics
MECH 474 (3) Selected Topics in Operations Research
MECH 524 (3) Computer Integrated Manufacturing
MECH 539 (3) Computational Aerodynamics
MECH 545 (3) Advanced Stress Analysis
MECH 576 (3) Computer Graphics and Geometrical Modelling

No more than two courses (6 credits) can be selected from the following list of courses offered by the School of Computer Science:
COMP 302 (3) Programming Languages and Paradigms
COMP 335 (3) Software Engineering Methods
COMP 420 (3) Secondary Storage Algorithms and Data Sources
COMP 421 (3) Database Systems
COMP 424 (3) Topics: Artificial Intelligence 1
COMP 426 (3) Automated Reasoning
COMP 431 (3) Algorithms for Engineers

10 McGill School of Environment

Table of Contents

10.1 The School, page 303
- 10.1.1 Location, page 303
- 10.1.2 Administrative Officers, page 303
- 10.1.3 Academic Staff, page 303
- 10.1.4 Creation of the School, page 304
- 10.1.5 Mission of the School, page 304

10.2 Admission, Registration and Regulations, page 304
- 10.2.1 Admission, page 304
- 10.2.2 Degree Requirements, page 304
- 10.2.3 Advising in the MSE, page 304
- 10.2.4 Important Information about Program Selection, page 304
- 10.2.5 Course Numbering System at McGill, page 305
- 10.2.6 Examination Regulations, page 305
- 10.2.7 Courses Outside the Student's Faculty, page 305

10.3 Programs Offered, page 305

10.4 Suggested Courses for Freshmen Students, page 305

10.5 Minor in Environment, page 305
- 10.5.1 Minor Concentration in Environment, page 306
- 10.5.2 Minor in Environment, page 306

10.6 B.A. Faculty Program in Environment, page 306
- 10.6.1 Ecological Determinants of Health in Society Domain, page 307
- 10.6.2 Economics and the Earth's Environment Domain, page 308
- 10.6.3 Environment and Development Domain, page 309

10.7 B.A.&Sc. Interfaculty Program in Environment, page 310

10.8 Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc., page 311
- 10.8.1 Biodiversity and Conservation Domain, page 312
- 10.8.2 Ecological Determinants of Health Domain, page 313
- 10.8.3 Environmetrics Domain, page 315
- 10.8.4 Food Production and Environment Domain, page 316
- 10.8.5 Land Surface Processes and Environmental Change Domain, page 317
- 10.8.6 Renewable Resource Management Domain, page 318
- 10.8.7 Water Environments and Ecosystems Domain, page 319

10.9 Major in Environment – B.Sc., page 321
- 10.9.1 Atmospheric Environment and Air Quality Domain, page 321
- 10.9.2 Earth Sciences and Economics Domain, page 322

10.10 Honours Program in Environment, page 323

10.11 Diploma in Environment, page 323

10.12 Field Studies, page 324

10.1 The School

10.1.1 Location

For advising, contact:
Program Advisor, Ms. Kathy Roulet
Telephone: 514-398-4306
Fax: 514-398-1643
Email: kathy.roulet@mcgill.ca

Website: www.mcgill.ca/mse

Downtown Campus
3534 University Street
Montreal, QC H3A 2A7
Telephone: 514-398-2827
Fax: 514-398-1643

Macdonald Campus
Rowles House
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Telephone: 514-398-7559
Fax: 514-398-7846

10.1.2 Administrative Officers

Chandra Madramootoo; B.Sc.(Agr.Eng.), M.Sc., Ph.D.(McG.) **Dean, Faculty of Agricultural and Environmental Sciences**

Christopher Manfredi; B.A.(Calg.), M.A., Ph.D.(Claremont) **Dean, Faculty of Arts**

Martin Grant; B.Sc.(PEI), M.Sc., Ph.D.(Tor.) **Dean, Faculty of Science**

Marilyn Scott; B.Sc.(New Br.), Ph.D.(McG.) **Director**

Madhav Badami; B.Tech., M.Sc.(IIT), M.E.Des.(Calg.), Ph.D.(Br. Col.) **Associate Director, Graduate Affairs**

George McCourt; B.Sc., M.Sc.(Alta.), M.Sc.(McG.) **Associate Director, Undergraduate Affairs**

Kathryn Roulet; B.Sc.(Trent), M.Sc.(Guelph) **Program Advisor**

10.1.3 Academic Staff

Professors
Peter G. Brown; B.A.(Haver.), M.A., Ph.D.(Col.) *(joint appoint. with Geography and Natural Resource Sciences)*
Colin Chapman; B.Sc., M.A., Ph.D.(Alta.) (*joint appoint. with Anthropology*)

Associate Professors
Madhav Badami; B.Tech., M.Sc.(IIT), M.E.Des.(Calg.), Ph.D.(Br. Col.) (*joint appoint. with School of Urban Planning*)
Sylvie de Blois; B.Sc.(Agr.)(McG.), M.Sc., Ph.D.(Montr.) (*joint appoint. with Plant Science*)
Frédéric Fabry; B.Sc., M.Sc., Ph.D.(McG.) (*joint appoint. with Atmospheric and Oceanic Sciences*)
Gregory Mikkelson; B.A.(Trinity), M.S., Ph.D.(Chic.) (*joint appoint. with Philosophy*)
Anthony Ricciardi; B.Sc.(Agr.), M.Sc., Ph.D.(McG.) (*joint appoint. with Redpath Museum*)
Renée Sieber; B.Sc.(Mich. St.), M.P.A.(W. Mich.), Ph.D.(Rutg.) (*joint appoint. with Geography)*

Assistant Professors
Elena Bennett; B.A.(Oberlin), M.Sc., Ph.D.(Wis.) (*joint appoint. with Natural Resource Sciences*)
Jaye Ellis; B.A.(Calg.), LL.B., B.C.L.(McG.), LL.M.(Br. Col.) *(joint appoint. with Law)*
Iwao Hirose; Ph.D.(St. And.) (*joint appoint. with Philosophy*)
Brian Leung; B.Sc.(Br. Col.), Ph.D.(Car.) (*joint appoint. with Biology*)
Garry Peterson; B.Sc.(Wat.), M.Sc., Ph.D.(Flor.) *(joint appoint. with Geography)*
Raja Sengupta; B.Sc.(Bombay), M.Sc.(IIT), Ph.D.(S. Illinois) *(joint appoint. with Geography)*
Ismael Vaccaro; B.A.(Barcelona), D.E.A.(Paris), M.A., Ph.D.(Wash.) (*joint appoint. with Anthropology*)

Faculty Lecturers
Colin Duncan; B.A.(Qu.), M.A., Ph.D.(York)

George McCourt; B.Sc., M.Sc.(Alta.), M.Sc.(McG.)
Joan Marshall; B.A.(McG.), M.A.(Tor.), Ph.D.(McG.)

Associate Members
Animal Science: Sarah Kimmins
Anthropology: Andre Costopoulos, John Galaty, Colin H. Scott
Architecture: Avi Friedman
Atmospheric and Oceanic Sciences: Parisa Ariya
Biology: Lauren Chapman, Andrew Gonzalez, Irene Gregory-Eaves, Martin Lechowicz, Brian McGill, Catherine Potvin
Bioresource Engineering: Suzelle Barrington, Robert Bonnell, Robert Kok
Chemical Engineering: Nathalie Tufenkji, Viviane Yargeau
Civil Engineering and Applied Mechanics: Susan Gaskin, Subhasis Ghoshal, Van-Thanh-Van Nguyen, Jim Nicell
Dietetics and Human Nutrition, School of: Tim Johns
Earth and Planetary Sciences: Alfonso Mucci, Jeanne Paquette
Economics: Robert Cairns, Myron Frankman, Chris Green, Franque Grimard, Tom Naylor
Epidemiology and Biostatistics: Mark Goldberg
Geography: Gail Chmura, Oliver Coomes, Thom Meredith, Tim Moore, Wayne H. Pollard, Nigel Roulet
History: Myron Echenberg
Law, Faculty of: Jane Glenn, Richard Janda
Management, Faculty of: Steve Maguire, Vedat Verter
Medicine, Ethics, Law: Margaret Somerville
Natural Resource Sciences: Benoit Côté, Mark Curtis, Jim W. Fyles, William Hendershot, John Henning, Paul Thomassin, Terry Wheeler
Parasitology, Institute of: Marilyn Scott
Pathology: Bruce Case
Philosophy: Philip Buckley
Plant Science: Caroline Begg, Pierre Dutilleul, Don Smith, Marcia Waterway
Political Science: Philip Oxhorn
Redpath Museum: David M. Green
Urban Planning, School of: Jeanne Wolfe

10.1.4 Creation of the School

McGill's Faculties of Agricultural and Environmental Sciences, Arts, Science, and Law have forged a unique approach to the study of environment through the inter-faculty, trans-disciplinary McGill School of Environment (MSE).

The growth of technology, globalizing economies, and rapid increase in population have had dramatic and significant environmental impacts. These changes have been accompanied by an increasing awareness of the relationship between human activity and the environment. Environmental problems range from local and short-term degradation through to the perturbation observed over the entire globe and for many years. The importance of human-environment relations for environmental and social well-being, and the complexity and conflict involved in environmental analysis and decision making, requires a depth and breadth of knowledge. The MSE has developed its programs with the approach of introducing students to a broad range of ideas early in the program to provide a foundation and an openness upon which more specialized, disciplinary knowledge can be built.

10.1.5 Mission of the School

The mission of the McGill School of Environment is:

- to provide a program that will develop a broad-based environmental literacy in the undergraduate population;
- to develop opportunities for graduate students to pursue the studies of the environment at an advanced level to create future leaders and researchers; and
- to generate new ideas, new insights, new technologies, and new approaches to understanding and redressing environmental problems through academic research and outreach that draws on the University's existing strength in research and spans disciplinary boundaries.

10.2 Admission, Registration and Regulations

10.2.1 Admission

Students may be admitted to a B.A., B.A.&Sc., B.Sc.(Ag.Env.Sc.), or a B.Sc. program, offered by the MSE on the University's two campuses: the Macdonald Campus and the Downtown Campus. They register as students within their faculty of admission and are governed by all rules and regulations of that faculty.

Students who have already completed a Bachelor or an equivalent degree may be admitted to the Diploma in Environment through the Faculty of Agricultural and Environmental Sciences, the Faculty of Arts, or the Faculty of Science. They register as students within their faculty of admission and are governed by all rules and regulations of that faculty relative to the Diploma.

Please see the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

10.2.2 Degree Requirements

To be eligible for a B.A. degree, students must fulfil all the faculty and program requirements as indicated under Arts (see section 6.3 "Faculty Degree Requirements").

To be eligible for a B.A.&Sc. degree, students must fulfil all the faculty and program requirements as indicated under the Bachelor of Arts and Science (see section 7.3 "Degree Requirements").

To be eligible for a B.Sc.(Ag.Env.Sc.) degree, students must fulfil all the faculty and program requirements as indicated under Agricultural and Environmental Sciences (see section 5.5.15 "Degree Requirements").

To be eligible for a B.Sc. degree, students must fulfil all the faculty and program requirements as indicated under Science (see section 14.3 "Faculty Degree Requirements").

To be eligible for the Diploma in Environment, students must fulfil all program requirements as specified in section 10.11 "Diploma in Environment".

To be eligible for an Honours degree, students must fulfil all the faculty and program requirements as indicated under their home faculty. For Agricultural and Environmental Sciences, see section 5.5.18 "Honours and First Class Honours"; for Arts, see section 6.10.1 "Honours and First-Class Honours"; for Arts & Science, see section 7.10.1 "Honours and First-Class Honours"; for Science, see section 14.10.1 "Honours and First-Class Honours".

In addition to the requirements above, students must also fulfil the honours program requirements outlined in section 10.10 "Honours Program in Environment".

10.2.3 Advising in the MSE

Each Domain in the MSE has its own Mentor who is available to answer questions and offer guidance about working and learning within the particular field of the Domain. However, students with questions about program requirements or rules, transfer credits, study abroad programs, course substitutions, or any forms that need to be signed, should contact the MSE Program Advisor, Kathy Roulet at kathy.roulet@mcgill.ca.

10.2.4 Important Information about Program Selection

The MSE uses students' program selections to identify which students are in the School's major programs (and, by extension, which students are in the McGill Environmental Students' Society).

Students in U1 who are unsure of the Domain they want to pursue may register in the Major or Faculty program in Environment without picking a Domain. However, they must pick a Domain in their U2 year.

Note: Students must select a Domain in order to graduate; they cannot graduate without choosing a Domain.

(None of the above applies to students in the B.A.&Sc., Minor or Diploma Programs.)

10.2.5 Course Numbering System at McGill

The first four characters of a McGill course number refer to the unit offering the course. For example, MSE courses begin with the Subject Code ENVR.

The three numbers following the Subject Code refer to the course itself, with 200-level courses usually taken by U1 students, 300-level by U2 students, and 400-level by U3 students. Senior undergraduate students can also take some 500-level courses, but they should limit themselves to no more than one per term. See Course Information, Regulations and Descriptions for more information.

10.2.6 Examination Regulations

Regulations concerning the method of evaluation of any course (including those governing supplemental examinations) are those of the faculty that offers the course. Students should note that supplemental exams are available for courses taught in the Faculties of Arts, of Science, and of Education, but **not** for courses taught in the **Faculties of Agricultural and Environmental Sciences, of Engineering, or of Management.**

Note: All ENVR courses, regardless of where they are taught, are offered only by the Faculty of Science.

See Examinations, section 3.6, for more information on the University regulations and procedures.

10.2.7 Courses Outside the Student's Faculty

Students in the School's B.A., B.A.&Sc., B.Sc. and B.Sc.(Ag.Env.Sc.) programs may take courses outside their faculty according to the regulations of their faculty of admission. These regulations are **not identical**:

- Arts students, see Faculty of Arts, section 6.3.6.3 "Courses Outside the Faculties of Arts and of Science".
- Arts and Science students, see Bachelor of Arts and Science, section 7.3.6.2 "Courses outside the Faculties of Arts and of Science".
- Science students, see Faculty of Science, section 14.3.6.2 "Courses Outside the Faculties of Arts and Science".
- Agricultural and Environmental Sciences students, see "Minimum Credit Requirement" on page 90.
- Faculty of Science students in particular should be aware that some courses are restricted and cannot be taken for credit. See the Science Office for Undergraduate Student Advising (SOUSA) website at www.mcgill.ca/science/sousa. Check under *Bachelor of Science degree > General course requirements > Restricted courses outside the Faculty of Science > Policy concerning courses outside Faculty of Science*.
- Students in the Diploma of Environment follow the program as specified; see section 10.11 "Diploma in Environment".

10.3 Programs Offered

The McGill School of Environment has developed seven programs, which are offered on the Downtown and Macdonald campuses:

1. A **Minor in Environment** is open to all undergraduate students. For more information, see section 10.5 "Minor in Environment" on page 305.
2. A **Faculty Program in Environment leading to a B.A.** is open to students meeting the entrance requirements of the Faculty of Arts. For more information, see section 10.6 "B.A. Faculty Program in Environment" on page 306.
3. An **Interfaculty Program in Environment leading to a B.A.&Sc.** is open to students meeting the entrance requirements for the Bachelor of Arts and of Science. For more information, see section 10.7 "B.A.&Sc. Interfaculty Program in Environment" on page 310.
4. A **Major in Environment leading to a B.Sc.(Ag.Env.Sc.)** is open to students meeting the entrance requirements of the Faculty of Agricultural and Environmental Sciences. For more information, see section 10.8 "Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc." on page 311.
5. A **Major in Environment leading to a B.Sc**. is open to students meeting the entrance requirements of the Faculty of Science. For more information, see section 10.8 "Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc." on page 311.
6. An **Honours Program in Environment** is open to senior Environment students in the B.A., B.A.&Sc., B.Sc.(Ag.Env.Sc.) and B.Sc. degrees. For more information, see section 10.10 "Honours Program in Environment" on page 323.
7. A **Diploma in Environment** is available only to students who have already completed a Bachelor or an equivalent degree, and who wish to return to university for further undergraduate study. The Diploma is offered by the Faculty of Agricultural and Environmental Sciences, the Faculty of Arts, and the Faculty of Science. For more information, see section 10.11 "Diploma in Environment" on page 323.

These programs strive to offer the flexibility necessary to deal with the environment through a set of core courses that provide the general knowledge base of the program combined with a progressive series of courses in a trans-disciplinary area of environmental specialization, referred to as a Domain.

The programs are designed to prepare students for further study in environment or discipline-based graduate programs, and for employment in industry, government, and education.

10.4 Suggested Courses for Freshmen Students

The MSE does not recommend that students in their Freshman (U0) year take the ENVR Core courses. Instead, a list of courses that provide an introductory exposure to the concepts and issues in the natural and social environmental sciences can be found on the MSE website. Students in their U1 to U3 years are welcome to take selected ENVR courses, even if they are not in the Environment programs.

10.5 Minor in Environment

The Minor in Environment is intended to complement an expertise obtained through a Major, Major Concentration or a Faculty Program offered by an academic unit **other than** the MSE. Students taking the Minor in Environment are exposed to different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie environmental problems.

Students, after consulting with their advisor in their major program or concentration and the MSE Program Advisor, can declare their intention to do a Minor in Environment.

To obtain a Minor in Environment, students must:

a. register for the Minor online, using Minerva;

b. submit their program of courses already taken and to be taken for the Minor in Environment to the MSE Program Advisor for approval **(only courses at the 200-level and above will be approved)**;

c. pass all courses counted towards the Minor with **a grade of C or higher**;

d. complete 18 credits from the courses listed below not otherwise counted towards the student's Major program or concentration or a second Minor program; and

e. ensure that all the credits specified in (c) above are taken outside the discipline or field of the student's Major program or concentration.

10.5.1 Minor Concentration in Environment

This 18-credit Minor is intended for Arts students in the multi-track system and Law Students.

Advisor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

Advising note: Consultation with the Program Advisor for approval of course selection to meet program requirements is obligatory. Only courses at the 200-level and above will be approved.

Complementary Courses (18 credits)
12 credits selected from the MSE core courses:
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 400 (3) Environmental Thought

6 credits in environmentally related subjects selected with the approval of the Program Advisor (at least 3 credits must be in natural sciences).
A list of suggested courses is available on the MSE website in "Undergraduate Programs: Minor". Students are also encouraged to examine the course lists of the various Domains in the Environment Program on the next few pages of the Calendar for courses that interest them.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

10.5.2 Minor in Environment

This 18-credit Minor is intended for Science and Agricultural and Environmental Science students, but is open to students from other faculties as well, except Arts and Law.

Advisor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

Advising note: Consultation with the Program Advisor for approval of course selection to meet program requirements is obligatory. Only courses at the 200-level and above will be approved.

Complementary Courses (18 credits)
12 credits selected from the MSE core courses:
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 400 (3) Environmental Thought

6 credits in environmentally related subjects selected with the approval of the Program Advisor (at least 3 credits must be in social sciences).
A list of suggested courses is available on the MSE website in "Undergraduate Programs: Minor". Students are also encouraged to examine the course lists of the various Domains in the Environment Program on the next few pages of the Calendar for courses that interest them.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

10.6 B.A. Faculty Program in Environment

The B.A. Faculty Program has two components: Core and Domain. Students follow three steps in their degree program.

1. **Core:** The Core consists of four introductory courses and one intermediate-level course where students are exposed to the different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie most environmental problems. Through the Core program students go beyond the confines of their individual views of environment.
2. **Domain:** Domains provide a trans-disciplinary study of a particular theme or component of the environment.
3. **Senior Core and Research:** In the two senior courses of the Core, students will apply the general and specialized knowledge that they have gained in the program to the analysis of some specific, contemporary environmental problems.

To obtain a B.A. Faculty Program in Environment students must:

a. register in a Domain online, using Minerva;

b. satisfy the co- / prerequisites for the program (calculus and a basic science course);

c. pass all courses counted towards the Faculty Program with **a grade of C or higher**;

d. confirm that their course selection satisfies the required components of the MSE Core and their chosen Domain, and that the complementary courses are approved courses in their chosen Domain; and

e. fulfil all Faculty requirements as specified for the B.A. in the Arts, see section 6.3 "Faculty Degree Requirements", which include meeting the minimum credit requirement as specified in their letter of admission.

B.A. FACULTY PROGRAM IN ENVIRONMENT (54 credits)

The B.A. Faculty Program requires, as either a pre- or corequisite for the first year of the program:

3 credits of calculus:
MATH 139 Calculus
or MATH 140 Calculus 1
or equivalent (e.g., CEGEP objective 00UN)

3 credits of basic science chosen from:
BIOL 111 Principles: Organismal Biology (required for the Ecological Determinants of Health in Society Domain)
or CHEM 110 General Chemistry 1
or PHYS 101 Introductory Physics - Mechanics
or their equivalents (e.g., CEGEP objectives: Biology 00UK, Chemistry 00UL, Physics 00UR).

Core: Required Courses (18 credits)
The Core courses are listed below in the Domain descriptions.

Core: Complementary Course – Senior Research Project (3 credits)
The research courses are listed in the Domain descriptions.

Domain (33 credits)
one MSE Domain selected from those available to students in the B.A. Faculty program.

Currently available:
Ecological Determinants of Health in Society
Economics and the Earth's Environment
Environment and Development

Each Domain has different requirements which are listed below. Course descriptions and prerequisites can be found in the

Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

10.6.1 Ecological Determinants of Health in Society Domain

This Domain (54 credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Mentor: Professor Marilyn Scott
Email: marilyn.scott@mcgill.ca
Telephone: 514-398-7559

An understanding of the interface between human health and environment depends not only on an appreciation of the biological and ecological determinants of health, but equally on an appreciation of the role of social sciences in the design, implementation, and monitoring of interventions. Demographic patterns and urbanization, economic forces, ethics, indigenous knowledge and culture, and an understanding of how social change can be effected are all critical if we are to be successful in our efforts to assure health of individuals and societies in the future. Recognizing the key role that nutritional status plays in maintaining a healthy body, and the increasing importance of infection as a health risk linked intimately with the environment, this domain prepares students to contribute to the solution of problems of nutrition and infection by tying the relevant natural sciences to the social sciences.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Prerequisite or Corequisite Courses for Program

All B.A. Environment students **must** take these courses, or their equivalents. These courses should be taken in the Freshman year if possible. Quebec students can take them in U1.

MATH 139 (4) Calculus
or MATH 140 (3) Calculus 1
or equivalent (e.g., CEGEP objective 00UN)
BIOL 111 (3) Principles: Organismal Biology
or AEBI 120 (3) General Biology *(M)*
or equivalent (e.g., CEGEP objective 00UK or equivalent)

Other suggested first year (U1) courses:

These courses are listed below in the program requirements. They are good courses to start out with.

ECON 208 (3) Microeconomic Analysis and Applications
or AGEC 200 (3) Principles of Microeconomics *(M)*
NUTR 200 (3) Contemporary Nutrition
or NUTR 207 (3) Nutrition and Health *(M)*
SOCI 234 (3) Population and Society

Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 *(M)*
See section 6.3.6.2 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (54 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Program prerequisites or corequisites listed above.

Core: Required Courses (18 credits)

ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)

AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)

* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Complementary Courses (33 credits)

18 credits of Fundamentals (maximum 3 credits from any one category):

Health and Environment
GEOG 221 (3) Environment and Health
NRSC 211 (3) Environment and Health *(M)*
Health and Infection
GEOG 403 (3) Global Health & Environmental Change
PARA 410 (3) Environment and Infection *(M)*
Health and Pollution
ANTH 227 (3) Medical Anthropology
NRSC 333 (3) Pollution and Bioremediation *(M)*
Economics
AGEC 200 (3) Principles of Microeconomics *(M)*
ECON 208 (3) Microeconomic Analysis and Applications
Nutrition
NUTR 200 (3) Contemporary Nutrition
NUTR 207 (3) Nutrition and Health *(M)*
Statistics
AEMA 310 (3) Statistical Methods 1 *(M)*
MATH 203 (3) Principles of Statistics 1
SOCI 350 (3) Statistics in Social Research
or equivalent

9 credits from List A (maximum 3 credits from any one category):

Health and Society
GEOG 303 (3) Health Geography
SOCI 234 (3) Population and Society
SOCI 309 (3) Health and Illness
Hydrology and Climate
BREE 217 (3) Hydrology and Water Resources *(M)*
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
NRSC 510 (3) Agricultural Micrometeorology *(M)*
Agriculture
AGRI 210 (3) Agro-Ecological History *(M)*
AGRI 340 (3) Principles of Ecological Agriculture *(M)*
AGRI 411 (3) International Agriculture *(M)*
Decision Making
AGEC 242 (3) Management Theories and Practices *(M)*
BTEC 502 (3) Biotechnology Ethics and Society
ECON 440 (3) Health Economics
PHIL 343 (3) Biomedical Ethics
URBP 520 (3) Globalization: Planning and Change (in Barbados)
Biology Fundamentals
AEBI 210 (3) Organisms 1 *(M)*
AEBI 211 (3) Organisms 2 *(M)*
BIOL 200 (3) Molecular Biology
BIOL 205 (3) Biology of Organisms
BIOL 308 (3) Ecological Dynamics
ENVB 305 (3) Population and Community Ecology *(M)*
LSCI 211 (3) Biochemistry 1 *(M)*
PHGY 202 (3) Human Physiology: Body Functions
Development and Ecology
ANTH 212 (3) Anthropology of Development
ANTH 339 (3) Ecological Anthropology
GEOG 300 (3) Human Ecology in Geography
SOCI 254 (3) Development and Underdevelopment

6 credits from List B (maximum 3 credits from any one category):

Advanced Ecology
BIOL 465 (3) Conservation Biology

BIOL 553 (3) Neotropical Environments (in Panama)
ENVB 410 (3) Ecosystem Ecology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*
Pest Management
BIOL 350 (3) Insect Biology and Control
ENTO 352 (3) Control of Insect Pests *(M)*
Techniques and Management
CHEE 230 (3) Environmental Aspects of Technology
GEOG 201 (3) Introductory Geo-Information Science
GEOG 302 (3) Environmental Management 1
GEOG 380 (3) Adaptive Environmental Management
NRSC 430 (3) GIS for Natural Resource Management (*M)*
PARA 515 (3) Water, Health and Sanitation (*M)*
Social Change
EDER 461 (3) Society and Change
HIST 292 (3) History and the Environment
Immunology and Infectious Disease
MIMM 314 (3) Immunology
MIMM 324 (3) Fundamental Virology
MIMM 413 (3) Parasitology
PARA 438 (3) Immunology *(M)*
WILD 424 (3) Parasitology *(M)*
Populations and Place
CANS 407 (3) Regions of Canada
GEOG 498 (3) Humans in Tropical Environments (in Panama)
PSYC 533 (3) International Health Psychology
SOCI 520 (3) Migration and Immigrant Groups
SOCI 550 (3) Developing Societies
SOCI 565 (3) Social Change in Panama (in Panama)

10.6.2 Economics and the Earth's Environment Domain

This Domain (54 credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Mentor: Professor Bruce Hart
Email: hart@eps.mcgill.ca
Telephone: 514-398-3677

Understanding Earth's geologic processes provides us with the knowledge to mitigate many of our society's environmental impacts due to resource extraction and waste disposal. This knowledge is not always enough, as economics often plays a controlling role in how we use and abuse our environment.

This Domain educates students in the fundamentals of economics and Earth sciences. The fundamentals of economics are provided, as is their application to the effects of economic choices on Earth's environment. Examples of these applications include the economic effects of public policy towards resource industries and methods of waste disposal, and the potential effects of global warming on the global economy. Students also learn of minerals, rocks, soils, and waters that define much of Earth's environment and how these materials interact with each other and with the atmosphere. Courses in specific subdisciplines of Earth sciences combined with courses presenting a global vision of how the Earth and its environment operate provide the student with the necessary knowledge of geologic processes. Examples of this knowledge include the effects of mineral and energy extraction on the environment and how industrial waste interacts with solids and liquids in the environment. The Earth science and economics studies merge in the final year when the students apply what they have learned in the Domain to current environmental issues.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Prerequisite or Corequisite Courses for Program
All B.A. Environment students **must** take these courses, or their equivalents. These courses should be taken in the Freshman year if possible. Quebec students can take them in U1.
3 credits of calculus:
MATH 139 Calculus
or MATH 140 Calculus 1
or equivalent (e.g., CEGEP objective 00UN)
3 credits of basic science chosen from:
BIOL 111 Principles: Organismal Biology
or CHEM 110 General Chemistry 1
or PHYS 101 Introductory Physics - Mechanics
or their equivalents (e.g., CEGEP objectives: Biology 00UK, Chemistry 00UL, Physics 00UR).
Other suggested first year (U1) courses:
These courses are listed below in the program requirements. They are good courses to start out with.
ECON 230D1 (3) Microeconomic Theory
ECON 230D2 (3) Microeconomic Theory
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (4) Introductory Petrology

Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 *(M)*
See section 6.3.6.2 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (54 credits)

NOTE: Students are required to take a maximum of 34 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Domain prerequisites or co-requisites listed above.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (15 credits)
ECON 230D1 (3) Microeconomic Theory
ECON 230D2 (3) Microeconomic Theory
ECON 405 (3) Natural Resource Economics
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology

Domain: Complementary Courses (18 credits)
3 credits of statistics:
AEMA 310 (3) Statistical Methods 1 *(M)*
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
or equivalent
6 credits of economics:
AGEC 333 (3) Resource Economics *(M)*
ECON 326 (3) Ecological Economics
ECON 347 (3) Economics of Climate Change
ECON 416 (3) Topics in Economic Development 2
ECON 525 (3) Project Analysis

9 credits of advanced courses:
AGRI 435 (3) Soil and Water Quality Management
AGRI 452 (3) Water Resources in Barbados (in Barbados)
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
ANTH 339 (3) Ecological Anthropology

BIOL 305	(3)	Animal Diversity
BIOL 308	(3)	Ecological Dynamics
CHEE 430	(3)	Technology Impact Assessment
ECON 305	(3)	Industrial Organization
ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
ECON 408D1	(3)	Public Sector Economics
ECON 408D2	(3)	Public Sector Economics
ECON 412	(3)	Topics in Economic Development 1
ENVB 210	(3)	The Biophysical Environment *(M)*
ENVB 305	(3)	Population and Community Ecology *(M)*
EPSC 455	(3)	Sedimentary Geology
EPSC 549	(3)	Hydrogeology
GEOG 302	(3)	Environmental Management 1
GEOG 322	(3)	Environmental Hydrology
GEOG 380	(3)	Adaptive Environmental Management
GEOG 404	(3)	Environmental Management 2 (in Panama)
GEOG 498	(3)	Humans in Tropical Environments (in Panama)
NRSC 437	(3)	Assessing Environmental Impact *(M)*
URBP 520	(3)	Globalization: Planning and Change (in Barbados)
WILD 415	(2)	Conservation Law (*M*) (*if this course is taken, 1 additional credit of complementary courses must be taken.*)

10.6.3 Environment and Development Domain

This Domain (54 credits including Core) is open only to students in the B.A. Faculty Program in Environment.

Mentor: Prof. Gregory Mikkelson
Email: gregory.mikkelson@mcgill.ca
Telephone: 514-398-4583

The quest for sustainable paths to economic development requires scholars and practitioners to transcend the boundaries of traditional disciplines. This Domain offers students sufficient depth and breadth of study to acquire a strong grasp of current theories, concepts, and approaches to environment and development. It prepares them for graduate study in interdisciplinary programs (e.g., development studies or environmental studies) as well as in integrative social sciences (e.g., anthropology, geography, etc.).

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Prerequisite or Corequisite Courses for Program

All B.A. Environment students **must** take these courses, or their equivalents. These courses should be taken in the Freshman year if possible. Quebec students can take them in U1.

3 credits of calculus:
MATH 139 Calculus
or MATH 140 Calculus 1
or equivalent (e.g., CEGEP objective 00UN)

3 credits of basic science chosen from:
BIOL 111 Principles: Organismal Biology
or CHEM 110 General Chemistry 1
or PHYS 101 Introductory Physics - Mechanics
or their equivalents (e.g., CEGEP objectives: Biology 00UK, Chemistry 00UL, Physics 00UR).

Other suggested first year (U1) courses:

These courses are listed below in the program requirements. They are good courses to start out with.

ECON 208	(3)	Microeconomic Analysis and Applications
or AGEC 200	(3)	Principles of Microeconomics *(M)*
ENVB 305	(3)	Population & Community Ecology *(M)*

Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 *(M)*
See section 6.3.6.2 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (54 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)

ENVR 200	(3)	The Global Environment
ENVR 201	(3)	Society and Environment
ENVR 202	(3)	The Evolving Earth
ENVR 203	(3)	Knowledge, Ethics and Environment
ENVR 301	(3)	Environmental Research Design
ENVR 400	(3)	Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)

AGRI 519	(6)	Sustainable Development Plans (in Barbados)
ENVR 401	(3)	Environmental Research
ENVR 451	(6)	Research in Panama (in Panama)

* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (12 credits)

ANTH 339	(3)	Ecological Anthropology
ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
GEOG 302	(3)	Environmental Management 1

Domain: Complementary Courses (21 credits)

3 credits of microeconomics:

AGEC 200	(3)	Principles of Microeconomics *(M)*
ECON 208	(3)	Microeconomic Analysis and Applications

3 credits of statistics:

AEMA 310	(3)	Statistical Methods 1 *(M)*
GEOG 202	(3)	Statistics and Spatial Analysis
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics

or equivalent

3 credits of ecology:

BIOL 308	(3)	Ecological Dynamics
ENVB 305	(3)	Population & Community Ecology *(M)*

6 credits of advanced development courses:

AGEC 442	(3)	Economics of International Agricultural Development
ANTH 418	(3)	Environment and Development
GEOG 408	(3)	Geography of Development
GEOG 410	(3)	Geography of Underdevelopment: Current Problems

3 credits of natural sciences:

AGRI 550	(3)	Sustained Tropical Agriculture (in Panama)
BIOL 465	(3)	Conservation Biology
BIOL 553	(3)	Neotropical Environments (in Panama)
GEOG 305	(3)	Soils and Environment
GEOG 322	(3)	Environmental Hydrology
NUTR 403	(3)	Nutrition in Society *(M)*
NUTR 501	(3)	Nutrition in Developing Countries *(M)*
PARA 410	(3)	Environment and Infection *(M)*

3 credits of social sciences:

AGEC 333	(3)	Resource Economics *(M)*
AGEC 442	(3)	Economics of International Development *(M)*
AGRI 210	(3)	Agro-Ecological History *(M)*
AGRI 413	(3)	Globalization: Issues of Change (in Barbados)
AGRI 452	(3)	Water Resources in Barbados (in Barbados)
ANTH 439	(3)	Theories of Development
ANTH 445	(3)	Property and Land Tenure
CANS 407	(3)	Regions of Canada
ECON 326	(3)	Ecological Economics

ECON 405 (3) Natural Resource Economics
ENVR 465 (3) Environment and Social Change (at Bay of Fundy)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 300 (3) Human Ecology in Geography
GEOG 331 (3) Urban Social Geography
GEOG 380 (3) Adaptive Environmental Management
GEOG 404 (3) Environmental Management 2 (in Panama or Africa)
GEOG 408 (3) Geography of Development
GEOG 496 (3) Regional Geographical Excursion (in Barbados)
GEOG 498 (3) Humans in Tropical Environments (in Panama)
GEOG 510 (3) Humid Tropical Environments
GEOG 551 (3) Environmental Decisions
MGPO 440 (3) Strategies for Sustainability
POLI 445 (3) International Political Economy: Monetary Relations
POLI 472 (3) Developing Areas/ Social Movements
SOCI 565 (3) Social Change in Panama (in Panama)
URBP 507 (3) Planning and Infrastructure (in Barbados)

10.7 B.A.&Sc. Interfaculty Program in Environment

To obtain a B.A.&Sc. Interfaculty Program in Environment students must:
a. register in the program online, using Minerva;
b. satisfy the co- / prerequisites for the program;
c. pass all courses counted towards the Interfaculty Program with a grade of C or higher;
d. confirm that their course selection satisfies the required components of the program;
e. fulfil all requirements specified for the B.A.&Sc. in section 7.3 "Degree Requirements", which include meeting the minimum credit requirement as specified in their letter of admission.

B.A.&Sc. INTERFACULTY PROGRAM IN ENVIRONMENT
This program (54 credits) is open only to students in the B.A.&Sc. degree.

Advisor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

The growth of technology, globalization of economies, and rapid increases in population and per capita consumption have all had dramatic environmental impacts. The Interfaculty Program in Environment for the Bachelor of Arts and Science is designed to provide students with a broad "Liberal Arts/Science" training. In combination with careful mentoring, this program offers a great degree of flexibility, allowing students to develop the skills and knowledge base required to face the myriad of environmental problems that currently need to be addressed.

1. Students are required to take a maximum of 21 credits at the 200-level and a minimum of 12 credits at the 400-level or higher in this program. This includes Required courses.
2. Students must complete at least 30 credits in the Faculty of Arts and at least 30 in the Faculty of Science as part of their interfaculty program and their minor or minor concentration. ENVR courses are considered courses in both Arts and Science, and so the credits are split between the two faculties for the purpose of this regulation.
3. Students are also required to complete the required integrative course BASC 201 (3) Arts and Science Integrative Topics.

Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Complementary Courses (36 credits)
(3 credits) – Senior Research Project*
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

3 credits of statistics:
AEMA 310 (3) Statistical Methods 1 *(M)*
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics

30 credits – students must take courses from at least 3 of the following areas and at least 6 credits must be at the 400-level or higher, selected either from these lists or in consultation with the Program Advisor

Area 1: Population, Community and Ecosystem Ecology
BIOL 308 (3) Ecological Dynamics
BIOL 432 (3) Limnology
BIOL 441 (3) Biological Oceanography
ENVB 305 (3) Population & Community Ecology *(M)*
ENVB 410 (3) Ecosystem Ecology *(M)*
ENVR 540 (3) Ecology of Species Invasions
or BIOL 540 (3) Ecology of Species Invasions
GEOG 350 (3) Ecological Biogeography
PLNT 460 (3) Plant Ecology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*

Area 2: Biodiversity and Conservation
BIOL 305 (3) Animal Diversity
BIOL 327 (3) Herpetology
BIOL 341 (3) History of Life
BIOL 355 (3) Trees: Ecology & Evolution
BIOL 465 (3) Conservation Biology
ENTO 440 (3) Insect Diversity *(M)*
MICR 331 (3) Microbial Ecology *(M)*
PLNT 358 (3) Flowering Plant Diversity *(M)*
WILD 307 (3) Natural History of Vertebrates *(M)*
WILD 350 (3) Mammalogy *(M)*
WILD 420 (3) Ornithology *(M)*

Area 3: Field studies in ecology and conservation
BIOL 240 (3) Monteregian Flora (at Mont St. Hilaire)
BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
BIOL 334 (3) Applied Tropical Ecology (in Barbados)
BIOL 553 (3) Neotropical Environments (in Panama)
GEOG 495 (3) Field Studies - Physical Geography (in Southern Quebec)
GEOG 499 (3) Subarctic Field Studies (in Schefferville)
WILD 475 (3) Desert Ecology (in Arizona)

Area 4: Hydrology and water resources
GEOG 322 (3) Environmental Hydrology
or BREE 217 (3) Hydrology and Water Resources *(M)*
or CIVE 323 (3) Hydrology and Water Resources
EPSC 549 (3) Hydrogeology
GEOG 372 (3) Running Water Environments
GEOG 522 (3) Advanced Environmental Hydrology
GEOG 537 (3) Advanced Fluvial Geomorphology
NRSC 540 (3) Socio-Cultural Issues in Water *(M)*

Area 5: Human Health
ANSC 330 (3) Fundamentals of Nutrition *(M)*
or NUTR 307 (3) Human Nutrition *(M)*
PARA 410 (3) Environment and Infection *(M)*
PATH 300 (3) Human Disease
PHAR 303 (3) Principles of Toxicology
or NUTR 420 (3) Toxicology and Health Risks *(M)*

Area 6: Earth and soil sciences

ATOC 215	(3)	Oceans, Weather and Climate
EPSC 201	(3)	Understanding Planet Earth
GEOG 272	(3)	Earth's Changing Surface
GEOG 305	(3)	Soils and Environment
GEOG 321	(3)	Climatic Environments
SOIL 326	(3)	Soils in a Changing Environment *(M)*

Area 7: Economics

AGEC 333	(3)	Resource Economics *(M)*
ECON 208	(3)	Microeconomic Analysis and Applications
or AGEC 200	(3)	Principles of Microeconomics *(M)*
ECON 326	(3)	Ecological Economics
ECON 347	(3)	Economics of Climate Change
ECON 405	(3)	Natural Resource Economics
GEOG 216	(3)	Geography of the World Economy

Area 8: Development and Underdevelopment

ANTH 212	(3)	Anthropology of Development
ANTH 418	(3)	Environment and Development
ECON 313	(3)	Economic Development 1
ECON 314	(3)	Economic Development 2
GEOG 408	(3)	Geography of Development
GEOG 410	(3)	Geography of Underdevelopment: Current Problems
POLI 227	(3)	Developing Areas/Introduction
POLI 445	(3)	International Political Economy: Monetary Relations
SWRK 374	(3)	Community Development/Social Action

Area 9: Cultures and People

ANTH 206	(3)	Environment and Culture
ANTH 339	(3)	Ecological Anthropology
GEOG 210	(3)	Global Places and Peoples

Area 10: Human Ecology and Health

ANTH 227	(3)	Medical Anthropology
GEOG 300	(3)	Human Ecology in Geography
GEOG 303	(3)	Health Geography
PHIL 343	(3)	Biomedical Ethics
SOCI 225	(3)	Medicine and Health in Modern Society
SOCI 309	(3)	Health and Illness

Area 11: Spirituality, Philosophy, Thought

EDER 461	(3)	Society and Change
PHIL 220	(3)	Introduction to History and Philosophy of Science 1
PHIL 221	(3)	Introduction to History and Philosophy of Science 2
PHIL 237	(3)	Contemporary Moral Issues
PHIL 341	(3)	Philosophy of Science 1
PHIL 348	(3)	Philosophy of Law 1
RELG 270	(3)	Religious Ethics and the Environment
RELG 340	(3)	Religion and the Sciences
RELG 370	(3)	Human Condition

Area 12: Environmental management

AGRI 210	(3)	Agro-Ecological History *(M)*
AGRI 435	(3)	Soil and Water Quality Management *(M)*
AGRI 452	(3)	Water Resources in Barbados (in Barbados)
ENTO 336	(3)	Economic Entomology *(M)*
GEOG 302	(3)	Environmental Management 1
GEOG 380	(3)	Adaptive Environmental Management
GEOG 404	(3)	Environmental Management 2 (in Panama)
NRSC 333	(3)	Pollution and Bioremediation *(M)*
NRSC 382	(3)	Ecological Monitoring and Analysis *(M)*
NRSC 383	(3)	Land Use: Redesign and Planning *(M)*
NRSC 437	(3)	Assessing Environmental Impact *(M)*
SOIL 335	(3)	Soil Ecology and Management *(M)*
WILD 401	(4)	Fisheries and Wildlife Management *(M)*
WILD 415	(2)	Conservation Law *(M)* (if this course is taken, 1 additional credit of complementary courses must be taken)
WOOD 441	(3)	Integrated Forest Management *(M)*

10.8 Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc.

Students in the Faculty of Agricultural and Environmental Sciences B.Sc.(Ag.Env.Sc.) program and students in the Faculty of Science B.Sc. program can register in the Major in Environment.

The Major has two components: Core and Domain. Students follow three steps in their degree program.

1. **Core:** The Core consists of four introductory courses and one intermediate-level course where students are exposed to the different approaches, perspectives, and world views that will help them gain an understanding of the complexity and conflicts that underlie most environmental problems. Through the Core program students go beyond the confines of their individual views of environment.
2. **Domain:** Domains provide a trans-disciplinary study of a particular theme or component of the environment.
3. **Senior Core and Research:** In the two senior courses of the Core, students will apply the general and specialized knowledge that they have gained in the program to the analysis of some specific, contemporary environmental problems.

To obtain a Major in Environment, students must:

a. register in a Domain online using Minerva;

b. pass all courses counted towards the Major with **a grade of C or higher**;

c. confirm that their course selection satisfies the required components of the MSE Core and their chosen Domain, and that the complementary courses are approved courses in their chosen Domain; and

d. fulfil all faculty requirements as specified by the faculty in which they are registered: for the B.Sc.(Ag.Env.Sc.) refer to Agricultural and Environmental Sciences section 5.5 "Faculty Information and Regulations"; for the B.Sc. see section 14.3 "Faculty Degree Requirements". This includes meeting the minimum credit requirement as specified in their letter of admission.

MAJOR PROGRAM IN ENVIRONMENT
(57 to 66 credits – depending upon Domain selected)

Core: Required Courses (18 credits)
The Core courses are listed below in the Domain descriptions.

Core: Complementary Course – Senior Research Project (3 credits)
The research courses are listed in the Domain descriptions.

Domain (36 to 45 credits – depending upon Domain selected)
one MSE Domain selected from those available to students in the Major.

Currently available for B.Sc.(Ag.Env.Sc.) or B.Sc.:
- Biodiversity and Conservation (42 credits)
- Ecological Determinants of Health – Population Stream or Cellular Stream (42 credits)
- Environmetrics (42 credits)
- Food Production and Environment (42 credits)
- Land Surface Processes and Environmental Change (42 credits)
- Renewable Resource Management (42 credits)
- Water Environments and Ecosystems Physical Stream or Biological Stream (36 - 39 credits)

Currently available for B.Sc. only (see section 10.9 "Major in Environment – B.Sc."):
- Atmospheric Environment and Air Quality (39 credits)
- Earth Sciences and Economics (45 credits)

Each Domain has different requirements, which are listed below. Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses

being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

10.8.1 Biodiversity and Conservation Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Graham Bell
Email: graham.bell@mcgill.ca
Telephone: 514-398-6458

This Domain links the academic study of biological diversity with the applied field of conservation biology. The study of biological diversity, or "biodiversity", lies at the intersection of evolution with ecology and genetics, combining the subdisciplines of evolutionary ecology, evolutionary genetics and ecological genetics. It has two main branches, the creation of diversity and the maintenance of diversity. Both processes are governed by a general mechanism of selection acting over different scales of space and time. This gives rise to a distinctive set of principles and generalizations that regulate rates of diversification and levels of diversity, as well as the abundance or rarity of different species. Conservation biology constitutes the application of these principles in the relevant social and economic context to the management of natural systems, with the object of preventing the extinction of rare species and maintaining the diversity of communities. As the impact of industrialization and population growth on natural systems has become more severe, conservation has emerged as an important area of practical endeavour.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Suggested first year (U1) courses:

These courses are listed below in the program requirements. They are good courses to start out with.

ECON 208 (3) Microeconomic Analysis and Applications
or AGEC 200 (3) Principles of Microeconomics *(M)*

Statistics: (Although these are 300-level courses, they can be taken in U1.)

BIOL 373 (3) Biometry
or AEMA 310 (3) Statistical Methods 1 *(M)*

B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Although these are not listed in the Domain, they satisfy prerequisites for upper level biology courses:

BIOL 200 (3) Molecular Biology
or LSCI 211 (3) Biochemistry 1 *(M)*
CHEM 212 (4) Introductory Organic Chemistry 1
or FDSC 230 (4) Organic Chemistry *(M)*
BIOL 205 (3) Biology of Organisms
or AEBI 210 (3) Organisms 1 *(M)*

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)

ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)

AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)

* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Complementary Courses (42 credits)

9 credits, basic courses in the biological principles of diversity, systematics and conservation:

BIOL 304 (3) Evolution
or AEBI 212 (3) Evolution and Phylogeny *(M)*
BIOL 305 (3) Animal Diversity
or AEBI 211 (3) Organisms 2 *(M)*
BIOL 465 (3) Conservation Biology
or WILD 421 (3) Wildlife Conservation *(M)*

3 credits of ecology:

BIOL 308 (3) Ecological Dynamics
or ENVB 305 (3) Population & Community Ecology *(M)*

3 credits of statistics:

BIOL 373 (3) Biometry
or AEMA 310 (3) Statistical Methods 1 *(M)*

9 credits, interface between science, policy and management:

AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
ANTH 418 (3) Environment and Development
ECON 208 (3) Microeconomic Analysis and Applications
or AGEC 200 (3) Principles of Microeconomics *(M)*
ECON 225 (3) Economics of the Environment
GEOG 302 (3) Environmental Management 1
GEOG 370 (3) Protected Areas
GEOG 380 (3) Adaptive Environmental Management
GEOG 408 (3) Geography of Development
GEOG 410 (3) Geography of Underdevelopment: Current Problems

3 credits of field courses:

AGRI 452 (3) Water Resources in Barbados (in Barbados)
BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
BIOL 334 (3) Applied Tropical Ecology (in Barbados)
BIOL 553 (3) Neotropical Environments (in Panama)
GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)
GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy)
GEOG 499 (3) Subarctic Field Studies (in Schefferville)
WILD 475 (3) Desert Ecology (in Arizona)

6 credits of general scientific principles:

BIOL 324 (3) Ecological Genetics
BIOL 341 (3) History of Life
BIOL 342 (3) Marine Biology
BIOL 432 (3) Limnology
BIOL 441 (3) Biological Oceanography
BIOL 505 (3) Diversity and Systematics Seminar
ENVB 313 (3) Phylogeny and Biogeography *(M)*
ENVB 315 (3) Science of Inland Waters *(M)*
ENVB 410 (3) Ecosystem Ecology *(M)*
GEOG 272 (3) Earth's Changing Surface
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
GEOG 350 (3) Ecological Biogeography
MICR 331 (3) Microbial Ecology *(M)*
NRSC 430 (3) GIS for Natural Resource Management *(M)*
or GEOG 306 (3) Raster Geo-Information Science
NRSC 437 (3) Assessing Environmental Impact *(M)*
PLNT 460 (3) Plant Ecology *(M)*
WILD 311 (3) Ethology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*
WOOD 420 (3) Environmental Issues: Forestry *(M)*

(A second field course from the Domain curriculum may also be taken)

3 credits of social science:
AGEC 333 (3) Resource Economics *(M)*
ANTH 339 (3) Ecological Anthropology
ANTH 416 (3) Environment/Development: Africa (in Africa)
ECON 326 (3) Ecological Economics
GEOG 404 (3) Environmental Management 2 (in Panama)
GEOG 498 (3) Humans in Tropical Environments (in Panama)
GEOG 510 (3) Humid Tropical Environments
URBP 520 (3) Globalization: Planning and Change (in Barbados)
WILD 415 (2) Conservation Law *(M)* (If this course is taken, 1 additional credit of complementary courses must be taken.)

6 credits of organisms and diversity:
AGRI 340 (3) Principles of Ecological Agriculture *(M)*
ANTH 311 (3) Primate Behaviour and Ecology
BIOL 335 (3) Marine Mammals (at Bay of Fundy)
BIOL 350 (3) Insect Biology and Control
or ENTO 350 (3) Insect Biology and Control *(M)*
BIOL 355 (3) Trees: Ecology & Evolution
BIOL 427 (3) Herpetology
ENTO 352 (3) Control of Insect Pests *(M)*
ENTO 440 (3) Insect Diversity *(M)*
ENVR 540 (3) Ecology of Species Invasions
or BIOL 540 (3) Ecology of Species Invasions
PLNT 304 (3) Biology of Fungi *(M)*
PLNT 358 (3) Flowering Plant Diversity *(M)*
PLNT 458 (3) Flowering Plant Systematics *(M)*
WILD 307 (3) Natural History of Vertebrates *(M)*
WILD 350 (3) Mammalogy *(M)*
WILD 420 (3) Ornithology *(M)*
WILD 424 (3) Parasitology *(M)*

10.8.2 Ecological Determinants of Health Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Marilyn Scott
Email: marilyn.scott@mcgill.ca
Telephone: 514-398-7559

This Domain considers the interface between the environment and human well-being, with particular focus on the triad that ties human health to the environment through the elements of food and infectious agents. Each of these elements is influenced by planned and unplanned environmental disturbances.

For example, agricultural practices shift the balance between beneficial and harmful ingredients of food. Use of insecticides presents dilemmas with regard to the environment, economics and human health. The distribution of infectious diseases is influenced by the climatic conditions that permit vectors to coexist with man, by deforestation, by urbanization, and by human interventions ranging from the building of dams to provision of potable water.

In designing interventions that aim to prevent or reduce infectious contaminants in the environment, or to improve food production and nutritional quality, not only is it important to understand methods of intervention, but also to understand social forces that influence how humans respond to such interventions.

Students in the **Population Concentration** will gain a depth of understanding at an ecosystem level that looks at society, land and population health. Students in the **Cellular Concentration** will explore the interactions in more depth, at a physiological level.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Ecological Determinants of Health Domain – Cellular

The Cellular Concentration (63 credits) in this Domain is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Suggested first year (U1) courses:
Although not all of these are listed in the Domain, they satisfy prerequisites for upper level biology courses. They are good courses to start out with.
BIOL 200 (3) Molecular Biology
or LSCI 211 (3) Biochemistry 1 *(M)*
CHEM 212 (4) Introductory Organic Chemistry 1
or FDSC 230 (4) Organic Chemistry *(M)*
BIOL 202 (3) Basic Genetics
or LSCI 204 (3) Genetics *(M)*
BIOL 205 (3) Biology of Organisms
or AEBI 210 (3) Organisms 1 *(M)*
Statistics: (Although these are 300-level courses, they can be taken in U1.)
BIOL 373 (3) Biometry
or AEMA 310 (3) Statistical Methods 1 *(M)*
B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 31 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (3 credits)
PARA 410 (3) Environment and Infection *(M)*

Domain - Cellular Concentration: Complementary Courses (39 credits)
21 credits of fundamentals, maximum of 3 credits from any one category:
Health, Society and Environment
GEOG 211 (3) Environment and Health
or NRSC 221 (3) Environment and Health *(M)*
GEOG 303 (3) Health Geography
SOCI 234 (3) Population and Society
SOCI 309 (3) Health and Illness
Toxicology
ANSC 312 (3) Animal Health and Disease *(M)*
NUTR 420 (3) Toxicology and Health Risks *(M)*
PHAR 303 (3) Principles of Toxicology
Cellular Biology
ANSC 234 (3) Biochemistry 2 *(M)*
BIOL 201 (3) Cell Biology and Metabolism
LSCI 202 (3) Molecular Cell Biology *(M)*
Genetics
BIOL 202 (3) Basic Genetics
LSCI 204 (4) Genetics *(M)*
Molecular Biology
BIOL 200 (3) Molecular Biology
LSCI 211 (3) Biochemistry 1 *(M)*

Statistics
AEMA 310 (3) Statistical Methods 1 *(M)*
MATH 203 (3) Principles of Statistics 1
or equivalent
Nutrition
ANSC 330 (3) Fundamentals of Nutrition *(M)*
NUTR 307 (3) Human Nutrition (Video conference Downtown and Macdonald)

12 credits chosen from Human Health, maximum of 3 credits from any one category:
Immunology and Pathogenicity
MICR 341 (3) Mechanisms of Pathogenicity *(M)*
MIMM 314 (3) Immunology
PARA 438 (3) Immunology *(M)*
PATH 300 (3) Human Disease
Infectious Disease
ANSC 400 (3) Eukaryotic Cells and Viruses *(M)*
MIMM 324 (3) Fundamental Virology
MIMM 413 (3) Parasitology
WILD 424 (3) Parasitology *(M)*
Nutrition
NUTR 403 (3) Nutrition in Society *(M)*
NUTR 512 (3) Herbs, Foods and Phytochemicals
Drugs and Hormones
ANSC 424 (3) Metabolic Endocrinology *(M)*
PHAR 300 (3) Drug Action
Physiology
ANSC 323 (4) Mammalian Physiology *(M)*
PHGY 209 (3) Mammalian Physiology 1

6 credits chosen from the Natural Environment, maximum of 3 credits from any one category:
Hydrology and Climate
AGRI 452 (3) Water Resources in Barbados (in Barbados)
BREE 217 (3) Hydrology and Water Resources *(M)*
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
NRSC 510 (3) Agricultural Micrometeorology *(M)*
Techniques and Management
BREE 322 (3) Organic Waste Management *(M)*
CHEE 230 (3) Environmental Aspects of Technology
GEOG 302 (3) Environmental Management 1
NRSC 437 (3) Assessing Environmental Impact *(M)*
URBP 507 (3) Planning and Infrastructure (in Barbados)
Pest Management
BIOL 350 (3) Insect Biology and Control
or ENTO 350 (3) Insect Biology and Control *(M)*
ENTO 352 (3) Control of Insect Pests *(M)*
Pollution Control and Management
BREE 518 (3) Bio-Treatment of Wastes *(M)*
NRSC 333 (3) Pollution and Bioremediation *(M)*
Ecology
BIOL 432 (3) Limnology
BIOL 465 (3) Conservation Biology
BIOL 553 (3) Neotropical Environments (in Panama)
ENVB 410 (3) Ecosystem Ecology *(M)*
ENVR 540 (3) Ecology of Species Invasions
or BIOL 540 (3) Ecology of Species Invasions
MICR 331 (3) Microbial Ecology *(M)*
PLNT 304 (3) Biology of Fungi *(M)*
PLNT 460 (3) Plant Ecology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*

Ecological Determinants of Health Domain – Population

The Population Concentration (63 credits) in this Domain is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Suggested first year (U1) courses:
Although not all of these are listed in the Domain, they satisfy prerequisites for upper level biology courses. They are good courses to start out with.
BIOL 200 (3) Molecular Biology
or LSCI 211 (3) Biochemistry 1 *(M)*
CHEM 212 (4) Introductory Organic Chemistry 1
or FDSC 230 (4) Organic Chemistry *(M)*
BIOL 202 (3) Basic Genetics
or LSCI 204 (3) Genetics *(M)*
BIOL 205 (3) Biology of Organisms
or AEBI 210 (3) Organisms 1 *(M)*
Statistics: (Although these are 300-level courses, they can be taken in U1.)
BIOL 373 (3) Biometry
or AEMA 310 (3) Statistical Methods 1 *(M)*
B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 31 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (3 credits)
PARA 410 (3) Environment and Infection *(M)*

Domain - Population Concentration: Complementary Courses (39 credits)
21 credits of fundamentals, maximum of 3 credits from each category:
Health and Environment
GEOG 221 (3) Environment and Health
or NRSC 221 (3) Environment and Health *(M)*
Health and Society
GEOG 303 (3) Health Geography
SOCI 234 (3) Population and Society
SOCI 309 (3) Health and Illness
Toxicology
ANSC 312 (3) Animal Health and Disease *(M)*
NUTR 420 (3) Toxicology and Health Risks *(M)*
PHAR 303 (3) Principles of Toxicology
Biology
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
LSCI 211 (3) Biochemistry 1 *(M)*
Statistics
AEMA 310 (3) Statistical Methods 1 *(M)*
MATH 203 (3) Principles of Statistics 1
or equivalent
Nutrition
ANSC 330 (3) Fundamentals of Nutrition *(M)*
NUTR 207 (3) Nutrition and Health *(M)*
NUTR 307 (3) Human Nutrition (Video conference Downtown and Macdonald)

Advanced Ecology
AEMA 406 (3) Quantitative Methods: Ecology *(M)*
BIOL 465 (3) Conservation Biology
BIOL 553 (3) Neotropical Environments (in Panama)
ENVB 410 (3) Ecosystem Ecology *(M)*
ENVR 540 (3) Ecology of Species Invasions
or BIOL 540 (3) Ecology of Species Invasions
MICR 331 (3) Microbial Ecology *(M)*
PLNT 460 (3) Plant Ecology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*

6 credits from the following List A categories, maximum of 3 credits from each category:
List A: Hydrology, Climate, and Agriculture
AGRI 340 (3) Principles of Ecological Agriculture *(M)*
AGRI 452 (3) Water Resources in Barbados (in Barbados)
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
BREE 217 (3) Hydrology and Water Resources *(M)*
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
NRSC 510 (3) Agricultural Micrometeorology *(M)*
List A: Decision Making and Social Change
AGEC 200 (3) Principles of Microeconomics
or ECON 208 (3) Microeconomic Analysis and Applications
AGEC 242 (3) Management Theories and Practices *(M)*
BTEC 502 (3) Biotechnology Ethics & Society
EDER 461 (3) Society and Change
GEOG 302 (3) Environmental Management 1
GEOG 404 (3) Environmental Management 2 (in Panama)
PHIL 343 (3) Biomedical Ethics
URBP 520 (3) Globalization: Planning and Change (in Barbados)
List A: Development and History
AGRI 210 (3) Agro-Ecological History *(M)*
ANTH 212 (3) Anthropology of Development
HIST 292 (3) History and the Environment
SOCI 254 (3) Development and Underdevelopment

12 credits from the following list B categories, maximum of 3 credits from each category:
List B: Techniques and Management
CHEE 230 (3) Environmental Aspects of Technology
GEOG 201 (3) Introductory Geo-Infomation Science
NRSC 430 (3) GIS for Natural Resource Management *(M)*
NRSC 437 (3) Assessing Environmental Impact *(M)*
URBP 507 (3) Planning and Infrastructure (in Barbados)
List B: Immunology and Infectious Disease
ANSC 400 (3) Eucaryotic Cells and Viruses *(M)*
MIMM 314 (3) Immunology
MIMM 324 (3) Fundamental Virology
MIMM 413 (3) Parasitology
PARA 438 (3) Immunology *(M)*
WILD 424 (3) Parasitology *(M)*
List B: Nutrition and Agriculture
AGRI 411 (3) International Agriculture *(M)*
NUTR 403 (3) Nutrition in Society *(M)*
NUTR 501 (3) Nutrition in Developing Countries *(M)*
NUTR 512 (3) Herbs, Foods and Phytochemicals (Video conference Downtown and Macdonald)
List B: Populations and Place
CANS 407 (3) Regions of Canada
GEOG 300 (3) Human Ecology in Geography
GEOG 498 (3) Humans in Tropical Environments (in Panama)
PSYC 533 (3) International Health Psychology
List B: Pollution and Pest Management
BIOL 350 (3) Insect Biology and Control
BREE 322 (3) Organic Waste Management *(M)*
ENTO 352 (3) Control of Insect Pests *(M)*
NRSC 333 (3) Pollution and Bioremediation *(M)*
List B: Genetics
BIOL 202 (3) Basic Genetics
LSCI 204 (3) Genetics *(M)*

10.8.3 Environmetrics Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Pierre Dutilleul
Email: pierre.dutilleul@mcgill.ca
Telephone: 514-398-7870

In view of the crucial need for sound study design and appropriate statistical methods for analyzing environmental changes and their impacts on humans and various life forms and their ecological relationships, this program is intended to provide students with a strong background in the use of statistical methods of data analysis in environmental sciences.

Graduates will be capable of effectively participating in the design of environmental studies and adequately analyzing data for use by the environmental community. Accordingly, the list of courses for the Environmetrics Domain is composed primarily of statistics courses and mathematically oriented courses with biological and ecological applications. The list is completed by general courses that refine the topics introduced in the MSE core courses by focusing on the ecology of living organisms, soil sciences or water resources, and impact assessment. These courses should allow the students to understand their interlocutors and be understood by them in their future job. Students can further develop their background in applied or mathematical statistics and their expertise in environmental sciences by taking complementary courses along each of two axes: statistics and mathematics, and environmental sciences. An internship is also offered to students to provide them with preliminary professional experience.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Suggested first year (U1) courses:

Prerequisites and equivalent courses are common with math courses, so check with your advisor when choosing your courses. Be especially careful with statistics courses, as you will receive no credit (and no warning!) for a course that is considered equivalent to one you have already taken. B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses and talk to Kathy Roulet, the Program Advisor.

MATH 223 (3) Linear Algebra

Statistics courses BIOL 373 OR AEMA 310 *(M)* can be taken in U1, but do not take them if you want to follow Option 1 (below), as they overlap with MATH 324.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research

ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Course (6 credits)
AEMA 403 (3) Environmetrics Stage (internship) *(M)*
AEMA 414 (3) Temporal and Spatial Statistics *(M)*

Domain - Complementary Courses (36 credits, minimum)
12 credits of fundamentals (maximum 3 credits from any one category):
Ecology
ENVB 305 (3) Population & Community Ecology *(M)*
BIOL 308 (3) Ecological Dynamics
Impacts
MIME 308 (3) Social and Economic Impacts of Technology
NRSC 437 (3) Assessing Environmental Impact *(M)*
Modeling
AEMA 406 (3) Quantitative Methods: Ecology
BIOL 309 (3) Mathematical Models in Biology
GIS Techniques
GEOG 201 (3) Introductory Geo-Information Science
NRSC 430 (3) GIS for Natural Resource Management *(M)*
3 credits of basic environmental science:
BREE 217 (3) Hydrology and Water Resources *(M)*
CIVE 323 (3) Hydrology and Water Resources
ENVB 210 (3) The Biophysical Environment *(M)*
GEOG 305 (3) Soils and Environment
GEOG 322 (3) Environmental Hydrology
GEOG 350 (3) Ecological Biogeography
6 credits of Statistics, one of the following two options:
Note: B.Sc. students should see section 14.3.6.1 "Course Overlap" of the current Calendar for info on course overlap. Several stats courses overlap (especially with MATH 324) and cannot be taken together. These rules do not apply to B.Sc.(Ag.Env.Sc.) students.
Option 1:
MATH 323 (3) Probability
MATH 324 (3) Statistics
Option 2:
AEMA 310 (3) Statistical Methods 1 *(M)*
or BIOL 373 (3) Biometry
AEMA 411 (3) Experimental Designs
or CIVE 555 (3) Environmental Data Analysis
or GEOG 351 (3) Quantitative Methods
or SOCI 461 (3) Quantitative Data Analysis

15 credits total chosen from the following two lists:
3 credits minimum of statistics and mathematics chosen from:
BIOL 434 (3) Theoretical Ecology
BREE 252 (3) Computing for Engineers (or equivalent) *(M)*
BREE 319 (3) Engineering Mathematics (or equivalent) *(M)*
GEOG 501 (3) Modelling Environmental Systems
MATH 223 (3) Linear Algebra
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 423 (3) Regression and Analysis of Variance
MATH 447 (3) Stochastic Processes
MATH 525 (4) Sampling Theory and Applications
SOCI 504 (3) Quantitative Methods 1
SOCI 505 (3) Quantitative Methods 2
SOCI 580 (3) Social Research Design and Practice.

3 credits, minimum of environmental sciences chosen from:
AGRI 452 (3) Water Resources in Barbados (in Barbados)
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
BIOL 331 (3) Ecology/Behavior Field Course (at Mont St. Hilaire)
BIOL 553 (3) Neotropical Environments (in Panama)
ENVB 313 (3) Phylogeny and Biogeography *(M)*
GEOG 300 (3) Human Ecology in Geography
GEOG 302 (3) Environmental Management 1
GEOG 404 (3) Environmental Management 2 (in Panama)
GEOG 494 (3) Urban Field Studies
GEOG 497 (3) Ecology of Coastal Waters (at Bay of Fundy)
GEOG 499 (3) Subarctic Field Studies (in Schefferville)
NRSC 333 (3) Pollution and Bioremediation *(M)*
PLNT 460 (3) Plant Ecology *(M)*
WILD 401 (4) Fisheries and Wildlife Management *(M)*
WOOD 300 (3) Urban Forests and Trees *(M)*
WOOD 420 (3) Environmental Issues: Forestry *(M)*

10.8.4 Food Production and Environment Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. in Environment program.

Mentor: Professor Joan Marshall
Email: joan.marshall@mcgill.ca
Telephone: 514-398-7822

The business of food production is an area of human activity with a large and intimate interaction with the environment. Modern agriculturalists must strike a delicate balance between trying to provide food for themselves, their families and urban dwellers while trying to minimize environmental damage. When negative effects due to agricultural activities do occur, they are not usually the classic point source effects that we have come to associate with industry or large cities. Rather, the effects are over extremely large land areas cumulating, perhaps, in pollution of river systems or lakes some distance away. As world populations grow, and as diets change, potentially negative interactions between agricultural systems and other facets of the environment will become more frequent. In the same way, urban sprawl will make conflicts between agriculture and urbanites more common.

With a judicious choice of courses, graduates of this Domain may be eligible to apply for membership in the Ordre des agronomes du Québec (OAQ) and the Agricultural Institute of Canada (AIC). See the MSE website for details at www.mcgill.ca/mse (B.Sc. Programs: Food Production and Environment Domain).

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Prerequisite or Corequisite Courses for Domain
LSCI 211 (3) Biochemistry 1 *(M)*
or BIOL 112 (3) Cell and Molecular Biology
or CEGEP equivalent (e.g., CEGEP objective 00XU)
FDSC 230 (4) Organic Chemistry *(M)*
or CHEM 212 (4) Introductory Organic Chemistry 1
or CEGEP equivalent (e.g., CEGEP objective 00XV)

Suggested first year (U1) courses:
These are prerequisites for many of the upper level courses, and are recommended to be taken in U1 if possible.
PLNT 211 (3) Principles of Plant Science
BIOL 202 (3) Basic Genetics
or LSCI 204 (3) Genetics
Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 *(M)*
B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 34 credits at the 200 level and a minimum of 15 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Domain prerequisites or co-requisites listed above.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth

ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (9 credits)
AGRI 210 (3) Agro-Ecological History *(M)*
PLNT 211 (3) Principles of Plant Science *(M)*
PLNT 300 (3) Cropping Systems *(M)*

Domain: Complementary Courses (33 credits)
15 or 16 credits of Basic Sciences:
AEMA 310 (3) Statistical Methods 1 *(M)*
or MATH 203 (3) Principles of Statistics 1
or equivalent
AGRI 340 (3) Principles of Ecological Agriculture *(M)*
or ANSC 250 (3) Principles of Animal Science *(M)*
BIOL 202 (3) Basic Genetics
or LSCI 204 (4) Genetics *(M)*
GEOG 305 (3) Soils and Environment
or ENVB 210 (3) The Biophysical Environment *(M)*
ENVB 305 (3) Population & Community Ecology *(M)*
or BIOL 308 (3) Ecological Dynamics
12 credits of Applied Sciences:
BREE 217 (3) Hydrology and Water Resources *(M)*
or GEOG 322 (3) Environmental Hydrology
BREE 322 (3) Organic Waste Management *(M)*
BREE 518 (3) Bio-Treatment of Wastes *(M)*
AGRI 341 (3) Ecological Agricultural Systems *(M)*
AGRI 411 (3) International Agriculture *(M)*
AGRI 435 (3) Soil and Water Quality Management *(M)*
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
ANSC 501 (3) Advanced Animal Production Systems *(M)*
BIOL 465 (3) Conservation Biology
BIOL 553 (3) Neotropical Environments (in Panama)
ENTO 446 (3) Apiculture
FDSC 200 (3) Introduction to Food Science *(M)*
or NUTR 207 (3) Nutrition and Health *(M)*
FDSC 535 (3) Food Biotechnology *(M)*
GEOG 302 (3) Environmental Management 1
GEOG 380 (3) Adaptive Environmental Management
MICR 331 (3) Microbial Ecology *(M)*
NRSC 333 (3) Pollution and Bioremediation *(M)*
NRSC 437 (3) Assessing Environmental Impact *(M)*
NUTR 403 (3) Nutrition in Society *(M)*
NUTR 420 (3) Toxicology and Health Risks *(M)*
PARA 410 (3) Environment and Infection *(M)*
PHAR 303 (3) Principles of Toxicology
PLNT 361 (3) Pest Management and the Environment *(M)*
PLNT 434 (3) Weed Biology and Control *(M)*
SOIL 315 (3) Soil Fertility and Fertilizer Use *(M)*
SOIL 510 (3) Environmental Soil Chemistry *(M)*
SOIL 445 (3) Agroenvironmental Fertilizer Use
SOIL 521 (3) Soil Microbiology and Biochemistry *(M)*
WILD 401 (4) Fisheries and Wildlife Management *(M)*
6 credits in Social Sciences/Humanities:
AGEC 200 (3) Principles of Microeconomics *(M)*
or ECON 208 (3) Microeconomic Analysis and Applications
AGEC 320 (3) Intermediate Microeconomic Theory *(M)*
AGEC 333 (3) Resource Economics *(M)*
or ECON 405 (3) Natural Resource Economics
AGEC 430 (3) Agriculture, Food and Resource Policy *(M)*
AGEC 442 (3) Economics of International Agricultural Development *(M)*
AGRI 413 (3) Globalization: Issues of Change (in Barbados)
ANTH 418 (3) Environment and Development
ECON 225 (3) Economics of the Environment
ENVR 465 (3) Environment and Social Change (at Bay of Fundy)
GEOG 404 (3) Environmental Management 2 (in Panama)
GEOG 410 (3) Geography of Underdevelopment: Current Problems
GEOG 498 (3) Humans in Tropical Environments (in Panama)
GEOG 510 (3) Humid Tropical Environments
SOCI 254 (3) Development and Underdevelopment
SOCI 565 (3) Social Change in Panama (in Panama)
WILD 415 (2) Conservation Law *(M)*
(if this course is taken, 1 additional credit of complementary courses must be taken)

10.8.5 Land Surface Processes and Environmental Change Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Ian Strachan
Email: ian.strachan@mcgill.ca
Telephone: 514-398-7935

The thin soil layer on the planet's land surfaces controls the vital inputs of water, nutrients and energy to terrestrial and freshwater aquatic ecosystems. Widespread occurrences around the globe of desertification, soil erosion, deforestation and land submergence over water reservoirs indicate that this dynamic system is under increasing pressure from population growth and changes in climate and land uses. Production of key greenhouse gases (water vapour, CO_2 and methane) is controlled by complex processes operating at the land surface, involving climate change feedbacks that need to be fully understood, given current global warming trends.

The program introduces students to the interacting physical and biogeochemical processes at the atmosphere-lithosphere interface, which fashion land surface habitats and determine their biological productivity and response to anthropogenic or natural environmental changes. Through an appropriate selection of courses, students can prepare for graduate training in emerging research areas such as earth system sciences, environmental hydrology and landscape ecology.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Suggested first year (U1) courses:
These courses are listed below in the program requirements. They are good courses to start out with.
GEOG 203 (3) Environmental Systems
ATOC 215 (3) Oceans, Weather and Climate
or ENVB 301 (3) Meteorology *(M)*
GEOG 272 (3) Earth's Changing Surface
or SOIL 300 (3) Geosystems *(M)*
GEOG 322 (3) Environmental Hydrology
or BREE 217 (3) Hydrology and Water Resources *(M)*
GEOG 321 (3) Climatic Environments
Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 (M)
B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or

higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Course (3 credits)
GEOG 203 (3) Environmental Systems

Domain: Complementary Courses (39 credits)
3 credits of statistics chosen from:
AEMA 310 (3) Statistical Methods 1 *(M)*
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
or equivalent

3 credits of GIS and remote sensing techniques chosen from:
GEOG 201 (3) Introductory Geo-Information Science
GEOG 308 (3) Principles of Remote Sensing
NRSC 430 (3) GIS for Natural Resource Management *(M)*

3 credits of weather and climate chosen from:
ATOC 215 (3) Oceans, Weather and Climate
ENVB 301 (3) Meteorology *(M)*

9 credits of fundamental land surface processes chosen from:
GEOG 272 (3) Earth's Changing Surface
or SOIL 300 (3) Geosystems *(M)*
GEOG 305 (3) Soils and Environment
or SOIL 326 (3) Soils in a Changing Environment *(M)*
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
or BREE 217 (3) Hydrology and Water Resources *(M)*

3 credits of environment and resource management chosen from:
AGRI 435 (3) Soil and Water Quality Management *(M)*
AGRI 452 (3) Water Resources in Barbados (in Barbados)
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
BIOL 308 (3) Ecological Dynamics
or ENVB 305 (3) Population & Community Ecology *(M)*
BIOL 465 (3) Conservation Biology
CHEE 230 (3) Environmental Aspects of Technology
CIVE 225 (4) Environmental Engineering
ESYS 301 (3) Earth System Modelling
GEOG 302 (3) Environmental Management 1
GEOG 380 (3) Adaptive Environmental Management
GEOG 404 (3) Environmental Management 2 (in Panama)
NRSC 437 (3) Assessing Environmental Impact *(M)*
WILD 421 (3) Wildlife Conservation *(M)*
WOOD 420 (3) Environmental Issues: Forestry *(M)*
WOOD 441 (3) Integrated Forest Management *(M)*

3 credits of a field course chosen from:
BIOL 553 (3) Neotropical Environments (in Panama)
GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)
GEOG 496 (3) Geographical Excursion (in Barbados)
GEOG 499 (3) Subarctic Field Studies (in Schefferville)
NRSC 382 (3) Ecological Monitoring and Analysis *(M)*
WILD 475 (3) Desert Ecology (in Arizona)

3 credits of social science issues chosen from:
ANTH 339 (3) Ecological Anthropology
ECON 225 (3) Economics of the Environment
ECON 326 (3) Ecological Economics
ECON 405 (3) Natural Resource Economics
or AGEC 333 (3) Resource Economics *(M)*
GEOG 221 (3) Environment and Health
or NRSC 221 (3) Environment and Health *(M)*
GEOG 408 (3) Geography of Development
GEOG 498 (3) Humans in Tropical Environments (in Panama)
GEOG 508 (3) Resources, People and Power
SOCI 565 (3) Social Change in Panama (in Panama)
URBP 520 (3) Globalization: Planning and Change (in Barbados)

12 credits total of advanced studies chosen from the following two lists:
3 credits minimum of advanced study of particular environments:
BIOL 432 (3) Limnology
or ENVB 315 (3) Science of Inland Waters *(M)*
ENVB 410 (3) Ecosystem Ecology *(M)*
GEOG 350 (3) Ecological Biogeography
GEOG 372 (3) Running Water Environments
GEOG 470 (3) Wetlands
GEOG 536 (3) Geocryology
GEOG 550 (3) Historical Ecology Techniques
PLNT 358 (3) Flowering Plant Diversity *(M)*
PLNT 460 (3) Plant Ecology *(M)*
3 credits minimum of advanced study of surface processes:
ATOC 315 (3) Water in the Atmosphere
BREE 509 (2) Hydrologic Systems and Modelling *(M)*
EPSC 549 (3) Hydrogeology
EPSC 580 (3) Aqueous Geochemistry
GEOG 501 (3) Modelling Environmental Systems
GEOG 505 (3) Global Biogeochemistry
GEOG 522 (3) Advanced Environmental Hydrology
GEOG 537 (3) Advanced Fluvial Geomorphology
NRSC 333 (3) Pollution and Bioremediation *(M)*
SOIL 331 (3) Soil Physics *(M)*
SOIL 510 (3) Environmental Soil Chemistry *(M)*

10.8.6 Renewable Resource Management Domain

This Domain (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

Renewable resource management is an emerging field that focuses on the ecosystem structures and processes required to sustain the delivery, to humanity, of ecosystem goods and services such as food, clean water and air, essential nutrients, and the provision of beauty and inspiration. Renewable resource management recognizes humans as integral components of ecosystems and is used to develop goals that are consistent with sustainability and ecosystem maintenance.

The Renewable Resource Management domain provides students with an understanding of: 1) the interactions between physical and biological factors that determine the nature and dynamics of populations and entities in the natural environment; 2) the ways in which ecosystems can be managed to meet specific goals for the provision of goods and services; 3) the economic and social factors that determine how ecosystems are managed; 4) the ways in which management of natural resources can affect the capability of natural ecosystems to continue to supply human needs in perpetuity; and 5) the approaches and technologies required to monitor and analyze the dynamics of natural and managed ecosystems.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses

being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required Courses are offered on both campuses.)

Prerequisite or Corequisite Courses for Domain

LSCI 211 (3) Biochemistry 1 *(M)*
or BIOL 112 (3) Cell and Molecular Biology
or CEGEP equivalent (e.g., CEGEP objective 00XU)
FDSC 230 (4) Organic Chemistry *(M)*
or CHEM 212 (4) Introductory Organic Chemistry 1
or CEGEP equivalent (e.g., CEGEP objective 00XV)

Suggested first year (U1) courses

These courses are listed below in the program requirements. They are good courses to start out with.

AEBI 210 (3) Organisms 1 *(M)*
or AEBI 211 (3) Organisms 2 *(M)*
or BIOL 205 (3) Biology of Organisms
Statistics: (Although these are 300-level courses, they can be taken in U1.)
BIOL 373 (3) Biometry
or AEMA 310 (3) Statistical Methods 1 *(M)*
B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (63 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Domain prerequisites or corequisites listed above.

Core: Required Courses (18 credits)

ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)

AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)

* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Complementary Courses (42 credits)

9 credits of basic principles of ecosystem processes and diversity:

BIOL 305 (3) Animal Diversity
or AEBI 210 (3) Organisms 1 *(M)*
or AEBI 211 (3) Organisms 2 *(M)*
ENVB 305 (3) Population & Community Ecology *(M)*
or BIOL 308 (3) Ecological Dynamics
GEOG 305 (3) Soils and Environment
or ENVB 210 (3) The Biophysical Environment *(M)*

6 credits statistics and GIS methods:

AEMA 310 (3) Statistical Methods 1 *(M)*
or BIOL 373 (3) Biometry
NRSC 430 (3) GIS for Natural Resource Management *(M)*
or GEOG 201 (3) Introductory Geo-Information Science

6 credits of advanced ecosystem components:

BIOL 553 (3) Neotropical Environments (in Panama)
GEOG 372 (3) Running Water Environments
PLNT 358 (3) Flowering Plant Diversity *(M)*
SOIL 326 (3) Soils in a Changing Environment *(M)*
WILD 307 (3) Natural History of Vertebrates *(M)*

6 credits of advanced ecological processes:

BIOL 432 (3) Limnology
or ENVB 315 (3) Science of Inland Waters *(M)*
BIOL 465 (3) Conservation Biology
BREE 217 (3) Hydrology and Water Resources *(M)*
or GEOG 322 (3) Environmental Hydrology
ENVB 410 (3) Ecosystem Ecology *(M)*
MICR 331 (3) Microbial Ecology *(M)*
NRSC 333 (3) Pollution and Bioremediation (M)
PLNT 460 (3) Plant Ecology *(M)*
WILD 410 (3) Wildlife Ecology *(M)*

6 credits of social processes:

AGEC 242 (3) Management Theories and Practices *(M)*
AGEC 333 (3) Resource Economics *(M)*
or ECON 405 (3) Natural Resource Economics
ANTH 339 (3) Ecological Anthropology
CANS 407 (3) Regions of Canada
GEOG 382 (3) Principles Earth Citizenship
GEOG 498 (3) Humans in Tropical Environments (in Panama)
RELG 270 (3) Religious Ethics and the Environment
SOCI 565 (3) Social Change in Panama (in Panama)
URBP 520 (3) Globalization: Planning and Change (in Barbados)
WILD 415 (2) Conservation Law *(M)*
(if this course is taken, 1 additional credit of complementary courses must be taken)

9 credits of ecosystem components or management of ecosystems:

AGRI 435 (3) Soil and Water Quality Management *(M)*
AGRI 452 (3) Water Resources in Barbados (in Barbados)
AGRI 550 (3) Sustained Tropical Agriculture (in Panama)
GEOG 302 (3) Environmental Management 1
GEOG 380 (3) Adaptive Environmental Management
GEOG 404 (3) Environmental Management 2 (in Panama)
NRSC 437 (3) Assessing Environmental Impact *(M)*
PLNT 300 (3) Cropping Systems *(M)*
SOIL 335 (3) Soil Ecology and Management *(M)*
WILD 401 (4) Fisheries and Wildlife Management *(M)*
WOOD 441 (3) Integrated Forest Management *(M)*

10.8.7 Water Environments and Ecosystems Domain

This Domain is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

To educate students in both the ecological and physical facets of the water environment, this Domain offers two concentrations, with students choosing one or the other.

Those electing the **biological** concentrations will focus on the mechanisms regulating the different forms of life in water bodies. They will acquire, as well, a good understanding of the physical mechanisms controlling water properties.

Students interested in studying the transport and transformation mechanisms of water on the planet, from rivers to the oceans and atmosphere, will select the **physical** concentrations. They will acquire, as well, a solid background in the biological processes taking place in water bodies.

Graduates of this Domain are qualified to enter the work force or to pursue advanced studies in fields such as marine biology, geography, physical oceanography and atmospheric science.

Water Environments and Ecosystems – Biological

This concentration (60 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Brian Leung
Email: brian.leung2@mcgill.ca
Telephone: 514-398-6460

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required Courses are offered on both campuses.)

Suggested first year (U1) courses:

These courses are listed below in the program requirements. They are good courses to start out with.

ATOC 215 (3) Oceans, Weather and Climate

Statistics: BIOL 373 or AEMA 310 (M)

Students in this program should consider taking BIOL 373 or AEMA 310 (M) instead of MATH 203. They are more suitable for life sciences. Generally, statistics is recommended over Calculus 3 for life sciences, although if you want to take upper level oceanography courses in ATOC, you will also need Calculus 3.

B.Sc. students see section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (60 credits)

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)

ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)

AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)

* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (6 credits)

ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate

Domain: Complementary Courses (33 credits)

6 credits chosen from:

BREE 217 (3) Hydrology and Water Resources *(M)*
or GEOG 322 (3) Environmental Hydrology
ENVB 305 (3) Population & Community Ecology *(M)*
or BIOL 308 (3) Ecological Dynamics

3 credits of math and statistics from:

AEMA 202 (3) Intermediate Calculus *(M)*
AEMA 310 (3) Statistical Methods 1 (or equivalent) *(M)*
MATH 203 (3) Principles of Statistics 1
MATH 222 (3) Calculus 3

3 credits chosen from:

AGRI 452 (3) Water Resources in Barbados (in Barbados)
BIOL 331 (3) Ecology/Behaviour Field Course (at Mont St. Hilaire)
GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)

or an equivalent aquatic field course

3 credits chosen from:

AGEC 333 (3) Resource Economics *(M)*
ANTH 339 (3) Ecological Anthropology
ANTH 418 (3) Environment and Development
ECON 225 (3) Economics of the Environment
ECON 326 (3) Ecological Economics
GEOG 404 (3) Environmental Management 2 (in Panama)
GEOG 498 (3) Humans in Tropical Environments (in Panama)
POLI 345 (3) International Organizations
POLI 466 (3) Public Policy Analysis
SOCI 565 (3) Social Change in Panama (in Panama)
URBP 520 (3) Globalization: Planning and Change (in Barbados)

18 credits, minimum, from lists A and B below.

List A, 9 to 12 credits chosen from:

AGRI 435 (3) Soil and Water Quality Management *(M)*
BIOL 342 (3) Marine Biology
BIOL 432 (3) Limnology
BIOL 441 (3) Biological Oceanography
BIOL 465 (3) Conservation Biology
BIOL 553 (3) Neotropical Environments (in Panama)
BIOL 570 (3) Advanced Seminar in Evolution
ENTO 535 (3) Aquatic Entomology *(M)*
ENVB 315 (3) Science of Inland Waters *(M)*
ENVR 540 (3) Ecology of Species Invasions
or BIOL 540 (3) Ecology of Species Invasions
GEOG 305 (3) Soils and Environment
or ENVB 210 (3) The Biophysical Environment *(M)*
GEOG 350 (3) Ecological Biogeography
MICR 331 (3) Microbial Ecology *(M)*
NRSC 333 (3) Pollution and Bioremediation *(M)*
PARA 410 (3) Environment and Infection *(M)*
WILD 401 (4) Fisheries and Wildlife Management *(M)*

List B, 6 to 10 credits chosen from:

ATOC 308 (3) Principles of Remote Sensing
or GEOG 308 (3) Principles of Remote Sensing
ATOC 219 (3) Introduction to Atmospheric Chemistry
or CHEM 219 (3) Introduction to Atmospheric Chemistry
ATOC 419 (3) Advances in Chemistry of Atmosphere
or CHEM 419 (3) Advances in Chemistry of Atmosphere
CHEM 287 (2) Introductory Analytical Chemistry
CHEM 297 (1) Introductory Analytical Chemistry Laboratory
EPSC 220 (3) Principles of Geochemistry
GEOG 201 (3) Introductory Geo-Information Science
GEOG 372 (3) Running Water Environments
GEOG 522 (3) Advanced Environmental Hydrology
GEOG 537 (3) Advanced Fluvial Geomorphology
GEOG 550 (3) Historical Ecology Techniques
NRSC 430 (3) GIS for Natural Resource Management *(M)*

Water Environments and Ecosystems – Physical

This concentration (63 credits including Core) is open only to students in the B.Sc.(Ag.Env.Sc.) Major in Environment or B.Sc. Major in Environment program.

Mentor: Professor Nigel Roulet
Email: nigel.roulet@mcgill.ca
Telephone: 514-398-4306

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required Courses are offered on both campuses.)

Suggested first year (U1) courses:

These courses are listed below in the program requirements. They are good courses to start out with.

MATH 222 (3) Calculus 3
or CEGEP 201-301 or equivalent

MATH 222 is recommended over statistics for the Physical stream of this domain.

ATOC 215 (3) Oceans, Weather and Climate
BREE 217 (3) Hydrology and Water Resources *(M)*
or GEOG 322 (3) Environmental Hydrology

NOTE: Students are required to take a maximum of 30 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses, but does not include the Domain prerequisites or corequisites listed above.

Program Requirements (63 credits)

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (12 credits)
ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 315 (3) Water in the Atmosphere
GEOG 372 (3) Running Water Environments

Domain – Complementary Courses (30 credits)
6 credits chosen from:
BREE 217 (3) Hydrology and Water Resources *(M)*
or GEOG 322 (3) Environmental Hydrology
ENVB 305 (3) Population & Community Ecology *(M)*
or BIOL 308 (3) Ecological Dynamics

3 credits of statistics or calculus:
AEMA 202 (3) Intermediate Calculus *(M)*
AEMA 310 (3) Statistical Methods 1 (or equivalent) *(M)*
MATH 203 (3) Principles of Statistics 1
MATH 222 (3) Calculus 3

3 credits of field courses:
AGRI 452 (3) Water Resources in Barbados (in Barbados)
GEOG 495 (3) Field Studies - Physical Geography (at Mont St. Hilaire)
or an equivalent aquatic field course

12 credits chosen from:
AEMA 305 (3) Differential Equations *(M)*
or MATH 315 (3) Ordinary Differential Equations
AGRI 435 (3) Soil and Water Quality Management *(M)*
ATOC 308 (3) Principles of Remote Sensing
or GEOG 308 (3) Principles of Remote Sensing
ATOC 309 (3) Weather Radars and Satellites
ATOC 568 (3) Ocean Physics
BREE 416 (3) Engineering for Land Development *(M)*
BREE 506 (3) Advances in Drainage Management *(M)*
or BREE 509 (3) Hydrologic Systems and Modelling *(M)*
or GEOG 522 (3) Advanced Environmental Hydrology
CIVE 323 (3) Hydrology and Water Resources
EPSC 549 (3) Hydrogeology
GEOG 201 (3) Introductory Geo-Information Science
GEOG 305 (3) Soils and Environment
or ENVB 210 (3) The Biophysical Environment *(M)*
GEOG 537 (3) Advanced Fluvial Geomorphology
NRSC 430 (3) GIS for Natural Resource Management *(M)*
or GEOG 306 (3) Raster Geo-Information Science
NRSC 510 (3) Agricultural Micrometeorology
URBP 520 (3) Globalization: Planning and Change (in Barbados)
6 credits chosen from:
BIOL 342 (3) Marine Biology
BIOL 432 (3) Limnology
BIOL 441 (3) Biological Oceanography
BIOL 465 (3) Conservation Biology
BIOL 553 (3) Neotropical Environments (in Panama)
ENVB 315 (3) Science of Inland Waters *(M)*
GEOG 350 (3) Ecological Biogeography
GEOG 505 (3) Global Biogeochemistry
WILD 401 (4) Fisheries and Wildlife Management *(M)*

10.9 Major in Environment – B.Sc.

In addition to the selection of Domains available to students in the Major program in either the Faculty of Science or the Faculty of Agricultural and Environmental Sciences, "Major in Environment - B.Sc.", students in the Faculty of Science program can choose from one of the two Domains limited to Science students only:
Atmospheric Environment and Air Quality, or
Earth Sciences and Economics.

Refer to section 10.8 "Major in Environment – B.Sc.(Ag.Env.Sc.) and B.Sc." for the general guidelines and regulations which apply to all Domains in the Major in Environment program.

10.9.1 Atmospheric Environment and Air Quality Domain

This Domain (60 credits including Core) is open only to students in the B.Sc. Major in Environment program in the Faculty of Science.

Mentor: Professor Frédéric Fabry
Email: frederic.fabry@mcgill.ca
Telephone: 514-398-3652

The rapid expansion of industrialization has been accompanied with a host of environmental problems, many, if not most, involving the atmosphere. Some problems are of a local nature, such as air pollution in large urban centres, while others are global, or at least reach areas far removed from industrial activities.

The emphasis in this Domain is on the mechanisms of atmospheric flow and on atmospheric chemistry. Courses examine how the atmosphere transports pollution, lifting it to great heights into the stratosphere or keeping it trapped near the ground, moving it around the globe or imprisoning it locally, or how it simply cleanses itself of the pollution through rainfall. The Domain also gives students the training required to understand the important chemical reactions taking place within the atmosphere, as well as the know-how necessary to measure and analyze atmospheric constituents.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Suggested first year (U1) courses:
These courses are listed below in the program requirements. They are good courses to start out with.
ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 219 (3) Introduction to Atmospheric Chemistry
or CHEM 219 (3) Introduction to Atmospheric Chemistry
CHEM 287 (2) Introductory Analytical Chemistry
CHEM 297 (1) Introductory Analytical Chemistry Laboratory
or FDSC 213 (3) Analytical Chemistry 1 *(M)*
MATH 222 (3) Calculus *3*
or AEMA 202 (3) Intermediate Calculus *(M)*

Program Requirements (60 credits)

NOTE: Students are required to take a maximum of 31 credits at the 200 level and a minimum of 12 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment

ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (18 credits)
ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 219 (3) Introduction to Atmospheric Chemistry
or CHEM 219 (3) Introduction to Atmospheric Chemistry
ATOC 308 (3) Principles of Remote Sensing
or GEOG 308 (3) Principles of Remote Sensing
ATOC 315 (3) Water in the Atmosphere
CHEM 307 (3) Analytical Chemistry of Pollutants

Domain: Complementary Courses (21 credits)
6 credits from:
CHEM 287 (2) Introductory Analytical Chemistry
CHEM 297 (1) Introductory Analytical Chemistry Laboratory
or FDSC 213 (3) Analytical Chemistry 1 *(M)*

MATH 222 (3) Calculus 3
or AEMA 202 (3) Intermediate Calculus *(M)*

3 credits from:
MATH 203 (3) Principles of Statistics 1
or AEMA 310 (3) Statistical Methods 1 *(M)*
or equivalent

9 credits of math or physical science (at least 6 credits of which are at the 300 level or above):
ATOC 309 (3) Weather Radars and Satellites
ATOC 412 (3) Atmospheric Dynamics
ATOC 419 (3) Advances in Chemistry of Atmosphere
or CHEM 419 (3) Advances in Chemistry of Atmosphere
ATOC 540 (3) Synoptic Meteorology 1
CHEE 230 (3) Environmental Aspects of Technology
CHEM 273 (1) Chemical Kinetics
CHEM 377 (3) Instrumental Analysis 2
CIVE 225 (4) Environmental Engineering
COMP 208 (3) Computers in Engineering
GEOG 505 (3) Global Biogeochemistry
MATH 223 (3) Linear Algebra
MATH 315 (3) Ordinary Differential Equations
or AEMA 305 (3) Differential Equations *(M)*
NRSC 333 (3) Pollution and Bioremediation *(M)*
NRSC 510 (3) Agricultural Micrometeorology *(M)*

3 credits of social science:
ANTH 206 (3) Environment and Culture
ANTH 418 (3) Environment and Development
ECON 225 (3) Economics of the Environment
ECON 347 (3) Economics of Climate Change
ENVR 465 (3) Environment and Social Change (in Bay of Fundy)
GEOG 302 (3) Environmental Management 1
GEOG 380 (3) Adaptive Environmental Management
GEOG 404 (3) Environmental Management 2 (in Panama or in Africa)
GEOG 498 (3) Humans in Tropical Environments (in Panama)
POLI 466 (3) Public Policy Analysis
RELG 270 (3) Religious Ethics and the Environment

10.9.2 Earth Sciences and Economics Domain

This Domain (66 credits including Core) is open only to students in the B.Sc. Major in Environment program in the Faculty of Science.

Mentor: Professor Bruce Hart
Email: hart@eps.mcgill.ca
Telephone: 514-398-3677

The resources necessary for human society are extracted from the Earth, used as raw materials in our factories and refineries, and then returned to the Earth as waste. Geological processes produce resources humans depend on, and they also determine the fate of wastes in the environment. Understanding Earth's geologic processes provides us with the knowledge to mitigate many of our society's environmental impacts due to resource extraction and waste disposal. Additionally, economics frequently affects what energy sources power our society and how our wastes are treated. Earth sciences and economics are essential for our understanding of the many mechanisms, both physical and social, that affect Earth's environment.

This Domain includes the fundamentals of each discipline. Students learn of minerals, rocks, soils, and waters and how these materials interact with each other and with the atmosphere. Fundamental economic theory and the economic effects of public policy towards resource industries, methods of waste disposal, and the potential effects of global warming on the global economy are also explored.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

Courses offered at Macdonald Campus are marked with an *(M)*. (Core Required courses are offered on both campuses.)

Suggested first year (U1) courses:
These courses are listed below in the program requirements. They are good courses to start out with.
ECON 230D1 (3) Microeconomic Theory
ECON 230D2 (3) Microeconomic Theory
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (4) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
Statistics: GEOG 202, PSYC 204, BIOL 373 or AEMA 310 *(M)*
See section 14.3.6.1 "Course Overlap" in this Calendar about statistics and restricted courses.

Program Requirements (66 credits)

NOTE: Students are required to take a maximum of 34 credits at the 200 level and a minimum of 15 credits at the 400 level or higher in this program. This includes Core and Required courses.

Core: Required Courses (18 credits)
ENVR 200 (3) The Global Environment
ENVR 201 (3) Society and Environment
ENVR 202 (3) The Evolving Earth
ENVR 203 (3) Knowledge, Ethics and Environment
ENVR 301 (3) Environmental Research Design
ENVR 400 (3) Environmental Thought

Core: Complementary Course – Senior Research Project (3 credits*)
AGRI 519 (6) Sustainable Development Plans (in Barbados)
ENVR 401 (3) Environmental Research
ENVR 451 (6) Research in Panama (in Panama)
* Only 3 credits will be applied to the program; extra credits will count as electives.

Domain: Required Courses (21 credits)
ECON 230D1 (3) Microeconomic Theory
ECON 230D2 (3) Microeconomic Theory
ECON 405 (3) Natural Resource Economics
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
EPSC 455 (3) Sedimentary Geology

Domain: Complementary Courses (24 credits)
3 credits of statistics from:
AEMA 310 (3) Statistical Methods 1 *(M)*
or GEOG 202 (3) Statistics and Spatial Analysis
or MATH 203 (3) Principles of Statistics 1
or equivalent

9 credits from List A:
AGEC 333 (3) Resource Economics *(M)*
CHEE 430 (3) Technology Impact Assessment
or NRSC 437 (3) Assessing Environmental Impact *(M)*
ECON 326 (3) Ecological Economics
ECON 347 (3) Economics of Climate Change
ECON 416 (3) Topics in Economic Development 2
ECON 525 (3) Project Analysis

12 credits from List B:
AGRI 435 (3) Soil and Water Quality Management *(M)*
ANTH 339 (3) Ecological Anthropology
BIOL 305 (3) Animal Diversity
BIOL 553 (3) Neotropical Environments (in Panama)
ECON 305 (3) Industrial Organization
ECON 313 (3) Economic Development 1
ECON 314 (3) Economic Development 2
ECON 408D1 (3) Public Sector Economics
ECON 408D2 (3) Public Sector Economics
ECON 412 (3) Topics in Economic Development 1
EPSC 312 (3) Spectroscopy of Minerals
EPSC 331 (3) Field School 2
EPSC 341 (3) Field School 3
EPSC 425 (3) Sediments to Sequences
EPSC 435 (3) Applied Geophysics
EPSC 452 (3) Mineral Deposits
EPSC 519 (3) Isotope Geology
EPSC 542 (3) Chemical Oceanography
EPSC 549 (3) Hydrogeology
EPSC 580 (3) Aqueous Geochemistry
EPSC 590 (3) Applied Geochemistry Seminar
GEOG 302 (3) Environmental Management 1
GEOG 322 (3) Environmental Hydrology
SOIL 510 (3) Environmental Soil Chemistry *(M)*

10.10 Honours Program in Environment

Advisor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

This Program is open only to students in the B.Sc. Major in Environment, B.Sc.(Ag.Env.Sc.) Major in Environment, B.A. Faculty Program in Environment, and the B.A.&Sc. Interfaculty Program in Environment.

The Honours Program in Environment offers students the opportunity to undertake a year-long research project in close association with a professor. Honours research provides excellent preparation for graduate studies, but is not required for such studies. The Honours in Environment **adds 6 credits of research to the regular Environment program**. Since the Honours research is carried out in the final year at the same time as the regular courses, it does not add to the length (duration) of the degree. Students simply have 6 credits less of electives. If, for some reason, students cannot complete the Honours requirements, they may still graduate with the regular Environment program.

To be eligible for Honours, students must satisfy the requirements set by their degree (B.A., B.Sc., B.Sc.(Ag.Env.Sc), or B.A.&Sc.).

In addition, students must satisfy the following:

1. Students apply for the Honours program in March of their U2 year. See Kathy Roulet for details.
2. Applicants must have a minimum Program GPA (GPA of all required and complementary courses for the program in Environment taken at McGill) of 3.3 to enter the Honours program.
3. Students must earn a B grade (3.0) or higher for the Honours Research course (ENVR 495 or ENVR 496 & ENVR 497).
4. Students are required to achieve a minimum overall CGPA of 3.0 at graduation, and a minimum Program GPA of 3.3 to obtain Honours.
5. Arts (B.A.) students must complete a Minor Concentration in a program other than Environment. See section 6.11.5 "Minor Concentrations" for options open to B.A. students.
6. B.A.&Sc. students must complete at least 30 credits in the Faculty of Arts and at least 30 in the Faculty of Science as part of their Honours program and their Minor Concentration or Minor program. See section 7.11.5 "Minor Concentrations or Minors" for options open to B.A.&Sc. students.

Note that the Honours Research course number is different for the B.Sc.(Ag.Env.Sc.) degree.

B.A., B.Sc., B.A.&Sc.
Honours - Required Courses (6 credits)
ENVR 495 D1/N1 (3) Honours Research
ENVR 495 D2/N2 (3) Honours Research

Students in the B.A. or B.Sc. Honours programs complete the Core and Domain courses (54 to 66 credits) according to their chosen Domain as well as the Honours required courses.
(Note: courses vary with each Domain.)

Students in the B.A.&Sc. Honours program complete the coursework (54 credits) for the Interfaculty Program in Environment as well as the Honours required courses.

B.Sc.(Ag.Env.Sc.)
Honours - Required Courses (6 credits)
ENVR 496 (3) Honours Research Part 1
ENVR 497 (3) Honours Research Part 2

Students in the B.Sc.(Ag.Env.Sc.) Honours program complete the Core and Domain courses (57 to 63 credits) according to their chosen Domain as well as the Honours required courses. Note: courses vary with each Domain.

In addition to completing the Honours Research course, all students must present their results to the MSE at the end of the second semester. They must also give the MSE a complete, clean (after corrections) copy of their thesis.

10.11 Diploma in Environment

Advisor: Ms. Kathy Roulet, MSE Program Advisor
Email: kathy.roulet@mcgill.ca
Telephone: 514-398-4306

The Diploma is designed for students with an undergraduate degree who wish to enrich or reorient their training, supplementing their specialization with additional undergraduate-level coursework. The Diploma requires 30 credits of full-time or part-time studies at McGill; it may be started in either January or September. The Diploma is a one-year program if taken full-time.

Students holding a B.Sc. or a B.A. degree or equivalent in good standing will be permitted to register for the Diploma through the Faculty of Agricultural and Environmental Sciences, the Faculty of Arts, or the Faculty of Science, provided they are otherwise acceptable for admission to the University.

Students must have **a grade of C or higher** in all courses for the Diploma.

Advising note: Consultation with the Program Advisor for approval of course selection to meet program requirements is obligatory. Only courses at the 200-level and above will be approved.

DIPLOMA IN ENVIRONMENT (30 credits)

Required Courses (18 credits)

ENVR 200	(3)	The Global Environment
ENVR 201	(3)	Society and Environment
ENVR 202	(3)	The Evolving Earth
ENVR 203	(3)	Knowledge, Ethics and Environment
ENVR 301	(3)	Environmental Research Design
ENVR 400	(3)	Environmental Thought

Complementary Courses (12 credits)

3 credits must be taken with the approval of the Program Advisor in an area outside of the student's previous degree (e.g., those with a B.A. or equivalent degree must take 3 credits in the natural sciences; those with a B.Sc. or equivalent degree must take 3 credits in the social sciences). A list of suggested courses is available from the Program Advisor, and on the MSE website in "Undergraduate Programs: Diploma".

9 credits must be taken in an area of focus chosen by the student with the approval of the Program Advisor. At least 6 credits must be taken at the 400-level or higher.

Course descriptions and prerequisites can be found in the Courses section. The most up-to-date information on courses being offered this academic year is available on Class Schedule at www.mcgill.ca/minerva.

10.12 Field Studies

Field study semesters are available in Africa, Barbados, and Panama. See section 15.3 "Field Studies" in this Calendar for details.

11 Desautels Faculty of Management

Table of Contents

11.1 Desautels Faculty of Management, page 325
- 11.1.1 Location, page 325
- 11.1.2 Administrative Officers, page 325
- 11.1.3 The Bachelor of Commerce Program, page 326
- 11.1.4 BCom Student Affairs Office, page 326
- 11.1.5 Summer Studies, page 326
- 11.1.6 International Student Exchange Program, page 326
- 11.1.7 Transfer Credit and Advanced Standing, page 326

11.2 BCom Degree Admission Requirements, page 327

11.3 BCom Degree Requirements, page 327
- 11.3.1 Academic Requirements for Graduation, page 327
- 11.3.2 Cumulative Grade Point Average (CGPA), page 327
- 11.3.3 Course Requirements, page 327
- 11.3.4 Academic Advising, page 327
- 11.3.5 Registration, page 327
- 11.3.6 Course Overlap, page 328
- 11.3.7 Electives, page 328
- 11.3.8 Course Taken Under the Satisfactory/Unsatisfactory Option, page 329
- 11.3.9 Academic Standing, page 329
- 11.3.10 Time and Credit Limit for Completion of the BCom Degree, page 330

11.4 Grading and Credit, page 330
- 11.4.1 Examinations, page 330
- 11.4.2 Verification of Grades and Rereads, page 330
- 11.4.3 Awards and Honorary Designations, page 331
  - 11.4.3.1 Honours and First-Class Honours, page 331
  - 11.4.3.2 Distinction, page 331
  - 11.4.3.3 Dean's Honour List, page 331
  - 11.4.3.4 Scholarships, Prizes and Medals, page 331

11.5 BCom Program Credit Structure, page 331
- 11.5.1 General Management Program (Concentrations), page 331
- 11.5.2 Major or Honours Programs, page 332

11.6 120-credit Program, Freshman Course Distribution, page 333

11.7 Management Core, page 333
- 11.7.1 Core Course Distribution, page 333

11.8 Concentrations (General Management Major), page 334
- 11.8.1 Accounting Concentration, page 334
- 11.8.2 Entrepreneurship Concentration, page 334
- 11.8.3 Finance Concentration, page 334
- 11.8.4 Information Systems Concentration, page 335
- 11.8.5 International Business Concentration, page 335
- 11.8.6 Labour-Management Relations Concentration, page 335
- 11.8.7 Management Science Concentration, page 335
- 11.8.8 Marketing Concentration, page 335
- 11.8.9 Operations Management Concentration, page 335
- 11.8.10 Organizational Behaviour Concentration, page 336
- 11.8.11 Strategic Management Concentration, page 336

11.9 Minors for Management Students, page 336
- 11.9.1 Minor in Mathematics, page 337
- 11.9.2 Minor in Statistics, page 337

11.10 Minors for Non-Management Students, page 337
- 11.10.1 Minor in Finance, page 337
- 11.10.2 Minor in Management, page 337
- 11.10.3 Minor in Management for Economics Students, page 338
- 11.10.4 Minor in Management for Engineering Students, page 338
- 11.10.5 Minor in Management for Science Students, page 338
- 11.10.6 Minor in Marketing, page 338
- 11.10.7 Minor in Operations Management, page 338
- 11.10.8 Minor in Technological Entrepreneurship for Engineering Students, page 339
- 11.10.9 Minor in Technological Entrepreneurship for Science Students, page 339

11.11 Majors, page 339
- 11.11.1 Major in Accounting, page 339
- 11.11.2 Major in Economics for Management Students, page 339
- 11.11.3 Major in Finance, page 339
- 11.11.4 Major in Information Systems, page 339
- 11.11.5 Major in International Management, page 340
- 11.11.6 Major in Labour-Management Relations, page 341
- 11.11.7 Major in Marketing, page 341
- 11.11.8 Major in Mathematics for Management Students, page 342
- 11.11.9 Major Concentration in Mathematics for Management Students, page 342
- 11.11.10 Major in Psychology for Management Students, page 342
- 11.11.11 Major Concentration in Statistics for Management Students, page 342

11.12 Honours, page 343
- 11.12.1 Honours in Economics for Management Students, page 343
- 11.12.2 Honours in Investment Management, page 343
- 11.12.3 Joint Honours in Economics and Accounting, page 344
- 11.12.4 Joint Honours in Economics and Finance, page 344

11.13 Academic Staff, page 345

11.1 Desautels Faculty of Management

11.1.1 Location

Samuel Bronfman Building
1001 Sherbrooke Street West
Montreal, QC H3A 1G5
Canada

Telephone: 514-398-4068
Faculty website: www.mcgill.ca/desautels
Degree website: www.mcgill.ca/desautels/bcom

The BCom Student Affairs Office of the Desautels Faculty of Management and the office of the Director, BCom Program are located in the Samuel Bronfman Building, room 110. The BCom Student Affairs Office serves all students taking management courses.

11.1.2 Administrative Officers

Peter Todd; B.Com.(McG.), Ph.D.(Br. Col.) **Dean**

Emine Sarigöllü; B.A., M.B.A.(Bogazici), M.A., Ph.D.(Penn.)
Associate Dean, Student Affairs

Glenn Zabowski; B.Com., M.B.A.(McG.)
Director, BCom Program

11.1.3 The Bachelor of Commerce Program

Internationally acclaimed for its high academic standards and excellence in teaching/research, and widely recognized as Canada's leading international business school, McGill University consistently attracts top students and faculty members from around the world.

The primary objective of the McGill BCom program is to prepare students for effective professional and managerial careers. This preparation includes developing in students a capacity for critical thinking, for integrating knowledge across different disciplines, and for utilizing current theory in approaching practical business problems. Students are also expected to become comfortable with taking risks, working as part of a team, and developing the necessary skills to lead others. Students will acquire the critical management competencies which will enable them to offer the expertise organizations need to respond to the ever-changing and increasingly complex global marketplace.

The BCom highly flexible curriculum offers students both breadth and depth. Breadth is achieved through a broad-based core of required courses which provide the necessary quantitative, analytical, and communication skills, while grounding students in applied theory and practice across the major management disciplines. Depth is achieved through three alternate specializations of study designed to meet the needs of a highly diverse student body with a wide range of career interests and priorities.

General Management (Concentration) students pursue focused study in two different areas. They must choose one Concentration in Management, and for their second area of study, they have two options: 1) choosing a second Concentration in Management; or 2) pursuing a Minor in another faculty. This option is ideal for students who are seeking a general business education, are interested in continuing their education in a related field such as law or industrial relations, or wish to pursue a career in a specific sector such as the arts, applied science, or public administration.

Majors and Honours programs are available for students wishing to focus their study in primarily one area in order to get maximum exposure to their chosen field. This option is for students with clearly defined career objectives or those interested in further professional training, such as a CA, CMA, CGA, or CFA designation.

In International Management, students have a chance to pursue interdisciplinary global studies. All students in the Major complete the requirements of the International Business Concentration. They choose to complete social science and humanities courses in one of the following themes: comparative global studies, global politics and economy, or global well-being and development. They are also required to complete at least two levels of a language and 3 credits of research or internship work. Exchanges are recommended

Candidates coming from the Quebec CEGEP system apply to a three-year program whereas out-of-province and international students follow a four-year program.

11.1.4 BCom Student Affairs Office

The BCom Student Affairs Office provides ongoing advice and guidance on programs and prerequisites, degree requirements, majors, minors and concentrations, registration, course change, procedures for withdrawal, deferred final examinations, rereads, academic standing, inter-faculty transfer, exchange or study abroad, transfer credits, scholarships and graduation. Student advisers offer help managing academic situations during periods of personal, financial or medical problems, by working with students to identify various possibilities and strategies for making informed decisions.

The BCom Office abides by everything in the Calendar: prerequisites, concentrations, majors, etc. The BCom Office will not make exceptions for students against the Calendar in any situation. No exceptions to the Calendar will be approved by the BCom Office or the Director, BCom Program.

For more information, please refer to the BCom website at www.mcgill.ca/desautels/bcom.

11.1.5 Summer Studies

Students wishing to make up deficiencies in their background, or to accelerate their progress to the degree, may do so by taking summer courses at McGill or some other institution.

Each summer, from early May to mid-August, many core courses and several elective courses are offered by the Desautels Faculty of Management for full credit. They are available to Management students, and to students from other faculties and universities who have the necessary course prerequisites. McGill also offers a number of summer courses in various disciplines at different levels. Information on summer courses is available from the BCom Student Affairs Office at 514-398-4068 or bcom.mgmt@mcgill.ca, or from the Summer Studies Office at 514-398-5212 or summer.studies@mcgill.ca.

Students normally will be allowed to take only 6 credits in each of the two parts of Summer session. Students who wish to follow a full-time period of study will be permitted to enrol for more than 6 credits per part only with special permission of the Director, BCom Program. In no circumstance will students be allowed to take more than 12 credits in either part of the Summer session, and may take no more than 18 credits in a single summer.

Should students wish to pursue courses at another institution, credit will be granted for such courses only if they fit into the student's overall program, and if written permission to do such courses for credit has been obtained in advance from the BCom Student Affairs Office. A course which overlaps with material already completed in the student's program, or a language course which does not substantially progress beyond corresponding language courses already taken, will not receive credit approval. Please see section 11.1.7 “Transfer Credit and Advanced Standing” for more information about transferring credits.

11.1.6 International Student Exchange Program

Students are encouraged to take advantage of opportunities to study abroad for a term or year. The international exposure and academic experience gained by taking part in student exchange are highly worthwhile. Through this program, students may study and earn academic credits at over 70 universities in countries around the world. Exchange opportunities are open to students in most specializations.

More information may be obtained from the BCom Student Affairs Office at 514-398-4068, bcom.mgmt@mcgill.ca, or on the McGill website at www.mcgill.ca/studyabroad. At least two-thirds of all departmental program requirements must be completed at McGill and there is a CGPA requirement of 3.0 to be eligible for exchange. Once accepted, students must obtain written faculty authorization for transfer credits before leaving for exchange. For more information about the International Student Exchange program please visit: www.mcgill.ca/desautels/bcom/sao/options/exchange.

11.1.7 Transfer Credit and Advanced Standing

Students are admitted to a four-year program requiring the completion of 120 credits, but advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in the Diploma of Collegial Studies, International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement Tests. Students who transfer course credit from another institution may transfer up to one third of the credits required in their degree program, including the Concentration, Major or Honours requirements under the following conditions:

- Only courses passed with a grade of C or better at the host institution will be transferred. Grades of C- are not acceptable.
- Grades of P or S are acceptable only if transferred from faculties within McGill.

- The letter grades applied by the former home institution or host institution (for exchanges and study away) take precedence over the numerical grades if provided.
- For exchange or study away purposes, it is required that course and credit approval is obtained before courses are taken at the host institution.
- The four-year program will require a minimum 80-credit residency at McGill.
- The three-year program will require a minimum 60-credit residency at McGill.

11.2 BCom Degree Admission Requirements

The Desautels Faculty of Management offers programs that are highly selective and fulfilment of minimum admission requirements does not guarantee acceptance. For information about admission requirements to the BCom Program, please refer to the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad. Students who have been asked to withdraw from a program in another Faculty/University due to poor performance are not eligible for transfer into the BCom Program. Information about inter-faculty transfers may be obtained from the BCom Student Affairs Office at 514-398-4068 or the BCom website at www.mcgill.ca/desautels/bcom.

11.3 BCom Degree Requirements

11.3.1 Academic Requirements for Graduation

Each student in the Desautels Faculty of Management must be aware of the faculty regulations as stated in this Calendar and on the McGill and BCom websites. While BCom Office advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of, program and degree requirements, and for the observance of regulations and deadlines **rests with the student**. It is the student's responsibility to seek guidance from the BCom Student Affairs Office if in any doubt; misunderstanding or misapprehension will not be accepted as cause for any exception from any regulation, deadline, program or degree requirement.

For students entering with a Quebec CEGEP Diploma, the number of credits is generally 90. Students from outside the province of Quebec who have not completed the equivalent of a CEGEP Diploma are required to complete 120 credits.

It is the student's responsibility to make sure his/her course of study conforms with the curriculum requirements as described in this Calendar. A student wishing to deviate from their program must obtain written permission from the Director, BCom Program.

A student who has transferred with advanced standing to the Desautels Faculty of Management from another university is required to complete a minimum of 60 credits while registered in the BCom program, including such required courses as are deemed necessary, to become eligible for the degree of BCom.

11.3.2 Cumulative Grade Point Average (CGPA)

A student is eligible for graduation upon satisfactory completion of the minimum credit requirement for the degree as indicated in the letter of acceptance, subject to the curriculum and CGPA of 2.00 (3.00 for Honours) requirements.

11.3.3 Course Requirements

All required and complementary courses used to fulfil program requirements, including the Freshman Program, must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a required course (core, part of a concentration, minor, major or honours program) must repeat the course. Course substitution will be allowed only in special cases; students should consult their academic adviser. Normally students are permitted to repeat a failed course only once (failure is considered to be a grade of less than C or the administrative failures of J and KF). If a required course is failed a second time, a student must appeal in writing to the Director, BCom Program for permission to take the course a third time. If permission is denied by the Director, BCom Program, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once. In either case, both grades of D count toward the CGPA.

11.3.4 Academic Advising

Students entering the Desautels Faculty of Management for the first time are required to attend an Orientation and Advising Session during the last week of August, at which time the staff from the BCom Student Affairs Office provide information on all aspects of the BCom program. Students who have had difficulty registering for their courses have the opportunity to resolve their problems after this session. For a detailed description of advising and registration procedures, students should refer to section 11.3.5 "Registration" and section 4 of *Welcome to McGill*, which they receive upon acceptance from Enrolment Services, as well as the BCom website at www.mcgill.ca/desautels/bcom.

Academic advising for all returning students takes place in February and March for the upcoming academic year. "Drop-in" advising is available in the BCom Student Affairs Office from mid-August until the end of September. Appointments may be made as of October 1, to discuss programs of study with student advisers. In February or March, an Information Session takes place that aids the student to select a course of study for specialization. In April, students continuing in the BCom Program plan their studies for the following year using the requirements as listed in the Calendar, or in the Degree Evaluation Module available through Minerva, as a guide to their course selection. Advice is available at the BCom Student Affairs Office for students having difficulty. Students register online using Minerva at www.mcgill.ca/minerva-students.

General Management students choosing to do a Minor in another Faculty as their second area of study should meet with the appropriate department adviser to plan their courses. **It should be noted that Minors must have a minimum of 18 credits not overlapping with other program requirements.**

Students taking the Minor, Major, or Honours in Economics must see an adviser in the BCom Student Affairs Office for approval of their program and course selection.

Students in the Major Concentration or Minor in Mathematics, or Statistics, must have their Study Plan Form initially authorized by the appropriate department adviser prior to submission to the BCom Student Affairs Office.

Students requesting general information about the program, or encountering difficulties (academic or personal), should contact a student adviser as soon as possible. Students with specific career goals should consult a student adviser about their choice of program within the BCom Program.

11.3.5 Registration

- It is the student's responsibility to register on time. Failure to register for courses when the registration periods begin may delay graduation and program requirements. **Space is limited**.
- Registration for Fall and Winter courses will begin in late March and early April for BCom students. Priority registration in Management courses for Summer opens in early March. Exact dates may be obtained from the BCom website at www.mcgill.ca/desautels/bcom.

- BCom students who are unable to register for required or complementary courses that they need in order to graduate on time should submit a copy of the Closed Management Course Request Form to the BCom Student Affairs Office with a copy of their Degree Evaluation and any relevant supporting documentation. During the add/drop periods, students must meet with an adviser; Closed Management Course Request Forms will not be accepted. Exact deadlines may be obtained from the BCom website at www.mcgill.ca/desautels/bcom.
- BCom students are generally not permitted to take courses offered through the Centre for Continuing Education (CCE) for credit toward their degree. Should you wish to receive special permission to take a course through CCE (i.e., to enable you to graduate on time or take an approved elective that is only offered by CCE), you must submit a Cont Ed Request Form to the BCom Student Affairs Office with a copy of your Degree Evaluation and any relevant supporting documentation. Students cannot register for CCE courses via Minerva; if approved, the BCom Office will need to add this course to your record. Students should **not** go to nor contact the Centre for Continuing Education regarding registration for a CCE course.
- New students must select their area(s) of specialization online using Minerva **before** they are permitted to register for courses. The program options available are found in the *Change your Curriculum* module of the Student Menu.
- Full-time students must register for courses online using Minerva. Additional information for new students is distributed at the time of admission and is also available on the Faculty website at www.mcgill.ca/desautels under Degree Programs - BCom - Accepted Students and www.mcgill.ca/student-records. Information for returning students and part-time students is available in the BCom Office as of March.
- Students who wish to change the courses for which they are registered within the add/drop period must do so online using Minerva.
- Students wishing to withdraw from a course after the add/drop deadline must do so online using Minerva by the withdrawal deadline. A grade of "W" will be indicated on the transcript which does not affect GPA. Approval to withdraw after the withdrawal deadline will be granted only in exceptional circumstances. A written request for such consideration, accompanied by substantial documentation, must be submitted to the Director, BCom Program. Students whose circumstances require withdrawal from their complete program should see an adviser in the BCom Student Affairs Office.
- All courses have limited enrolment. When a student's record is verified, any courses taken that violate the degree regulations will be flagged after the end of the course change period as "not for credit towards the BCom". As a result, the student's expected date of graduation may be delayed. Students who believe they have valid reasons to take a course that may not be credited toward the BCom must obtain permission from the Director, BCom Program.

11.3.6 Course Overlap

Students will not receive credit toward their degree for any course that overlaps in content with a course taken for credit at McGill, CEGEP, another university, advanced placement exams, Advanced Level results, International Baccalaureate Diploma, or French Baccalaureate Diploma.

It is the student's responsibility to consult the BCom Student Affairs Office as to whether or not credit can be obtained and to be aware of exclusion clauses specified in the course descriptions in this Calendar. Please refer to the following website for specific information about advanced standing credits and McGill course exemptions: www.mcgill.ca/student-records/transfercredits.

Credit for statistics courses will be given with the following restrictions:

- Credit will be given for ONLY ONE of the following statistics courses: AEMA 310, BIOL 373, ECON 227D1/ECON 227D2 (max. 3 cr.), ECON 257D1/ECON 257D2, GEOG 202, GEOG 351, MATH 204, MATH 324, MATH 357, MGCR 271, MGCR 273, MIME 209, PSYC 204, SOCI 350.
- For 500-level statistics courses not listed above, students must consult a student adviser to ensure that no significant overlap exists. Where such overlap exists with a course for which the student has already received credit, credit will not be allowed.
- Credit for statistics courses offered by faculties other than Management requires the permission of the Director, BCom Program.
- PSYC 204 may not be taken if a grade of 75% or better was received in an equivalent course completed at CEGEP.

Credit for computer courses will be subject to the following restrictions:

- Credit for courses offered by the School of Computer Science is governed by rules specified in its individual course descriptions.
- Credit for computer courses offered by faculties other than Management requires the permission of the Director, BCom Program.
- No 100-level computer courses may be completed for credit.

Credit for economics courses will be subject to the following restrictions:

- A maximum of 6 credits will be granted for Freshman Economics courses.
- A maximum of 6 credits will be granted for ECON 230D1/ECON 230D2, ECON 250D1/ECON 250D2, and MGCR 293.
- A maximum of 6 credits will be granted for ECON 330D1/ECON 330D2, ECON 352D1/ECON 352D2, and ECON 295.
- ECON 208 and ECON 209 are not permitted in the 90-credit program.

11.3.7 Electives

Non-Management Electives:
Students completing two Concentrations, or Majors in Accounting, Finance, Information Systems, Labour-Management Relations, or Marketing, must take a minimum of 6 credits of Non-Management electives. This requirement does not apply to those completing a Minor, a Major in Economics, Mathematics, Statistics, or Psychology, or an Honours or Joint Honours program.

Non-Management electives may be chosen from a broad range of faculties and departments, subject to the exclusions of Course Overlap regarding statistics, computer, and economics courses, and the restrictions listed below.

Note 1:
Quantitative Methods, Statistics, and Research courses offered by any department must be approved by the Director, BCom Program, prior to registration in the course. Failure to obtain the necessary approval will result in the course being excluded (E) from the credit count.

Note 2:
A maximum of 6 credits across all Faculties may be taken in Remedial English and/or English as a Second Language. The relevant subject codes are EAPR, ESLN, EDEC, CEEN, and CEGL.

Faculty constraints:

Agriculture & Environmental Sciences
- All courses require approval by a student adviser in the BCom Student Affairs Office.

Arts
- All courses are approved, subject to Course Overlap and the above notes, with a maximum of 6 credits approved in EAPR, ESLN, EDEC, CEEN, and CEGL (combined), or SWRK (approved courses only). ECON 208 and ECON 209 may not be taken for credit within the BCom program.

Continuing Education
- A maximum of 6 credits are approved from the language courses offered; no credit will be granted for other CCE courses with subject codes beginning with a "C", such as CCTR or CMIS.

Education
- A maximum 6 credits are approved from the following subject codes (combined): EDEA 201, 204, 205, 296, 304, 305, 307, 496, 497; EDEC 200, 202, 205, 208, 236, 239, 241, 242, 247, 248, 260, 261, 305, 308, 309, 403; EDEE 325; EDEM 220; EDER 207, 209, 309, 394, 395, 461, 473, 494; EDES 366; EDKP 205, 206, 261, 292, 293, 303, 330, 391, 395, 566; EDPC 510; EDPE 377; EDPE 526.
- No courses are approved from subject codes EDET, EDFC, EDFE, EDPT or EDSL.

Engineering
- Most courses in subject codes ARCH, CHEE, CIVE, ECSE, MECH, MIME, URBP with approval of an Adviser.
- No courses are approved from subject codes FACC or MPMC.
- The following courses are not approved: CHEE 291, 360, 462; CIVE 210, 432; ECSE 443; MECH 201, 260, 262, 289; MIME 202, 221, 280, 290, 291, 310, 380, 392, 480, 481, 494.

School of Environment
- All courses are approved.

Music
- All courses are approved in subject codes MUGT, MUHL, MUMT, MUPP, MUSR, MUTH and MUAR (taught by Arts).
- A maximum of 6 credits is approved from the following (combined): MUCO, MUCT, MUEN, MUIN, MUIT, MUJZ, MUPG and MUSP.

Religious Studies
- All courses are approved.

Science
- All courses are approved, subject to Course Overlap and the above note 1, except COMP 102; MATH 111, 112, 122, 123, 133, 139, 140, 141, 150, 151, 152 and 203.
- A maximum 6 credits may be taken from the World of Chemistry courses CHEM 150, 160, 170, 180.

Free Electives:
Subject to the requirements and restrictions for Non-Management electives as outlined above, all remaining elective credits may be taken in any Faculty, Management or otherwise.

11.3.8 Course Taken Under the Satisfactory/Unsatisfactory Option

Students may select or cancel the S/U option only during registration or the add/drop period through a request to the BCom Student Affairs Office. All S/U credits will be excluded when calculating the Grade Point Average. This option may only be used for elective courses, one course per term, to a maximum of 10% of the total credits taken at McGill to fulfil the degree requirements. Careful consideration should be given before using this option as it can affect scholarship and award consideration, where a minimum of 27 graded credits are required, as well as future admission to law or graduate schools.

For more information and restrictions, please refer to section 3.3.6 “Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option”.

11.3.9 Academic Standing

Academic standing is based primarily on a student's cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing is assessed in January for the Fall term, in May for the Winter term, and in September for the Summer term. Academic standing in each term determines whether students will be allowed to continue their studies in the next term and whether any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall-term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPAs. Therefore, academic standings for the Fall term are designated as "interim". **Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.**

A student not in Satisfactory Standing is strongly advised to consult with Naomi Neuburger or Heather McCombie in the BCom Student Affairs Office about their course selection before the withdrawal deadlines.

Satisfactory/Interim Satisfactory Standing
Students in satisfactory standing may continue in their program.

- New students are admitted to satisfactory standing.
- Students with a CGPA of 2.00 or greater are in satisfactory standing.

Probationary/Interim Probationary Standing
Students in probationary standing may continue in their program, but must carry a reduced load (maximum 14 credits per term) and raise their TGPA and CGPA to return to satisfactory standing (see above). They should see their student adviser to discuss their course selection.

Students in interim probationary standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult with their student advisor, before the withdrawal deadlines, about their course selection for the Winter term.

- Students who were previously in satisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99.
- Students who were previously in probationary standing will remain in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher (although the TGPA requirement will not apply to the Summer term).
- Students who were previously in interim unsatisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher.
- Students who were previously in unsatisfactory standing and who were readmitted to the BCom Program by the Director will be placed in probationary standing if their CGPA is lower than 2.00. To remain in the program, students must satisfy the relevant conditions specified in their letter of readmission.

Unsatisfactory Readmitted Standing
Students who were previously in unsatisfactory standing and who were readmitted to the BCom Program by the Director will have their standing changed to unsatisfactory readmitted standing. Their course load is specified in their letter of readmission, as are the conditions they must meet to be allowed to continue in their program. They should see their student adviser to discuss their course selection.

Unsatisfactory/Interim Unsatisfactory Standing
Students in interim unsatisfactory standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult a student adviser, before the withdrawal deadlines, about their course selection for the Winter term.

Students in unsatisfactory standing have failed to meet the minimum standards set by the Faculty. They may not continue in their program, and their registration will be cancelled.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Director, BCom Program, no later than July 15 for readmission to the Fall term and November 15 for the Winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (i.e., medical or other documentation) along with reassurances of future improvement. Students in unsatisfactory standing for the second time must withdraw permanently.

- Students will be placed in unsatisfactory standing (Winter or Summer term) or interim unsatisfactory standing (Fall term) if their CGPA falls or remains below 1.50.
- Students who were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing will be placed in unsatisfactory standing if their TGPA falls below 2.50 and their CGPA is below 2.00.
- Students who were previously in unsatisfactory standing and who were readmitted to the BCom Program by the Director and who have not at least satisfied the conditions to attain probationary standing that were specified in the letter of readmission will be placed in unsatisfactory standing.

Incomplete Standings
Standing awaits deferred exam.
Standing Incomplete.

Students with incomplete standings in the Winter or Summer term may register for the Fall term, but their standing must be resolved by the end of the add/drop period for that term; otherwise, their registration will be cancelled. Students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to unsatisfactory standing may not continue in their program, and their registration will be cancelled.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Director, BCom Program, as soon as they are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (i.e., medical or other documentation) along with reassurances of future improvement. Students whose standing is still incomplete by the end of course change period should immediately consult with the BCom Student Affairs Office.

11.3.10 Time and Credit Limit for Completion of the BCom Degree

Students who need 90 or fewer credits to complete their degree requirements are expected to complete their degree in no more than eight terms after their initial registration for the BCom degree. Students in the Freshman Program become subject to these regulations one year after their initial registration. Students who wish to exceed this time limit or who wish to exceed the minimum credit requirement for their degree must apply in writing to the Director, BCom Program, for permission to continue their studies. Permission for exceeding the time and/or credit limit will normally be granted only for valid academic reasons. Elective credits over the credit limit will be flagged for no credit and the grades will not count in the CGPA.

Students who are readmitted after interrupting their studies for a period of one year or more must apply in writing to the Director, BCom Program. Students who are readmitted after a period of absence are normally subject to the program and degree requirements in effect at the time of readmission.

11.4 Grading and Credit

During the first week of lectures, each instructor will provide students with a written course outline that should include:

- A description of the topics to be considered in the course.
- A list of required or recommended textbooks and reading materials.
- A grading scheme or description of the means of evaluation to be used in the course, along with due dates for assignments and dates/times of exams. All term work shall be assigned early enough in the term for students to complete the assignment(s) by the last day of class. The due date for term work shall be no later than the last day of classes. Changes in the distributed grading scheme are permitted only with the unanimous consent of all students registered in the course. In practice, therefore, the grading scheme is almost never changed during the term.
- The instructor's office hours for students, office location, telephone number for office appointments and secretarial contact information.
- Academic Integrity statement: **McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the *Code of Student Conduct and Disciplinary Procedures* (see www.mcgill.ca/integrity for more information).**

11.4.1 Examinations

Students should see section 3.6 "Examinations" for information about final examinations and deferred examinations. Final examinations are centrally administered by Enrolment Services. Around the beginning of November and March, a final examination schedule will be posted on the McGill website (www.mcgill.ca) by Enrolment Services. The seating arrangements are posted on the McGill website toward the end of the last week of classes.

BCom students and non-management students taking BCom courses must report conflicts directly to Enrolment Services — not to the instructor. Students should also refer to the BCom website at www.mcgill.ca/desautels/bcom for more information. Students are warned not to make travel arrangements to leave Montreal prior to the posting of the official final examination schedule.

BCom courses cannot have examinations scheduled during the last two weeks of term worth more than 10% of the final grade. Students must repeat any grades of D or F in core courses or courses as part of a Concentration, Minor, Major or Honours Program. However, D is a passing grade for elective courses.

Supplemental Examinations
Supplemental examinations are not offered in undergraduate courses administered by the Desautels Faculty of Management. A student required to improve his/her standing in a course must repeat the course in a subsequent term, completing all course requirements to the satisfaction of the instructor. Faculty policy does not allow students to do additional work to improve their standing in a course.

Deferred Examinations
For missed final examinations, whatever the reason may be, professors and students are not to make alternate arrangements. The student must complete an *Application for Deferred Final Exam* through his/her Minerva account as well as provide supporting documentation to the BCom Office. This online application must be completed within 5 working days of the date of the exam and the supporting documentation must be submitted to the BCom Office within this time frame as well. The BCom Office will then review the reasons for the exam having been missed and will either give the student permission to write a deferred final exam, or not. If approved, the student will write the final exam during the University's official deferred exam period — specific dates in May (Fall terms) and August (Winter and Summer terms). It is up to students to verify the deferral schedule, which the Registrar makes up and administers.

11.4.2 Verification of Grades and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark and the right to discuss this submission with the examiner.

In a case where a student feels that an error has been made in arriving at the final grade, a *Verification of Grade Application* must be completed in the BCom Student Affairs Office, requesting the instructor to carry out a detailed check that all questions have been marked, and that the final grade has been computed correctly on the basis of the term work, final examination, etc. However, during the course of the term, any requests to have term work re-evaluated should initially be made directly to the instructor.

The Desautels Faculty of Management recognizes two types of rereads or reassessments:
- reread of coursework (term papers, mid-terms, assignments, quizzes, etc.);
- reread of a final exam.

In both cases, rather than recorrect the work and then grade it as they would have done themselves, reviewers assess the appropriateness of the original grade based, for example, on the application of the grading key to the student's work. If a grade is deemed unfair, it is changed, whether the new grade is higher or lower than the original, i.e. the reviewer's grade takes precedence over the original grade.

Reread of Coursework
Students may apply to the BCom Student Affairs Office for rereads of written coursework. Students are assessed a fee of $35.00 for such rereads. Requests for rereads involving group work require the consent of all members of the group, but only one reread fee will be assessed. It is strongly recommended that students consult with the instructor of the course before requesting a reread of coursework. Requests for rereads must be made within 10 working days of the date of return of the graded materials. Reassessments should normally be completed within 20 working days of the request.

Rereads of Final Exams
These rereads are administered by the BCom Student Affairs Office. Students must apply in writing to the BCom Student Affairs Office by March 31 for courses in the Fall term and by September 30 for courses in the Winter or Summer terms (these deadlines are strictly enforced, and no requests will be accepted past them). Students are assessed a fee of $35.00 for such rereads. It is strongly recommended, but not required, that students consult with the instructor of the course before requesting a reread of a final exam.

Reassessments and rereads in courses not in the Desautels Faculty of Management are subject to the deadlines, rules, and regulations of the relevant faculty.

11.4.3 Awards and Honorary Designations

11.4.3.1 Honours and First-Class Honours

Graduating students registered in an Honours program may be awarded Honours or First-Class Honours under the following conditions:
- for Honours, the CGPA at graduation must be at least 3.0 overall and in the specified courses of the program
- for First-Class Honours, the CGPA at graduation must be at least 3.5 overall and in the specified courses of the program

Students in an Honours program whose GPA or CGPA is below 3.0, or who did not satisfy certain additional program requirements, must consult their student adviser to determine whether they are eligible to graduate in a program other than Honours.

11.4.3.2 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 “Distinction”.

11.4.3.3 Dean's Honour List

For information on the designation of Dean’s Honour List awarded at graduation, see section 3.9.1.1 “Dean's Honour List”.

11.4.3.4 Scholarships, Prizes and Medals

Various scholarships, prizes and medals are open to returning and graduating students. Full details can be found in the *Undergraduate Scholarships and Awards Calendar* available at www.mcgill.ca/courses. For information, see section 3.8 “Scholarships and Student Aid”.

Registered students are automatically considered by the Undergraduate Scholarships Committee for each award for which they are eligible, with the following exceptions for in-course scholarships: Sheila Wellington BMO Financial Group Awards, KPMG Scholarship, Commerce '55 Scholarships, Hyman Herbert Stein Award, Donald R. McRobie Award, Great-West Life & London Life Scholarship, Hugh Howson Memorial Prize, Dr. Alex Paterson Scholarship, Paul-Hervé Desrosiers Scholarship in Entrepreneurial Studies, Shirin Yeganegi Memorial Scholarship, HSBC Bank Canada Management Awards, Bruce and Jocelyn Pearson Scholarship, and RSM Richter Scholarship in Accounting. The Stephen S. Goldbloom Memorial Prize is the exception for a graduating student. For these, the Undergraduate Scholarships Committee welcomes applications and recommendations, substantiated by curriculum vitae, from individual students, student groups and clubs. Such information should be forwarded to Heather McCombie in the BCom Student Affairs Office. A minimum of 27 graded credits must have been completed in the year to be eligible; 14 credits in one term.

11.5 BCom Program Credit Structure

The Bachelor of Commerce (BCom) degree program is a three- or four-year program when taken full-time. It can also be pursued on a part-time evening basis. Although the language of instruction at McGill is English, those who plan to be part of the Quebec business environment are reminded of the importance of competence in both written and oral French. Students may submit assignments and write exams in French.

11.5.1 General Management Program (Concentrations)

2 Concentrations	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
2 Concentrations	30	30
Non-Mgmt Electives	6	18
Free Electives	18	18
Total	90	120

1 Concentration & 1 Minor (18 credits)	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
1 Concentration + 1 Minor (18 credits)	33	33
Non-Mgmt Electives	0	12
Free Electives	21	21
Total	90	120

1 Concentration & 1 Minor (24 credits)	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
1 Concentration + 1 Minor (24 credits)	39	39
Non-Mgmt Electives	0	12
Free Electives	15	15
Total	90	120

Concentrations
- Accounting, page 334
- Entrepreneurship, page 334
- Finance, page 334
- Information Systems, page 335
- International Business, page 335

- Labour-Management Relations, page 335
- Marketing, page 335
- Operations Management, page 335
- Organizational Behaviour, page 336
- Strategic Management, page 336

Minors/Minor Concentrations for Management Students
Although only the Mathematics and Statistics Minors are outlined in this section, a wide variety of programs are available as listed in the sections for the Faculties of Arts and Science. Popular choices include Anthropology, Canadian Studies, Computer Science, English - Literature, Environmental Studies, Geological Sciences, German, History, International Development, Political Science, Women's Studies, etc. Students interested in the Minor in Economics must see an adviser in the BCom Student Affairs Office for Faculty approval.

It should be noted that a minimum of 18 credits of the Minor's requirements must not overlap with any other part of the student's program.

11.5.2 Major or Honours Programs

Majors in Management	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
Major	30	30
Non-Mgmt Electives	6	18
Free Electives	18	18
Total	90	120

Major Concentrations in Mathematics or Statistics	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
Major	39	39
Non-Mgmt Electives	0	12
Free Electives	15	15
Total	90	120

Major in Economics	90 credit	120 credit
Freshman Requirements	0	18
Core^	27	27
Major^^	36	36
Non-Mgmt Electives	0	12
Free Electives	27	27
Total	90	120
^ MGCR 271 Business Statistics is counted toward the 36 credits of the Major, not Core.		
^^ MGCR 293 & ECON 295 in Core are exempted by the required ECON courses within the Major.		

Major in International Management	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
International Business Concentration Component	15	15
Area of Study Component: Minor Concentration/Field Studies Semester	15-18	15-18
Language Component	9-12	9-12
Experiential Learning Component	0-3	0-3
Non-Management Electives	0	12
Free Electives	6-15	6-15
Total	90	120

Major in Psychology	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
Major	30	30
Non-Mgmt Electives	0	12
Free Electives	24	24
Total	90	120

Honours in Economics	90 credit	120 credit
Freshman Requirements	0	18
Core^	27	27
Honours	42	42
Non-Mgmt Electives	0	12
Free Electives	21	21
Total	90	120
^ MGCR 271, MGCR 293 & ECON 295 in Core are exempted by the required ECON courses within the Honours.		

Joint Honours in Economics & Finance or Joint Honours in Economics & Accounting	90 credit	120 credit
Freshman Requirements	0	18
Core^	27	27
Economics	30	30
Accounting or Finance	24	24
Non-Mgmt Electives	0	12
Free electives	9	9
Total	90	120
^ MGCR 271, MGCR 293 & ECON 295 in Core are exempted by the required ECON courses within the Honours.		

Honours in Investment Management	90 credit	120 credit
Freshman Requirements	0	18
Core	36	36
Honours	42	42
Non-Mgmt Electives	6	12
Free electives	6	12
Total	90	120

Majors
- Accounting, page 339
- Economics, page 339
- Finance, page 339
- Information Systems, page 339
- International Management, page 340
- Labour-Management Relations, page 341
- Marketing, page 341
- Mathematics (Major Concentration), page 342
- Psychology, page 342
- Statistics (Major Concentration), page 342

Honours
- Economics, page 343
- Economics/Accounting, page 344
- Economics/Finance, page 344
- Investment Management, page 343

11.6 120-credit Program, Freshman Course Distribution

Students admitted to a program requiring 97 to120 credits (four years) register in a Freshman Year in which they must complete MATH 122 and MATH 123 (or equivalents) as well as the 12 credits of Complementary Courses specified below.

A minimum grade of C is required for all MATH and Freshman Complementary courses.

The Freshman Course Distribution is as follows:

U0 Required Courses (6 credits)

MATH 122[1] (3) Calculus for Management

MATH 123 (3) Linear Algebra and Probability

U0 Complementary Courses (12 credits)

6 credits of Humanities or Language courses, as specified below:

Freshman Humanities/Languages Course List (6 credits)

Any course at the 100 or 200 level with these subject codes:
ARTH (Art History); CANS (Canadian Studies); CLAS (Classics); EAST (Asian Languages and Literature); ENGC (English Communications); ENGL (English); FREN (French); FRSL (French as a Second Language); GERM (German); HISP (Hispanic Studies); ITAL (Italian); JWST (Jewish Studies); PHIL (Philosophy); RELG (Religious Studies); RUSS (Russian).

And the following Faculty of Education courses: EDEA 204; EDEA 205; EDEC 205; EDEE 325.

Note: Chosen courses from the subject codes above need to be approved by the offering Department. Any language courses offered through the Faculty of Arts may be taken, with approval from the appropriate department. Additional courses may be taken with approval of a Faculty Adviser.

6 credits of Social Science or Science courses, as specified below:

Freshman Social Sciences/Sciences Course List (6 credits)

Any course at the 100 or 200 level with these subject codes:
ANTH (Anthropology); ATOC (Atmospheric and Ocean Sciences); BIOL (Biology); CANS (Canadian Studies); CHEM (Chemistry) with a maximum of 3 credits from CHEM 150, CHEM 160, CHEM 170, CHEM 180; ECON (Economics) excluding ECON 208, ECON 209, ECON 217, ECON 227, ECON 230, ECON 250, ECON 257, ECON 295; EPSC (Earth and Planetary Sciences) excluding EPSC 200, EPSC 201; GEOG (Geography); HIST (History); LING (Linguistics); PHGY (Physiology); PHYS (Physics); POLI (Political Science); PSYC (Psychology) excluding PSYC 204; SOCI (Sociology) excluding SOCI 211; SSMD (Social Studies of Medicine); WMST (Women's Studies).

Any course at the 200 level with these subject codes:
COMP (Computer Science), MATH (Mathematics) excluding MATH 203, MATH 204.

Note: Chosen courses from the above-mentioned subject codes need to be approved by the offering Department. Additional courses may be taken with approval of a Faculty Adviser.

U0 Elective Courses (12 credits)

Program Footnotes:

1. Students considering a Major or Minor in Mathematics, or an Honours or Joint Honours program in Economics, replace MATH 122 and MATH 123 with three of the following courses, or demonstrate proficiency through appropriate McGill Placement tests.

MATH 133	(3)	Vectors, Matrices and Geometry
MATH 139	(4)	Calculus
or MATH 140	(3)	Calculus 1
MATH 141	(4)	Calculus 2

Six of these credits would be counted in the Freshman Year requirements, the remaining credits would be counted as Humanities or Science Complementary.

Management students cannot receive credit for ARET 150, COMP 102, ECON 208, ECON 209, ECON 217, ECON 227, ECON 230, ECON 250, ECON 257, MATH 112, MATH 203 or MATH 204 as elective courses.

11.7 Management Core

All BCom students take the 36-credit Core curriculum set out below, except where modifications are specifically required by a Major or Honours program.

A grade of C or better is required for all core courses. If a D is obtained in a core course, the course must be repeated.

11.7.1 Core Course Distribution

Required Courses (36 credits)

ECON 295[2] (3) Macroeconomic Policy

MGCR 211 (3) Introduction to Financial Accounting

MGCR 222 (3) Introduction to Organizational Behaviour

MGCR 271[1] (3) Business Statistics

MGCR 293[2] (3) Managerial Economics

MGCR 331 (3) Information Systems

MGCR 341 (3) Finance 1

MGCR 352 (3) Marketing Management 1

MGCR 360 (3) Social Context of Business

MGCR 382 (3) International Business

MGCR 423 (3) Organizational Policy

MGCR 472 (3) Operations Management

Program Footnotes:

1. Students considering a Major Concentration in Mathematics, a Major Concentration in Statistics, or a Minor in Statistics, are exempted from MGCR 271 by MATH 324. Students considering an Honours or Joint Honours Program in Economics replace MGCR 271 with ECON 257D1/ECON 257D2. Students entering the Major in Economics will only count the 3 credits of MGCR 271 in core.
2. Students entering an Economics program are exempted from MGCR 293 by either ECON 230D1/ECON 230D2 (for the Majors program) or ECON 250D1/ECON 250D2 (for the Honours Program), and are exempted from ECON 295 in U2 by either ECON 330D1/ ECON 330D2 (for the Majors program) or ECON 352D1/ ECON 352D2 (for the Honours Program) taken in U2.

Also note that:

- A maximum of 6 credits will be permitted within the BCom program for MGCR 293 and ECON 230D1/ECON 230D2 or ECON 250D1/ECON 250D2.
- A maximum of 6 credits will be permitted within the BCom program for ECON 295 and ECON 330D1/ECON 330D2 or ECON 352D1/ECON 352D2.

11.8 Concentrations (General Management Major)

In order to complete a Concentration, the student must achieve a grade of C or better in all the courses that comprise the Concentration. The student who has failed to earn 15 satisfactory credits will be required to embark on a new Concentration, repeat the course(s) in question or, where possible, to replace the course(s) with a satisfactory substitution from the Complementary courses of the Concentration.

In general, the student will begin taking courses from the chosen Concentration(s) in the U2 year.

Academic mentors are appointed for each Management Concentration to assist students in choosing a Concentration and provide additional information regarding course selection.

Second Concentration:
Students who choose to take a second Concentration will be required to complete 15 non-overlapping credits at a satisfactory level with a minimum grade of C in each course.

11.8.1 Accounting Concentration

Mentor: Professor J. Scott

This Concentration is designed to meet the needs of Management students who want to have a good basic understanding of accounting but do not intend to become professional accountants or accounting specialists. It is primarily oriented toward users of financial information and emphasizes breadth of knowledge in a coherent selection of courses.

The Accounting Concentration complements or forms part of the BCom, General Management Program. The individual courses in the Concentration also act as service courses for other areas in the Faculty for their Majors or Concentrations.

Required Courses (6 credits)
ACCT 351 (3) Intermediate Financial Accounting 1
ACCT 361 (3) Intermediate Management Accounting 1

Complementary Courses (9 credits)
ACCT 352 (3) Intermediate Financial Accounting 2
ACCT 354 (3) Financial Statement Analysis
ACCT 362 (3) Intermediate Management Accounting 2
ACCT 385 (3) Principles of Taxation
ACCT 434 (3) Topics in Accounting
ACCT 452 (3) Financial Reporting Valuation
ACCT 453 (3) Advanced Financial Accounting
ACCT 454 (3) Financial Reporting
ACCT 463 (3) Advanced Management Accounting
ACCT 475 (3) Principles of Auditing
ACCT 486 (3) Business Taxation 2

11.8.2 Entrepreneurship Concentration

Mentors: Professors A. Burlton, G. Vit

This Concentration is concerned with the genesis and development of entrepreneurial activities. It deals with the integration of marketing, finance, organization and policy in the development and expansion of business enterprise. Included are the evaluation of new business ventures, the role of acquisitions, and the strategic issues and operating problems at various stages of a firm's existence from its beginnings to maturity.

Complementary Courses (15 credits)
at least 6 credits from the following:
BUSA 462 (3) Management of New Enterprises
BUSA 464 (3) Management of Small Enterprises
BUSA 465 (3) Technological Entrepreneurship

remaining credits to be selected from:
ACCT 361 (3) Intermediate Management Accounting 1
ACCT 385 (3) Principles of Taxation
BUSA 364 (3) Business Law 1
FINE 442 (3) Capital Markets and Institutions
INSY 332 (3) Accounting Information Systems
INSY 432 (3) Information Technology in Business
INSY 454 (3) Technological Foundation for E-Commerce
MGPO 445 (3) Industry Analysis & Competitive Strategy
MGPO 450 (3) Ethics in Management
MGPO 460 (3) Managing Innovation
MRKT 438 (3) Brand Management
MRKT 452 (3) Consumer Behaviour
MRKT 453 (3) Advertising Management
MRKT 483 (3) International Marketing Management
ORGB 380 (3) Cross Cultural Management
or a 400-level course approved by the adviser

11.8.3 Finance Concentration

Mentors: Professors A. de Motta, A. Durnev, W. Xu

This Concentration has been designed to provide understanding of key concepts in finance theory, financial institutions, investment analysis, risk management, and applied techniques. Graduates find a strong demand among financial organizations, governments, and non-financial firms where they pursue careers that lead to positions such as Managing Partner, Treasurer and V.P. Finance.

Required Courses (9 credits)
FINE 342 (3) Finance 2
FINE 441 (3) Investments and Portfolio Management
FINE 443 (3) Applied Corporate Finance

Complementary Courses (6 credits)
two of:
FINE 434 (3) Topics in Finance
FINE 442 (3) Capital Markets and Institutions
FINE 445 (3) Real Estate Finance
FINE 448 (3) Derivatives and Risk Management
FINE 449 (3) Market Risk Models
FINE 451 (3) Fixed Income Analysis
FINE 480 (3) Global Investments
FINE 482 (3) International Finance 1
FINE 492 (3) International Finance 2
FINE 541 (3) Applied Investments

FINE 547 (3) Advanced Finance Seminar

11.8.4 Information Systems Concentration

Mentor: Professor L. Lapointe

This concentration prepares students for a multitude of IT and IT-related career opportunities. The IS concentration is an ideal complement to the majors and concentrations of several other areas. It employs a blend of theoretical concepts, hands-on tools, actual case studies and real-life projects to train students to identify business challenges that can benefit from information systems support and implement appropriate solutions.

Graduates completing a concentration in IS can expect to find employment as business or system analysts in the IT field or as IT specialists within their own field, including but not limited to, banking, insurance, manufacturing, retailing, and consulting.

Required Courses (9 credits)
INSY 331 (3) Managing Information Technology
INSY 333 (3) Systems Analysis and Modeling
INSY 437 (3) Managing Data & Databases

Complementary Courses (6 credits)
two of:
INSY 332 (3) Accounting Information Systems
INSY 341 (3) Developing Business Applications
INSY 342 (3) Advanced Application Development
INSY 431 (3) System Design and Implementation
INSY 432 (3) Information Technology in Business
INSY 434 (3) Advanced Topics
INSY 438 (3) Interface Design & Prototyping
INSY 440 (3) Information Technology Challenges in Electronic Business
INSY 444 (3) Managing Knowledge with Information Technology
INSY 450 (3) Information Systems Project Management
INSY 454 (3) Technological Foundation for E-Commerce

11.8.5 International Business Concentration

Mentor: Professors H. Etemad, M.S. Jo, E. Sarigöllü

The objective of this Concentration is to help the student develop conceptual and analytical skills needed to formulate feasible and effective management policies in an international setting. With economic and business activity becoming increasingly internationalized, the program provides useful preparation for careers in a variety of internationally oriented organizations, including local business firms involved in international trade, licensing or financial arrangements; headquarters or subsidiaries of multinational companies; banks and other international financial institutions; and various governmental organizations.

Required Course (3 credits)
BUSA 356 (3) Management in Global Context

Complementary Courses (12 credits)
ACCT 356 (3) International Accounting
BUSA 391 (3) International Business Law
BUSA 394 (3) Managing in Asia
BUSA 395 (3) Managing in Europe
BUSA 401 (3) Independent Studies in International Business
BUSA 433 (3) Topics in International Business 1
BUSA 481 (3) Managing in North America
BUSA 493 (3) Global Economic Competitiveness
FINE 480 (3) Global Investments
FINE 482 (3) International Finance 1
FINE 492 (3) International Finance 2
INDR 459 (3) International Labour Relations
MGPO 383 (3) International Business Policy
MGPO 469 (3) Managing Globalization
MGPO 475 (3) Strategies for Developing Countries
MRKT 451 (3) Marketing Research
MRKT 483 (3) International Marketing Management
ORGB 380 (3) Cross Cultural Management

11.8.6 Labour-Management Relations Concentration

Mentor: Professor R. Hebdon

The objective of this Concentration is to provide a general understanding of the factors affecting employer-employee relations, both at the micro-level and in relation to the socio-economic context in which they occur. Students interested in more intensive study of this area are urged to consider the Major Program in Labour-Management Relations.

Required Courses (6 credits)
INDR 294 (3) Introduction to Labour-Management Relations
INDR 496 (3) Collective Bargaining

Complementary Courses (9 credits)
three of:
INDR 434 (3) Topics: Labour-Management Relations
INDR 449 (3) Occupational Health and Safety
INDR 459 (3) International Labour Relations
INDR 492 (3) Public Policy in Industrial Relations
INDR 494 (3) Labour Law
INDR 495 (3) Labour Relations: Public Sector
INDR 497 (3) Contract Administration

11.8.7 Management Science Concentration

This Concentration is no longer being offered. For additional information about this Concentration, please refer to the 2006-2007 Undergraduate Calendar.

11.8.8 Marketing Concentration

Mentors: Professors M.S. Jo, A. Mukherjee

This Concentration prepares the student for a wide variety of career opportunities. Marketing graduates historically have found employment in the fields of product management, advertising, sales management, marketing management, pricing, marketing research, distribution and retailing. The Marketing Concentration provides a balance between courses focusing on fundamental, theoretical and "need to know" material, and courses with a strong practical and applied orientation.

Required Courses (12 credits)
MRKT 354 (3) Marketing Management 2
MRKT 357 (3) Marketing Planning 1
MRKT 451 (3) Marketing Research (to be taken in U2)
MRKT 452 (3) Consumer Behaviour

Complementary Course (3 credits)
one of:
MRKT 351 (3) Marketing in Society
MRKT 355 (3) Services Marketing
MRKT 365 (3) New Products
MRKT 434 (3) Topics in Marketing 1
MRKT 438 (3) Brand Management
MRKT 453 (3) Advertising Management
MRKT 455 (3) Sales Management
MRKT 456 (3) Business to Business Marketing
MRKT 459 (3) Retail Management
MRKT 461 (3) Advertising Practicum
MRKT 483 (3) International Marketing Management
MRKT 557 (3) Marketing Productivity

11.8.9 Operations Management Concentration

Mentors: Professors T. Boyaci, S. Li, S. Ray, M. Yalovsky

Operations Management is concerned with the design, planning, control, coordination and improvement of business process, systems and resources integral to the creation of the firm's products and services. Emphasizing quantitative analysis and cross-functional thinking, the Operations Management Concentration pro-

vides training on traditional as well as emerging operations strategies, concepts, models and techniques that are essential to any firm in today's competitive marketplace. Operations management graduates find career opportunities in a variety of industries and fields including consulting, manufacturing, distribution, retail, transportation, health care, public sector, among others.

Required Courses (6 credits)
MGSC 373 (3) Operations Research 1
MGSC 431 (3) Operations Analysis

Complementary Courses (9 credits)
three courses chosen from:
MGSC 272 (3) Advanced Business Statistics
MGSC 402 (3) Operations Strategy
MGSC 403 (3) Introduction to Logistics Management
MGSC 405 (3) Quality Management
MGSC 415 (3) Supplier Management
MGSC 434 (3) Topics in Management Science
MGSC 479 (3) Applied Optimization
MGSC 575 (3) Applied Time Series Analysis Managerial Forecasting
MGSC 578 (3) Simulation of Management Systems
and approved courses in other Areas or faculties

11.8.10 Organizational Behaviour Concentration

Mentor: Professor A. Jaeger

This Concentration provides an opportunity for students to increase their awareness of behavioural issues encountered in job and organizational settings, and prepare themselves for graduate study in the behavioural sciences or for careers in general management or human resource management.

Complementary Courses (15 credits)
five of:
ORGB 321 (3) Leadership
ORGB 325 (3) Negotiations and Conflict Resolution
ORGB 380 (3) Cross Cultural Management
ORGB 409 (3) Organizational Research Methods
ORGB 420 (3) Managing Organizational Teams
ORGB 421 (3) Managing Organizational Change
ORGB 423 (3) Human Resources Management
ORGB 429* (6) Organizational Behaviour for Course Counsellors
ORGB 434 (3) Advanced Topics in Organizational Behaviour
ORGB 435 (3) Women as Global Leaders and Managers
ORGB 525 (3) Compensation Management

* If ORGB 429 is taken, only 3 credits will count toward the Concentration; the other 3 will be counted as elective.

11.8.11 Strategic Management Concentration

Mentors: Professors L. Chauvin, P. Perez-Aleman

There are two options offered in the Strategic Management Concentration: Global Strategy and Social Context.

The Global Strategy option is intended for students who want to learn strategic management and analysis in the context of globalization. Globalization is no longer the concern of a few large enterprises and financial institutions; it has consequences that affect all kinds of businesses and the environments in which they operate — economic, social, political and ecological. Global Strategy allows students to assess the various opportunities and threats inherent in globalization, and requires them to explore the consequences and implications of business decisions for society and the environment. It also enables them to think through the requirements of doing business in different economic and political systems. Finally, it offers them the opportunity to understand and analyze industry structures and the kinds of business opportunities they either create or destroy.

The Social Context option is intended for students who want to learn strategic management and analysis with special attention to the not-for-profit, or civil sector, or who want to focus on broader or more complex social issues within the for-profit sector. The civil sector, made up of voluntary and non-governmental organizations and foundations, is the sector that has been the fastest growing employer for the past decade. Students who focus on this stream will be challenged to place a high priority on environmental issues, as well as issues of sustainability, corporate social responsibility, and social impact. They will also investigate the social tools and mechanisms necessary to employ cross-sectoral collaboration to achieve desired social outcomes.

GLOBAL STRATEGY OPTION

Complementary Courses (15 credits)
at least 9 credits from the following:
MGPO 383 (3) International Business Policy
MGPO 445 (3) Industry Analysis & Competitive Strategy
MGPO 460 (3) Managing Innovation
MGPO 469 (3) Managing Globalization
MGPO 470 (3) Strategy and Organization

the remaining credits to be chosen from:
BUSA 391 (3) International Business Law
ECON 219 (3) Current Economic Problems: Topics
ECON 305 (3) Industrial Organization
MGPO 365 (3) Business-Government Relations
MGPO 434 (3) Topics in Policy
MGPO 440 (3) Strategies for Sustainability
MGPO 450 (3) Ethics in Management
MGPO 468 (3) Managing Organizational Politics
MGPO 475 (3) Strategies for Developing Countries

SOCIAL CONTEXT OPTION

Complementary Courses (15 credits)
at least 9 credits from the following:
MGPO 365 (3) Business-Government Relations
MGPO 440 (3) Strategies for Sustainability
MGPO 450 (3) Ethics in Management
MGPO 468 (3) Managing Organizational Politics
MGPO 475 (3) Strategies for Developing Countries

the remaining credits to be chosen from:
BUSA 391 (3) International Business Law
MGPO 383 (3) International Business Policy
MGPO 434 (3) Topics in Policy
MGPO 445 (3) Industry Analysis & Competitive Strategy
MGPO 460 (3) Managing Innovation
MGPO 469 (3) Managing Globalization
MGPO 470 (3) Strategy and Organization
MGPO 567 (3) Business in Society

11.9 Minors for Management Students

The Minor programs offered in the Faculties of Arts and Science may be taken in conjunction with any BCom program.

Students doing a Minor program must have a Desautels Faculty of Management Minor Approval Form, listing the courses being applied to the Minor, signed by the Minor adviser in the relevant department.

For the Minor in Economics, students must complete 18 credits of material that does not overlap with Management course content. **A maximum of 6 credits will be permitted within the BCom program for MGCR 293 and ECON 230D1/D2 or ECON 250D1/D2, and a maximum of 6 for ECON 295 and ECON 330D1/D2 or ECON 352D1/D2.** Students interested in this Minor must obtain approval from the BCom Office.

The Minor in Mathematics and the Minor in Statistics are detailed below. For all other Minors, please refer to the Arts and Science Faculty sections. Students should begin the Minor in Mathematics or the Minor in Statistics no later than the second to last year and should immediately consult the appropriate adviser in the Department of Mathematics and Statistics.

Students planning to take the Minor in Statistics are advised to substitute MATH 324 for MGCR 271. That course will then count as 3 credits toward the Minor. If the decision to take a Minor program is made after MGCR 271 has been taken, students who wish to take MATH 324 will receive three additional credits; however MATH 324 will only count towards the 18-credit Minor requirement. Students should check for overlap between statistics courses with the BCom Student Affairs Office.

11.9.1 Minor in Mathematics

Mentor: Professor W.J. Anderson, Department of Mathematics and Statistics, Faculty of Science

Program prerequisites: MATH 133, MATH 140 and MATH 141 or their equivalents.

Required Courses (12 credits)

MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 315	(3)	Ordinary Differential Equations
MGSC 373	(3)	Operations Research 1

Complementary Courses (6 credits)
maximum of 3 credits from:

MGSC 272	(3)	Advanced Business Statistics
MGSC 479	(3)	Applied Optimization
MGSC 575	(3)	Applied Time Series Analysis Managerial Forecasting
MGSC 578	(3)	Simulation of Management Systems

the remaining credits selected from the following:

MATH 316	(3)	Complex Variables
MATH 317	(3)	Numerical Analysis
MATH 319	(3)	Partial Differential Equations
MATH 323	(3)	Probability
MATH 326	(3)	Nonlinear Dynamics and Chaos
MATH 340	(3)	Discrete Structures 2
MATH 407	(3)	Dynamic Programming
MATH 417	(3)	Mathematical Programming

11.9.2 Minor in Statistics

Mentor: Professor Kelome, Department of Mathematics and Statistics, Faculty of Science

Program prerequisites: MATH 133, MATH 140 and MATH 141 or their equivalents.

Required Courses (15 credits)

MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 323	(3)	Probability
MATH 324*	(3)	Statistics
MATH 423	(3)	Regression and Analysis of Variance

* Credits for MATH 324 are counted in the Management core, where they replace MGCR 271. MATH 324 is a required course in the program and may be double-counted for this Minor.

Complementary Courses (6 credits)
selected from:

MATH 204**	(3)	Principles of Statistics 2
MATH 447	(3)	Stochastic Processes
MATH 523	(4)	Generalized Linear Models
MATH 524	(4)	Nonparametric Statistics
MATH 525	(4)	Sampling Theory and Applications
MGSC 575	(3)	Applied Time Series Analysis Managerial Forecasting
MGSC 578	(3)	Simulation of Management Systems

** Students should consult the rules for credit for statistics courses in the course overlap section of the Calendar. In particular, MATH 204 cannot be taken for credit after credit for MATH 324 has been obtained.

11.10 Minors for Non-Management Students

The Desautels Faculty of Management has introduced four Minors that allow undergraduates to develop a variety of managerial skills that will serve them throughout their chosen careers. The Minors have limited enrolment. Applicants for the Minors must have a minimum CGPA of 3.0 **although successful completion of the minimum requirements does not guarantee acceptance**. All Minors are 18 credits split between a fixed set of required courses and a choice amongst complementary courses. Students can only pursue one of the Minors offered by the Desautels Faculty of Management. All Minors for Non-Management Students require an application. The form may be found at www.mcgill.ca/desautels/bcom/minors; hard copies of application forms are also available in the BCom Student Affairs Office, Bronfman 110. Applications must be submitted to the BCom Student Affairs Office by January 30 and decisions will be made by February 15 where students will be informed via their McGill email addresses. Courses for Minors must be passed with grades of C or better. Courses for Minors cannot be taken under the Satisfactory/Unsatisfactory option.

11.10.1 Minor in Finance

The Minor in Finance is for non-management students and is currently offered to students in the Faculties of Arts, Engineering and Science. The Minor has been designed to provide students with an understanding of the key concepts in corporate finance as well as investment banking. The Minor in Finance consists of 18 credits of Management courses.

Required Courses (9 credits)

MGCR 341*	(3)	Finance 1
FINE 342	(3)	Finance 2
FINE 441	(3)	Investments and Portfolio Management

Complementary Courses (9 credits)

FINE 442	(3)	Capital Markets and Institutions
FINE 443	(3)	Applied Corporate Finance
FINE 444	(3)	Risk Management and Insurance
FINE 445	(3)	Real Estate Finance
FINE 448	(3)	Derivatives and Risk Management
FINE 449	(3)	Market Risk Models
FINE 451	(3)	Fixed Income Analysis
FINE 480	(3)	Global Investments
FINE 482	(3)	International Finance 1
FINE 492	(3)	International Finance 2
FINE 541	(3)	Applied Investments
FINE 547	(3)	Advanced Finance Seminar

or other appropriate 300- or 400-level FINE courses with the approval of the program adviser

* Prerequisite: MGCR 271 Business Statistics or another equivalent statistics course approved by the program adviser. Students should select their statistics course only after consulting "Course Overlap", section 6.3.6.2 in the Faculty of Arts, and "Course Overlap", section 14.3.6.1 in the Facuty of Science, and "Course Overlap", section 11.3.6 in the Desautels Faculty of Management to avoid overlapping statistics courses.

11.10.2 Minor in Management

The Minor in Management is for non-management students and is currently offered to students in the following Faculties: Arts, Engineering, Science, Agricultural & Environmental Sciences, Music and Religious Studies. The Minor in Management is designed to provide non-management students with the opportunity to obtain basic knowledge in various aspects of management. The Minor in Management consists of 18 credits of Management courses.

Complementary Courses (18 credits)

Category A (3 credits)
MGCR 211 (3) Introduction to Financial Accounting
MGCR 341+ (3) Finance 1

Category B (9 credits)
MGCR 222 (3) Introduction to Organizational Behaviour
MGCR 271* (3) Business Statistics
MGCR 293** (3) Managerial Economics
MGCR 331 (3) Information Systems
MGCR 352 (3) Marketing Management 1
MGCR 382 (3) International Business
MGCR 472+ (3) Operations Management

Category C (6 credits)
3-6 credits from any 300- or 400-level management courses for which prerequisites have been met.
0-3 credits may be from a specifically designated course by the student's home faculty.

+ MGCR 271 Business Statistics or equivalent is prerequisite for this course.
* 3 credits of statistics: Students who have taken an equivalent statistics course in another faculty may not count those credits towards the minor; an additional 3-credit Complementary course must be chosen from the course list above.
** Students who have taken an equivalent economics course in another faculty may not count those credits toward the Minor; an additional 3-credit Complementary course must be chosen from the course list above.
Students should select their statistics course only after consulting "Course Overlap", section 6.3.6.2 in the Faculty of Arts, and "Course Overlap", section 14.3.6.1 in the Facuty of Science, and "Course Overlap", section 11.3.6 in the Desautels Faculty of Management to avoid overlapping statistics courses.

11.10.3 Minor in Management for Economics Students

This minor is no longer available and has been replaced by the Minor in Management above.

11.10.4 Minor in Management for Engineering Students

This minor is no longer available and has been replaced by the Minor in Management above.

11.10.5 Minor in Management for Science Students

This minor is no longer available and has been replaced by the Minor in Management above.

11.10.6 Minor in Marketing

The Minor in Marketing is for non-management students and is currently offered to students in the Faculties of Arts, Engineering, Science and the Schulich School of Music. This minor is designed to provide students with an understanding of the fundamental concepts in marketing and a framework for applying marketing in a decision-making context. Students will be introduced to the basic concepts in marketing. The use of marketing theory and concepts for decision making will be covered. Marketing research methods for marketing decisions is introduced. Subsequently, students will be able to specialize by choosing from the list of complementary courses. The Minor in Marketing consists of 18 credits of Management courses.

Required Courses (9 credits)
MGCR 352 (3) Marketing Management 1
MRKT 354 (3) Marketing Management 2
MRKT 451 (3) Marketing Research

Complementary Courses (9 credits)
3 credits of statistics*:
MGCR 271 (3) Business Statistics or equivalent

6 credits from the following:
MRKT 357 (3) Marketing Planning 1
MRKT 365 (3) New Products
MRKT 438 (3) Brand Management
MRKT 452 (3) Consumer Behaviour
MRKT 453 (3) Advertising Management
MRKT 455 (3) Sales Management
MRKT 459 (3) Retail Management
MRKT 461 (3) Advertising Practicum
MRKT 483 (3) International Marketing Management
or other appropriate 300- or 400-level MRKT courses with the approval of the program adviser

* 3 credits of statistics: Students who have taken an equivalent statistics course in another faculty may not count those credits toward the minor; an additional 3-credit Complementary course must be chosen from the course list above.
Students should select their statistics course only after consulting "Course Overlap", section 6.3.6.2 in the Faculty of Arts, and "Course Overlap", section 14.3.6.1 in the Facuty of Science, and "Course Overlap", section 11.3.6 in the Desautels Faculty of Management to avoid overlapping statistics courses.

11.10.7 Minor in Operations Management

Mentor: Professor V. Verter

The Minor in Operations Management is for non-management students and is currently offered to students in the Faculties of Arts, Engineering, Science, and Agricultural & Environmental Sciences. It provides non-management students with the opportunity to pursue a career that involves decision making at the operational level. Graduates will be able to find employment in consulting, manufacturing, supply chain, distribution, retail operations, healthcare management and environmental management for profit and non-profit corporations. The minor has been designed to provide students with an understanding of the key concepts in operations management theory and practice. The Minor in Operations Management consists of 18 credits of Management courses.

Required Course (6 credits)
MGSC 373 (3) Operations Research 1
MGCR 472 (3) Operations Management

Complementary Courses (12 credits)
3 credits of statistics*
MGCR 271 (3) Business Statistics

9 credits from the following:
MGSC 272 (3) Advanced Business Statistics
MGSC 402 (3) Operations Strategy
MGSC 403 (3) Introduction to Logistics Management
MGSC 405 (3) Quality Management
MGSC 415 (3) Supplier Management
MGSC 431 (3) Operations Analysis
MGSC 434 (3) Topics in Management Science
MGSC 479 (3) Applied Optimization
MGSC 575 (3) Applied Time Series Analysis Managerial Forecasting
MGSC 578 (3) Simulation of Management Systems
or other appropriate 300- or 400-level MGSC courses with the approval of the program adviser

* 3 credits of statistics: Students who have taken an equivalent statistics course in another faculty may not count those credits toward the minor; an additional 3-credit Complementary course must be chosen from the course list above.
Students should select their statistics course only after consulting "Course Overlap", section 6.3.6.2 in the Faculty of Arts, and "Course Overlap", section 14.3.6.1 in the Faculty of Science, and "Course Overlap", section 11.3.6 in the Desautels Faculty of Management to avoid overlapping statistics courses.

11.10.8 Minor in Technological Entrepreneurship for Engineering Students

Detailed information on this minor can be found in the Faculty of Engineering; see section 9.6.15 "Technological Entrepreneurship Minor".

11.10.9 Minor in Technological Entrepreneurship for Science Students

Detailed information on this minor can be found in the Faculty of Science; see section 14.13.35 "Technological Entrepreneurship for Science Students".

11.11 Majors

Major programs are available in Accounting, Economics, Finance, Information Systems, International Management, Labour-Management Relations, Marketing, Mathematics, and Psychology.

Because of the heavier demands of Major programs, students desiring to pursue a program of this type are advised to declare their intention at the beginning of the program. Only grades of C or better may count towards the Major requirements.

11.11.1 Major in Accounting

Mentors: Professors L. Goldsman, R. Cecere

This 30-credit major is designed to meet the increased demand for accounting options within the BCom Program.

Required Courses (18 credits)

ACCT 351	(3)	Intermediate Financial Accounting 1
ACCT 352	(3)	Intermediate Financial Accounting 2
ACCT 361	(3)	Intermediate Management Accounting 1
ACCT 362	(3)	Intermediate Management Accounting 2
ACCT 385	(3)	Principles of Taxation
ACCT 455	(3)	Development of Accounting Thought

Complementary Courses (12 credits)

ACCT 354	(3)	Financial Statement Analysis
ACCT 356	(3)	International Accounting
ACCT 434	(3)	Topics in Accounting
ACCT 452	(3)	Financial Reporting Valuation
ACCT 453	(3)	Advanced Financial Accounting
ACCT 454	(3)	Financial Reporting
ACCT 463	(3)	Advanced Management Accounting
ACCT 471	(3)	Non-Profit Accounting
ACCT 475	(3)	Principles of Auditing
ACCT 476	(3)	Internal Auditing
ACCT 477	(3)	External Auditing
ACCT 486	(3)	Business Taxation 2

11.11.2 Major in Economics for Management Students

Mentors: Professors P. Dickinson, M. Frankman, G. Grantham, and C. Green; Department of Economics, Faculty of Arts

Please consult the Economics department website at www.mcgill.ca/economics.

This Major is comprised of 36 credits of Economics courses (9 credits of which are counted as Core credits).

Required Courses (18 credits)

ECON 230D1*	(3)	Microeconomic Theory
ECON 230D2*	(3)	Microeconomic Theory
ECON 330D1**	(3)	Macroeconomic Theory
ECON 330D2**	(3)	Macroeconomic Theory
MGCR 271***	(3)	Business Statistics
MGSC 272	(3)	Advanced Business Statistics

* 3 of the 6 credits for Microeconomic Theory exempt MGCR 293 in Core.

** 3 of the 6 credits for Macroeconomic Theory exempt ECON 295 in Core.

*** 3 of the 3 credits for MGCR 271 will count in Core.

Complementary Courses (18 credits)

18 credits from other 200, 300 and 400 level courses in Economics (Subject Code ECON), excluding courses with numbers below 210. At least 6 of these 18 credits should be taken from courses with 400-level numbers. No more than 6 of the 18 credits may be taken at the 200 level.

11.11.3 Major in Finance

Mentors: Professors A. de Motta, A. Durnev, W. Xu

The 30-credit Finance Major has been designed to meet the increasing demand for expertise in this rapidly growing functional area of business. The Major is designed to provide in-depth knowledge of finance theory, financial institutions, investment analysis, risk management, and applied techniques. Employment for graduates is most often obtained in investment and commercial banking, manufacturing and service firms, non-profit organizations and governments, and non-financial firms.

Required Courses (15 credits)

FINE 342	(3)	Finance 2
FINE 441	(3)	Investments and Portfolio Management
FINE 443	(3)	Applied Corporate Finance
FINE 448	(3)	Derivatives and Risk Management
FINE 482	(3)	International Finance 1

Complementary Courses (15 credits)

at least 9 credits from:

FINE 434	(3)	Topics in Finance
FINE 442	(3)	Capital Markets and Institutions
FINE 449	(3)	Market Risk Models
FINE 451	(3)	Fixed Income Analysis
FINE 480	(3)	Global Investments
FINE 492	(3)	International Finance 2
FINE 541D1	(1.5)	Applied Investments
FINE 541D2	(1.5)	Applied Investments
FINE 547	(3)	Advanced Finance Seminar

the remainder, if any, from:

ACCT 351	(3)	Intermediate Financial Accounting 1
ACCT 352	(3)	Intermediate Financial Accounting 2
ACCT 385	(3)	Principles of Taxation
FINE 445	(3)	Real Estate Finance

11.11.4 Major in Information Systems

Mentor: Professor L. Lapointe

This 30-credit major prepares students for the multitude of IT-related career opportunities available in industry. It employs a blend of theoretical concepts, hands-on tools, and actual case studies to train students to identify business problems and opportunities, analyze business processes, and develop and implement information systems to support them. The IS Major covers a variety of topics including strategic planning and investment in information technologies, analysis, design, and deployment of information systems, understanding the opportunities and challenges of web-based businesses, and managing resistance to IT-initiated changes in organizations.

Graduates of this program may expect to find employment as business or systems analysts, consultants, IS quality assurance specialists, and project managers in diverse industries, including banking, insurance, manufacturing, retailing and consulting.

Required Courses (21 credits)

INSY 331	(3)	Managing Information Technology
INSY 333	(3)	Systems Analysis and Modelling
INSY 341	(3)	Developing Business Applications
INSY 431	(3)	System Design and Implementation
INSY 432	(3)	Information Technology in Business
INSY 437	(3)	Managing Data & Databases

INSY 450 (3) Information Systems Project Management

Complementary Courses (9 credits)
9 credits chosen from the following:
INSY 332 (3) Accounting Information Systems
INSY 342 (3) Advanced Application Development
INSY 434 (3) Advanced Topics
INSY 438 (3) Interface Design & Prototyping
INSY 440 (3) Information Technology Challenges in Electronic Business
INSY 444 (3) Managing Knowledge with Information Technology
INSY 454 (3) Technological Foundation for E-Commerce
BUSA 499* (3) Case Analysis and Presentation
* Students wishing to take BUSA 499 as a complementary course must seek prior approval from the adviser.

11.11.5 Major in International Management

The Major in International Management, 39 to 48 credits, is designed for students who wish to combine business studies with regional or thematic global studies and foreign language proficiency. MIM will acquaint students with the impact of managing in one of three themes:

1) Comparative Global Studies,
2) Global Politics and Economy,
3) Global Well-Being and Development.

This major is interdisciplinary and integrative and includes a Business Component: 15-credit International Business Concentration; an Area of Study Component: 24- to 33-credit Interdisciplinary Area of Specialization that includes a 15- to18-credit Minor Concentration outside the Management Faculty, 9 to12 credits of language courses, and 3 credits of experiential learning experience in the form of either Internship or Research. At least one term of exchange is recommended. Graduates will be well-suited to manage in culturally diverse environments, to work in a specific area of the world, or in a wide range of global positions in business, government, multilateral organizations, or NGOs.

International Business Concentration Component (15 credits)

Required Course (3 credits)
BUSA 356 (3) Management in Global Context

Complementary Courses (12 credits)
ACCT 356 (3) International Accounting
BUSA 391 (3) International Business Law
BUSA 394 (3) Managing in Asia
BUSA 395 (3) Managing in Europe
BUSA 401 (3) Independent Studies in International Business
BUSA 433 (3) Topics in International Business 1
BUSA 481 (3) Managing in North America
BUSA 493 (3) Global Economic Competitiveness
FINE 480 (3) Global Investments
FINE 482 (3) International Finance 1
FINE 492 (3) International Finance 2
INDR 459 (3) International Labour Relations
MGPO 383 (3) International Business Policy
MGPO 469 (3) Managing Globalization
MGPO 475 (3) Strategies for Developing Countries
MRKT 451 (3) Marketing Research
MRKT 483 (3) International Marketing Management
ORGB 380 (3) Cross Cultural Management

Area of Study Component (15-18 credits)

Students choose either one Minor Concentration or courses from the selected list of courses from one of the three themes below:

Theme 1: Comparative Global Studies

Students can choose to study a region including Africa, East Asia, Middle East, South Asia, Europe, or the Americas or several regions from a comparative global perspective in Religious Studies, Political Science, History, or Economics. This option focuses on aspects of global society and culture from a social science perspective. This theme is suitable for students who would like to work in a specific country or region or for students who want to work for a multinational company or government organization with global interests.
B.A. Minor Concentration in African Studies (18 cr.)
B.A. Minor Concentration in Comparative Politics (18 cr.)
B.A. Minor Concentration in Economics* (18 cr.)
B.A. Minor Concentration in East Asian Cultural Studies (18 cr.)
B.A. Minor Concentration in History (18 cr.)
B.A. Minor Concentration in Middle East Studies (18 cr.)
B.A. Minor Concentration in South Asia (18 cr.)
B.A. Minor Concentration in World Religions (18 cr.)

* Students should choose economics (ECON) courses with a regional focus. Course numbers above ECON 209 (excluding ECON 295) are required, with at least 6 credits at the 300, 400, or 500 levels. Credits for the introductory sequence MGCR 293 and ECON 295 that are prerequisites for 300-level courses in economics do not count as part of this Minor Concentration. ECON 227 will not count if it is taken to meet other BCom requirements.

Theme 2: Global Politics and Economy

This theme focuses on aspects of public policy from the perspective of global transactions and finance. Students may select a minor concentration in the area of international relations and investigate policy on a global scale and its operations in the context of policy, war and peace, the economy, security, trade, human rights, and international organizations. Graduates with this option would be poised to apply their educational background to careers with world government, trade or economic organizations, NGOs, national governments, or businesses with global interests. The choices of programs include Economics, Geography, Political Science or a selected group of courses.
B.A. Minor Concentration in Economics (18 cr.)
B.A. Minor Concentration in International Relations (18 cr.)
B.A. Minor Concentration in Political Economy (18 cr.)
B.A. Minor Concentration in Political Science (18 cr.)
B.A. Minor Concentration in Politics, Law and Society (18 cr.)

OR

Global Governance, Conflict and Human Rights

18 credits of the following courses with at least 6 credits at the 300 level or above:
ANTH 214 (3) Violence, Warfare, Culture
ANTH 222 (3) Legal Anthropology
ANTH 333 (3) Class and Ethnicity
CANS 307 (3) Canada in the World
CANS 412 (3) Canada and Americas Seminar
COMS 230 (3) Communication and Democracy
COMS 320 (3) Media and Empire
HIST 302 (3) International Relations History 1: 1750-1950
HIST 304 (3) International Relations History 2: Cold War
HIST 339 (3) Arab-Israeli Conflict
HIST 371 (3) American Civil Rights 1877-1940
HIST 387 (3) The First World War
HIST 388 (3) The Second World War
HIST 438 (3) The Vietnam Wars 1945-1975
JWST 240 (3) The Holocaust
PHIL 237 (3) Contemporary Moral Issues
PHIL 334 (3) Ethics 1
POLI 212 (3) Government & Politics - Developed World
POLI 322 (3) Political Change in South Asia
POLI 345 (3) International Organizations
POLI 351 (3) The Causes of Major Wars
POLI 360 (3) Security: War and Peace
POLI 440 (3) Civil-Military Relations
POLI 450 (3) Peacebuilding
RELG 370 (3) Religion and Human Rights
RELG 371 (3) Ethics of Violence/Non-Violence
SOCI 230 (3) Sociology of Ethnic Relations
SOCI 265 (3) War, States and Social Change

SOCI 307 (3) Sociology of Globalization
SOCI 386 (3) Contemporary Social Movements
SOCI 511 (3) Movements/Collective Action

Theme 3: Global Well-Being and Development

Broad-based, interdisciplinary topics will allow students to study current issues of social importance ranging from: poverty and inequality health promotion and the environment, sustainability, and natural resource management. Students will be prepared to apply business practices to the protection of the vulnerable and the planet. Students will be poised to work for multinationals, governments, or non-governmental organizations.

B.A. Minor Concentration in Anthropology (18 cr.)
B.A. Minor Concentration in Economics* (18 cr.)
B.A. Minor Concentration in Geography (18 cr.)
B.A. Minor Concentration in International Development Studies (18 cr.)
B.A. Minor Concentration in Social Studies of Medicine (18 cr.)
B.A. Minor Concentration in Sociology (18 cr.)
B.A. Minor Concentration in Environment: McGill School of Environment (18 cr.)
B.Sc. Minor Concentration in Environment: McGill School of Environment (18 cr.)

OR

Barbados Field Study Semester (15 cr.)

* Students should choose economics (ECON) courses related to the environment, development, and health. Course numbers above ECON 209 (excluding ECON 295) are required, with at least 6 credits at the 300, 400, or 500 levels. Credits for the introductory sequence MGCR 293 and ECON 295 that are prerequisites for 300-level courses in economics do not count as part of this Minor Concentration. ECON 227 will not count if it is taken to meet other BCom requirements.

Language Component (9-12 credits)

9 credits of language in EAST (Asian Languages and Literature) at the 500 level or lower***

*** Students may choose to complete two levels of Japanese, Chinese, Korean for a total of 18 credits. Only 9 credits of EAST languages will count toward the Major and any optional additional credits will count as electives. Students may not exceed the total credits required to graduate in order to complete these additional language credits and will be left with 0 electives.

OR

12 credits of language courses, at the 500 level or lower, chosen from ONE of the following Subject Codes:

CLAS (Classics) [Modern Greek]
FREN (French)
FRSL (French as a Second Language)
GERM (German Studies) [German]
HISP (Hispanic Studies) [Spanish, Portuguese]
ISLA (Middle East Studies) [Arabic, Turkish, Urdu, Persian]
*ITAL (Italian Studies) [Italian]
JWST (Jewish Studies) [Hebrew, Yiddish]
RUSS (Russian) [Russian]

* Students wishing to register for ITAL 205 should do so in their first year as this course is open only to U0 and U1 students. ITAL 206 is open to U0, U1 and U2 students. ITAL 210, ITAL 215 and ITAL 216 can be taken by all students.

Experiential Learning Component (0-3 credits)

Internship Component

BUSA 497 (3) Internship in International Business

Students may complete a 3-credit internship as part of their experiential credit. The internship will consist of a minimum of 150 hours of work over a period of 8 to 12 weeks at an approved host institution. The institution should be located either overseas or have an international focus. Major in International Management students who are enrolled in Minor Concentrations in the Faculty of Arts may complete Internship courses in the Faculty of Arts. Please see section 6.12.2 "Faculty of Arts Internship Program" or refer to the Arts Internships website: www.mcgill.ca/arts-internships for requirements, including hours and weeks required and CGPA cut-offs.

OR

Research Component

BUSA 401 (3) Independent Studies in International Business

NOTE: Students who complete at least one term of exchange would be eligible for an exemption from the Experiential Learning Experience Requirement and would substitute 3 credits of free electives if they chose this exemption.

NOTE: There are CGPA requirements for Exchanges and Internships courses. Students without the minimum CGPA requirement must consult the Major in International Management adviser in the BCom office to arrange for an alternative.

11.11.6 Major in Labour-Management Relations

Mentor: Professor R. Hebdon

This 30-credit Major provides students with a general understanding of the factors affecting employer-employee relations, including labour unions and laws that regulate the employment relationship. It is integral to the practice of human resource management, particularly in a unionized environment.

In addition to giving students a foundation in various aspects of labour relations and labour markets, this program provides understanding of federal and provincial labour legislation, training in collective bargaining, the administration of trade union contracts, handling of grievances and preparation for participation in arbitration proceedings, a view of human resources, problems and planning on the macro level.

Required Courses (30 credits)

INDR 294 (3) Introduction to Labour-Management Relations
INDR 449 (3) Occupational Health and Safety
INDR 459 (3) International Labour Relations
INDR 492 (3) Public Policy in Industrial Relations
INDR 494 (3) Labour Law
INDR 495 (3) Labour Relations: Public Sector
INDR 496 (3) Collective Bargaining
INDR 497 (3) Contract Administration
ECON 306D1 (3) Labour Economics and Institutions
ECON 306D2 (3) Labour Economics and Institutions

11.11.7 Major in Marketing

Mentors: Professors M.S. Jo, A. Mukherjee

This 30-credit Marketing Major is designed to provide students with a strong background in marketing to prepare them for the wide variety of marketing careers available. The Major is most appropriate for those students seeking a career in brand management, small business marketing, selling and sales management and business-to-business marketing.

Required Courses (15 credits)

MRKT 354 (3) Marketing Management 2
MRKT 357 (3) Marketing Planning 1
MRKT 451 (3) Marketing Research
MRKT 452 (3) Consumer Behaviour
MRKT 453 (3) Advertising Management

Complementary Courses (15 credits)

five of:
BUSA 464 (3) Management of Small Enterprises
MRKT 351 (3) Marketing in Society
MRKT 355 (3) Services Marketing
MRKT 365 (3) New Products
MRKT 438 (3) Brand Management

MRKT 455 (3) Sales Management
MRKT 456 (3) Business to Business Marketing
MRKT 459 (3) Retail Management
MRKT 461 (3) Advertising Practicum
MRKT 483 (3) International Marketing Management
MRKT 557 (3) Marketing Productivity

11.11.8 Major in Mathematics for Management Students

The Major in Mathematics for Management Students is no longer being offered. For information on this program, please refer to the 2006-2007 Calendar.

11.11.9 Major Concentration in Mathematics for Management Students

Mentor: Professor A. Hundemer; Department of Mathematics and Statistics, Faculty of Science

This program is comprised of 39 credits.

Students entering the Major Concentration in Mathematics are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 39 credits required by the program.

Required Courses (30 credits)
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
MATH 242 (3) Analysis 1
MATH 243 (3) Analysis 2
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
MATH 323 (3) Probability
MATH 324* (3) Statistics
MGSC 373 (3) Operations Research 1

Complementary Courses (9 credits)
6 credits selected from:
MATH 204** (3) Principles of Statistics 2
MATH 316 (3) Complex Variables
MATH 317 (3) Numerical Analysis
MATH 319 (3) Partial Differential Equations
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 340 (3) Discrete Structures 2
MATH 407 (3) Dynamic Programming
MATH 410 (3) Majors Project
MATH 417 (3) Mathematical Programming
MATH 423*** (3) Regression and Analysis of Variance

3 credits selected from:
MGSC 272*** (3) Advanced Business Statistics
MGSC 479 (3) Applied Optimization
MGSC 575 (3) Applied Time Series Analysis Managerial Forecasting
MGSC 578 (3) Simulation of Management Systems

* credits for MATH 324 are counted toward Management Core, where they replace MGCR 271.
** MATH 204 cannot be taken for credit after credit for MATH 324 has been obtained. The two courses can be taken concurrently. Students should consult the rules for credit for statistics courses in the course overlap section; see section 11.3.6 "Course Overlap".
*** MGSC 272 and MATH 423 cannot both be taken for program credit.

11.11.10 Major in Psychology for Management Students

Mentor: Professor A. Jaeger

This Major is comprised of 30 to 24 credits in Psychology and 6 credits to be taken in Management.

The Desautels Faculty of Management, in collaboration with the Psychology Department, Faculty of Science, offers programs of study in organizational and consumer psychology leading to the BCom degree. These programs concentrate on providing an education in the fundamentals of experimental and social psychology. In view of rapid changes in practical methods and professional techniques employed by managers and professional consultants, broad training in such fundamentals is seen as excellent preparation for graduate school in psychology and management as well as for a successful managerial career.

Required Courses (12 credits)
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology
PSYC 301 (3) Animal Learning & Theory
PSYC 333 (3) Personality and Social Psychology

Complementary Courses (18 credits)
12 credits chosen from:
PSYC 211 (3) Introductory Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 310 (3) Human Intelligence
PSYC 331 (3) Inter-Group Relations
PSYC 332 (3) Introduction to Personality
PSYC 340 (3) Psychology of Language
PSYC 341 (3) The Psychology of Bilingualism
PSYC 351 (3) Research Methods in Social Psychology
PSYC 352 (3) Cognitive Psychology Laboratory
PSYC 403 (3) Modern Psychology in Historical Perspective
PSYC 406 (3) Psychological Tests
PSYC 408 (3) Principles of Cognitive Behaviour Therapy
PSYC 429 (3) Health Psychology
PSYC 451 (3) Human Factors Research and Techniques
PSYC 471 (3) Human Motivation
PSYC 473 (3) Social Cognition and the Self
PSYC 474 (3) Interpersonal Relationships
PSYC 510 (3) Statistical Analysis of Tests
PSYC 534 (3) Community Psychology
PSYC 535 (3) Advanced Topics in Social Psychology

and 6 credits taken in one of the following two options:

Organizational Psychology Option
two of:
ORGB 321 (3) Leadership
ORGB 325 (3) Negotiations and Conflict Resolution
ORGB 380 (3) Cross Cultural Management
ORGB 409 (3) Organizational Research Methods
ORGB 420 (3) Managing Organizational Teams
ORGB 421 (3) Managing Organizational Change
ORGB 423 (3) Human Resources Management
ORGB 434 (3) Advanced Topics in Organizational Behaviour
ORGB 435 (3) Women as Global Leaders and Managers
INDR 294 (3) Introduction to Labour-Management Relations

Consumer Psychology Option
two of:
MRKT 451 (3) Marketing Research
MRKT 452 (3) Consumer Behaviour
MRKT 453 (3) Advertising Management

11.11.11 Major Concentration in Statistics for Management Students

Mentor: Professor R. Steele; Department of Mathematics and Statistics, Faculty of Science

This program is comprised of 39 credits.

Students entering the Major Concentration in Statistics are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 39 credits required by the program.

Required Courses (27 credits)

MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 242	(3)	Analysis 1
MATH 243	(3)	Analysis 2
MATH 314	(3)	Advanced Calculus
MATH 323	(3)	Probability
MATH 324*	(3)	Statistics
MATH 423	(3)	Regression and Analysis of Variance
MGSC 373	(3)	Operations Research 1

* credits for MATH 324 are counted toward Management Core, where they replace MGCR 271.

Complementary Courses (12 credits)

maximum of 6 credits from:

MGSC 479	(3)	Applied Optimization
MGSC 575	(3)	Applied Time Series Analysis Managerial Forecasting
MGSC 578	(3)	Simulation of Management Systems

remaining credits to be taken from:

MATH 204**	(3)	Principles of Statistics 2
MATH 315	(3)	Ordinary Differential Equations
MATH 340	(3)	Discrete Structures 2
MATH 410	(3)	Majors Project
MATH 447	(3)	Stochastic Processes
MATH 523	(4)	Generalized Linear Models
MATH 524	(4)	Nonparametric Statistics
MATH 525	(4)	Sampling Theory and Applications

** MATH 204 cannot be taken for credit after credit for MATH 324 has been obtained. The two courses can be taken concurrently. Students should consult the rules for credit for statistics courses in the course overlap section; see section 11.3.6 "Course Overlap".

11.12 Honours

An Honours program is available in Economics and in Investment Management. Joint Honours programs are available in Economics and Accounting and in Economics and Finance.

The difference between the Honours and Major programs is not one of quantity but rather of quality, the Honours program involving study in greater depth. Students normally register for the Honours programs in U1 but special arrangements may be made for students wishing to enter the program at the beginning of U2.

Graduation with an Honours standing normally requires a minimum CGPA of 3.00 and an average of 3.00 in the specified courses of the Honours programs, although academic units may set higher requirements for their program GPA. The minimum grade acceptable in an Honours course is B-, although academic units may set a higher requirement for grades in their program.

11.12.1 Honours in Economics for Management Students

Mentors in Economics: Professors F. Grimard (Director), M. Sinitsyn and D. Sutthiphisal; Department of Economics, Faculty of Arts

Please consult the Economics department website at www.mcgill.ca/economics.

This program is comprised of 42 credits of Honours Economics courses (9 credits of which are counted as Core credits).

To remain in the Honours program, students must obtain a grade of at least B in ECON 250D1/ECON 250D2.

Graduation with an Honours standing requires a minimum CGPA of 3.00 and an average of 3.00 in the specified courses of the program.

Required Courses (27 credits)

ECON 250D1[1]	(3)	Introduction to Economic Theory: Honours
ECON 250D2[1]	(3)	Introduction to Economic Theory: Honours
ECON 257D1[2]	(3)	Economic Statistics - Honours
ECON 257D2[2]	(3)	Economic Statistics - Honours
ECON 352D1[3]	(3)	Macroeconomics - Honours
ECON 352D2[3]	(3)	Macroeconomics - Honours
ECON 450D1	(3)	Advanced Economic Theory - Honours
ECON 450D2	(3)	Advanced Economic Theory - Honours
ECON 468	(3)	Econometrics 1 - Honours

Notes:

1. 3 of the 6 credits for Introduction to Economic Theory exempt MGCR 293 in Core. A minimum grade of B is required in this course to continue in this program.
2. 3 of the 6 credits for Economic Statistics exempt MGCR 271 in Core.
3. 3 of the 6 credits for Macroeconomics exempt ECON 295 in Core.

Complementary Courses (15 credits)

ECON 460	(3)	History of Thought 1 - Honours
ECON 461	(3)	History of Thought 2 - Honours
ECON 469	(3)	Econometrics 2 - Honours

plus 12 credits of other Economics courses approved by an Honours adviser.

11.12.2 Honours in Investment Management

The BCom Honours in Investment Management prepares students for a career in financial asset management, either on the buy-side working with active portfolio allocation or on the sell-side, working for brokerage firms. The program gives students a rigorous training in accounting, statistics and finance. The program enables students to analyze financial statements, perform company valuations, construct efficient portfolios with appropriate risk profiles, and manage risk using dynamic trading strategies and derivative instruments.

Students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.0. A grade of B- or better must be achieved in all courses counted towards this program. Students who do not satisfy all the requirements of the Honours program may still receive a Major in Finance.

The BCom Honours in Investment Management is a limited enrolment program and is by application only for students entering their U2 year. For admission requirements, please refer to the website at www.mcgill.ca/investment-management or contact the BCom Student Affairs Office.

Required Courses (42 credits)

ACCT 354	(3)	Financial Statement Analysis
ACCT 452	(3)	Financial Reporting Valuation
BUSA 400	(3)	Independent Studies in Management
FINE 342	(3)	Finance 2
FINE 441	(3)	Investments and Portfolio Management
FINE 443	(3)	Applied Corporate Finance
FINE 448	(3)	Derivatives and Risk Management
FINE 449	(3)	Market Risk Models
FINE 451	(3)	Fixed Income Analysis
FINE 455	(3)	Hedge Fund Investing
FINE 480	(3)	Global Investments

FINE 482	(3)	International Finance 1
FINE 541	(3)	Applied Investments
MGSC 272	(3)	Advanced Business Statistics

11.12.3 Joint Honours in Economics and Accounting

Mentor in Accounting: Professor P. Levy

Mentors in Economics: Professors F. Grimard (Director), M. Sinitsyn and D. Sutthiphisal; Department of Economics, Faculty of Arts

Please consult the Economics department website at www.mcgill.ca/economics.

The BCom Joint Honours in Economics and Accounting requires the completion of 30 specified credits of Honours courses listed in the Economics Honours Program (9 credits of which are counted as Core credits) and 24 specified credits for Accounting. This program is designed to take advantage of both McGill's Accounting and Economics course offerings to produce a student who is well trained in these two complementary areas.

Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00. To earn the Honours in Economics and Accounting, students must achieve a grade of B- or better in all Economics and Accounting courses.

Economics Required Courses (24 credits)

ECON 250D1[1]	(3)	Introduction to Economic Theory: Honours
ECON 250D2[1]	(3)	Introduction to Economic Theory: Honours
ECON 257D1[2]	(3)	Economic Statistics - Honours
ECON 257D2[2]	(3)	Economic Statistics - Honours
ECON 352D1[3]	(3)	Macroeconomics - Honours
ECON 352D2[3]	(3)	Macroeconomics - Honours
ECON 450D1	(3)	Advanced Economic Theory - Honours
ECON 450D2	(3)	Advanced Economic Theory - Honours

Notes:

1. 3 of the 6 credits for Introduction to Economic Theory exempt MGCR 293 in Core. A minimum grade of B is required in this course to continue in this program.
2. 3 of the 6 credits for Economics Statistics - Honours exempt MGCR 271 in Core.
3. 3 of the 6 credits for Macroeconomics exempt ECON 295 in Core.

Economics Complementary Courses (6 credits)
at least 6 credits from the following:

ECON 460	(3)	History of Thought 1 - Honours
and ECON 461	(3)	History of Thought 2 - Honours
or ECON 467D1	(3)	Econometrics - Honours
and ECON 467D2	(3)	Econometrics - Honours

Accounting Required Courses (12 credits)

ACCT 351	(3)	Intermediate Financial Accounting 1
ACCT 352	(3)	Intermediate Financial Accounting 2
ACCT 361	(3)	Intermediate Management Accounting 1
ACCT 455	(3)	Development of Accounting Thought

Accounting Complementary Course (12 credits)

ACCT 354	(3)	Financial Statement Analysis
ACCT 362	(3)	Intermediate Management Accounting 2
ACCT 385	(3)	Principles of Taxation
ACCT 452	(3)	Financial Reporting Valuation
ACCT 453	(3)	Advanced Financial Accounting
ACCT 463	(3)	Advanced Management Accounting
ACCT 475	(3)	Principles of Auditing
ACCT 486	(3)	Business Taxation 2

11.12.4 Joint Honours in Economics and Finance

Mentors in Economics: Professors F. Grimard (Director), M. Sinitsyn, and D. Sutthiphisal; Department of Economics, Faculty of Arts

Mentors in Finance: Professor A. de Motta, A. Durnev, W. Xu

Please consult the Economics department website at www.mcgill.ca/economics.

This Joint Honours program is comprised of 30 credits of Honours Economics courses (9 credits of which are counted as Core credits) and 24 credits in Finance.

This program is designed to take advantage of both McGill's Finance and Economics course offerings to produce a student who is well trained in these two complementary areas. It is particularly attractive to those planning careers in finance, economics or financial economics posts in both industry and government. The program is a demanding one and its potential rewards are correspondingly high.

Joint Honours students must maintain a minimum CGPA of 3.00 and maintain a minimum program GPA of 3.00. To earn the Honours in Economics and Finance, students must achieve a grade of B- or better in all Economics and Finance courses.

Economics Required Courses (24 credits)

ECON 250D1[1]	(3)	Introduction to Economic Theory: Honours
ECON 250D2[1]	(3)	Introduction to Economic Theory: Honours
ECON 257D1[2]	(3)	Economic Statistics - Honours
ECON 257D2[2]	(3)	Economic Statistics - Honours
ECON 352D1[3]	(3)	Macroeconomics - Honours
ECON 352D2[3]	(3)	Macroeconomics - Honours
ECON 450D1	(3)	Advanced Economic Theory - Honours
ECON 450D2	(3)	Advanced Economic Theory - Honours

Notes:

1. 3 of the 6 credits for Introduction to Economic Theory exempt MGCR 293 in Core. A minimum grade of B is required in this course to continue in this program.
2. 3 of the 6 credits for Economic Statistics exempt MGCR 271 in Core.
3. 3 of the 6 credits for Macroeconomics exempt ECON 295 in Core.

Economics Complementary Courses (6 credits)

ECON 460	(3)	History of Thought 1 - Honours
and ECON 461	(3)	History of Thought 2 - Honours
or ECON 467D1	(3)	Econometrics - Honours
and ECON 467D2	(3)	Econometrics - Honours

Finance Required Courses (12 credits)

FINE 342	(3)	Finance 2
FINE 441	(3)	Investments and Portfolio Management
FINE 443	(3)	Applied Corporate Finance
FINE 547	(3)	Advanced Finance Seminar

Finance Complementary Courses (12 credits)

FINE 434	(3)	Topics in Finance
FINE 448	(3)	Derivatives and Risk Management
FINE 449	(3)	Market Risk Models
FINE 451	(3)	Fixed Income Analysis
FINE 480	(3)	Global Investments
FINE 482	(3)	International Finance 1
FINE 492	(3)	International Finance 2
FINE 541D1	(1.5)	Applied Investments
FINE 541D2	(1.5)	Applied Investments

11.13 Academic Staff

Adler, Nancy J.; B.A., M.B.A., Ph.D.(Calif.-LA); Professor, Organizational Behaviour (*Samuel Bronfman Chair in Management*)
Animesh; B.A.(Delhi), M.I.S.(Carn. Mell), Ph.D.(Md.); Assistant Professor, Information Systems
Armstrong, Donald E.; B.A., B.Com.(Alta.), Ph.D.(McG.); Emeritus Professor, Managerial Economics
Barbulescu, Roxana; B.A.(Stan.), M.S., Ph.D.(INSEAD); Assistant Professor, Organizational Behaviour
Barlas, Sema; B.S.(Hacettepe U., Turkey), M.S.(Ill.-Urbana-Champaign), Ph.D.(Chic.); Assistant Professor, Marketing
Bassellier, Geneviève; B.Com., M.Sc.(HEC), Ph.D.(Br.Col.); Assistant Professor, Information Systems
Basu, Swati; B.Sc.(Calc.), M.A.(Tufts), Ph.D.(Pitt.); Faculty Lecturer, Finance
Böckenholt, Ulf; Diploma-Psych./Comp.Sc.(U. Oldenburg, Germany), Ph.D.(Chic.), Ph.D.(U. Oldenburg, Germany); Professor, Marketing (*CRC Chair - SSHRC - Tier 1*)
Boyaci, Tamer; B.S.(Middle East Tech.,Turkey), M.S., Ph.D.(Col.); Associate Professor, Operations Management
Brenner, Reuven; B.Sc., M.A., Ph.D.(Hebrew); Professor, Finance (*Repap Professor of Economics*)
Carrieri, Francesca; Laurea-Law(U. di Bari), Ph.D.(USC); Associate Professor, Finance
Cecere, Ralph; G.D.P.A., B.Com.(McG.); Faculty Lecturer, Accounting
Cha, Sandra; B.A., M.A., Ph.D.(Harv.); Assistant Professor, Organizational Behaviour
Chakrabarti, Abhirup; B.S.(Calc.), M.S.(Singapore, NUS), Ph.D.(Duke); Assistant Professor, Strategy and Organization
Chaudhury, Mohammed; B.A., M.A.(Dhaka), M.A.(Wat.), Ph.D.(S. Fraser); Faculty Lecturer, Finance
Chauvin, Louis; B.A.(Ott.), M.A., Ph.D.(C'dia); Faculty Lecturer, Strategy and Organization
Christoffersen, Peter; B.A.(Copen.), M.A., Ph.D.(Penn.); Associate Professor, Finance (*James McGill Professor*)
Christoffersen, Susan; B.A.(Qu.), M.A.(Br. Col.), Ph.D.(Penn.); Associate Professor, Finance (*William Dawson Scholar*)
Croitoru, Benjamin; DIAF(Institut de Statistique de l'Université Pierre et Marie Curie), Ph.D.(Wharton); Associate Professor, Finance
David, Robert; B. Eng., M.B.A.(McG.), Ph.D.(C'nell); Associate Professor, Strategy and Organization
De Motta, Adolfo; B.A.(Universidad De Valencia, Spain), Ph.D.(MIT); Assistant Professor, Finance
Donovan, Richard G.; B.Com.(McG.), G.D.I.T.(C'dia); Faculty Lecturer, Information Systems
Drury, Donald H.; B.Com., M.B.A.(McM.), Ph.D.(N'western), R.I.A.; Professor, Accounting
Dubé, Laurette; B.Sc.(Laval), M.B.A.(HEC), M.P.S., Ph.D.(C'nell); Professor, Marketing (*James McGill Professor*)
Durnev, Artyom; M.A. (Moscow), M.A. (Penn. St.), Ph.D.(Mich.); Assistant Professor, Finance
Ericsson, Jan; M.Sc., Ph.D.(Stockhom School of Economics); Associate Professor, Finance
Errunza, Vihang R.; B.S., B.S.(Tech)(Bom.), M.S., Ph.D.(Calif.); Professor, Finance (*Bank of Montreal Professor of Finance and Banking*)
Etemad, Hamid; M.Eng.(Tehran), M.Sc., M.B.A., Ph.D.(Calif.); Associate Professor, Marketing
Etzion, Dror; B.Sc.(Ben Gurion), M.Sc.(Tel Aviv), Ph.D.(IESE-Univ of Navarra); Assistant Professor, Strategy and Organization
Faraj, Samer; B.S.(Milwaukee), M.A.(MIT), Ph.D.(Boston); Associate Professor, Information Systems (*CRC Chair - SSHRC - Tier 2*)
Fortin, Catherine; B.Com., Grad. Deg. in Pub. Account.(McG.); Faculty Lecturer, Accounting
Fortin, Steve; Acct. Sci.(Québec à Rimouski), Ph.D.(Wat.); Associate Professor, Accounting
Gagnon, Suzanne; B.A.(Br. Col.), M.Sc.(Oxf.), Ph.D.(Lanc. - pending); Faculty Lecturer, Organizational Behaviour
Gialloreto, Louis P.; B.A.(W. Ont.), M.B.A., LL.M.(McG.); Faculty Lecturer, Marketing (*Director - Power Corp. Int'l Executive Institute*)
Goffin, Jean-Louis; B.Eng., M.Sc.(Brussels), M.Sc., Ph.D.(Calif., Berk.); Emeritus Professor, Operations Management
Goldsman, Larry; B.Comm.(C'dia), Dip-P.Acc'ting(McG.), C.A.; Faculty Lecturer, Accounting
Goyenko, Ruslan; B.S.(Donetsk-Ukraine), M.A.(C.E.U. Budapest), M.S.(Siena-Italy), M.B.A., Ph.D.(Ind.); Assistant Professor, Finance
Graham, Margaret; M.A., M.B.A., Ph.D.(Harv.); Associate Professor, Strategy and Organization
Gumus, Mehmet; B.S.(Turkey), M.S., M.A., Ph.D.(Mich.); Assistant Professor, Operations Management
Hammami, Larbi; B.Com., M.B.A.(Laval); Faculty Lecturer, Finance
Han, Kunsoo; B.S., M.S.(KAIST), Ph.D.(Ohio St.); Assistant Professor, Information Systems
Hart, Derek; B.Sc., M.B.A.(McG.), M.Sc.(C'dia); Faculty Lecturer, Operations Management
Hebdon, Robert; B.A., M.A., Ph.D.(Tor.); Associate Professor, Organizational Behaviour-Industrial Relations
Huising, Ruthanne; B.A.(Alta.), M.Sc.(LSE), Ph.D.(MIT); Assistant Professor, Organizational Behaviour
Jacobs, Kris; B.A., M.A.(Louvain), Ph.D.(Pitt.); Associate Professor, Finance (*Director - PhD Program*)
Jaeger, Alfred M.; B.Sc.(N'western), M.B.A, Ph.D.(Stan.); Associate Professor, Organizational Behaviour
Jo, Myung-Soo; B.Com.(Hankuyk U., Korea), M.B.A.(Mich.), M.S.(Ill.), Ph.D.(Colo.); Associate Professor, Marketing
Jörgensen, Jan; B.A., M.A.(N. Carolina, Chapel Hill), Ph.D.(McG.); Associate Professor, Strategy and Organization
Kanungo, Rabindra N.; B.A., M.A.(Patna), Ph.D.(McG.); Professor Emeritus, Organizational Behaviour
Lank, David; B.A.(Prin.); Faculty Lecturer, Strategy and Organization
Lapointe, Liette; B.A., M.Sc.(Montr.), Ph.D.(HEC); Associate Professor, Information Systems
Lee, Mary Dean; B.A.(Eckerd), M.Ed.(Temple), M.A.(S. Florida), Ph.D.(Yale); Professor, Organizational Behaviour
Levy, Philippe; B.Com.(C'dia), Diploma in Public Accountancy, M.B.A.(McG.); Faculty Lecturer, Accounting (*Director - CA Program*)
Li, Shanling; M.S.(Georgia), Ph.D.(Texas); Associate Professor, Operations Management
Loulou, Richard J.; M.Sc., Ph.D.(Berk.); Professor Emeritus, Operations Management
Madan, Sujata; B.S.(MIT), M.B.A.(Indian Inst. Manag.); Faculty Lecturer, Finance
Maguire, Steve; B.Sc.(Qu.), M.B.A.(Br. Col.), Ph.D.(HEC); Associate Professor, Strategy and Organization
Mintzberg, Henry; B.Eng.(McG.), B.A.(Sir G. Wms.), S.M., Ph.D.(MIT); Professor, Strategy and Organization (*John Cleghorn Professor of Management Studies*)
Mishra, Saurabhi; B.A., M.A.(Delhi), M.B.A., Ph.D.(Ind.); Assistant Professor, Marketing
Moore, Karl; B.Sc.(Ambassador University), M.B.A.(USC), Ph.D.(York (Can.)); Associate Professor (*Part-time*), Marketing, Strategy and Organization
Mukherjee, Ashesh; B.Eng.(Jadavpur-India), M.B.A.(Indian Inst. Manag.), Ph.D.(Texas); Associate Professor, Marketing
Nain, Amrita; B.A.(Delhi), M.Sc.(Warw.), Ph.D.(Mich.); Assistant Professor Finance
Oh, Wonseok; B.A.(SUNY), M.B.A.(Geo. Wash. U), M.Phil., Ph.D.(Stern); Associate Professor, Information Systems
Okhmatovskiy, Ilya; B.A. Equivalent(Moscow State), M.S.Equivalent(Acad. Of Nat. Economy), Ph.D.(USC); Assistant Professor, Strategy & Organization
Parsons, Christopher; B.S., Ph.D.(Texas); Assistant Professor, Finance
Perez-Aleman, Paola; B.Sc.(Calif., Berk.), Ph.D.(MIT); Associate Professor, Strategy and Organization

Pinsonneault, Alain; B.Comm.(C'dia), M.Sc.(HEC), Ph.D.(Calif., Irvine); Professor, Information Systems (*Chair in Management Information Systems*) (*James McGill Professor*)
Qui, Chun; B.A.(Huazhong), M.A.(S. Fraser), Ph.D.(Alta.); Assistant Professor, Finance
Ray, Saibal; B.E.(Jadavpur), M.E.(Asian IT), Ph.D.(Wat.); Associate Professor, Operations Management
Sarigöllü, Emine; B.A., M.B.A.(Bogazici), M.A., Ph.D.(Penn.); Associate Professor, Marketing (*Associate Dean - Student Affairs*)
Sarkissian, Sergei; M.S.(Calif., Berk.), Ph.D.(Wash.); Associate Professor, Finance
Singer, Zvi; B.A.(Tel Aviv), M.B.A.(Wash.), Ph.D. (Calif. - pending); Assistant Professor, Accounting
Smith, Brian E.; B.A., M.A.(Dublin), M.Sc.(Alta.), Ph.D.(Qu.); Faculty Lecturer, Operations Management
Todd, Peter A.; B.Com.(McG.), Ph.D.(Br. Col.); Dean (*James McGill Professor*)
Toulan, Omar; B.Sc.(G'town), Ph.D.(MIT); Associate Professor, Strategy and Organization (*Associate Dean - Academic*)
Tsang, Desmond; BCom, M.A.(Tor.), M.S., Ph.D.(Calif., Berk.); Assistant Professor - Accounting
Vakratsas, Demetrios; B.Sc.(Aristotle), M.Sc., Ph.D.(Texas); Associate Professor, Marketing
Verter, Vedat; B.S., M.S.(Bogazici), Ph.D.(Bilkent); Associate Professor, Operations Management
Vit, Gregory; B.Com.(McG.), M.B.A.(C'dia), Ph.D.(Brad.); Associate Professor (*Part-time*), Strategy and Organization (*Director - Dobson Centre for Entrepreneurial Studies*)
Vough, Heather; A.B.(Wash.), Ph.D.(Ill.-Urbana-Champaign); Assistant Professor, Organizational Behaviour
Westgate, Chantal; M.B.A.(McM.); Faculty Lecturer, Organizational Behaviour-Industrial Relations
Whitmore, G. Alex; B.Sc.(Manit.), M.Sc., Ph.D.(Minn.); Professor Emeritus, Operations Management (*Samuel Bronfman Professor of Management Science*)
Xu, Jianguo; B.S., M.A.(Beijing), Ph.D.(Duke); Assistant Professor, Finance
Yalovsky, Morty; B.Sc., M.Sc., Ph.D.(McG.); Associate Professor, Operations Management
Zabowski, Glenn; B.Com., M.B.A.(McG.); Faculty Lecturer, Operations Management (*Director - BCom Program*)
Zhang, Dan; B.S., M.S.(Chongquing), Ph.D.(Minn.); Assistant Professor, Operations Management
Zhang, Sanjian; B.Sc.(Shanghai Int'l), M.B.A.(Catholic Univ. of Leuven), Ph.D.(Calif., Irvine); Assistant Professor, Accounting

12 Schulich School of Music

Table of Contents

12.1 The Faculty, page 348
- 12.1.1 Location, page 348
- 12.1.2 The Faculty Then and Now, page 348

12.2 Faculty Administrative Officers, page 348
- 12.2.1 Dean's Office, page 348
- 12.2.2 Associate Deans' Office, page 348
- 12.2.3 Graduate Studies, page 348
- 12.2.4 Academic Affairs, page 349
- 12.2.5 Student Affairs, page 349
- 12.2.6 Building Management, page 349
- 12.2.7 Administrative Units, page 349

12.3 General Information, page 350
- 12.3.1 Degrees and Diplomas Offered, page 350
- 12.3.2 Orchestral Training, page 351
- 12.3.3 Scholarships and Financial Aid, page 351
- 12.3.4 Summer Studies, page 351
- 12.3.5 Music Credit Options for Students in Other Faculties, page 351
- 12.3.6 Conservatory of Music, page 351

12.4 Admission, page 352
- 12.4.1 Application Procedure, page 352
- 12.4.2 Music Entrance Requirements, page 352
- 12.4.3 Academic Entrance Requirements, page 352
- 12.4.4 Diploma Programs, page 353
- 12.4.5 Music Placement Examinations, page 353
- 12.4.6 Keyboard Proficiency Test (MUSP 170), page 353
- 12.4.7 Readmission, page 353
- 12.4.8 Tuition Fees, page 353

12.5 Academic Information, page 354
- 12.5.1 Ensemble Policy and Regulations, page 354
- 12.5.2 Accompanying, page 356
- 12.5.3 Academic Category, page 356
- 12.5.4 Auditing, page 357
- 12.5.5 Music/Free Electives, page 357
- 12.5.6 Non-Music Electives, page 357
- 12.5.7 Distance Education (online) Courses, page 357
- 12.5.8 Course Changes, page 357
- 12.5.9 Withdrawal from Course(s), page 357
- 12.5.10 Incompletes, page 357
- 12.5.11 Deferrals, page 357
- 12.5.12 Supplementals, page 358
- 12.5.13 Rereading of Examinations, page 358
- 12.5.14 Academic Standing, page 358
- 12.5.15 Graduation Requirements, page 359
- 12.5.16 Graduation Honours, page 359

12.6 Programs of Study, page 359
- 12.6.1 Four-Year Program (Prerequisite Courses), page 359
- 12.6.2 Department of Music Research: Composition; Music History; Theory; Faculty Program, page 359
  - 12.6.2.1 B.Mus. with a Major in Composition, page 360
  - 12.6.2.2 B.Mus. with Honours in Composition, page 360
  - 12.6.2.3 B.Mus. with Honours in Music Technology, page 361
  - 12.6.2.4 B.Mus. with a Major in Music History, page 361
  - 12.6.2.5 B.Mus. with Honours in Music History, page 361
  - 12.6.2.6 B.Mus. with a Major in Theory, page 362
  - 12.6.2.7 B.Mus. with Honours in Theory, page 363
  - 12.6.2.8 Faculty Program, page 363
  - 12.6.2.9 Special Prerequisite Courses for M.Mus. in Sound Recording, page 364
  - 12.6.2.10 Minor in Music History for Performers, page 364
  - 12.6.2.11 Minor in Musical Applications of Technology, page 365
  - 12.6.2.12 Minor in Musical Science and Technology, page 365
- 12.6.3 Department of Performance, page 365
  - 12.6.3.1 B.Mus. with a Major in Performance (Piano), page 365
  - 12.6.3.2 B.Mus. with a Major in Performance (Organ, Harpsichord, Guitar, Baroque Instruments), page 366
  - 12.6.3.3 B.Mus. with a Major in Keyboard Studies (Piano, with senior-level studies in a Second Keyboard Instrument), page 366
  - 12.6.3.4 B.Mus. with a Major in Keyboard Studies (Organ, Harpsichord, with senior-level studies in a Second Keyboard Instrument, Jazz Piano), page 367
  - 12.6.3.5 B.Mus. with a Major in Performance (Voice), page 367
  - 12.6.3.6 B.Mus. with a Major in Performance (Orchestral Instruments), page 367
  - 12.6.3.7 B.Mus. with Honours in Performance (Voice), page 368
  - 12.6.3.8 B.Mus. with Honours in Performance (Piano), page 369
  - 12.6.3.9 B.Mus. with Honours in Performance (All Instruments except Piano and Voice), page 369
  - 12.6.3.10 B.Mus. with a Major in Performance (Church Music), page 370
  - 12.6.3.11 B.Mus. with a Major in Early Music Performance (Baroque Violin, Viola, Cello, Viola da Gamba, Flute, Recorder, Oboe, Voice, Organ, Harpsichord and Early Brass Instruments), page 370
  - 12.6.3.12 B.Mus. with Honours in Early Music Performance (Baroque Bassoon, Violin, Viola, Cello, Viola da Gamba, Flute, Lute, Recorder, Oboe, Voice, Organ, Harpsichord and Early Brass Instruments), page 371
  - 12.6.3.13 B.Mus. with a Major in Jazz Performance (Saxophone, Trumpet, Trombone, Drums, Piano, Guitar, Bass, Voice), page 372
  - 12.6.3.14 Licentiate in Music (L.Mus.) (Piano), page 372
  - 12.6.3.15 Licentiate in Music (L.Mus.) (All Instruments except Piano, Voice and Jazz), page 373
  - 12.6.3.16 Licentiate in Music (L.Mus.) (Voice), page 373

12.6.3.17 Licentiate in Music (L.Mus.) Jazz Performance, page 374
12.6.3.18 Artist Diploma (Voice), page 374
12.6.3.19 Artist Diploma (All Instruments), page 374
12.6.3.20 Special Prerequisite Courses for M.Mus. in Performance, page 375
12.6.4 Designated Major Program, page 375
12.6.5 B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program, page 376
12.6.6 Management Minor Programs, page 377
12.7 Practical Subjects, page 377
12.7.1 Practical Assignments and Lessons, page 377
12.7.1.1 Registration/Withdrawal, page 377
12.7.1.2 Assignment of Teachers, page 377
12.7.1.3 Credit Weights for Practical Study, page 377
12.7.2 Examinations and Goals in Practical Subjects, page 377
12.7.2.1 Concentration Study, page 377
12.7.2.2 Major and Honours Study, page 378
12.7.2.3 Licentiate Study, page 379
12.7.2.4 Postgraduate Study, page 379
12.7.2.5 Elective Study, page 380
12.7.3 Practical Examinations, page 380
12.7.3.1 Application for Examination, page 380
12.7.3.2 Examination Marking, page 380
12.8 Academic Staff, page 380

12.1 The Faculty

12.1.1 Location

Strathcona Music Building
555 Sherbrooke Street West
Montreal, QC H3A 1E3
Canada

Telephone: 514-398-4535
Fax: 514-398-8061
Website: www.mcgill.ca/music

12.1.2 The Faculty Then and Now

McGill's Schulich School of Music (www.mcgill.ca/music) is the largest university-based school for professional musical training and music research in Canada. Founded as the Conservatorium of Music in 1904 and incorporated as a Faculty in 1920, the school moved to its current location in the impressive and historic Strathcona Music Building (formerly the main section of Royal Victoria College) in 1972. During its 2004-05 centennial season, the Faculty added a new eight-storey building that will evolve into a world-leading facility for sound recording and music technology research. McGill Music is renowned for its orchestral, choral, opera, jazz, chamber, contemporary and early music programs and for its award-winning creative and research work in composition, music theory, musicology, music education, sound recording and music technology.

Pollack Concert Hall (capacity: 600), Redpath Hall (400, with the University Organ), Clara Lichtenstein Recital Hall (80) are among the busiest and best concert venues in Montreal. The new building adds a 200-seat hall, an opera-rehearsal room, a scoring stage/acoustic research lab, and control rooms. Three floors of the new building are dedicated to the Marvin Duchow Music Library (www.library.mcgill.ca), with its collection of well over 100,000 scores, recordings, books, and periodicals; in addition, the Performance Library has performing parts for over 6000 titles. Both old and new buildings (as well as satellite locations) house labs for numerous specialized functions: digital composition and electronic music, music education research, multi-channel sound recording, music perception and cognition, sound processing and control, computational modeling, etc. Classrooms, teaching studios, practice rooms (80+), and a student-lounge and cafeteria round out the picture.

The Faculty is also home to the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT), an inter-faculty, inter-university, international consortium that brings together researchers in music, sound recording, music technology, psychology, neuroscience, engineering, and medicine (www.cirmmt.mcgill.ca).

The current student enrolment is over 600 at the undergraduate level and over 200 at the graduate level. The teaching staff includes 55 full-time and over 140 part-time members. Students and staff play a major role in Montreal's vibrant cultural scene, presenting over 650 concert events annually, as well as master classes, lectures, and symposia, all enhanced by very active student societies, a gig office, and excellent support staff.

12.2 Faculty Administrative Officers

12.2.1 Dean's Office

Don McLean; Mus.Bac., M.A., Ph.D.(Tor.) **Dean**

Mary-Beth Campbell; B.Mus., M.Mus.(McG.) **Communications and Special Events Administrator**

Joanne Niles; B.A., M.A.(C'dia) **Assistant to the Dean and HR Adviser**

Valerie McConnell **Personnel and Administrative Coordinator**

Olga Harmazy; Cert. in Mgmt.(McG.) **Secretary**

Donna Williams; B.A.(W. Ont.) **Development Director**

Julie Raymond; B.Mus.(McG.) **Development and Alumni Relations Associate**

TBA **Faculty Research Accounts Administrator**

Catherine Healy **Secretary**

Daria Lavigueur (*on leave*) **Secretary**

12.2.2 Associate Deans' Office

Gordon Foote; B.Sc., M.A.(Minn.) **Associate Dean (Academic and Student Affairs)**

Bruce Minorgan; B.Mus.(Br. Col.), M.A.(Tor.) **Associate Dean (Administration)**

Quynh-Ly Pham; B.Sc.(McG.) **Budget Officer**

Diana Toni Dutz; B.Mus.(W. Ont.), Grad.Dip.(C'dia) **Administrative Coordinator to the Associate Deans**

Devyn Nicholson; B.Mus.(Ott.), M.Mus.(McG.) **Building Projects Coordinator**

Charles Wan; B.CompSc.(C'dia) **Accounting Clerk**

Alain Terriault **LAN Manager**

Paul Vandenberg; B.Mus.(McG.) **Gig Office/ Communications**

12.2.3 Graduate Studies

Eleanor Stubley; B.Mus.(Tor.), M.Mus.(Bran.), Ph.D.(Ill.) **Director, Graduate Studies**

Hélène Drouin **Senior Administrative and Student Affairs Coordinator**

Véronic Morin; B.A.(McG.) **Student Affairs Coordinator**

12.2.4 Academic Affairs

André Roy; B.Mus.(Curtis) **Chair, Department of Performance**

Peter Schubert; B.A., M.A., Ph.D.(Col.) **Chair, Department of Music Research**

Tracy Roach; B.Mus.(McG.) **Administrative Assistant**

TBA **Student Affairs Coordinator Performance and Music Research**

Jennifer Stephenson; B.A.(McG.) **Timetable and Scheduling Coordinator**

Cindy Shuter **Ensemble Resource Manager**

Linda Mannix; B.A.(C'dia) **Secretary (Sessional)**

Kerry Wagner; C.T.T. **Piano Maintenance Supervisor, Department of Performance**

Christopher Smythe; B.Mus., M.Mus.(McG.) **Shop Coordinator**

12.2.5 Student Affairs

Patrick O'Neill; B.A.(McG.) **Admissions Officer**

Mary Di Stefano **Admissions and Registration Clerk, Graduate**

Pia D'Amico **Admissions and Registration Clerk, Undergraduate**

Linda Mannix; B.A.(C'dia) **Admissions Secretary (Sessional)**

Reisa Lipszyc; B.Mus.(McG.) (*on leave*) **Recruitment Officer**

Janet Edwards; B.A.(C'dia) **Marketing and Web Content Administrator**

Marie Moscato **Senior Student Adviser**

Egidia De Michele **Senior Administrative and Student Affairs Coordinator**

Dana Pietrzak **Student Affairs Secretary**

12.2.6 Building Management

Peter Wightman; L.Mus., B.Mus., M.Mus.(McG.) **Building Director**

Katherine Simons; B.Mus.(W. Laur.) **Associate Building Director**

Elise Quinn; B.A.(McG.) **Assistant Building Director**

Nick Zervos **Electronics Technologist (A/V)**

12.2.7 Administrative Units

CONCERTS AND PUBLICITY
Box Office (weekdays: 12:00 to 18:00): 514-398-4547
Concert Information: 514-398-4547 or 514-398-5145
Bookings: 514-398-8993

Louise Ostiguy; B.Mus.(Montr.), C.G.E.(HEC) **Director**

Kate Herzberg; B.Mus., Dip.Ed.(McG.), Dip.TEFL(Rutg.) **Marketing and Publicity Supervisor**

Marie Pothier; B.Mus.(Montr.) **Publicity Secretary**

Johanne Froncioni **Production Supervisor**

Maureen Leaman **Secretary**

Fernando Longueira **Timetable and Scheduling Secretary**

Serge Filiatrault **Stage Manager (Pollack Hall)**

Jordan Gasparik; B.Mus.(McG.) **Assistant Stage Manager (Pollack Hall)**

James Clemens-Seely **Assistant Stage Manager (Pollack Hall)**

Robert A. Doucet; B.A.(C'dia) **Stage Manager (Redpath Hall)**

Michel Maher **Stage Manager (Tanna Schulich Hall)**

Andrew A. Mullin; B.Mus., M.Mus.(McG.) **Assistant Stage Manager (Tanna Schulich Hall)**

Jacqueline Gauthier **Customer Service Coordinator**

François Robitaille **Piano Maintenance Supervisor**

MARVIN DUCHOW MUSIC LIBRARY
Telephone: 514-398-4695

Cynthia Leive; B.Mus.(Eastman), M.L.S.(SUNY, Geneseo), M.F.A.(Car.) **Head Librarian**

Brian McMillan; B.Mus., M.Mus.(McG.), M.I.St.(Tor.) **Music Liaison Librarian**

Cathy Martin; B.Mus.(UQAM), M.L.I.S.(McG.) **Music Liaison Librarian**

Melanie Preuss **Library Assistant, Inter-Library Loans**

Andrew Senior; B.A., M.Phil.(York (UK)) **Specialized (Audio/Visual) Cataloguing Editor**

Gail Youster **Library Assistant, Circulation and Serials**

David Curtis; B.Sc.(McG.) **Senior Reference Assistant**

Padraig Buttner-Schnirer; B.Mus.(McG.) **Library Assistant**

PERFORMANCE LIBRARY
Telephone: 514-398-4553

Erika Kirsch; B.Mus.(Southern Methodist Univ.), M.Mus.(Eastman) **Senior Specialized Cataloguing Editor and Acquisitions Assistant**

OPERA MCGILL
Telephone: 514-398-4535, ext. 0489

Julian Wachner; B.Mus., Mus.Doc.(Boston) **Principal Conductor**

Patrick Hansen; B.Mus.(Simpson), M.Mus.(Missouri) **Executive Director**

DIGITAL COMPOSITION STUDIO
Telephone: 514-398-4552

Sean Ferguson; B.Mus.(Alta.), M.Mus., D.Mus.(McG.) **Director**

Richard McKenzie **Chief Electronics Technician**

RECORDING STUDIO
Telephone: 514-398-4549

Wieslaw Woszczyk; M.A., Ph.D.(F. Chopin Academy of Music, Warsaw) **Director**

Ieronim Catanescu **Electronics Technician**

MUSIC TECHNOLOGY RESEARCH LABORATORIES
Fax: 514-398-2962

Darryl Cameron **Chief Electronics Technician**

COMPUTATIONAL ACOUSTIC MODELING LABORATORY (CAML)
Telephone: 514-398-4535, ext. 094836

Gary P. Scavone; B.A., B.S.(Syr.), M.S., Ph.D.(Stan.) **Director**

DISTRIBUTED DIGITAL MUSIC ARCHIVES AND LIBRARIES LABORATORY (DDMAL)
Telephone: 514-398-4535, ext. 0300

Ichiro Fujinaga; B.Mus., B.Sc.(Alta.), M.A., Ph.D.(McG.) **Director**

SOUND PROCESSING AND CONTROL LABORATORY (SPCL)
Telephone: 514-398-4535, ext. 00271

Philippe Depalle; B.Sc.(Paris XI & ENS Cachan), D.E.A. (Le Mans & ENS Cachan), Ph.D.(Le Mans & IRCAM) **Co-Director**

and

Marcelo M. Wanderley; B. Eng.(UFPR), M. Eng.(UFSC), Ph.D. (Paris VI & IRCAM) **Co-Director**

INPUT DEVICES AND MUSIC INTERACTION LABORATORY (IDMIL)
Telephone: 514-398-4535, ext. 094916

Marcelo M. Wanderley; B. Eng.(UFPR), M. Eng.(UFSC), Ph.D.(Paris VI & IRCAM) **Director**

MUSIC PERCEPTION AND COGNITION LABORATORY (MPCL)
Telephone: 514-398-4535, ext. 094812

Stephen McAdams; B.Sc.(McG.), Ph.D.(Stan.), D.Sc.(Paris) **Director**

Bennett Smith **Technical Manager**

REAL-TIME MULTIMODAL LABORATORY (RTML)
Telephone: 514-398-4535, ext. 094837

Stephen McAdams; B.Sc.(McG.), Ph.D.(Stan.), D.Sc.(Paris) **Director**

Bennett Smith **Technical Manager**

CENTRE FOR INTERDISCIPLINARY RESEARCH IN MUSIC MEDIA & TECHNOLOGY (CIRMMT)
Telephone: 514-398-8793
Fax: 514-398-7414

Stephen McAdams; B.Sc.(McG.), Ph.D.(Stan.), D.Sc.(Paris) **Director**

Harold Kilianski; B.Mus.(McG.) **Technical Manager**

Sara Gomez; B.A.(McG.) **Research Administrator**

Mary Chin; B.A.(Wesl.) **Secretary**

Yves Méthot; B.Ing.(E.T.S.) **Electronics Coordinator**

Julien Boissinot **Systems Manager**

Sean Ferguson **Associate Director, Artistic Research**

Catherine Gustavino **Associate Director, Scientific and Technological Research**

Bennett Smith **Research Associate**

MUSIC EDUCATION RESEARCH LABORATORY
Telephone: 514-398-4554

Joel Wapnick; B.A.(NYU), M.A.(SUNY), M.F.A.(Sarah L.), Ed.D.(Syr.) **Director**

McGILL UNIVERSITY RECORDS
Telephone: 514-398-4537

Joel Wapnick; B.A.(NYU), M.A.(SUNY), M.F.A.(Sarah L.), Ed.D.(Syr.) **Director**

McGILL CONSERVATORY, Community Program of the Schulich School of Music of McGill University
Telephone: 514-398-4543 (Downtown Campus)
Telephone: 514-398-7673 (Macdonald Campus)
www.mcgill.ca/conservatory

Clément Joubert; B.Mus.(McG.) **Director**

Nancy Soulsby; B.A., Dip.Ed.(McG.) **Administrative Assistant**

Marie-Reine Pelletier **Student Affairs Coordinator**

Sharon Webb **Admissions and Registration Clerk**

Jennifer Pelletier **Senior Administrative Coordinator, Summer Camp**

Nancy McMahon-Laporte **Secretary**

TBA **Secretary, Summer Camp**

Mirko Sablich **Communications and Marketing Administrator, Macdonald Campus**

12.3 General Information

12.3.1 Degrees and Diplomas Offered

DEGREE OF BACHELOR OF MUSIC (B.Mus.)

The degree of Bachelor of Music may be obtained in any one of the following fields:
Composition (Major, page 360, and Honours, page 360)
Faculty Program, page 363
Music Education – available only as a component of the Concurrent B.Mus./B.Ed. program, page 376
Music History (Major, page 361 and Honours, page 361)
Music Theory (Major, page 362, and Honours, page 363)
Performance (Major, page 365, and Honours, page 368)
Performance (Church Music) (Major, page 370)
Performance (Keyboard Studies) (Major, page 367)
Early Music Performance (Major, page 370, and Honours, page 371)
Jazz Performance (Major, page 372)

Designated Major
Special programs of study in music may be proposed in consultation with Faculty advisers. Such special proposals must be approved by the relevant department, the Executive Committee and by Faculty Council.

Faculty Program
This program is designed to accommodate those students who are either undecided about the area of music in which they wish to specialize, or who are interested in a pattern of specialization not provided in the established majors and honours programs, or who are interested in combining studies in music with studies in other disciplines.

All of the above B.Mus. programs normally require three years of study following completion of the Quebec Diploma of Collegial Studies or four years of study following completion of secondary school elsewhere.

B.A. Major Concentration in Music
The Faculty of Arts offers a Bachelor of Arts degree with a Major Concentration in Music. Further details on the program can be found under Music in the Faculty of Arts section.

Minor Programs
A Minor in Music History for Performers is available to all students in Performance (Major or Honours) programs. This option will take the place of music electives, as well as history, literature and performance practice complementary courses, in Performance programs.

Minors in Musical Applications of Technology and Musical Science and Technology are available to Music students who wish to graduate with a knowledge of newer technologies and the impact they are having on the field of music. (Space permitting, these minors are also available to students from other faculties.)

A Minor in Marketing and a Minor in Management are available to B.Mus. students. Further information on these minors can be found under the Desautels Faculty of Management, see section 11.10.2 “Minor in Management” and section 11.10.6 “Minor in Marketing”.

Minor programs in Music are also available to students in the Faculty of Arts and the Faculty of Science. Further information on these Minors can be found under the Faculty of Arts, see section 6.12.38 “Music (MUAR)” and the Faculty of Science, see section 14.13.23 “Music”.

M.Mus. Performance (Prerequisite courses)
Students wishing to prepare for the Master of Music in Performance should include, in their Bachelor of Music program, the courses listed under section 12.6.3.20 “Special Prerequisite Courses for M.Mus. in Performance”.

M.Mus. Sound Recording (Prerequisite courses)
Students wishing to prepare for the Master of Music in Sound Recording should include, in their Bachelor of Music program, the courses listed under section 12.6.2.9 "Special Prerequisite Courses for M.Mus. in Sound Recording".

LICENTIATE IN MUSIC (L.Mus.)
The Licentiate in Music is offered in Performance and is designed for advanced instrumentalists, singers and Jazz performers who wish to concentrate on their practical subject while limiting their theoretical studies to basic areas in Music History, Theory and Musicianship. This program normally requires three years of study. For more information, please see: section 12.6.3.14 "Licentiate in Music (L.Mus.) (Piano)"; section 12.6.3.15 "Licentiate in Music (L.Mus.) (All Instruments except Piano, Voice and Jazz)"; section 12.6.3.16 "Licentiate in Music (L.Mus.) (Voice)"; and section 12.6.3.17 "Licentiate in Music (L.Mus.) Jazz Performance".

ARTIST DIPLOMA
The Artist Diploma is available only to advanced instrumentalists and singers who demonstrate technical and musical maturity. Admission into the program requires completion of a Bachelor of Music degree in Performance, a Licentiate in Music, or the equivalent.

DEGREE OF MASTER OF ARTS (M.A.)
The Master of Arts degree (M.A.) is available as a thesis option in Music Education, Music Technology, Musicology, and Theory and as a non-thesis option in Music Education, Musicology, and Theory.

DEGREE OF MASTER OF MUSIC (M.Mus.)
The Master of Music degree (M.Mus.) is available in Composition, Performance, and Sound Recording. Within the Performance option are offered specializations in: piano, guitar, orchestral instruments, organ, conducting, chamber music, orchestral training, piano accompaniment, vocal, opera, opera coaching, vocal pedagogy, early music, church music — organ, and jazz.

DEGREE OF DOCTOR OF MUSIC (D.Mus.)
The Doctor of Music degree (D.Mus.) is available in Composition and Performance Studies.

DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D.)
The Doctor of Philosophy degree (Ph.D.) is available in Music Education, Musicology, Music Technology, Sound Recording, and Theory.

For details of the Master's and Doctoral programs, please consult the *Graduate and Postdoctoral Studies Calendar*.

12.3.2 Orchestral Training

Orchestral Training at McGill includes all students in the B.Mus., L.Mus., Artist Diploma, M.Mus., and D.Mus. degrees and diplomas whose major is one of the orchestral instruments. Many of its graduates are now members of professional orchestras throughout North America, Europe, and the rest of the world. Led by full-time conductors in residence and supported by a number of full-time staff as well as many members of the top professional orchestras in and around Montreal, Orchestral Training at McGill provides for regular private practical lessons as well as performance in one or more large instrumental ensembles including a full symphonic orchestra (approximately 100 players), a contemporary music ensemble, a percussion ensemble and a variety of small chamber music groups. It also includes regular coached orchestral sectionals and orchestral repertoire classes.

12.3.3 Scholarships and Financial Aid

General information on scholarships, including McGill Entrance Scholarships, and a detailed listing of all awards is contained in the *Undergraduate Scholarships and Awards Calendar*, available on the web (www.mcgill.ca/courses).

A limited number of Music Entrance Scholarships (valued at $2,000 each) are awarded to incoming Performance students on the basis of auditions held only in February. All instruments, including voice, are eligible. In addition, outstanding string players applying to the Schulich School of Music are encouraged to audition for the Lloyd Carr-Harris String Scholarships (valued at $10,000 each). Application for admission must be submitted by January 15.

While taking into account the stipulations of the individual awards, Schulich School of Music scholarships, awards and prizes are given on the basis of a student's record for the academic session ending in April and are tenable during the next academic year beginning in September. Students must have successfully completed at least 27 credits (excluding courses completed under the satisfactory/unsatisfactory option) in the academic year preceding the award and must register for full-time studies during the subsequent year, unless fewer credits are needed to complete the program. Students whose records contain outstanding incompletes or deferrals will not be considered. No application is required.

12.3.4 Summer Studies

Summer Studies offers courses starting in May, June, and July.

Students may take a maximum of 18 credits during the Summer session. Those wishing to take more than 5 credits in any one month must obtain the permission of the Senior Student Adviser.

Information concerning course offerings and application forms may be obtained from the McGill Summer Studies Office website, www.mcgill.ca/summer, or by calling 514-398-5212.

12.3.5 Music Credit Options for Students in Other Faculties

The Schulich School of Music offers three groups of courses that may be taken for credit by students in other faculties.

The first group consists of music literature and theory courses especially designed for students from other faculties who may not have taken formal studies in music but who wish to take elective courses in the cultural, historical and theoretical aspects of music.

The second group is the sequence of courses in music theory and history which are part of the Schulich School of Music undergraduate curriculum. These courses may be taken by those having the necessary prerequisite studies in music.

The third group of courses consists of selected music ensembles open, by audition, to students in other faculties.

For further details on these courses, please see section 6.12.38 "Music (MUAR)" under the Faculty of Arts. Other music courses may be taken by qualified students from other faculties providing they obtain permission from the relevant department in the Schulich School of Music and from the Associate Dean of their own faculty.

12.3.6 Conservatory of Music

The McGill Conservatory of Music offers instruction in piano, guitar, harp, most orchestral instruments and voice, as well as Theory and Ear Training from the elementary level up to and including Collegial levels.

In addition, the Conservatory offers Suzuki method instrumental instruction, a Music for Children course based on Orff/Kodaly principles, orchestras, children's and youth choirs, chamber music ensembles, a variety of jazz combos, and a summer day camp.

Practical examinations to the Collegial II level and Theory and Ear Training examinations from the Secondary III to Secondary V levels are offered to both internal and external students. Theory and Ear Training examinations at the Elementary and Collegial I and II levels are available to internal students only.

The Conservatory also welcomes adult students (at any level) and encourages their participation not only in practical instruction but also in the orchestras, instrumental ensemble groups and Theory and Ear Training courses.

Further information is available from the McGill Conservatory of Music and on their website at www.mcgill.ca/conservatory.

12.4 Admission

12.4.1 Application Procedure

All inquiries regarding admission should be directed to the Music Admissions Office, Schulich School of Music, McGill University, 555 Sherbrooke Street West, Montreal, Quebec, H3A 1E3.

Full information, including a web-based application form, is available at www.mcgill.ca/music/prospective/undergraduate/applying.

In order to ensure proper consideration, web applications for September must be submitted by January 15. The School normally does not admit students in January. Please consult the Music Admissions Office for exceptions. Applications received after these deadlines will be considered if places are still available.

Application information should include detailed descriptions of the applicant's musical background, training and statement of intent including photocopies of diplomas, certificates and/or transcripts. An official up-to-date transcript must also be sent directly by the school attended. All applicants must arrange to have a Music Evaluation form submitted on their behalf. All supporting documents for undergraduate applications must be mailed to: McGill University, Enrolment Services Documentation Centre, 688 Sherbrooke Street West, Montreal, Quebec, H3A 3R1. All screening and audition recordings, and composition samples should be submitted directly to the Schulich School of Music: 555 Sherbrooke Street West, Montreal, Quebec, H3A 1E3.

Applicants are advised that satisfying the entrance requirements does not guarantee admission where instrumental places are limited.

12.4.2 Music Entrance Requirements

The minimum music entrance requirements are the equivalent of McGill Conservatory Collegial I Instrument or Voice (Performance applicants: Collegial II) and Secondary V Theory and Ear Training.

Approximate Equivalents to Entrance Requirements in Practical Subjects (McGill Conservatory Collegial I – Instrument/Voice)

Quebec CEGEPS	CEGEP II
Toronto Conservatory	Grade 9
Western Board	Grade 9
Mount Allison	Grade 9
Associated Board of the Royal Schools of Music	Grade 7

The above listing is intended only as a general guide. Admissibility to any program is determined by audition. Students wishing to major in Performance should be approximately two years more advanced, and be able to demonstrate potential as performers at their audition.

All applicants in piano, female voice, and in all jazz instruments will be required to submit screening material (CD, video, etc.) for preselection by January 15. Following a review of these recordings, selected applicants will be invited to attend a live audition. No live audition will be scheduled in piano, female voice, or in any jazz instrument until recordings have been received and reviewed. All applicants must perform an audition of approximately 15 minutes duration. The student should choose material that will represent different musical periods and reveal musicianship and technical proficiency to best advantage. Applicants for the Artist Diploma program must prepare an audition of recital material lasting approximately 60 minutes. For entrance audition requirements please refer to www.mcgill.ca/music/prospective/undergraduate/requirements.

The entrance audition dates for September 2009 admission are February 21 to March 1, 2009. At the time of audition, all applicants will be required to sit a rudiments/musicianship test.

The entrance audition dates for September 2010 admission are February 20 to 28, 2010.

Recorded auditions (compact disc and/or video) are acceptable when distance prevents an applicant from attending an audition in person.

Applicants for Composition are asked to submit two or three samples of their written work.

Music Education applicants are asked to outline reasons for wishing to enter the Music Education field in their statement of intent and have a letter of reference sent from someone attesting to his or her suitability for teaching.

All screening and audition recordings, and composition samples should be submitted directly to the Schulich School of Music: 555 Sherbrooke Street West, Montreal, Quebec, H3A 1E3.

12.4.3 Academic Entrance Requirements

Bachelor of Music
The applicant's entrance audition and the academic record are considered when making an admission decision. As a limit is placed upon the number of students admitted to study a particular instrument, fulfillment of the minimum entrance requirements does not guarantee acceptance. TOEFL may be required of non-Canadian students whose mother tongue is not English. It is the applicant's responsibility to make the necessary arrangements with the examining board to write the test in the country of residence.

CEGEP Applicants
Students are expected to obtain the Quebec Diploma of Collegial Studies (Diplôme d'études collégiales) in the Music Concentration or equivalent. Applicants with a DCS/DEC in a field other than Music must have the equivalent Music prerequisites. The minimum overall average required is 70%. CEGEP graduates are admitted to a three-year program.

Canadian High School (excluding Quebec) Applicants
Applicants are expected to obtain a high school graduation diploma which leads to university admission in the student's home province. Ontario high school students are normally expected to have obtained a minimum of 6 preuniversity (4U, 4M) courses, at least four of the six must have been taken at the 4U level. There are no specific non-music prerequisite courses required and the minimum overall average should be 70%. Canadian high school graduates are admitted to a four-year program.

U.S. High School Applicants
Applicants are expected to obtain a high school graduation diploma which meets the requirements for university/college admission in the U.S. The minimum overall average required is B+. There are no specific non-music prerequisite courses, or SAT and Achievement Test results required. Some credit will be granted for Advanced Placement Examinations in appropriate subjects. U.S. high school graduates are admitted to a four-year program.

International Applicants
In general, applicants must be eligible for admission to university in their country of origin and have above-average grades. Students who have completed an International Baccalaureate, a French Baccalaureate, or a minimum of three GCE "A" (Advanced) Level examinations are considered for admission into a three-year program. Normally, applicants with five GCE "O" (Ordinary) Level results, plus one year of schooling beyond the Ordinary Level, are admitted to a four-year program. Applicants with qualifications from other systems will be considered for either a three-year or a four-year program.

Transfer Students
Transfer students are considered on the basis of both their university or college work and previous studies. Normally, students are expected to complete a full year of university studies prior to applying for admission and to be in good standing as defined by the university previously attended. The minimum overall average required is a CGPA of 3.00. Transfer credits for non-music courses in which a grade of C or better has been received are granted

following an evaluation of the student's transcript. Transfer credits, with certain restrictions, are granted for music complementary or elective courses following an evaluation of the student's transcript (a higher grade may often be required). Transfer students must complete a minimum of 60 credits at McGill in order to obtain a degree.

Mature Students
Applicants who are at least 21 years of age at or before registration, who have not met the high school or CEGEP academic requirements, and who are able to demonstrate exceptional talent in their discipline may be considered for admission. Such applicants may be resident anywhere. All available academic/educational documents must be submitted. An interview may be required.

Special Students
Special Students do not need to fulfil any of the academic requirements outlined previously but are required to have the necessary music prerequisites for the courses concerned. Registration is subject to the availability of space in the course(s) concerned. Special Students are normally not entitled to lessons in an instrument or in voice. Registration is permitted for one year only, after which time the student must apply for admission to either the B.Mus. or the L.Mus. program.

Visiting Students
Individuals wishing to take courses at McGill for credit at another university may be admitted as Visiting Students provided they have the prerequisites for the course(s) concerned and have official permission from their home university.

12.4.4 Diploma Programs

L.Mus. (All Applicants)
For admission to the Licentiate program, the applicant must have completed secondary school. The applicant's music qualifications must be equivalent to McGill Conservatory Collegial II Instrument or Voice and Secondary V Theory/Ear Training. An entrance audition is required. This program is normally three years in length.

Artist Diploma (All Applicants)
For admission to the Artist Diploma program, the applicant must have a Bachelor of Music degree in Performance, the Licentiate in Music of the McGill Schulich School of Music, or the equivalent and must pass a performance audition. This program is normally two years in length.

12.4.5 Music Placement Examinations

All applicants must sit diagnostic placement examinations in Theory, Musicianship (Ear Training), Music History, Keyboard Proficiency and, for jazz majors, Jazz Materials, in order to determine their course levels. General placement/advanced standing examinations will be given during the week prior to the beginning of classes in September. Jazz Materials and Jazz Keyboard Proficiency placement exams are given on the first day of class.

Students accepted into either the Licentiate Diploma (L.Mus.) or the Artist Diploma, who have completed the degree of **Bachelor of Music** at a Canadian or American university (or the equivalent elsewhere) within the preceding three (3) years will not be required to sit the Music Placement Examinations and will be exempted from required Theory, Musicianship, and Music History, Literature or Performance Practice courses. Should such students wish to avail themselves of the diagnostic service that the Music Placement Examinations provide, they may sit them – without, however, being bound by the recommendation generated from their results. Nevertheless, should great difficulties arise in a specific class because of lack of adequate preparation, the Department Chair, upon the advice of the instructor, reserves the right to counsel the student to undertake studies at a lower level.

12.4.6 Keyboard Proficiency Test (MUSP 170)

Students entering any of the B.Mus. or L.Mus. programs should be prepared to demonstrate, in a Keyboard Proficiency Test, keyboard skills sufficient to enable them to use the piano as a tool in their studies at McGill.

Those who are unable to do so must register continuously for Keyboard Proficiency MUSP 170 until they successfully complete the course. Majors in Jazz Performance must enrol in MUJZ 170. Students in Jazz Performance who have completed MUJZ 170 and MUJZ 171, and who transfer to a Department of Music Research program, will be required to complete MUSP 172. Students who have been admitted to a degree or diploma program with keyboard as their principal instrument are exempt from the MUSP 170 Test (but not from MUSP 171 and MUSP 172).

The requirements of the Keyboard Proficiency Test are as follows:
1. Sightreading (simple two-part piece using treble, bass and alto clefs).
2. Technique (scales, triads and arpeggios). Two octaves, hands together.
3. Prepared piece (contrapuntal texture in two or three parts, or simple homophonic textures, level equivalent to McGill Conservatory Secondary III).
4. Keyboard rudiments (recognition/playing of intervals, chords, scalar patterns, etc.).

Students will not be allowed to proceed with higher-level Musicianship or Theory studies until these requirements are met. Exact test dates are determined by the Department of Music Research.

12.4.7 Readmission

Students in satisfactory standing, who have not been registered in the Schulich School of Music for one or two terms, may return to the program in which they were previously registered upon permission of the Faculty. Those who have been out for longer than two terms may be readmitted upon permission of the Faculty, subject to the student's previous record and current Faculty limitations on enrolment, but will be required to reaudition.

Students wishing to return in the Winter or Summer term must submit a request in writing to the Student Affairs Office, giving a summary of their activities during their absence. The deadline for the Winter session is November 15; for the Summer session, April 1; for the Fall session, June 1.

12.4.8 Tuition Fees

General information on Tuition and Other Fees will be found in section 3.4 “Fees”. The University reserves the right to make changes without notice in the published scale of fees.

Individual practical instruction on a main instrument or voice as indicated in the various degree and diploma programs, see section 12.3.1 “Degrees and Diplomas Offered”, is included at the per-credit rate only while the student is full-time, and for a maximum number of years according to the following table:

ENTITLEMENT

Maximum Years of Practical Instruction at the per-credit rate, 1 hour per week		
Category of Student (based on academic entrance qualifications)	B.Mus. (Perf. or Jazz Perf.)	B.Mus. (non-perf.*)
High School graduates (Gr.12) [Canadian, except Quebec; United States; Overseas]	5 years	4 years
CEGEP graduates [Holders of D.E.C. or D.C.S. in Music or a non-Music specialization]	4 years	3 years
Transfer students [from other colleges, universities or McGill faculties] or degree holders	4 years	3 years
Mature Students [without above academic qualifications but who are 21 years old as of Sept.1]	4 years	3 years

* Composition, Music Education, Music History, Theory, Faculty Program

L.Mus. students are entitled to practical instruction at the per-credit rate for a maximum of 4 years, 1 hour per week; Artist Diploma students, 2 years, 1.5 hours per week.

The maximum of 4 years of practical instruction for L.Mus. students includes instruction received while in a B.Mus. program either during or prior to registration in the L.Mus. program.

Note: Part-time students in the B.Mus. and L.Mus. programs and those who have exhausted the above-listed maxima will be charged $785 per term ($1,570 per year) for practical instruction in addition to the per-credit fees. (Artist Diploma students: $1,175 per term or $2,350 per year.)

Special or part-time **Visiting** students who are permitted to enrol for practical instruction will also be charged an extra $785 per term, in addition to the per-credit fees, as will all other students taking instruction in a **second practical subject.**

Voice Coaching (MUIN 300, MUIN 301) is available at the per-credit rate for a maximum of two terms for full-time voice students only. In all other cases, the extra fee for this course is $550 per term.

Special students in the **Opera Studio** will be charged an additional $680 per term ($1,360 per year). Degree or diploma candidates registered in Opera Studio, as well as Special students taking practical instruction at $785 per term, will be charged the per-credit fee for Opera Studio.

12.5 Academic Information

Students are required to be punctual at all classes and lessons. Grades in theoretical subjects are calculated on the basis of class work and/or examinations. Students are warned that by missing examinations or class work they risk failure in the subject concerned.

12.5.1 Ensemble Policy and Regulations

A. Preamble

The ensemble program comprises areas of activity designed to provide an enriched and cohesive curriculum in practical musicianship for every student. Much of this training is accomplished in the context of a large instrumental or choral ensemble, or specialized ensembles, over the three-year period that students normally spend on undergraduate studies.

Students are advised to check their program carefully in order to verify their basic (large) and small ensemble requirements.

Basic (large) Ensemble: All students registered as full-time or part-time students in the Department of Performance must audition for, and participate in, a basic (large) ensemble. This means that a student from the Province of Quebec must have a *minimum* of 12 credits for basic ensemble in order to graduate. A student from outside the province must have a *minimum* of 16 credits in order to graduate. In those cases where a student in the orchestral training program is registered for additional sessions, he/she must also register for basic ensemble for each additional session. (For exemptions, see section K.)

A student in the orchestral training program who is not assigned a basic ensemble following the auditions in either September or January because there is not a space available may substitute either

1. an additional small ensemble in lieu of the basic ensemble with the approval of the Chair of the Performance Department, or
2. a choral ensemble following an audition, with the permission of the Chair of the Choral Area and the Chair of the Performance Department.

Small Ensemble: With the exception of students registered in the regular Voice program, all students registered as full-time or part-time students in the Department of Performance must audition for, and participate in, a small ensemble. A student must have a *minimum* of 6 credits for small ensemble in order to graduate. With the exception of Keyboard, Guitar and Jazz students, this is an ongoing requirement.

Performance majors as well as sufficiently advanced players and singers from other programs are encouraged to participate in one or more small ensembles which meet their particular interest.

This policy and its regulations apply to all students performing in all ensembles, large or small, required, complementary, or elective. They apply also to all students who have been assigned to an ensemble for any reason, including conducting students, composers- and arrangers-in-residence, and others.

Important: This policy also applies to all students enrolled in vocal and instrumental techniques classes (MUCT 235, MUCT 335, MUIT 201, MUIT 202, MUIT 203, MUIT 204, MUIT 301, MUIT 302) and in choral and instrumental conducting classes (MUCT 315, MUCT 415, MUIT 315, MUIT 415) who are required to participate in Music Education ensemble labs. *STUDENTS IN THESE LABS MUST FILL OUT REQUEST FORMS FOR ALL ABSENCES, INCLUDING ALL FIELD TRIPS IN WHICH THEY MAY PARTICIPATE.* These forms should be returned to the Chair of the Music Education Area, *not to the Ensemble Committee;* students should consult the Chair of the Music Education Area for further details.

Note: In all cases where the term “Director” of an ensemble is used, it is understood to mean the conductor, director, stage director or coach of the ensemble.

B. Basic Ensemble Training and Assigned Small Ensembles

Basic Ensemble Training requirements vary by program and according to the student's practical concentration. For ensemble purposes, the orchestral instruments include flute, oboe, clarinet, bassoon, saxophone, french horn, trumpet, trombone, tuba, percussion, harp, violin, viola, cello and double bass. Students studying these instruments will receive their Basic Ensemble Training in the large instrumental ensembles. Students whose principal instrument is other than one of these (except voice majors) will normally receive their Basic Ensemble Training in the choral ensembles. Voice majors may choose from a group of vocal and choral ensembles appropriate to the level of their development.

In all programs which specify an assigned small ensemble, the following are considered assigned small ensembles:

MUEN 560 Chamber Music Ensemble
MUEN 578 Song Interpretation 1
MUEN 579 Song Interpretation 2
MUEN 580 Early Music Ensemble
MUEN 581 Piano Ensemble Seminar 1

MUEN 582 Piano Ensemble Seminar 2
MUEN 583 Introduction to Collaborative Piano
MUEN 584 Studio Accompanying
MUEN 585 Sonata Masterclass
MUEN 589 Woodwind Ensembles
MUEN 591 Brass Ensembles
MUEN 598 Percussion Ensembles

C. Additional Ensembles

Additional ensembles chosen by students to reflect their particular interests may, with Departmental approval, be applied as Music Elective credit. Students electing an ensemble will normally be required to audition and will be placed accordingly.

D. Assignment and Auditions

All students registered as full-time or part-time students in the Department of Performance must audition for a basic ensemble in September. A student who cannot audition for a basic ensemble at the times indicated in the calendar must give due notice to the Performance Department of their non-availability at least five days before the date of the first audition. The student must have a valid reason (i.e., illness, death in the family, career commitment, etc.). If a student misses an audition for reasons unacceptable to the Performance Department, that student will not be allowed to audition and his assignment will be left entirely to the discretion of the Performance Department. If the reason given is valid, the student will audition for whatever positions remain unassigned upon his/her arrival at the Faculty.

Assignments are posted on the Large Ensemble notice board. Reassignments may be made from time to time during a term and will also be posted. Students are reminded that auditions for major ensembles are mandatory. Students who do not take the auditions will see their assignment be left entirely to the discretion of the Performance Department.

In the case of the Jazz Ensembles, an open challenge system is used as follows:

1. At any time during a term, a student may challenge for a position in a Jazz Ensemble.
2. The challenger must speak to the band directors involved, specifying the chair being challenged.
3. The challenger will have a private audition with not less than two directors who will offer a non-binding recommendation to the student as to whether or not to proceed with the challenge.
4. Should the challenger wish to proceed, the student being challenged will be notified by the Coordinator of the Jazz Ensembles.
5. The challenge will take the form of an audition of both the regular member of the ensemble and the challenger in a full band rehearsal, following which the directors will make a decision.

E. Commitment

Ensembles are courses. Each student who has registered for an ensemble, or who has been assigned to or who is auditing an ensemble, has made a commitment to the ensemble and is required to attend all rehearsals, concerts, performances, field trips, recordings and other activities which constitute the course requirements of that ensemble. Except for reasons of ill health or in the case of an excused absence granted by the Ensemble Committee (see Section G, below), any absence may result in a failing grade for the student.

F. Failing Grade

A failing grade in any of the mandatory ensembles (Basic Ensemble, assigned small ensemble, complementary or elective ensemble) obliges the student to make up the credit at a later date. A subsequent failure in the same course may result in the student being required to withdraw from the Faculty.

G. Request to be Excused from a Rehearsal

ANY STUDENT WHO CANNOT ATTEND A REHEARSAL OR COACHING SESSION FOR ANY ENSEMBLE IS REQUIRED TO FILL OUT A ***REQUEST TO BE EXCUSED FROM ENSEMBLE*** FORM. THIS FORM IS AVAILABLE FROM THE DEPARTMENT OF PERFORMANCE OFFICE (E222).

Students are required to submit a completed copy of this form to the Department of Performance office (E222) at least eight (8) days prior to the rehearsal or coaching session which will be missed, stating the reason for the request. Students who have missed a rehearsal or coaching session due to illness must submit one of these forms within three (3) days of returning to school. **In such cases a doctor's certificate or statement from the Student Health Service must be attached to the form.**

Ensemble Committee meets weekly during the term to consider the requests, and approve or refuse each individual case. Students are welcome to appear at this meeting to explain particular circumstances affecting their request. Students should check the Performance notice board after the day the form is submitted to find out if their request has been approved.

Students may be excused from a rehearsal or coaching session of an ensemble for the following reasons:

1. Sickness, or emergency medical or dental work.
   IMPORTANT NOTE
   ANY STUDENT WHO IS EXPERIENCING PAIN WHILE PLAYING OR SINGING SHOULD INFORM THEIR PRACTICAL TEACHER AND THE DIRECTOR OF THEIR ENSEMBLE(S), AND SHOULD SEEK APPROPRIATE MEDICAL ATTENTION. Students should not be reluctant to admit to injury; *it is entirely acceptable for students to be excused from ensemble rehearsal(s) for health reasons.* The Faculty does not want students to perform with pain or with injury.
2. An audition for a permanent professional engagement
3. A master class
4. A major competition
5. A professional engagement deemed, in the opinion of the Ensemble Committee, to be very important for a student's developing career
6. Family emergency or an especially important family occasion
7. A conflict between an irregularly scheduled ensemble rehearsal or coaching session and a previous important commitment made by the student (proof required)
8. A field trip for another ensemble or class
9. An authorized McGill function
10. A religious holiday

For Nos. 2, 3, 4 and 5, the request must be accompanied by authorization from the student's practical teacher and the appropriate area Chair. This permission is given for no more than three (3) rehearsals or coaching sessions.

Note: NO PERMISSION IS GIVEN TO BE EXCUSED FROM A DRESS REHEARSAL OR FROM A CONCERT EXCEPT FOR NO. 1 AND NO. 2 ABOVE. IN THE CASE OF OPERA MCGILL, NO ONE CAN BE EXCUSED FROM REHEARSALS DURING THE THREE (3) WEEKS PRECEDING THE OPENING NIGHT PERFORMANCE.

Students are not excused from ensemble rehearsals or coaching sessions for either of the following reasons:

1. Gigs
2. Non-emergency medical or dental appointments. Students should request appointment times that do not conflict with rehearsals or coaching sessions.

H. Preparation

If the Director of an ensemble is not satisfied with the quality of preparation that a student has been making for the ensemble, the Director shall first warn the student. This warning shall be communicated by the Director to the Ensemble Committee, which shall inform the student in writing. If, in the Director's opinion, this lack

of preparation continues, the student will be required to perform the music for a committee consisting of the Director of the ensemble, the Chair of the area (Orchestral Training, Choral, Opera, Voice, etc.) and the Department Chair. If this committee decides that there has been a lack of sufficient preparation, the student will be required to appear before the Ensemble Committee to show cause why he or she should not be required to withdraw.

For any particular performance, if – after a written warning to the student(s) at least two (2) weeks prior to the performance, with a copy to the Ensemble Committee – the Director, in consultation with his/her coaches, feels that the performance of a student or group of students will not meet a certain minimum standard established by the Director, the Director may cancel the performance of the student(s).

I. Discipline

The Director of an ensemble may recommend that a student withdraw from an ensemble for disciplinary reasons. A student asked to do so will be required to appear before the Ensemble Committee to show cause why he or she should not be required to withdraw.

Students who are required to withdraw from an ensemble for reasons of lack of preparation or discipline will be given a grade of F which will be reflected in their Grade Point Average (GPA).

J. Withdrawal

Withdrawal for any reason obliges the student to make up the credit(s) at a later date.

K. Exemption from a Required Ensemble

In order to be given permission not to participate in a required ensemble for a term or part thereof, a student must:

i. be a participant in a major national or international competition, or (in the case of voice students) be given a significant role with a recognized performing arts ensemble, and (in the case of all students) have completed the minimum number of required terms of the ensemble, and have the permission of:
   1. his or her practical teacher
   2. the area Chair
   3. the Director of the ensemble
   4. Chair of the Orchestral Training, Choral, Opera or Voice Area (where appropriate)
   5. Ensemble Committee

or

ii. have completed all program requirements except the final exam on his or her instrument

or

iii. have completed all musical requirements of his or her program, having only Arts and Science electives remaining

or

iv. have a significant medical reason.

NOTE:

1. Permission not to participate in a required or complementary ensemble for a term or part thereof **is not an exemption** and does not satisfy any credit requirements for a degree.
2. Students who are given permission not to participate in Orchestra (MUEN 597) for a term or part thereof may be ineligible to hold an Orchestral Instruments Scholarship for that term and may be ineligible for consideration for an Orchestral Instruments Scholarship for the following year based on that term.

L. Substitution of an Ensemble

1. In order to be given permission to substitute another large ensemble for a required or complementary large ensemble for a term, a student must:

   I. have completed the minimum number of terms in the required or complementary large ensemble

   and

   II. have the permission as in K.i. (1-5) above, with the added condition that the Director of the required or complementary large ensemble may refuse consent for the simple reason that the student is needed in that ensemble.

2. Keyboard and Guitar Performance majors in all programs may substitute up to two (2) terms of Studio Accompanying (MUEN 584) for two (2) terms of Choral Ensemble.
3. Performance majors are not permitted to substitute Basic Ensemble credits for required or complementary assigned small ensemble credits.

M. Rotation

Whenever possible and musically satisfactory, and in order to ensure equal opportunity and experience for students in the large instrumental ensembles, the seating of students in these ensembles may be rotated periodically throughout the term or year. The Director of the ensemble will determine whether or not rotation is possible and musically satisfactory.

N. Missed Classes due to Field Trips

Situations will arise where students are required to miss classes – both in the Schulich School of Music as well as in other faculties – because of field trips. Teaching staff in the Schulich School of Music are encouraged to assist students who approach them for information about course content and assignments that have been missed. Nonetheless, *the onus remains on the student who goes on a field trip to complete class work.*

O. Transfer Credits

The previous ensemble participation of students coming to McGill from other universities will be recognized if their ensemble experience was similar to that required of McGill students. In general, transfer credit is made on a term-for-term basis (not by credits) and usually does not exceed two (2) terms. Students are normally not permitted to reduce the Basic Ensemble Training requirements of their McGill program to less than the number of terms required for them to complete the rest of their program. In such cases, transfer credit may be given as Music and/or Free Elective credit.

P. Extra Basic Ensemble Training Credits

Basic Ensemble Training credits accumulated above the minimum may be applied as Music and/or Free Elective credits.

Q. Performance Library

Students are responsible for the music which has been loaned to them for their use, and for its return in good condition to the Performance Library. Students will be required to pay for the replacement of any music which has been lost, stolen or damaged.

12.5.2 Accompanying

All Music students registered for practical instruction (including elective study) are eligible for subsidized accompaniment up to a specified maximum number of hours. Students wishing to use this program should request further details from the Department of Performance office.

12.5.3 Academic Category

All Music students are registered in one of the following categories:

Major: B.Mus. candidates may choose one or more of several majors as described under section 12.6 “Programs of Study”.

Honours: A more intensive program than a major, B.Mus. students may choose one or more honours programs as described under section 12.6 “Programs of Study”. Generally, an honours degree in the appropriate field is prerequisite to graduate study.

Faculty Program: A general B.Mus. program (section 12.6.2.8 “Faculty Program”).

L.Mus., Artist Dip.: Diploma programs are designed for advanced instrumentalists and singers who wish to concentrate on their practical subject.

Special: Those who are not proceeding towards a degree or diploma.

Visiting: Those taking courses at McGill for credit towards a degree at another university.

12.5.4 Auditing

For information on auditing, see Auditing of Courses, section 3.3.14.

12.5.5 Music/Free Electives

Unless otherwise specified, any music course numbered at the 200 level or higher which is not a required course in the student's program can be counted as a Music and/or Free Elective in the B.Mus. or Artist Diploma programs. Under certain conditions, two credits per term of practical instruction may be applied as Music and/or Free Electives only if the lessons are taken after completion of the final examination and/or completion of the number of terms designated in the student's program. Practical instruction in a second instrument at the 100 level, Jazz Materials 1 (MUJZ 160), and Jazz Materials 2 (MUJZ 161) may be taken for elective credit. Consult the Student Affairs Office for details. Basic Ensemble credits accumulated above the minimum may be applied as Music and/or Free Elective credits.

12.5.6 Non-Music Electives

In all B.Mus. programs, students are required to complete a minimum of 18 elective credits from courses offered by other faculties. Students admitted from high schools outside Quebec, not holding a DCS, must complete an additional 6 credits of non-music electives for a total of 24. Students holding a DCS in a non-Music program are exempt from 6 credits of their requirement. Students should note that certain programs have requirements in addition to the above.

The Schulich School of Music allows up to 12 credits in English as a Second Language as a non-music elective in the B.Mus. program. These credits may be taken in the Faculty of Arts at the Intermediate or Advanced level OR they may be taken at the Centre for Continuing Education at level 4 or above.

12.5.7 Distance Education (online) Courses

Students may take a maximum of six credits of non-music elective courses taught through distance education towards their B.Mus. degree at McGill. Courses taught through distance education from institutions other than McGill will be approved as transfer credits under the following conditions:

- The course is given by a government-accredited, degree-granting institution acceptable to McGill;
- The course counts for credit towards degrees granted at the institution giving the course;
- Prior approval for the course is obtained from the Music Student Affairs Office.

12.5.8 Course Changes

Students are permitted to change courses and/or sections of a course during the first two-week period of classes in each term. This is referred to as the official Course Change Period. Course and section changes are made by the student, using Minerva to access his/her record directly. Worksheets for this purpose are available at the Student Affairs Office on the 7th floor of the New Music Building. For more information, see section 3.3.7 "Course Change Period".

Late course change requests, if approved, will be processed only upon payment of a fee of $25. No charge will be made for late changes imposed by the Faculty. If students' registrations must be corrected after the Course Change Period to bring their records into conformity with the courses they are actually taking, the students will be charged the late fee.

12.5.9 Withdrawal from Course(s)

Students are permitted to withdraw from courses other than practical instruction or ensembles after the end of the Course Change Period. In such cases the student's mark in the course will be W. Course withdrawals are also processed on Minerva, within permissible dates. For more information, see section 3.3.8 "Regulations Concerning Course Withdrawal".

The final deadlines for withdrawing from Music courses are:

For a one-term course: The end of the seventh week of classes.

For a two-term course: The end of the Course Change period in the second term.

THE DEADLINE FOR WITHDRAWING FROM PRACTICAL LESSONS AND ENSEMBLES IS THE END OF THE SECOND WEEK OF CLASSES IN ANY TERM.

Music students who, in special circumstances such as illness or injury, are given permission to withdraw from practical instruction after the end of the Course Change Period will be charged $65 per week for 1-hour lessons and $97.50 per week for 1.5 hour-lessons up to a maximum equivalent to the total fees charged for the course. Full refunds for practical instruction will be given up to the end of the Course Change Period.

Note: Students who do not complete a course for which they remain registered will receive a grade of F or J.

For information on the REFUND POLICY, please see section 3.3.8 "Regulations Concerning Course Withdrawal".

12.5.10 Incompletes

At the discretion of the instructor, a mark of K (Incomplete) may be given to a student who, due to extenuating circumstances, has not finished the coursework on time. The deadline for completion and submission of the required work shall be set by the instructor but may not be later than four months after the K was given. A special form for incompletes, available from the Student Affairs Office, must be signed by the student and the instructor by the last day of lectures. If the "Incomplete" is not removed by this time, the mark will be changed to KF (Incomplete Failed), unless an extension has been granted (KE). Completion of the course will cause the K to be replaced on official transcripts by the mark earned. A mark of K not cleared by mid-May makes the student ineligible for scholarships.

In exceptional cases, when research or an assignment cannot be completed for reasons beyond the student's control, students may be given permission by their Departmental Chair or the Associate Dean (Student Affairs) to leave a course permanently incomplete (without penalty). The symbol K will be replaced by KK, in which case the student's Grade Point Average will be calculated without including this course.

12.5.11 Deferrals

Deferred examinations are permitted in the case of illness or other exceptional circumstances. Music students requesting a deferred examination in academic courses must submit the Request for a Deferred Examination form to the Senior Student Adviser. Students requesting a deferred examination in a practical music examination must submit the form to the Performance Department Chair. Supporting evidence such as an appropriate medical note is required. If the request is approved, an L (deferred) will appear in place of a grade. The grade obtained in the deferred examination will replace the grade of L (deferred) on the official transcript.

Deferred examinations in Music academic courses are given at the discretion of the instructor. A deferred examination in a Music practical examination will be held during the next examination period. Deferred examinations in non-Music courses will be held in May for the Fall term and August for the Winter term. Examinations will follow the rules of the faculty concerned. **It is the student's responsibility to check the date, time and place of the deferred examination**.

A mark of L (deferred) not cleared by mid-May makes the student ineligible for scholarships.

Students who are unable to write a deferred exam must contact the Music Student Affairs Office immediately to initiate a withdrawal from the deferred exam. Deferred examinations cannot be written at a later date. If the withdrawal is not approved, a final grade of J (absent) will be entered and will count as a zero in the TGPA/CGPA.

12.5.12 Supplementals

Supplemental examinations in Music academic courses may be given at the discretion of the instructor. A student who receives a mark below 30% in a course is not permitted to take a supplemental examination but must repeat the course.

12.5.13 Rereading of Examinations

A student wishing to have an examination paper reread should apply in writing to the Associate Dean (Student Affairs). The mark given in the rereading, whether higher or lower, will replace the mark originally given. Any request to have a term paper or other coursework reassessed must be made directly to the instructor concerned.

12.5.14 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing, which is assessed after the end of each term, determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall-term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standings for the Fall term are designated as "interim" and should be interpreted as advisory; moreover, interim standings will not appear on external transcripts. **Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.**

Satisfactory/Interim Satisfactory Standing

Students in satisfactory standing may continue in their program.

- New students are admitted to satisfactory standing.
- Students with a CGPA of 2.00 or greater are in satisfactory standing.

Probationary/Interim Probationary Standing

Students in interim probationary standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult a departmental adviser, before the withdrawal deadlines, about their course selection for the Winter term.

- Students who were previously in satisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99.
- Students who were previously in probationary standing will remain in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher, although the TGPA requirement will not apply to the Summer term.
- Students who were previously in interim unsatisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher.
- Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean (Student Affairs) will be placed in probationary standing if their CGPA is less than 2.00, but if they satisfy relevant conditions specified in their letter of readmission.

Readmitted Unsatisfactory Standing

Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean will have their standing changed to readmitted unsatisfactory standing. Their course load is specified in their letter of readmission as are the conditions they must meet to be allowed to continue in their program. They should see the Senior Student Adviser to discuss their course selection.

Unsatisfactory/Interim Unsatisfactory Standing

Students in interim unsatisfactory standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult the Senior Student Adviser, before the withdrawal deadlines, about their course selection for the Winter term.

Students in unsatisfactory standing who have failed to meet the minimum standards set by the Faculty may not continue in their program and their registration will be cancelled.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Associate Dean no later than July 15 for readmission to the Fall term and November 15 for the Winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students in unsatisfactory standing for the second time must withdraw permanently.

Normally, supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Senior Student Adviser for permission to write a supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

- Students will be placed in unsatisfactory standing (Winter or Summer term) or interim unsatisfactory standing (Fall term) if their CGPA falls or remains below 1.50.
- For the Fall and Winter terms, students who were previously in probationary, readmitted unsatisfactory, or interim unsatisfactory standing will be placed in unsatisfactory standing if their TGPA falls below 2.50 and their CGPA is below 2.00.
- Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Associate Dean (Student Affairs) who have not at least satisfied the conditions to attain probationary standing that were specified in the letter of readmission will be placed in unsatisfactory standing.

Incomplete Standings

Standing awaits deferred exam.
Must clear K's, L's or Supplementals.
Standing Incomplete.

Students with incomplete standings in the Winter or Summer term may register for the Fall term, but their standing must be resolved by the end of the Course Change Period for that term. Students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to unsatisfactory standing may not continue in their program.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Associate Dean (Student Affairs) as soon as they are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of Course Change Period should immediately consult with the Student Affairs Office.

12.5.15 Graduation Requirements

1. Completion of all courses and proficiency requirements specified in the candidate's program. Students registered in two programs must fulfil all requirements for both programs. A minimum grade of C (or higher, depending on the program) must be achieved in all required courses, all complementary courses specified by course number, and in those courses which are prerequisites or corequisites. A grade of D (non-continuation pass) is acceptable only in terminal elective courses or complementary courses that are not specified by course number.
2. Minimum cumulative grade point average of 2.00.
3. Completion of a minimum of credits in residence at McGill University (B.Mus.: 60 credits, L.Mus.: 48 credits, Artist Dip.: 32 credits).

For more information on applying to graduate, see section 3.9 "Graduation".

12.5.16 Graduation Honours

For information on the designation of Dean's Honour List awarded at graduation, see section 3.9.1.1 "Dean's Honour List".

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 "Distinction".

Departments may recommend to the Faculty that students be awarded Outstanding Achievement in recognition of superior performance on an instrument or in an academic discipline.

Note: the designation of High Distinction is no longer awarded at graduation. Prior to 2009, High Distinction was awarded at graduation according to Faculty regulations. You can find these rules in the Schulich School of Music chapter of the 2008-2009 Undergraduate Programs Calendar or any earlier version at www.mcgill.ca/courses.

12.6 Programs of Study

12.6.1 Four-Year Program (Prerequisite Courses)

Students who hold a high school graduation diploma (minimum years of schooling: 12) from other provinces, the United States or overseas may apply for admission to any of the Major or Honours programs leading to the Bachelor of Music Degree, and may be admitted to a program of approximately 120 credits, normally requiring four years to complete. These programs will include the following prerequisite courses in addition to the requirements listed in:

- section 12.6.2 "Department of Music Research: Composition; Music History; Theory; Faculty Program"
- section 12.6.3 "Department of Performance"
- section 12.6.4 "Designated Major Program"
- or section 12.6.5 "B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program"

All students take:		**CREDITS**
MUHL 184	History Survey Before 1750	3
MUHL 185	History Survey After 1750	3
MUSP 129	Musicianship 1	2
MUSP 131	Musicianship 2	2
MUTH 110	Melody and Counterpoint	3
MUTH 111	Elementary Harmony and Analysis	3
	Basic Ensemble Training	4
	Arts/Science Elective	6
Credits taken by all students		26

Additional courses for Non-Jazz/Non-Performance Majors:			
MUSP 170	Keyboard Proficiency	1	
MUSP 171	Keyboard Lab 1	1	
MUSP 172	Keyboard Lab 2	1	
	Practical Study	4	7
Total for students other than Jazz or Performance Majors			**33**
Additional courses for Performance Majors:			
MUPG 100	Life as a Professional Musician	1	
MUSP 170	Keyboard Proficiency	1	
MUSP 171	Keyboard Lab 1	1	
MUSP 172	Keyboard Lab 2	1	
	Practical Study	8	12
Total for Performance Majors			**38**
Additional courses for Jazz Majors:			
MUEN 570	Jazz Combo	2	
MUJZ 160	Jazz Materials 1	3	
MUJZ 161	Jazz Materials 2	3	
MUJZ 170	Jazz Keyboard Proficiency 1	1	
MUJZ 171	Jazz Keyboard Proficiency 2	1	
MUPG 100	Life as a Professional Musician	1	
	Practical Study	8	19
Total for Jazz Majors			**45**

Applicants who can demonstrate through auditions and placement tests that they have mastered the material in any of the above courses will be exempt from them and may proceed to more advanced courses.

Incoming jazz students must take 4 credits of non-jazz Basic Ensemble in the prerequisite year. They may substitute, with Performance department approval, non-jazz basic ensemble from another college or university for the extra credits required of non-Quebec applicants. Incoming jazz guitarists and pianists are automatically exempt from MUJZ 170 and MUJZ 171.

12.6.2 Department of Music Research: Composition; Music History; Theory; Faculty Program

At both the undergraduate and graduate levels, the Department embraces the disciplines of Composition, Music Education, Music History, and Theory; and at the graduate level, Music Technology and Sound Recording. The philosophy of the Department is to encourage integration of the disciplines as much as possible within the learning process in each program of study: the development of basic musicianship, the absorption of the grammar and syntax of musical discourse, and the study of the world of ideas are understood as interconnected.

Honours programs provide a high degree of specialization and are a foundation for graduate-level study leading to academic careers in each discipline. Majors programs offer the student some focus with the flexibility to pursue other areas of interest. The Faculty Program is intended to offer an option for individual and creative plans of study. All of the Department's programs give a solid grounding in analytic, synthetic, and writing skills that are useful preparation not only for the musical profession but also for professions as diverse as law, journalism, management, and librarianship.

The Music Education program combines an orientation towards a professional career in primary and secondary schools with sensitivity to broader intellectual frameworks against which teachers should understand their roles. This program is offered concurrently with the B.Ed., Music.

The Department also offers a Minor in Music History to Performance majors who seek to place their work in a larger context, and Minors in Musical Applications of Technology and Musical Science and Technology to Music students and to students from other faculties.

For each program, all courses listed are REQUIRED Courses unless otherwise indicated.

12.6.2.1 B.Mus. with a Major in Composition

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

REQUIRED COURSES (50 Credits)

		CREDITS
COMPOSITION		**31**
MUCO 240D1	Tonal Composition	3
MUCO 240D2	Tonal Composition	3
MUCO 245D1	Composition	2
MUCO 245D2	Composition	2
MUCO 340D1	Composition	3
MUCO 340D2	Composition	3
MUCO 341	Digital Studio Composition 1	3
MUCO 342	Digital Studio Composition 2	3
MUCO 440D1	Composition	3
MUCO 440D2	Composition	3
MUCO 541	Advanced Digital Studio Composition 1	3
THEORY		**11**
MUCO 260	Instruments of the Orchestra	2
MUCO 261	Elementary Orchestration	2
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY COURSES (12 Credits)

COMPOSITION AND THEORY		**6**
Two of:		
MUCO 542	Advanced Digital Studio Composition 2	3
MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3
MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3
MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		
REQUIRED PERFORMANCE		**8**
MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0
COMPLEMENTARY PERFORMANCE		**8**
8 credits from*:		
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
NON-MUSIC ELECTIVES		**18**
TOTAL CREDITS		**96**

* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.2 B.Mus. with Honours in Composition

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)"

REQUIRED COURSES (53 Credits)

.

		CREDITS
COMPOSITION		**31**
MUCO 240D1	Tonal Composition	3
MUCO 240D2	Tonal Composition	3
MUCO 245D1	Composition	2
MUCO 245D2	Composition	2
MUCO 340D1	Composition	3
MUCO 340D2	Composition	3
MUCO 341	Digital Studio Composition 1	3
MUCO 342	Digital Studio Composition 2	3
MUCO 440D1	Composition	3
MUCO 440D2	Composition	3
MUCO 541	Advanced Digital Studio Composition 1	3
THEORY		**12**
MUCO 260	Instruments of the Orchestra	2
MUCO 261	Elementary Orchestration	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUCO 460D1	Advanced Orchestration	2
MUCO 460D2	Advanced Orchestration	2
MUSICIANSHIP		**10**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
MUSP 432	Dictation	2

COMPLEMENTARY COURSES (16 Credits)

COMPOSITION AND THEORY		**10**
A minimum of 10 complementary credits from the following:		
MUCO 542	Advanced Digital Studio Composition 2	3
MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3
MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3
MUTH 327D1	19th-Century Analysis	3
MUTH 327D2	19th-Century Analysis	2
MUTH 522D1	Advanced Counterpoint	2
MUTH 522D2	Advanced Counterpoint	3
MUTH 523D1	Advanced Harmony	3
MUTH 523D2	Advanced Harmony	3
MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		
REQUIRED PERFORMANCE		**8**
MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0
COMPLEMENTARY PERFORMANCE		**8**
8 credits from*:		
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2

MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **103**

Special Requirements:

1. Cumulative Grade Point Average: minimum 3.00.
2. Minimum grade of B in all COMPOSITION courses.

* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.3 B.Mus. with Honours in Music Technology

This program is no longer being offered. For information on this program, refer to the 2007-2008 calendar found at www.mcgill.ca/courses.

12.6.2.4 B.Mus. with a Major in Music History

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED HISTORY **3**

MUHL 570	Research Methods in Music	3

COMPLEMENTARY HISTORY **21**

21 credits from Groups I, II and III, with a minimum 6 credits from each group.

Group I

MUHL 377	Baroque Opera	3
MUHL 379	Solo Song 1100-1700	3
MUHL 380	Medieval Music	3
MUHL 381	Renaissance Music	3
MUHL 382	Baroque Music	3
MUHL 383	Classical Music	3
MUHL 395	Keyboard Literature before 1750	3
MUHL 591D1	Paleography	1.5
and MUHL 591D2	Paleography	1.5
MUPP 381	Topics: Performance Practice before 1800	3
MUTH 426	Analysis of Early Music	

Group II

MUHL 366	The Era of the Fortepiano	3
MUHL 372	Solo Song Outside Germany and Austria	3
MUHL 384	Romantic Music	3
MUHL 385	Early Twentieth-Century Music	3
MUHL 386	Chamber Music Literature	3
MUHL 387	Opera from Mozart to Puccini	3
MUHL 388	Opera After 1900	3
MUHL 389	Orchestral Literature	3
MUHL 390	The German Lied	3
MUHL 391	Canadian Music	3
MUHL 392	Music since 1945	3
MUHL 396	Era of the Modern Piano	3
MUHL 397	Choral Literature after 1750	3
MUHL 398	Wind Ensemble Literature after 1750	3
MUPP 385	Topics: Performance Practice after 1800	3

Group III

MUHL 220	Women in Music	3
MUHL 330	Music and Film	3
MUHL 342	History of Electroacoustic Music	3
MUHL 362	Popular Music	3
MUHL 375	Introduction to Ethnomusicology	3
MUHL 393	History of Jazz	3
MUTH 541	Analysis of Popular Music	3

REQUIRED COURSES (20 credits)

THEORY **12**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

REQUIRED PERFORMANCE **8**

MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0

COMPLEMENTARY PERFORMANCE **8**

8 credits from*:

MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

NON-MUSIC ELECTIVES **18**

FREE ELECTIVES **14**

TOTAL CREDITS **92**

* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.5 B.Mus. with Honours in Music History

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED HISTORY **3**

MUHL 570	Research Methods in Music	3

COMPLEMENTARY HISTORY **30**

3 credits from:

MUHL 591D1/D2	Paleograph	3
OR MUTH 541	Analysis of Popular Music	

27 credits of complementary courses from Groups I, II and III, with a minimum of six credits from each group

Group I

MUHL 377	Baroque Opera	3
MUHL 379	Solo Song 1100-1700	3
MUHL 380	Medieval Music	3
MUHL 381	Renaissance Music	3
MUHL 382	Baroque Music	3
MUHL 383	Classical Music	3
MUHL 395	Keyboard Literature before 1750	3
MUHL 591D1	Paleography**	1.5
MUHL 591D2	Paleography**	1.5
MUPP 381	Topics: Performance Practice before 1800	3

MUTH 426	Analysis of Early Music**	3

Group II

MUHL 366	The Era of the Fortepiano	3
MUHL 372	Solo Song Outside Germany and Austria	3
MUHL 384	Romantic Music	3
MUHL 385	Early Twentieth-Century Music	3
MUHL 386	Chamber Music Literature	3
MUHL 387	Opera from Mozart to Puccini	3
MUHL 388	Opera After 1900	3
MUHL 389	Orchestral Literature	3
MUHL 390	The German Lied	3
MUHL 391	Canadian Music	3
MUHL 392	Music since 1945	3
MUHL 396	Era of the Modern Piano	3
MUHL 397	Choral Literature after 1750	3
MUHL 398	Wind Ensemble Literature after 1750	3
MUPP 385	Topics: Performance Practice after 1800	3

Group III

MUHL 220	Women in Music	3
MUHL 330	Music and Film	3
MUHL 342	History of Electroacoustic Music	3
MUHL 362	Popular Music	3
MUHL 375	Introduction to Ethnomusicology	3
MUHL 393	History of Jazz	3
MUTH 541	Analysis of Popular Music**	3

REQUIRED COURSES (14 credits)

THEORY **6**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY COURSES (26 or 27 credits)

THEORY **14 or 15**

One of the following options:

Option A

MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2

Two of:

MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3
MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3

Option B

MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 426	Analysis of Early Music	3
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2

One of:

MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3
MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3

Option C

MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUTH 426	Analysis of Early Music	3
MUTH 301	Modal Counterpoint 1	3
and		
MUTH 302	Modal Counterpoint 2	3
or		
MUTH 303	Tonal Counterpoint 1	3
and		
MUTH 304	Tonal Counterpoint 2	3

NON-MUSIC **12**

Must include German (6 cr.), European History (6 cr.) with Departmental approval.

REQUIRED PERFORMANCE **8**

MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0

COMPLEMENTARY PERFORMANCE **8**

8 credits from*:

MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

NON-MUSIC ELECTIVES **6**

TOTAL CREDITS **95 or 96**

1. Cumulative Grade Point Average: minimum 3.00.
2. Minimum grade of B in all MUSIC HISTORY courses.

* A minimum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

** MUTH 541 will count as a complementary history course if it has not been taken as a required course. MUHL 591D1/D2 will count as a complementary history course if it has not been taken as a required course. MUTH 426 will count as a complementary history course if Option A is chosen in the complementary theory courses.

12.6.2.6 B.Mus. with a Major in Theory

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)"

REQUIRED COURSES (25 credits)

.

		CREDITS
THEORY		**17**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUHL 570	Research Methods in Music	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY COURSES (21 credits)

THEORY **15**

6 credits from: 6

MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3

MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3

A minimum of 9 complementary credits from the following* (may include 6 credits of counterpoint courses not taken in the category above):

MUCO 230D1	The Art of Composition	2
MUCO 230D2	The Art of Composition	2
MUTH 426	Analysis of Early Music	3
MUTH 522D1	Advanced Counterpoint	3
MUTH 522D2	Advanced Counterpoint	3
MUTH 523D1	Advanced Harmony	3
MUTH 523D2	Advanced Harmony	3
MUTH 528	Schenkerian Techniques	3
MUTH 529	Proseminar in Music Theory 1	3
MUTH 538	Mathematical Models/Musical Analysis	3
MUTH 541	Analysis of Popular Music	3

MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**

(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

REQUIRED PERFORMANCE **8**

MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0

COMPLEMENTARY PERFORMANCE **8**

8 credits from**:

MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

NON-MUSIC ELECTIVES **18**

FREE ELECTIVES **12**

TOTAL CREDITS **92**

* Credits exceeding 9 may be counted toward the Free Elective requirements.

** A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.7 B.Mus. with Honours in Theory

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)"

REQUIRED COURSES (34 credits)

.

		CREDITS
THEORY		**26**
MUHL 570	Research Methods in Music	3
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUTH 528	Schenkerian Techniques	3
MUTH 529	Proseminar in Music Theory 1	3
MUTH 538	Mathematical Models/Musical Analysis	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY COURSES (18 credits)

THEORY **12**

3 credits from:

MUGT 205	Psychology of Music	3
MUTH 426	Analysis of Early Music	3
MUTH 541	Analysis of Popular Music	3
PHYS 224	Physics and Psychophysics of Music	3

9 credits from:

MUTH 301	Modal Counterpoint 1	3
MUTH 302	Modal Counterpoint 2	3
MUTH 303	Tonal Counterpoint 1	3
MUTH 304	Tonal Counterpoint 2	3

MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**

3 credits of a MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both

and 3 credits from:

MUHL 380	Medieval Music	3
MUHL 381	Renaissance Music	3
MUHL 382	Baroque Music	3
MUHL 383	Classical Music	3
MUHL 384	Romantic Music	3
MUHL 385	Early Twentieth-Century Music	3
MUHL 392	Music since 1945	3

REQUIRED PERFORMANCE **8**

MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0

COMPLEMENTARY PERFORMANCE **8**

8 credits from*:

MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

MUSIC ELECTIVES **12**

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **98**

Special Requirements:

1. Cumulative Grade Point Average: minimum 3.00.
2. Minimum grade of B in all MUSIC THEORY courses.

* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.8 Faculty Program

The Faculty Program in Music has been designed to accommodate those students who are either undecided about the area of music in which they wish to specialize, or who are interested in a pattern of specialization not provided in the established majors and honours programs, or who are interested in combining studies in music with studies in other disciplines. Students registered in the Faculty Program may, with the approval of a staff adviser, design their own programs around specific interests or develop programs

with a broader base by incorporating courses from other disciplines.

BACHELOR OF MUSIC DEGREE (B.Mus.)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

REQUIRED COURSES (20 credits)

.

		CREDITS
THEORY		**12**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		
REQUIRED PERFORMANCE		**8**
MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0
COMPLEMENTARY PERFORMANCE		**8**
8 credits from*:		
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
MUSIC ELECTIVES		**20**
NON-MUSIC ELECTIVES		**18**
FREE ELECTIVES		**12**
TOTAL CREDITS		**92**

* A maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.2.9 Special Prerequisite Courses for M.Mus. in Sound Recording

Students wishing to follow this package of prerequisite courses while registered in the Faculty Program or in any other B.Mus. program must notify the Sound Recording Area Chair of their intent to do so.

		CREDITS
Schulich School of Music		**26**
MUCO 260	Instruments of the Orchestra	2
MUMT 202	Fundamentals of New Media	3
MUMT 203	Introduction to Digital Audio	3
MUSR 232	Introduction to Electronics	3
MUSR 300D1	Introduction to Music Recording	3
MUSR 300D2	Introduction to Music Recording	3
MUMT 301	Music and the Internet	3
MUSR 339	Introduction to Electroacoustics	3
One of (complementary):		3
MUMT 302	New Media Production 1	3
MUMT 306	Music and Audio Computing 1	3
Faculty of Science		**6**
PHYS 224	Physics and Psychophysics of Music	3
PHYS 225	Musical Acoustics	3
TOTAL CREDITS		**32**

Note: Students admitted as a Special Student in the prerequisite package for Sound Recording must meet with the Sound Recording adviser prior to registering in MUMT (Music Technology) courses. In order to be considered for admission to the Master of Music in Sound Recording, students must attain a minimum grade of B in all of the above courses and must have a B.Mus. degree with a minimum CGPA of 3.00.

12.6.2.10 Minor in Music History for Performers

Available to all students in Performance (Major or Honours) programs. This option will take the place of music electives, as well as history, literature and performance practice complementary courses, in Performance programs.

		CREDITS
HISTORY		**18**
MUHL 570	Research Methods in Music	3
plus 5 Music History complementary courses chosen freely from Groups I and II.		15
Group I		
MUHL 220	Women in Music	3
MUHL 377	Baroque Opera	3
MUHL 379	Solo Song 1100-1700	3
MUHL 380	Medieval Music	3
MUHL 381	Renaissance Music	3
MUHL 382	Baroque Music	3
MUHL 395	Keyboard Literature before 1750	3
MUHL 591D1	Paleography	1.5
and MUHL 591D2	Paleography	1.5
MUPP 381	Topics: Performance Practice before 1800	3
Group II		
MUHL 330	Music and Film	3
MUHL 362	Popular Music	3
MUHL 366	The Era of the Fortepiano	3
MUHL 372	Solo Song Outside Germany and Austria	3
MUHL 383	Classical Music	3
MUHL 384	Romantic Music	3
MUHL 385	Early Twentieth-Century Music	3
MUHL 386	Chamber Music Literature	3
MUHL 387	Opera from Mozart to Puccini	3
MUHL 388	Opera After 1900	3
MUHL 389	Orchestral Literature	3
MUHL 390	The German Lied	3
MUHL 391	Canadian Music	3
MUHL 392	Music since 1945	3
MUHL 393	History of Jazz	3
MUHL 396	Era of the Modern Piano	3
MUHL 397	Choral Literature after 1750	3
MUHL 398	Wind Ensemble Literature after 1750	3
MUPP 385	Topics: Performance Practice after 1800	3

12.6.2.11 Minor in Musical Applications of Technology

The goal of this minor is to provide instruction in practical and creative applications of technology for musical purposes. This program will help prepare students for production-oriented jobs in the creative arts.

This program is open to students from any discipline and has no prerequisites other than familiarity with computers. Application forms will be available from the Department of Music Research in the Schulich School of Music from February 1 and must be completed and returned to that office by May 15 of each academic year. Late applications will not be accepted and no students will be admitted to the Minor in January. Successful applicants will be notified by June 1. Registration will be limited to available lab space.

Students will be selected on the basis of their previous background or experience in music technology and/or sound recording, their computer programming skills, their expressed interest in the program, and their Cumulative Grade Point Average.

		CREDITS
REQUIRED COURSES (12 credits)		
PHYS 224	Physics and Psychophysics of Music	3
MUMT 202	Fundamentals of New Media	3
MUMT 250	Music Perception and Cognition	3
MUMT 302	New Media Production 1	3
COMPLEMENTARY COURSES (6 credits)		
Select 6 credits from the following:		
PHYS 225	Musical Acoustics	3
MUHL 342	History of Electroacoustic Music	3
MUSR 300D1 and	Introduction to Music Recording	3
MUSR 300D2	Introduction to Music Recording	3
MUMT 301	Music and the Internet	3
MUMT 303	New Media Production 2	3
TOTAL CREDITS		**18**

12.6.2.12 Minor in Musical Science and Technology

This Minor focuses on interdisciplinary topics in science and technology as applied to music. The goal of the program is to help prepare students for commercial jobs in the audio technology sector and/or for subsequent graduate research study. This Minor is designed to serve students who already have a good background in the sciences and prior experience with math and computer science courses.

Application forms will be available from the Department of Music Research in the Schulich School of Music from February 1 and must be completed and returned to that office by May 15 of each academic year. Successful applicants will be notified by June 1.

Registration will be limited to available lab space. Selection is based on previous experience in math, computer programming, and related sciences, expressed interest in the program, and Cumulative Grade Point Average.

		CREDITS
REQUIRED COURSES (15 credits)		
MUMT 203	Introduction to Digital Audio	3
MUMT 250	Music Perception and Cognition	3
MUMT 306	Music and Audio Computing 1	3
MUMT 307	Music and Audio Computing 2	3
MUMT 501	Digital Audio Signal Processing	3
COMPLEMENTARY COURSES (3 credits)		
3 credits from:		
MUMT 402	Advanced Multimedia Development	3
MUMT 502	Senior Project: Music Technology	3
PHYS 224	Physics and Psychophysics of Music	3
PHYS 225	Musical Acoustics	3
TOTAL CREDITS		**18**

12.6.3 Department of Performance

The Department offers undergraduate and graduate degree programs leading to the B.Mus. and M.Mus., and diploma programs leading to the L.Mus. and Artist Diploma in all areas of musical performance. Programs include regular practical instruction available on all instruments and a highly developed ensemble program. The programs offer a number of major options including Orchestral Training, Solo, Jazz, Early Music, and Church Music. The Orchestral Training program is the largest performance program – many of its graduates are now members of professional orchestras throughout North America and Europe. McGill ensembles perform many concerts each year, including a number in centres across North America. (Within the past several years, McGill ensembles have performed at Carnegie Hall, Le Grand Théâtre (Quebec), the National Arts Centre, the International Buxtehude-Scheidt Festival, Lincoln Center, Roy Thomson Hall, Salle Wilfrid Pelletier, the International Association of Jazz Educators Convention in New Orleans, in Washington and Boston, Paris, London and Cork [Ireland], and at the Holetown Festival in Barbados.) In addition, they have recorded for McGill Records. These recordings have received considerable critical acclaim and a number of awards, including a Noah Greenberg Award, three Grand Prix du Disques, and a Juno Award.

Performance Specialization is available in: Violin, Viola, Cello, Double Bass, Viola da Gamba, Guitar, Harp, Recorder, Flute, Oboe, Clarinet, Saxophone, Bassoon, French Horn, Trumpet, Trombone, Tuba, Percussion, Piano, Organ, Harpsichord, Voice, Baroque Instruments (Violin, Viola, Cello, Flute, Oboe, Bassoon). Performance Programs are also available in Church Music, Early Music, and Jazz.

For each program, all courses listed are REQUIRED Courses unless otherwise indicated.

Note: The course MUPG 100 Life as a Professional Musician is a requirement for all Performance students to be completed within the first year of study.

12.6.3.1 B.Mus. with a Major in Performance (Piano)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**28**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 330	Performance Practical Instruction 5	4
MUIN 331	Performance Practical Instruction 6	4
MUIN 332	Performance 2 Examination	0
MUIN 333	Piano Techniques 2	0
MUIN 369	Piano Concerto	0
MUIN 430	Performance Practical Instruction 7	4
MUIN 431	Performance Practical Instruction 8	4
MUIN 432	Performance 3 Examination	0
MUIN 433	Piano Techniques 3	0
MUPG 541	Senior Piano Seminar 1	2
MUPG 542	Senior Piano Seminar 2	2
COMPLEMENTARY PERFORMANCE (14 credits)		
Large Ensemble during the first four terms (2 cr.) x 4 semesters.		
8 credits from:		**8**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

6 credits from: **6**

MUEN 560	Chamber Music Ensemble	1
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 581	Piano Ensemble Seminar 1	1
MUEN 582	Piano Ensemble Seminar 2	1
MUEN 583	Introduction to Collaborative Piano	1
MUEN 584	Studio Accompanying	1
MUEN 585	Sonata Masterclass	1

REQUIRED COURSES (20 credits)

THEORY **12**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**
(courses with a MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

MUSIC ELECTIVES **10**

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **96**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.

12.6.3.2 B.Mus. with a Major in Performance (Organ, Harpsichord, Guitar, Baroque Instruments)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED PERFORMANCE **24**

MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 330	Performance Practical Instruction 5	4
MUIN 331	Performance Practical Instruction 6	4
MUIN 332	Performance 2 Examination	0
MUIN 430	Performance Practical Instruction 7	4
MUIN 431	Performance Practical Instruction 8	4
MUIN 432	Performance 3 Examination	0

COMPLEMENTARY PERFORMANCE (18 credits)
Large Ensemble - during every term of enrolment as a full-time or part-time student.
12 credits from: **12**

MUEN 572	Cappella Antica	
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	
MUEN 593	Choral Ensembles	2

Assigned small ensemble - during every term of enrolment as a full-time or part-time student.
6 credits from: **6**

MUEN 560	Chamber Music Ensemble	1
MUEN 580	Early Music Ensemble	1
MUEN 589	Woodwind Ensembles	1
MUEN 591	Brass Ensembles	1

REQUIRED COURSES (20 credits)

THEORY **12**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

MUSIC ELECTIVES **10**
Harpsichord and Organ majors must include the following:
Harpsichord:

MUPG 272D1	Continuo	2
MUPG 272D2	Continuo	2
MUPG 372D1	Continuo	1
MUPG 372D2	Continuo	1

Organ:

MUPG 272D1	Continuo	2
MUPG 272D2	Continuo	2

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **96**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.

12.6.3.3 B.Mus. with a Major in Keyboard Studies (Piano, with senior-level studies in a Second Keyboard Instrument)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

PERFORMANCE **36**

MUEN 593	Choral Ensembles (during each of the first four terms)	8
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 330	Performance Practical Instruction 5	4
MUIN 331	Performance Practical Instruction 6	4
MUIN 433	Piano Techniques 3	0
MUPG 541	Senior Piano Seminar 1	2
MUPG 542	Senior Piano Seminar 2	2
Keyboard, Second Study (Organ, Harpsichord, Jazz Piano, Keyboard Technology)		8

COMPLEMENTARY PERFORMANCE **6**
6 credits of ensembles, with Departmental Approval.

THEORY **12**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

MUSIC ELECTIVES **10 - 12**
Jazz Second Study students must include as part of their elective requirements MUJZ 160 Jazz Materials 1, MUJZ 161 Jazz Materials 2, MUJZ 223 Jazz Improvisation 1, MUJZ 224 Jazz Improvisation 2

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **96 - 98**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.

12.6.3.4 B.Mus. with a Major in Keyboard Studies (Organ, Harpsichord, with senior-level studies in a Second Keyboard Instrument, Jazz Piano)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

PERFORMANCE
Practical: Keyboard, First Study (Piano, Organ, Harpsichord) (4 credits each term) **16**
Performance 2 Examination
Keyboard, Second Study (Piano, Organ, Harpsichord, Jazz Piano, Keyboard Technology) **8**
Basic Ensemble Training: **12**
Choral Ensemble during each of the first six terms
Complementary Ensembles **6**

THEORY **12**
MUTH 210 Tonal Theory and Analysis 1 3
MUTH 211 Tonal Theory and Analysis 2 3
MUTH 310 Mid and Late 19th-Century Theory and Analysis 3
MUTH 311 20th-Century Theory and Analysis 3

MUSICIANSHIP **8**
MUSP 229 Musicianship 3 2
MUSP 231 Musicianship 4 2
MUSP 329 Musicianship 5 2
MUSP 331 Musicianship 6 2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

MUSIC ELECTIVES **10 - 12**
Jazz Second Study students must include as part of their elective requirements MUJZ 160/MUJZ 161 Jazz Materials 1, 2, and MUJZ 223/MUJZ 224 Jazz Improvisation 1, 2.
Organ/Harpsichord Majors (First Study) are required to include MUPG 272D1 and MUPG 272D2 Continuo.

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **96 - 98**

12.6.3.5 B.Mus. with a Major in Performance (Voice)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED PERFORMANCE **24**
MUIN 230 Performance Practical Instruction 3 4
MUIN 231 Performance Practical Instruction 4 4
MUIN 232 Performance 1 Examination 0
MUIN 330 Performance Practical Instruction 5 4
MUIN 331 Performance Practical Instruction 6 4
MUIN 332 Performance 2 Examination 0
MUIN 430 Performance Practical Instruction 7 4
MUIN 431 Performance Practical Instruction 8 4
MUIN 432 Performance 3 Examination 0

COMPLEMENTARY PERFORMANCE **12**
Large Ensemble: during every term of enrolment as a full-time or part-time student.
12 credits from:
MUEN 496 Opera Studio 4
MUEN 563 Jazz Vocal Workshop 2
MUEN 572 Cappella Antica 2
MUEN 578 Song Interpretation 1 1
MUEN 579 Song Interpretation 2 1
MUEN 580 Early Music Ensemble 1
MUEN 587 Cappella McGill 1
MUEN 593 Choral Ensembles 2
MUEN 594 Contemporary Music Ensemble 2

REQUIRED COURSES (28 credits)

DICTION **8**
MUPG 210 Italian Diction 2
MUPG 211 French Diction 2
MUPG 212 English Diction 2
MUPG 213 German Diction 2

THEORY **12**
MUTH 210 Tonal Theory and Analysis 1 3
MUTH 211 Tonal Theory and Analysis 2 3
MUTH 310 Mid and Late 19th-Century Theory and Analysis 3
MUTH 311 20th-Century Theory and Analysis 3

MUSICIANSHIP **8**
MUSP 229 Musicianship 3 2
MUSP 231 Musicianship 4 2
MUSP 329 Musicianship 5 2
MUSP 331 Musicianship 6 2

COMPLEMENTARY HISTORY/LITERATURE **6**
Two of:
MUHL 372 Solo Song Outside Germany and Austria 3
MUHL 377 Baroque Opera 3
MUHL 387 Opera from Mozart to Puccini 3
MUHL 388 Opera After 1900 3
MUHL 390 The German Lied 3

MUSIC ELECTIVES **8**

NON-MUSIC ELECTIVES* **18**

TOTAL CREDITS **96**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams, ensembles, and voice coaching.
2. * Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN 400 or ESLN 401, ITAL 205D1/ ITAL 205D2, GERM 202, and FRSL 207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the non-music elective requirements above, or by extra university courses.

12.6.3.6 B.Mus. with a Major in Performance (Orchestral Instruments)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED PERFORMANCE **24**
MUIN 230 Performance Practical Instruction 3 4
MUIN 231 Performance Practical Instruction 4 4
MUIN 232 Performance 1 Examination 0
MUIN 330 Performance Practical Instruction 5 4
MUIN 331 Performance Practical Instruction 6 4

MUIN 332	Performance 2 Examination	0
MUIN 430	Performance Practical Instruction 7	4
MUIN 431	Performance Practical Instruction 8	4
MUIN 432	Performance 3 Examination	0

COMPLEMENTARY PERFORMANCE (18 credits)

Large Ensemble - during every term of enrolment as a full-time or part-time student.

12 credits from: **12**

MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	1
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

Assigned small ensemble - during every term of enrolment as a full-time or part-time student.

6 credits from: **6**

MUEN 560	Chamber Music Ensemble	1
MUEN 580	Early Music Ensemble	1
MUEN 585	Sonata Masterclass	1
MUEN 589	Woodwind Ensembles	1
MUEN 591	Brass Ensembles	1
MUEN 598	Percussion Ensembles	1

REQUIRED COURSES (20 Credits)

THEORY **12**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**

(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

MUSIC ELECTIVES **4**

NON-MUSIC ELECTIVES **18**

TOTAL CREDITS **90**

Ensemble Requirements:

1. Students majoring in violin, viola, or cello must commence their assigned ensembles with four terms of string quartets.
2. Violin Majors will be required to complete two terms of ensemble playing on viola.

Special Requirements:

1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.

12.6.3.7 B.Mus. with Honours in Performance (Voice)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

CREDITS

REQUIRED PERFORMANCE **30**

MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 300	Voice Coaching 1	2
MUIN 301	Voice Coaching 2	2
MUIN 305	Vocal Musical Practices	2
MUIN 340	Honours Practical Instruction 5	4
MUIN 341	Honours Practical Instruction 6	4
MUIN 342	Honours Performance 2 Examination	0
MUIN 440	Honours Practical Instruction 7	4
MUIN 441	Honours Practical Instruction 8	4
MUIN 442	Honours Performance 3 Examination	0

COMPLEMENTARY PERFORMANCE **12**

Large Ensemble - during every term of enrolment as a full-time or part-time student.

12 credits from:

MUEN 496	Opera Studio	4
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 580	Early Music Ensemble	1
MUEN 587	Cappella McGill	1
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2

REQUIRED COURSES (30 Credits)

DICTION **8**

MUPG 210	Italian Diction	2
MUPG 211	French Diction	2
MUPG 212	English Diction	2
MUPG 213	German Diction	2

THEORY **14**

MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2

MUSICIANSHIP **8**

MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE **9**

Three of:

MUHL 372	Solo Song Outside Germany and Austria	3
MUHL 377	Baroque Opera	3
MUHL 387	Opera from Mozart to Puccini	3
MUHL 388	Opera After 1900	3
MUHL 390	The German Lied	3

NON-MUSIC ELECTIVES* **18**

TOTAL CREDITS **99**

Special Requirements:

1. Cumulative Grade Point Average of 3.00 or better.
2. Continuation in the program requires a minimum grade of A- in practical instruction/exams, ensembles, and voice coaching.
3. * Prior to, or concurrent with registration in the corresponding Diction courses, the Honours Voice student must furnish evidence of having completed ESLN 400 or ESLN 401, ITAL 205D1/ ITAL 205D2, GERM 202, and FRSL 207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the non-music elective requirements above, or by extra university courses.

12.6.3.8 B.Mus. with Honours in Performance (Piano)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**28**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 333	Piano Techniques 2	0
MUIN 340	Honours Practical Instruction 5	4
MUIN 341	Honours Practical Instruction 6	4
MUIN 342	Honours Performance 2 Examination	0
MUIN 369	Piano Concerto	0
MUIN 433	Piano Techniques 3	0
MUIN 440	Honours Practical Instruction 7	4
MUIN 441	Honours Practical Instruction 8	4
MUIN 442	Honours Performance 3 Examination	0
MUPG 541	Senior Piano Seminar 1	2
MUPG 542	Senior Piano Seminar 2	2
COMPLEMENTARY PERFORMANCE (16 credits)		
MUEN 594	Contemporary Music Ensemble*	2
Large Ensemble during the first four terms (2 cr.) x 4 semesters.		**8**
8 credits from:		**8**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 587	Cappella McGill	1
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
REQUIRED COURSES (28 CREDITS) .		
THEORY		**14**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
MUSIC HISTORY AND LITERATURE		**6**
MUHL 366	The Era of the Fortepiano	3
MUHL 396	Era of the Modern Piano	3
PERFORMANCE PRACTICE ELECTIVE		**3**
MUSIC ELECTIVES		**6**
NON-MUSIC ELECTIVES		**18**
TOTAL CREDITS		**99**

Special Requirements:

1. Cumulative Grade Point Average of 3.00 or better.
2. Continuation in the program requires a minimum grade of A- in practical instruction/exams and ensembles.

12.6.3.9 B.Mus. with Honours in Performance (All Instruments except Piano and Voice)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**24**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 340	Honours Practical Instruction 5	4
MUIN 341	Honours Practical Instruction 6	4
MUIN 342	Honours Performance 2 Examination	0
MUIN 440	Honours Practical Instruction 7	4
MUIN 441	Honours Practical Instruction 8	4
MUIN 442	Honours Performance 3 Examination	0
COMPLEMENTARY PERFORMANCE (20 credits)		
MUEN 594	Contemporary Music Ensemble*	2
Large Ensemble - during every term of enrolment as a full-time or part-time student.		**2**
12 credits from:		**12**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	1
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
Assigned small ensemble - during every term of enrolment as a full-time or part-time student.		
6 credits from:		**6**
MUEN 560	Chamber Music Ensemble	1
MUEN 580	Early Music Ensemble	1
MUEN 585	Sonata Masterclass	1
MUEN 589	Woodwind Ensembles	1
MUEN 591	Brass Ensembles	1
MUEN 598	Percussion Ensembles	1
REQUIRED COURSES (22 Credits)		
THEORY		**14**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 327D1	19th-Century Analysis	2
MUTH 327D2	19th-Century Analysis	2
MUTH 427D1	20th-Century Analysis	2
MUTH 427D2	20th-Century Analysis	2
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY OR LITERATURE		**6**
Organ/ Harpsichord must include the following:		
MUHL 395	Keyboard Literature before 1750	
Orchestral Instruments must include the following:		
MUHL 389	Orchestral Literature	
COMPLEMENTARY MUSIC ELECTIVES		**4 - 6**
Harpsichord and Organ majors must include the following:		
Harpsichord and Organ majors must take:		
MUPG 272D1	Continuo	2
MUPG 272D2	Continuo	2
Harpsichord majors must also take:		
MUPG 372D1	Continuo	1
MUPG 372D2	Continuo	1
PERFORMANCE PRACTICE ELECTIVE		**3**
NON-MUSIC ELECTIVES		**18**
TOTAL CREDITS		**93 - 99**

Ensemble Requirements:
1. Students majoring in violin, viola, or cello must commence their assigned ensembles with four terms of string quartets.
2. Violin Majors will be required to complete two terms of ensemble playing on viola.

Special Requirements:
1. Cumulative Grade Point Average of 3.00 or better.
2. Continuation in the program requires a minimum grade of A- in practical instruction/exams and ensembles.

* Students majoring in Harpsichord and Baroque Instruments will take MUPP 381 (Topics: Performance Practice before 1800) instead of Contemporary Music Ensemble.

12.6.3.10 B.Mus. with a Major in Performance (Church Music)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
PERFORMANCE		
Practical: Organ Major (4 credits each term)		**24**
Performance 3 Examination		
Basic Ensemble Training: Choral Ensemble during each of the first six terms		**12**
MUPG 272D1	Continuo	**2**
MUPG 272D2	Continuo	**2**
THEORY		**12**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
HISTORY		**6**
MUHL 399	Church Music	3
MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE COMPLEMENTARY (courses with a MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		**3**
MUSIC EDUCATION		**9**
MUCT 235	Vocal Techniques	3
MUCT 315	Choral Conducting 1	3
MUCT 415	Choral Conducting 2	3
MUSIC ELECTIVES (with Departmental Approval)		**6**
ARTS AND SCIENCE ELECTIVES Students are encouraged to include at least one course in the Faculty of Religious Studies.		**18**
TOTAL CREDITS		**99**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.
   Students majoring in Church Music are not required to perform their examinations from memory.

12.6.3.11 B.Mus. with a Major in Early Music Performance (Baroque Violin, Viola, Cello, Viola da Gamba, Flute, Recorder, Oboe, Voice, Organ, Harpsichord and Early Brass Instruments)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**24**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 330	Performance Practical Instruction 5	4
MUIN 331	Performance Practical Instruction 6	4
MUIN 332	Performance 2 Examination	0
MUIN 430	Performance Practical Instruction 7	4
MUIN 431	Performance Practical Instruction 8	4
MUIN 432	Performance 3 Examination	0

COMPLEMENTARY PERFORMANCE (18 credits)

Large Ensemble - during every term of enrolment as a full-time or part-time student.

12 credits from:		**12**
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 593	Choral Ensembles	2

Voice Majors: Students must complete two terms of Choral Ensemble and may choose Cappella Antica or Collegium Musicum to make up the total of 12 credits.

Instrumentalists: students must register in Collegium Musicum.

Keyboard players: students must normally register in Choral Ensemble but with the permission of the Area Chair may play continuo in Collegium Musicum to satisfy their Basic Ensemble requirement.

Assigned small ensemble - during every term of enrolment as a full-time or part-time student.

6 credits of:		**6**
MUEN 580	Early Music Ensemble (1cr. x 6 semesters)	1

With the permission of the instructor and the Area Chair, students may participate in a second Basic Ensemble to fulfil the Early Music Ensemble requirement. Any extra credits earned may be applied as music electives.

REQUIRED COURSES (20 Credits)

THEORY		**12**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**9**
MUPP 381	Topics: Performance Practice before 1800	3

plus 6 complementary credits from the following with at least one course from each group:

(a)	MUHL 380	Medieval Music	3
	MUHL 381	Renaissance Music	3
	MUHL 382	Baroque Music	3
	MUHL 383	Classical Music	3
(b)	MUHL 395	Keyboard Literature before 1750	3
	MUHL 570	Research Methods in Music	3
	MUHL 591D1	Paleography	1.5
and	MUHL 591D2	Paleography	1.5

MUSIC ELECTIVES **6 or 8**
(except for Harpsichord, Organ or Voice students)
Harpsichord/Organ majors must include the following:

MUPG 272D1	Continuo	2
MUPG 272D2	Continuo	2
MUPG 372D1	Continuo	1
MUPG 372D2	Continuo	1
		6

Voice majors must include the following:

MUPG 210	Italian Diction	2
MUPG 211	French Diction	2
MUPG 212	English Diction	2
MUPG 213	German Diction	2
		8

NON-MUSIC ELECTIVES* **18**

TOTAL CREDITS **95 or 97**

Special Requirements:
1. Continuation in the program requires a minimum grade of B- in practical instruction/exams and ensembles.
2. * Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN 400 or ESLN 401, ITAL 205D1/ ITAL 205D2, GERM 202, and FRSL 207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the non-music elective requirements above, or by extra university courses.

12.6.3.12 B.Mus. with Honours in Early Music Performance (Baroque Bassoon, Violin, Viola, Cello, Viola da Gamba, Flute, Lute, Recorder, Oboe, Voice, Organ, Harpsichord and Early Brass Instruments)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**24**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 340	Honours Practical Instruction 5	4
MUIN 341	Honours Practical Instruction 6	4
MUIN 342	Honours Performance 2 Examination	0
MUIN 440	Honours Practical Instruction 7	4
MUIN 441	Honours Practical Instruction 8	4
MUIN 442	Honours Performance 3 Examination	0

COMPLEMENTARY PERFORMANCE (18 credits)
Large Ensemble – during every term of enrolment as a full-time or part-time student.
12 credits from: **12**

MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 593	Choral Ensembles	2

Voice Majors: Students must complete two terms of Choral Ensemble and may choose Cappella Antica or Collegium Musicum to make up the total of 12 credits.
Instrumentalists: students must register in Collegium Musicum.
Keyboard players: students must normally register in Choral Ensemble but with the permission of the Area Chair may play Continuo in Collegium Musicum to satisfy their Basic Ensemble requirement.
Assigned small ensemble - during every term of enrolment as a full-time or part-time student.
6 credits of: **6**

MUEN 580	Early Music Ensemble (1cr. x 6 semesters)	1

Early Music Ensemble
With the permission of the instructor and the Area Chair, students may participate in a second Basic Ensemble to fulfil the Early Music Ensemble requirement. Any extra credits earned may be applied as music electives.

REQUIRED COURSES (23 Courses)

THEORY		**15**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUTH 426	Analysis of Early Music	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**12**
MUHL 570	Research Methods in Music	3
MUPP 381	Topics: Performance Practice before 1800	3

plus 6 complementary credits from the following with at least one course from each group:

(a)	MUHL 380	Medieval Music	3
	MUHL 381	Renaissance Music	3
	MUHL 382	Baroque Music	3
	MUHL 383	Classical Music	3
(b)	MUHL 377	Baroque Opera	3
	MUHL 379	Solo Song 1100-1700	3
	MUHL 395	Keyboard Literature before 1750	3
	MUHL 591D1	Paleography	1.5
and	MUHL 591D2	Paleography	1.5

MUSIC ELECTIVES **6 or 8**
(except for Harpsichord, Organ or Voice students)
Harpsichord/Organ students must include the following:

MUPG 272D1	Continuo	2
MUPG 272D2	Continuo	2
MUPG 372D1	Continuo	1
MUPG 372D2	Continuo	1
		6

Voice students must include the following:

MUPG 210	Italian Diction	2
MUPG 211	French Diction	2
MUPG 212	English Diction	2
MUPG 213	German Diction	2
		8

NON-MUSIC ELECTIVES* **18**

TOTAL CREDITS **101 or 103**

Special Requirements:
1. Cumulative Grade Point Average of 3.00 or better.
2. Continuation in the program requires a minimum grade of A- in practical instruction/exams, ensembles, and voice coaching.
3. Minimum grade of B in MUHL 570 and in all History, Literature or Performance Practice courses.
4. * Prior to, or concurrent with registration in the corresponding Diction courses, the Voice Major must furnish evidence of having completed ESLN 400 or ESLN 401, ITAL 205D1/ ITAL 205D2, GERM 202, and FRSL 207, or their equivalent. This language requirement may be fulfilled by appropriate High School or CEGEP courses, or as part of the non-music elective requirements above, or by extra university courses.

12.6.3.13 B.Mus. with a Major in Jazz Performance (Saxophone, Trumpet, Trombone, Drums, Piano, Guitar, Bass, Voice)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
REQUIRED PERFORMANCE		**24**
MUIN 230	Performance Practical Instruction 3	4
MUIN 231	Performance Practical Instruction 4	4
MUIN 232	Performance 1 Examination	0
MUIN 330	Performance Practical Instruction 5	4
MUIN 331	Performance Practical Instruction 6	4
MUIN 332	Performance 2 Examination	0
MUIN 430	Performance Practical Instruction 7	4
MUIN 431	Performance Practical Instruction 8	4
MUIN 432	Performance 3 Examination	0
COMPLEMENTARY PERFORMANCE (16 credits)		
Large Ensemble – during every term of enrolment as a full-time student or part-time student.		
12 credits from:		**12**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
MUEN 570	Jazz Combo (1cr. x 4 semesters)	**4**
REQUIRED COURSES (39 credits)		
JAZZ IMPROVISATION		**12**
MUJZ 223	Jazz Improvisation/Musicianship 1	3
MUJZ 224	Jazz Improvisation/Musicianship 2	3
MUJZ 423	Jazz Improvisation/Musicianship 3	3
MUJZ 424	Jazz Improvisation/Musicianship 4	3
THEORY		**18**
MUTH 312	19th-Century Theory and Analysis/Jazz Majors	3
MUTH 313	20th-Century Theory and Analysis/Jazz Majors	3
MUJZ 260	Jazz Arranging 1	3
MUJZ 261	Jazz Arranging 2	3
MUJZ 340	Jazz Composition 1	3
MUJZ 341	Jazz Composition 2	3
HISTORY		**6**
MUHL 393	History of Jazz	3
MUJZ 493	Jazz Performance Practice	3
COMPLEMENTARY MUSIC		**4**
One of the following pairs:		
MUJZ 440D1	Advanced Jazz Composition	2
MUJZ 440D2	Advanced Jazz Composition	2
or MUJZ 461D1	Advanced Jazz Arranging	2
MUJZ 461D2	Advanced Jazz Arranging	2
NON-MUSIC ELECTIVES		**18**
TOTAL CREDITS		**98**

Special Requirements:

1. Students majoring in Jazz Performance must achieve a minimum grade of B- in all Jazz courses and Practical Instruction/Exams, including Jazz Combo and Ensembles, excluding MUJZ 1XX courses.
2. Non-Quebec jazz students must take four credits of non-jazz Basic Ensemble in the prerequisite year – see section 12.6.1 "Four-Year Program (Prerequisite Courses)".
3. Prior to graduation, all woodwind Jazz Performance Majors (saxophone, clarinet, flute) will be required to pass a non-credit Doubling Proficiency test (two of: MUIN 180, MUIN 181, and/or MUIN 182) on their two non-major instruments.

12.6.3.14 Licentiate in Music (L.Mus.) (Piano)

		CREDITS
REQUIRED PERFORMANCE		**52**
MUIN 250	L.Mus. Practical Instruction 1	8
MUIN 251	L.Mus. Practical Instruction 2	8
MUIN 252	L.Mus. Performance 1 Examination	0
MUIN 333	Piano Techniques 2	0
MUIN 350	L.Mus. Practical Instruction 3	8
MUIN 351	L.Mus. Practical Instruction 4	8
MUIN 352	L.Mus. Performance 2 Examination	0
MUIN 369	Piano Concerto	0
MUIN 433	Piano Techniques 3	0
MUIN 450	L.Mus. Practical Instruction 5	8
MUIN 451	L.Mus. Practical Instruction 6	8
MUIN 452	L.Mus. Performance 3 Examination	0
MUPG 541	Senior Piano Seminar 1	2
MUPG 542	Senior Piano Seminar 2	2
COMPLEMENTARY PERFORMANCE (14 credits)		
Large Ensemble – during the first four terms (2 cr.) x 4 semesters.		**8**
8 credits from:		
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
6 credits from:		**6**
MUEN 560	Chamber Music Ensemble	1
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 581	Piano Ensemble Seminar 1	1
MUEN 582	Piano Ensemble Seminar 2	1
MUEN 583	Introduction to Collaborative Piano	1
MUEN 584	Studio Accompanying	1
MUEN 585	Sonata Masterclass	1
REQUIRED COURSES (29 credits)		
THEORY		**12**
MUTH 110	Melody and Counterpoint	3
MUTH 111	Elementary Harmony and Analysis	3
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUSICIANSHIP		**11**
MUSP 129	Musicianship 1	2
MUSP 131	Musicianship 2	2
MUSP 170	Keyboard Proficiency	1
MUSP 171	Keyboard Lab 1	1
MUSP 172	Keyboard Lab 2	1
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
HISTORY		**6**
MUHL 184	History Survey Before 1750	3
MUHL 185	History Survey After 1750	3
TOTAL CREDITS		**95**

Special Requirements:

1. Continuation in the program requires a minimum grade of A- in practical instruction/exams and ensembles.
2. Candidates must take the L.Mus. Performance 1 Examination at the end of their first year of study and the L.Mus.

Performance 2 and 3 Examinations in each of the next two years if they hope to complete the program in the normal length of time.

12.6.3.15 Licentiate in Music (L.Mus.) (All Instruments except Piano, Voice and Jazz)

		CREDITS
PERFORMANCE		**48**
MUIN 250	L.Mus. Practical Instruction 1	8
MUIN 251	L.Mus. Practical Instruction 2	8
MUIN 252	L.Mus. Performance 1 Examination	0
MUIN 350	L.Mus. Practical Instruction 3	8
MUIN 351	L.Mus. Practical Instruction 4	8
MUIN 352	L.Mus. Performance 2 Examination	0
MUIN 450	L.Mus. Practical Instruction 5	8
MUIN 451	L.Mus. Practical Instruction 6	8
MUIN 452	L.Mus. Performance 3 Examination	0
COMPLEMENTARY PERFORMANCE (18 credits)		
Large Ensemble Training – during every term of enrolment as a full-time or part-time student.		
12 credits from:		**12**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
Assigned Small Ensemble – during every term of enrolment as a full-time or part-time student.		
6 credits from:		**6**
MUEN 560	Chamber Music Ensemble	1
MUEN 580	Early Music Ensemble	1
MUEN 585	Sonata Masterclass	1
MUEN 589	Woodwind Ensembles	1
MUEN 591	Brass Ensembles	1
MUEN 598	Percussion Ensembles	1
REQUIRED COURSES (29 Credits)		
THEORY		**12**
MUTH 110	Melody and Counterpoint	3
MUTH 111	Elementary Harmony and Analysis	3
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUSICIANSHIP		**11**
MUSP 129	Musicianship 1	2
MUSP 131	Musicianship 2	2
MUSP 170	Keyboard Proficiency	1
MUSP 171	Keyboard Lab 1	1
MUSP 172	Keyboard Lab 2	1
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
HISTORY		**6**
MUHL 184	History Survey Before 1750	3
MUHL 185	History Survey After 1750.	3
TOTAL CREDITS		**95**

Ensemble Requirements:

1. Students majoring in violin, viola, or cello must commence their assigned ensembles with four terms of string quartets.
2. Violin Majors will be required to complete two terms of ensemble playing on viola.

Special Requirements:

1. Continuation in the program requires a minimum grade of A- in practical instruction/exams and ensembles.
2. Candidates must take the L.Mus. Performance 1 Examination at the end of their first year of study and the L.Mus. Performance 2 and 3 Examinations in each of the next two years if they hope to complete the program in the normal length of time.

12.6.3.16 Licentiate in Music (L.Mus.) (Voice)

		CREDITS
REQUIRED PERFORMANCE		**52**
MUIN 250	L.Mus. Practical Instruction 1	8
MUIN 251	L.Mus. Practical Instruction 2	8
MUIN 252	L.Mus. Performance 1 Examination	0
MUIN 300	Voice Coaching 1	2
MUIN 301	Voice Coaching 2	2
MUIN 350	L.Mus. Practical Instruction 3	8
MUIN 351	L.Mus. Practical Instruction 4	8
MUIN 352	L.Mus. Performance 2 Examination	0
MUIN 450	L.Mus. Practical Instruction 5	8
MUIN 451	L.Mus. Practical Instruction 6	8
COMPLEMENTARY PERFORMANCE		**12**
Large Ensemble Training – during every term of enrolment as a full-time or part-time student.		
12 credits from:		**12**
MUEN 496	Opera Studio	4
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 580	Early Music Ensemble	1
MUEN 587	Cappella McGill	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
DICTION		**8**
MUPG 210	Italian Diction	2
MUPG 211	French Diction	2
MUPG 212	English Diction	2
MUPG 213	German Diction	2
THEORY		**12**
MUTH 110	Melody and Counterpoint	3
MUTH 111	Elementary Harmony and Analysis	3
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUSICIANSHIP		**11**
MUSP 129	Musicianship 1	2
MUSP 131	Musicianship 2	2
MUSP 170	Keyboard Proficiency	1
MUSP 171	Keyboard Lab 1	1
MUSP 172	Keyboard Lab 2	1
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
HISTORY		**6**
MUHL 184	History Survey Before 1750	3
MUHL 185	History Survey After 1750.	3
TOTAL CREDITS		**101**

Special Requirements:

1. Continuation in the program requires a minimum grade of A- in practical instruction/exams, ensembles, and voice coaching.
2. Candidates must take the L.Mus. Performance 1 Examination at the end of their first year of study and the L.Mus. Performance 2 and 3 Examinations in each of the next two years if they hope to complete the program in the normal length of time.

12.6.3.17 Licentiate in Music (L.Mus.) Jazz Performance

		CREDITS
REQUIRED PERFORMANCE		**48**
MUIN 250	L.Mus. Practical Instruction 1	8
MUIN 251	L.Mus. Practical Instruction 2	8
MUIN 252	L.Mus. Performance 1 Examination	0
MUIN 350	L.Mus. Practical Instruction 3	8
MUIN 351	L.Mus. Practical Instruction 4	8
MUIN 352	L.Mus. Performance 2 Examination	0
MUIN 450	L.Mus. Practical Instruction 5	8
MUIN 451	L.Mus. Practical Instruction 6	8
MUIN 452	L.Mus. Performance 3 Examination	0
COMPLEMENTARY PERFORMANCE (18 credits)		
Large Ensemble – during every term of enrolment as a full-time student or part-time student.		
12 credits from:		**12**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
Jazz Combo Training – during every term of enrolment as a full-time or part-time student.		**6**
MUEN 570	Jazz Combo (1 cr. x 6 semesters)	1
REQUIRED COURSES (30 Credits)		
THEORY		**12**
MUJZ 261D1	Jazz Arranging	3
MUJZ 261D2	Jazz Arranging	3
MUJZ 340D1	Jazz Composition	3
MUJZ 340D2	Jazz Composition	3
IMPROVISATION/MUSICIANSHIP		**12**
MUJZ 223	Jazz Improvisation/Musicianship 1	3
MUJZ 225	Jazz Improvisation/Musicianship 2	3
MUJZ 423	Jazz Improvisation/Musicianship 3	3
MUJZ 424	Jazz Improvisation/Musicianship 4	3
HISTORY		**6**
MUHL 393	History of Jazz	3
MUHL 493	Jazz Performance Practice	3
COMPLEMENTARY COURSES		**4**
4 credits from the following:		
MUJZ 440D1	Advanced Jazz Composition	2
MUJZ 440D2	Advanced Jazz Composition	2
OR		
MUJZ 461D1	Advanced Jazz Arranging	2
MUJZ 461D2	Advanced Jazz Arranging	2
TOTAL CREDITS		**100**

Special Requirements:

1. Continuation in the program requires that a grade of A- be maintained in practical instruction/exams and ensembles.
2. Candidates must take the L.Mus. Jazz Performance 1 Examination at the end of their first year of study and the L.MUS. Jazz Performance 2 and 3 Examinations in each of the next two years if they hope to complete the program in the normal length of time.

12.6.3.18 Artist Diploma (Voice)

		CREDITS
REQUIRED PERFORMANCE		**41**
MUIN 460	Artist Diploma Practical Instruction 1	8
MUIN 461	Artist Diploma Practical Instruction 2	8
MUIN 462	Artist Diploma Recital 1	0
MUIN 469	Artist Diploma Concerto 1	1
MUIN 560	Artist Diploma Practical Instruction 3	8
MUIN 561	Artist Diploma Practical Instruction 4	8
MUIN 562	Artist Diploma Recital 2	0
MUIN 569	Artist Diploma Concerto 2	1
MUIN 600	Vocal Repertoire Coaching 1	2
MUIN 601	Vocal Repertoire Coaching 2	2
MUPG 590	Vocal Styles and Conventions	3
COMPLEMENTARY PERFORMANCE		**8**
Large Ensemble Training - during every term of enrolment as a full-time or part-time student.		
Minimum of 8 credits from:		
MUEN 496	Opera Studio	4
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 580	Early Music Ensemble	1
MUEN 587	Cappella McGill	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
REQUIRED COURSES (10 Credits)		
THEORY		**6**
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUSICIANSHIP		**4**
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY OR PERFORMANCE PRACTICE		**6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		
TOTAL CREDITS		**65**

Special Requirements:

1. Continuation in the program requires a minimum grade of A- in practical instruction/exams, ensembles, and voice coaching.
2. Candidates who have not taken the courses in Italian, French, English and German Diction as specified in the L.Mus. program must add them to the above requirements.
3. A leading operatic or oratorio role may substitute for one recital.

Note: Courses taken as credit towards a B.Mus. or L.Mus. may not be applied to the Artist Diploma requirements except for the required courses in Theory and Musicianship.

12.6.3.19 Artist Diploma (All Instruments)

		CREDITS
REQUIRED PERFORMANCE		**34**
MUIN 460	Artist Diploma Practical Instruction 1	8
MUIN 461	Artist Diploma Practical Instruction 2	8
MUIN 462	Artist Diploma Recital 1	0
MUIN 469	Artist Diploma Concerto 1	1
MUIN 560	Artist Diploma Practical Instruction 3	8
MUIN 561	Artist Diploma Practical Instruction 4	8
MUIN 562	Artist Diploma Recital 2	0
MUIN 569	Artist Diploma Concerto 2	1
COMPLEMENTARY PERFORMANCE (12 credits)		
ORCHESTRAL INSTRUMENTS		
Large Ensemble Training – during every term of enrolment as a full-time or part-time student.		
8 credits from:		**8**
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2

MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2

Assigned small ensemble – during every term of enrolment as a full-time or part-time student. **4**

4 credits from:

MUEN 560	Chamber Music Ensemble	1
MUEN 578	Song Interpretation 1	1
MUEN 579	Song Interpretation 2	1
MUEN 580	Early Music Ensemble	1
MUEN 585	Sonata Masterclass	1
MUEN 589	Woodwind Ensembles	1
MUEN 591	Brass Ensembles	1
MUEN 598	Percussion Ensembles	1

NON ORCHESTRAL INSTRUMENTS **8**

Complementary ensembles, to be approved by the Department (minimum of two 1-credit ensembles per term for 4 terms).

REQUIRED COURSES (10 Credits)

THEORY **6**

MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3

MUSICIANSHIP **4**

MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2

COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE **6**

(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)

NON-ORCHESTRAL INSTRUMENTS: MUSIC ELECTIVES **4**

TOTAL CREDITS **62**

Ensemble Requirement:

1. Violin Majors will be required to complete two terms of ensemble playing on viola.

Special Requirements:

1. Continuation in the program requires a minimum grade of A- in practical instruction/exams and ensembles.
2. Guitarists may present a third recital which may be counted as a substitute for 4 credits of ensemble. Organists may present a third recital or Concerto 1 and 2 which may be counted as a substitute for 4 credits of ensemble. For concerto requirements, refer to section 12.7.2.4 "Postgraduate Study".

Note: Courses taken as credit towards a B.Mus. or L.Mus. may not be applied to the Artist Diploma requirements except for the required courses in Theory and Musicianship.

12.6.3.20 Special Prerequisite Courses for M.Mus. in Performance

		CREDITS
Piano Accompaniment		**7**
(Major: Piano)		
One of:		
MUHL 372	Solo Song Outside Germany and Austria	3
MUHL 390	The German Lied	3
Two of:		
MUPG 210	Italian Diction (or equivalent)	2
MUPG 211	French Diction (or equivalent)	2
MUPG 212	English Diction (or equivalent)	2
MUPG 213	German Diction (or equivalent)	2
Orchestral Conducting		**27**
MUCO 260	Instruments of the Orchestra	2
MUCO 261	Elementary Orchestration	2
MUCO 460D1	Advanced Orchestration	2
MUCO 460D2	Advanced Orchestration	2
MUHL 389	Orchestral Literature	3
MUIT 201	String Techniques	3
MUIT 202	Woodwind Techniques	3
MUIT 203	Brass Techniques	3
MUIT 204	Percussion Techniques	3
MUPG 315D1	Introduction to Orchestral Conducting (or equivalent)	2
MUPG 315D2	Introduction to Orchestral Conducting (or equivalent)	2
Choral Conducting		**20**
GERM 202D1	German Language, Beginners	3
GERM 202D2	German Language, Beginners	3
MUCO 260	Instruments of the Orchestra	2
MUCO 261	Elementary Orchestration	2
MUHL 397	Choral Literature after 1750	3
MUCT 415	Choral Conducting 2 (or equivalent)	3
MUIN 120	Practical Instruction	2
MUIN 121	Practical Instruction	2
Wind Band Conducting		**19**
(An undergraduate major in Wind or Percussion instruments.)		
MUCO 260	Instruments of the Orchestra	2
MUCO 261	Elementary Orchestration	2
MUHL 398	Wind Ensemble Literature after 1750	3
MUIT 202	Woodwind Techniques	3
MUIT 203	Brass Techniques	3
MUIT 204	Percussion Techniques	3
MUIT 415	Advanced Instrumental Conducting (or equivalent)	3
Jazz Performance		**14**
MUHL 393	History of Jazz	3
MUJZ 440D1	Advanced Jazz Composition	2
MUJZ 440D2	Advanced Jazz Composition	2
MUJZ 461D1	Advanced Jazz Arranging	2
MUJZ 461D2	Advanced Jazz Arranging	2
MUJZ 493	Jazz Performance Practice	3

12.6.4 Designated Major Program

B.Mus. with a Designated Major

(The courses comprising the Major field must be approved by the departments concerned prior to registration in the program.)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
DESIGNATED MAJOR AREA*		**32**
THEORY		**12**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUSICIANSHIP		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
COMPLEMENTARY MUSIC HISTORY, LITERATURE OR PERFORMANCE PRACTICE		**6**
(courses with an MUHL or MUPP prefix, may include MUHL 362 or MUHL 393 but not both)		

REQUIRED PERFORMANCE		**8**
MUIN 220	Practical Instruction 3	2
MUIN 221	Practical Instruction 4	2
MUIN 222	Concentration 1 Examination	0
MUIN 320	Practical Instruction 5	2
MUIN 321	Practical Instruction 6	2
MUIN 322	Concentration 2 Examination	0
COMPLEMENTARY PERFORMANCE		**8**
8 credits from**:		
MUEN 563	Jazz Vocal Workshop	2
MUEN 572	Cappella Antica	2
MUEN 573	Baroque Orchestra	2
MUEN 587	Cappella McGill	2
MUEN 590	McGill Winds	2
MUEN 592	Chamber Jazz Ensemble	2
MUEN 593	Choral Ensembles	2
MUEN 594	Contemporary Music Ensemble	2
MUEN 595	Jazz Ensembles	2
MUEN 597	Orchestral Ensembles	2
NON-MUSIC ELECTIVES		**18**
TOTAL CREDITS		**92**

Special Requirements:

* The courses comprising the major field are selected in consultation with a faculty adviser. The complete program for a student must be approved by the relevant department, the Executive Committee and by Faculty Council. The required and complementary courses represent the minimum requirement in the areas of Theory, Musicianship, History, Practical and Ensemble. More advanced-level courses may be substituted in these areas if desired. When appropriate, certain of the required or complementary courses may comprise part of the Designated Major Area, in which case additional courses must be taken to make up the required 92 credits.

** Maximum of 2 credits of Complementary Ensemble may be substituted for 2 credits of Basic Ensemble Training, with Departmental approval.

12.6.5 B.Mus./B.Ed. Bachelor of Music and Bachelor of Education Concurrent Program

The Bachelor of Education in Music is an integrated four-year 120/121-credit program of initial teacher training that leads to certification as a teacher in the Province of Quebec. When offered concurrently with the Bachelor of Music (Major in Music Education), the program offers students the opportunity to obtain a Bachelor of Education degree and a Bachelor of Music degree after the completion of 143/144 credits, normally five years (173/174 credits or six years for out-of-province students). The concurrent program combines academic studies in music, professional studies and field experience. The two degrees are awarded during the same convocation period.

To be admitted to the Concurrent Program, students must satisfy the regular admission requirements of the Faculty of Education and the Schulich School of Music. Normally, students will be admitted to both components of the Concurrent Program simultaneously. Applicants who already hold a Bachelor of Music degree should apply to the Faculty of Education. Students who have completed 30 or more credits in a Bachelor of Music program, exclusive of the Freshman Year for out-of-province students, may apply for admission to the Concurrent Program.

All applications for the Concurrent Program are to be made to the Admissions Office of the Schulich School of Music.

Music Education in the Schulich School of Music focuses on the development of the prospective music educator as a musician. This is achieved not only through core music history, theory, musicianship, and performance courses but also through different instrumental, vocal and conducting techniques courses. Laboratory experiences provide an opportunity to develop facility with basic music rehearsing/teaching techniques, with emphasis on the ability to diagnose and correct technical and musical problems.

The components of the 143/144-credit Bachelor of Education in Music/Bachelor of Music (Music Education) are as follows:

53/54 professional credits,
78 music academic credits (including 9 music elective credits),
12 elective credits.

Students who wish to complete only the Bachelor of Education in Music have the option of doing so after the successful completion of the first two years of the Concurrent Program and completion of MUIN 322 Concentration 2 Exam or equivalent. Students who decide to complete only a Bachelor of Music may transfer at any time into the Bachelor of Music, Faculty Program. Students in the Concurrent B.Mus./B.Ed. who receive an F or J in any Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent Program; however, they may apply to transfer to the B.Mus. Faculty Program.

CONCURRENT BACHELOR OF MUSIC (MUSIC EDUCATION) AND BACHELOR OF EDUCATION IN MUSIC PROGRAM (144 credits)

For prerequisite requirements for this program, see section 12.6.1 "Four-Year Program (Prerequisite Courses)".

		CREDITS
ACADEMIC COMPONENTS		**78**
THEORY COURSES		**14**
MUTH 210	Tonal Theory and Analysis 1	3
MUTH 211	Tonal Theory and Analysis 2	3
MUTH 310	Mid and Late 19th-Century Theory and Analysis	3
MUTH 311	20th-Century Theory and Analysis	3
MUTH 461	Choral and Keyboard Arranging	2
MUSICIANSHIP COURSES		**8**
MUSP 229	Musicianship 3	2
MUSP 231	Musicianship 4	2
MUSP 329	Musicianship 5	2
MUSP 331	Musicianship 6	2
PERFORMANCE COURSES		**16**
Practical Concentration		8
Basic Ensemble Training		8
COMPLEMENTARY MUSIC HISTORY COURSES		**6**
3 credits chosen from Music History (MUHL) offerings at the 300 level		3
3 credits of Music History/Literature chosen from:		3
MUHL 389	Orchestral Literature	
MUHL 397	Choral Literature after 1750	
MUHL 398	Wind Ensemble Literature after 1750	
MUSIC EDUCATION COURSES		**25**
MUCT 235	Vocal Techniques	3
MUGT 215	Basic Conducting Techniques	1
MUGT 354	Music for Children	3
MUGT 358	General Music for Adults and Teenagers	3
MUGT 401	Issues in Music Education	3
MUIT 202	Woodwind Techniques	3
MUIT 203	Brass Techniques	3
MUIT 204	Percussion Techniques	3
MUIT 356	Jazz Instruction: Philosophy and Techniques	3
COMPLEMENTARY MUSIC EDUCATION COURSES		**9**
MUIT 201	String Techniques	3
or MUIT 250	Guitar Techniques	
MUCT 315	Choral Conducting 1	3
or MUIT 315	Instrumental Conducting	
EDEA 362	Movement, Music and Communication	3
or any course with a prefix of MUIT or MUGT		

ELECTIVE		**12**
PROFESSIONAL COMPONENTS		**53 - 54**
PROFESSIONAL SEMINARS		**4**
Required Courses		
EDEA 206	1st Year Professional Seminar	1
EDEA 407	Final Year Professional Seminar Music	3
FIELD EXPERIENCE		**20**
Required Courses		
EDFE 205	First Year Field Experience (Music)	2
EDFE 208	Second Field Experience (Music)	3
EDFE 308	Third Year Field Experience (Music)	8
EDFE 407	Fourth Year Field Experience Music	7
FOUNDATION COURSES		**12**
Required Courses		
EDEC 215	English Language Requirement	0
EDEC 247	Policy Issues in Quebec Education	3
EDPE 300	Educational Psychology	3
EDPI 309	Exceptional Students	3
Complementary Courses		3
EDEC 260	Philosophical Foundations	
or EDEC 261	Philosophy of Catholic Education	
PEDAGOGY COURSES		**6**
Required Courses		
EDEA 442	Elementary Music Curriculum and Instruction	3
EDEA 472	Secondary Music Curriculum and Instruction	3
PEDAGOGICAL SUPPORT COURSES		**12**
Required Course		3
EDES 350	Classroom Practices (Secondary)	
3 credits from:		3
EDEC 248	Multicultural Education	
EDEC 233	First Nations and Inuit Education	
3 credits from:		3
EDEC 262	Media, Technology and Education	
EDPT 200	Integrating Educational Technology in Classrooms	
EDPT 204	Educational Media 1	
EDPT 341	Instructional Programming 1	
MUGT 301	Technology and Media for Music Education	
3 credits from:		3
EDPE 304	Measurement and Evaluation	
EDEE 355	Classroom-based Evaluation	
TOTAL CREDITS		**144**

12.6.6 Management Minor Programs

The Desautels Faculty of Management offers a Minor in Management and a Minor in Marketing to B.Mus. undergraduates that allow Music students to include courses in their undergraduate program that will help prepare them for a career in music. All Minors for non-Management students require an application. The form may be found at www.mcgill.ca/bcom.

Detailed information on these minors can be found in the Desautels Faculty of Management; see section 11.10.2 “Minor in Management” and section 11.10.6 “Minor in Marketing”.

12.7 Practical Subjects

12.7.1 Practical Assignments and Lessons

12.7.1.1 Registration/Withdrawal

Registration for practical instruction and examinations is not available on Minerva. Students are reminded to submit a Lesson Assignment Card to the Department of Performance by the specified deadlines. Practical Instruction will then be added onto students’ records.

The deadline for withdrawing from practical lessons is the end of the second week of classes in any term.

12.7.1.2 Assignment of Teachers

The assignment of students to teachers for private lessons is the responsibility of the Chair of the Department of Performance. Student requests for specific teachers will be taken into consideration where possible.

It is understood that returning students will study with the same teacher unless prior arrangements have been made with the Chair of the Department in consultation with the teachers concerned. **However, those students who do not return the Lesson Assignment Card (including Voice Coaching) by the specified deadline cannot be guaranteed the teacher of their choice, and they will be assessed a late fee of $25.** Teacher assignments will be made soon after the period of enrolment and posted during the first week of classes. Following this assignment, it is the students' responsibility to contact their teachers and arrange lesson times.

Individual lessons missed as a consequence of the instructor's absence will be made up at the mutual convenience of the instructor and student. Lessons missed as the result of the student's absence will be made up only if notice of cancellation has been given 48 hours in advance, or if a doctor's certificate is produced and prior notice of the cancellation is given.

Note: Students who are taking practical lessons in fulfillment of the requirements for any degree are required to study with teachers on the staff of the Schulich School of Music.

12.7.1.3 Credit Weights for Practical Study

B.Mus. Elective or Concentration	2 credits per term
B.Mus. Major or Honours	4 credits per term
L.Mus.	8 credits per term
Artist Diploma	8 credits per term

12.7.2 Examinations and Goals in Practical Subjects

Different levels of achievement are required of students depending upon the program of study for which they are registered. These levels are defined in part by the difficulty of material and length of program required at the various examinations, and in part by the examiners’ assessment of how well the student plays this material.

In general there are five categories of practical study: Concentration Study, Major and Honours Study, Licentiate Study, Postgraduate Study, and Elective Study.

12.7.2.1 Concentration Study

A student in the Faculty Program or specializing in Composition, Music Education, Music History, Music Technology, or Theory is obliged to present two examinations in order to fulfil the practical requirement of these programs. These are: the Concentration 1 Examination MUIN 222 and the Concentration 2 Examination MUIN 322.

The sequence would normally be:

MUIN 120 Practical Instruction 1
MUIN 121 Practical Instruction 2
MUIN 220 Practical Instruction 3
MUIN 221 Practical Instruction 4
MUIN 222 Concentration 1 Examination

MUIN 320 Practical Instruction 5
MUIN 321 Practical Instruction 6
MUIN 322 Concentration 2 Examination

Concentration 1 Examination (MUIN 222)
Purpose: To assess the student's progress in the practical area and make recommendations for further study. The panel may recommend to the Department in which the student is registered that: a) the student be asked to withdraw from the program; or b) the student, having made sufficient progress, may proceed to the Concentration 2 Exam.

Panel: A minimum of two staff members (not including the teacher), one of whom must be from the area. The panel is appointed by the Chair of the Department of Performance. At the discretion of the Departmental Chair, the teacher may be included on panels of three or more examiners.

Distribution of Marks: For students registered in practical lessons through the Schulich School of Music, the teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark. This grade will also be entered in the student's current or most recent term of practical instruction. When a student is not registered for lessons through the Schulich School of Music, the final mark will be the average of the marks submitted by the examination panel and will also be entered in the most recent term of practical instruction.

Concentration 2 Examination (MUIN 322)
Purpose: To determine that the student is sufficiently accomplished to qualify for the degree of Bachelor of Music.

Panel: A minimum of two staff members (not including the teacher), one of whom must be from the area. The panel is appointed by the Chair of the Department of Performance. At the discretion of the Departmental Chair, the teacher may be included on panels of three or more examiners.

Distribution of Marks: For students registered in practical lessons through the Schulich School of Music, the teacher submits a term mark which is included as 33% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 33% of the final mark. This grade will also be entered in the student's current or most recent term of practical instruction. When a student is not registered for lessons through the Schulich School of Music, the final mark will be the average of the marks submitted by the examination panel and will also be entered in the most recent term of practical instruction.

12.7.2.2 Major and Honours Study

A student majoring in Performance (B.Mus. or L.Mus.) must show talent for this field before being admitted to the program. The practical requirement for these programs comprises examinations and recitals as specified in the programs.

Any U1 Performance Major (except Jazz Performance) may indicate an intention to pursue an Honours program but admission becomes final only after the results of the Major Performance 1 Exam are available. Admission to the Honours program requires a grade of A- or better in the Performance 1 Exam (or most recent exam), a GPA of 3.00 or better, the approval of the student's teacher and the examining panel. Following the Major Performance 1 Exam, Honours students must present the Honours Performance 2 Exam and the Honours Performance 3 Exam.

B.MUS. MAJOR IN PERFORMANCE, MAJOR IN EARLY MUSIC PERFORMANCE, AND MAJOR IN JAZZ PERFORMANCE

The sequence would normally be:

MUIN 130 Performance Practical Instruction 1
MUIN 131 Performance Practical Instruction 2
MUIN 230 Performance Practical Instruction 3
MUIN 231 Performance Practical Instruction 4
MUIN 232 Performance 1 Examination

MUIN 330 Performance Practical Instruction 5
MUIN 333 Piano Techniques 2
MUIN 331 Performance Practical Instruction 6
MUIN 332 Performance 2 Examination

MUIN 430 Performance Practical Instruction 7
MUIN 433 Piano Techniques 3
MUIN 431 Performance Practical Instruction 8
MUIN 432 Performance 3 Examination

MUIN 369 Concerto (mandatory test for pianists)

Performance 1 Examination (MUIN 232)
Purpose: To assess the student's progress in the practical area and determine whether or not the student may continue in the program. The panel may recommend to the Department that the student be: a) asked to withdraw from the program; b) permitted to continue to the Performance 2 Exam; c) admitted to the Performance Honours program.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: The teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark. This grade will also be entered in the student's current or most recent term of practical instruction.

Performance 2 Examination (MUIN 332)
Purpose: To assess the student's ability to perform a program of sufficient length and suitable repertoire as specified in the requirements for each instrument.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

Performance 3 Examination (MUIN 432)
Purpose: All recitals are to be performed in public before a jury and are intended to demonstrate technical mastery of their instrument/voice as well as an understanding of different musical styles appropriate to their level of study.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

B.MUS. HONOURS IN PERFORMANCE AND IN EARLY MUSIC PERFORMANCE

The sequence would normally be:

MUIN 130 Performance Practical Instruction 1
MUIN 131 Performance Practical Instruction 2
MUIN 230 Performance Practical Instruction 3
MUIN 231 Performance Practical Instruction 4
MUIN 232 Performance 1 Examination

MUIN 340 Honours Practical Instruction 5
MUIN 333 Piano Techniques 2
MUIN 341 Honours Practical Instruction 6
MUIN 342 Honours Performance 2 Examination

MUIN 369 Concerto (mandatory test for pianists)

MUIN 440 Honours Practical Instruction 7
MUIN 442 Honours Performance 3 Examination
MUIN 433 Piano Techniques 3
MUIN 441 Honours Practical Instruction 8

Performance 1 Examination (MUIN 232)
Purpose: To assess the student's progress in the practical area and determine whether or not the student may continue in the program. The panel may recommend to the Department that the student be: a) asked to withdraw from the program; b) permitted to continue to the Performance 2 Exam; c) admitted to the Performance Honours program.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: The teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark. This grade will also be entered in the student's current or most recent term of practical instruction.

Honours Performance 2 Examination (MUIN 342)
Purpose: The recital is a public presentation, before a jury, intended to demonstrate competence in public solo performance. Non-keyboard performers and singers must use appropriate accompaniment.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

Honours Performance 3 Examination (MUIN 442)
Purpose: All recitals are to be performed in public before a jury and are intended to demonstrate technical mastery of their instrument/voice as well as an understanding of different musical styles appropriate to their level of study.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

12.7.2.3 Licentiate Study

A student must show talent for this field before being admitted to the program. Grades of A- in all practical requirements are mandatory for continuation in the program.

L.MUS. PERFORMANCE

The sequence would normally be:

MUIN 250 L.Mus. Practical Instruction 1
MUIN 251 L.Mus. Practical Instruction 2
MUIN 252 L.Mus. Performance 1 Examination

MUIN 350 L.Mus. Practical Instruction 3
MUIN 333 Piano Techniques 2
MUIN 351 L.Mus. Practical Instruction 4
MUIN 352 L.Mus. Performance 2 Examination

MUIN 450 L.Mus. Practical Instruction 5
MUIN 433 Piano Techniques 3
MUIN 451 L.Mus. Practical Instruction 6
MUIN 452 L.Mus. Performance 3 Examination

MUIN 369 Concerto (mandatory test for pianists)

L.Mus. Performance 1 Examination (MUIN 252)
Purpose: To assess the student's progress in the practical area and determine whether or not the student may continue in the program. The panel may recommend to the Department that the student be: a) asked to withdraw from the program; or b) permitted to continue to the L.Mus. Performance 2 Exam.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: The teacher submits a term mark which is included as 50% of the final mark. In instances where the student's teacher is on the panel, the teacher's global evaluation will nevertheless be equal to 50% of the final mark. This grade will also be entered in the student's current or most recent term of practical instruction.

L.Mus. Performance 2 Examination (MUIN 352)
Purpose: The recital is a public presentation, before a jury, intended to demonstrate competence in public solo performance. Non-keyboard performers and singers must use appropriate accompaniment.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

L.Mus. Performance 3 Examination (MUIN 452)
Purpose: All recitals are to be performed in public before a jury and are intended to demonstrate technical mastery of their instrument/voice as well as an understanding of different musical styles appropriate to their level of study.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Each member of the panel submits a mark for the examination, with the final mark being the average. This grade will also be entered in the student's current or most recent term of practical instruction.

12.7.2.4 Postgraduate Study

Artist Diploma candidates must present a number of public recitals and fulfil various special performance requirements (concertos, chamber music, orchestral passages, etc.). Grades of A- in all practical requirements are mandatory for continuation in the program.

M.Mus. candidates should consult the *Graduate and Postdoctoral Studies Calendar* for requirements of their program.

ARTIST DIPLOMA

The sequence would normally be:

MUIN 460 Artist Diploma Practical Instruction 1
MUIN 461 Artist Diploma Practical Instruction 2
MUIN 462 Artist Diploma Recital 1

MUIN 560 Artist Diploma Practical Instruction 3
MUIN 561 Artist Diploma Practical Instruction 4
MUIN 562 Artist Diploma Recital 2
MUIN 563 Artist Diploma Recital 3

In addition, the Artist Diploma program in orchestral instruments, piano and voice requires the candidate to present two concertos:

MUIN 469 Artist Diploma Concerto 1
MUIN 569 Artist Diploma Concerto 2

Applications for Artist Diploma Concerto hearings must be submitted to the Department of Performance Office five (5) weeks prior to the proposed date. The concerto examinations may be planned for any time during the academic session subject to the availability of examiners and facilities.

Artist Diploma Recital 1 (MUIN 462)
Purpose: Recital programs are intended to demonstrate that the student is qualified to engage in professional performance activities, and has attained the high level of performing ability required for the Artist Diploma.

Panel: The panel consists of the Departmental Chair or delegate as well as two staff members from the area concerned (in Voice

recitals, one voice teacher plus one staff member from another area).

Distribution of Marks: Examiners judge the recital independently and submit their evaluation without consulting the other examiners. All of the examiners must judge the recital to be satisfactory for the candidate to pass. This grade will also be entered in the student's current or most recent term of practical instruction.

Artist Diploma Recital 2 (MUIN 562)

Purpose: Recital programs are intended to demonstrate that the student is qualified to engage in professional performance activities, and has attained the high level of performing ability required for the Artist Diploma.

Panel: The panel consists of the Departmental Chair or delegate as well as two staff members from the area concerned (in Voice recitals, one voice teacher plus one staff member from another area).

Distribution of Marks: Examiners judge the recital independently and submit their evaluation without consulting the other examiners. All of the examiners must judge the recital to be satisfactory for the candidate to pass. This grade will also be entered in the student's current or most recent term of practical instruction.

Artist Diploma Recital 3 (MUIN 563)

Purpose: Recital programs are intended to demonstrate that the student is qualified to engage in professional performance activities, and has attained the high level of performing ability required for the Artist Diploma.

Panel: The panel consists of the Departmental Chair or delegate as well as two staff members from the area concerned.

Distribution of Marks: Examiners judge the recital independently and submit their evaluation without consulting the other examiners. All of the examiners must judge the recital to be satisfactory for the candidate to pass.

Artist Diploma Concerto 1 (MUIN 469)

Purpose: The Artist Diploma program in orchestral instruments, piano and voice requires the candidate to present concertos which are normally examined only by a jury. The concerto examinations may be planned for any time during the academic session subject to the availability of examiners and facilities.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Examiners judge the concerto independently and submit their evaluation without consulting the other examiners. All the examiners must judge the concerto to be satisfactory for the candidate to pass.

Artist Diploma Concerto 2 (MUIN 569)

Purpose: The Artist Diploma program in orchestral instruments, piano and voice requires the candidate to present concertos which are normally examined only by a jury. The concerto examinations may be planned for any time during the academic session subject to the availability of examiners and facilities.

Panel: A minimum of three staff members, one of whom may be the student's teacher. The panel is appointed by the Chair of the Department of Performance.

Distribution of Marks: Examiners judge the concerto independently and submit their evaluation without consulting the other examiners. All the examiners must judge the concerto to be satisfactory for the candidate to pass.

12.7.2.5 Elective Study

Students may elect to pursue further practical study in addition to their curricular requirements. The student is not expected to follow a specific program. Additional fees apply.

12.7.3 Practical Examinations

Details of specific examination requirements for each area (Brass, Early Music, Guitar, Harp, Jazz, Organ, Percussion, Piano, Strings, Voice, Woodwinds) may be obtained from the Department of Performance Office.

12.7.3.1 Application for Examination

Examinations and recitals must be presented in one of the examination periods. When a student and his/her teacher agree to present a required practical examination, **the student must make an application by the deadline specified below.** Permission to withdraw from, or postpone, a practical examination will normally be granted only in the case of illness. A medical certificate must be submitted to the Departmental Secretary within seven days after the withdrawal request has been received. Withdrawal from a practical examination on other than medical grounds must be authorized by the Departmental Chair.

Application for the above examinations must be made on the appropriate form available at the Performance Academic Affairs Office. Applicants must obtain their teachers' approval on this form and submit it according to the following schedule.

Examination Period	Application Deadline*	Deadline for Cancellations
September 7-11, 2009**	June 1***	August 1
December 7-22, 2009	October 15	November 7
April 15-30, 2010	February 2	March 2

* All students must apply by this deadline. Applications may be withdrawn without penalty any time up to the deadline for cancellations given above.

** The September examination period is available only for Summer graduands. No supplemental or deferred examinations will be given at this time.

*** It is recommended that students planning to take an examination in September submit the program for approval before the end of May otherwise the program may not be seen by the Area Committee until September.

Applications received after these deadlines will only be accepted with special permission from the Performance Departmental Chair and on payment of a $25 late application fee.

12.7.3.2 Examination Marking

Normally, the final mark for any practical examination is the average of all the marks submitted by the individual examiners. In addition, however, at least half of the examiners on the panel must pass the student in order to continue to the next level of examination. (N.B.: the passing grade in the Honours, L.Mus. and Artist Diploma programs is A-; in the Major Performance programs, it is B-.) In instances where the average mark is a passing grade but a majority of the panel has failed the student, the final mark will be the letter grade immediately below the required passing grade.

12.8 Academic Staff

DEPARTMENT OF MUSIC RESEARCH

Chair — Schubert, Peter; B.A., M.A., Ph.D.(Col.)

COMPOSITION AREA

Bouliane, Denys; B.Mus., M.Mus.(Laval), Graduate, Hochschule für Musik(Hamburg); Associate Professor; Composition, Orchestration, Contemporary Music Ensemble

Cherney, Brian; Mus.Bac., Mus.M., Ph.D.(Tor.); Professor; Composition, Theory and Analysis, History and Literature

Ferguson, Sean; B.Mus.(Alta.), M.Mus., D.Mus.(McG.); Assistant Professor; Composition; Director, Digital Composition Studio

Harman, Chris; Assistant Professor; Composition Area Chair; Composition

Lesage, Jean; Concours, Diplôme d'études supérieures (Conservatoire de Montréal); Assistant Professor; Composition Area Chair; Composition
Rea, John; B.Mus.(Wayne State), M.Mus.(Tor.), M.F.A., Ph.D.(Prin.); Professor; Composition, Theory and Analysis

MUSIC EDUCATION AREA
Cossette, Isabelle; Premier Prix(Conservatoire de Québ.); M.Mus.(McG.), D.Mus.(Montr.); Assistant Professor; Special Category
Lorenzino, Lisa; B.Mus.(Tor.), B.Ed.(Sask.), M.A.(McG.); Faculty Lecturer; Music Education Area Chair; Music Education
Wapnick, Joel; B.A.(NYU), M.A.(SUNY), M.F.A.(Sarah L.), Ed.D.(Syr.); Associate Professor; Director, Music Education Research Lab; General Music Techniques

MUSIC THEORY AREA
Caplin, William; B.M.(S. Calif.), M.A., Ph.D.(Chic.); Professor; Theory and Analysis
Daley, Rene; B.Mus.(Lawrence), M.A., M.Mus.(Mannes), Ph.D.(Mich.); Assistant Professor; Theory and Analysis
McLean, Don; Mus.Bac., M.A., Ph.D.(Tor.); Associate Professor; Dean, Schulich School of Music; Theory and Analysis
Neidhöfer, Christoph; Graduate, Hochschule für Musik(Basel), Ph.D.(Harv.); Associate Professor; Theory and Analysis, Composition
Sabourin, Carmen; B.Mus., M.Mus.(McG.), Ph.D.(Yale); Associate Professor; Theory
Schubert, Peter; B.A., M.A., Ph.D.(Col.); Associate Professor; Theory and Analysis
Wild, Jonathan; B.Mus., M.A.(McG.), Ph.D.(Harv.); Assistant Professor; Theory Area Chair, Theory and Analysis, Composition

MUSIC TECHNOLOGY AREA
Depalle, Philippe; B.Sc.(Paris XI & ENS Cachan), D.E.A.(Le Mans & ENS Cachan), Ph.D.(Le Mans & IRCAM); Associate Professor; Music Technology (*William Dawson Scholar*)
Fujinaga, Ichiro; B.Mus., B.Sc.(Alta.), M.A., Ph.D.(McG.); Associate Professor; Music Technology
McAdams, Stephen; B.Sc.(McG.), Ph.D.(Stan.), D.Sc.(Paris); Professor; Director, CIRMMT; (*Canada Research Chair*); Music Technology
Pennycook, Bruce; B.Mus., M.Mus.(Tor.), DMA (Stan.); Adjunct Professor; Music Technology
Scavone, Gary; B.A., B.S.(Syr.), M.S., Ph.D.(Stan.); Assistant Professor; Music Technology Area Chair; Music Technology
Umezaki, Kojiro; M.A.(Dart.), B.Sc.(Lafayette); Instructor; Music Technology
Wanderley, Marcelo; B.Eng.(UFPR), M.Eng.(UFSC), Ph.D.(Paris VI & IRCAM); Associate Professor; Music Technology, Gestural Control of Sound Synthesis

MUSICIANSHIP AREA
Davidson, Thomas; B. Mus.(Qu.), M.Mus.(McG.), Cert. of Advanced Study(R.C.M., Lond.), A.R.C.M., L.T.C.L.; Faculty Lecturer; Musicianship Area Chair; Musicianship, Piano; Keyboard Proficiency Coordinator
Mariner, Justin; M.Mus., D.Mus.(McG.); Assistant Professor; Musicianship
Sherman, Norma; B.A.(C'dia), B.Mus., M.A.(McG.); Faculty Lecturer; Musicianship

MUSICOLOGY AREA
Barg, Lisa; B.A.(Antioch), M.A., Ph.D.(SUNY); Assistant Professor; History and Literature
Beghin, Tom; Diplôme Supérieur(Louvain), M.A., D.M.A.(C'nell); Associate Professor; Fortepiano, History and Literature
Brackett, David; B.A.(Calif.-Santa Cruz), M.M.(New England Cons.), D.M.A.(C'nell); Associate Professor; History and Literature
Cumming, Julie; B.A.(Col.), M.A., Ph.D.(Calif., Berk.); Associate Professor; History and Literature
Huebner, Steven; B.A., B.Mus., L.Mus.(McG.), M.F.A., Ph.D.(Prin.); Professor; History and Literature (*James McGill Professor*)
Kok, Roe-Min; B.Mus.(Texas), M.A.(Duke), Ph.D.(Harv.); Assistant Professor; Musicology Area Chair; History and Literature
lanza, alcides; Graduate, Instituto Torcuato Di Tella(Buenos Aires); Professor; Director Emeritus (Electronic) Digital Composition Studio
Lawton, Richard; B.Mus.(McG.), M.Mus.(Ind.); Associate Professor; History and Literature
Minorgan, Bruce; B.Mus.(Br. Col.), M.A.(Tor.); Associate Professor; Associate Dean; History and Literature, Music Technology
Rice, Kelly; B.Mus., M.A.(McG.); Instructor; History and Literature
Stubley, Eleanor; B.Mus.(Tor.), M.Mus.(Bran.), Ph.D.(Ill.); Associate Professor; Music Education
Whitesell, Lloyd; B.A.(Minn.), M.A., Ph.D.(SUNY, Stony Brook); Associate Professor; History and Literature

SOUND RECORDING AREA
Bech, Soren; M.Sc., Ph.D.(Technical Univ. of Denmark); Adjunct Professor; Sound Recording; Senior Technology Specialist, Bang & Olufsen
Cook, Peter; B.Mus., M.Mus.(McG.); C.B.C.; Instructor; Sound Recording
De Francisco, Martha; Diplom-Tonmeister(Detmold); Associate Professor; Sound Recording
Epstein, Steven; Senior Executive Producer, Sony Classical; Instructor; Sound Recording
Massenburg, George; President and Owner, GML Inc.; Instructor; Sound Recording
Quesnel, René; B.Mus., M.Mus., Ph.D.(McG.); Assistant Professor; Sound Recording
Woszczyk, Wieslaw; M.A., Ph.D.(F. Chopin Academy of Music, Warsaw); Professor; Director, Recording Studio; Sound Recording (*James McGill Professor*)

ASSOCIATE MEMBERS
Jeremy Cooperstock, Dept. of Electrical and Computer Engineering
Vincent Hayward, Dept. of Electrical and Computer Engineering
Daniel Levitin, Dept. of Psychology
Robert Zatorre, Montreal Neurological Institute

DEPARTMENT OF PERFORMANCE

Chair — Roy, André; B.Mus.(Curtis); Assistant Professor

BRASS AREA

French Horn
Derome, Denys; L.Mus.(McG.); Montreal Symphony Orchestra; Instructor
Gaudreault, Jean; LL.L.(Montr.), Graduate, Conservatoire de musique de Québec; Montreal Symphony Orchestra; Assistant Professor
Zirbel, John; B.Mus.(Wis.); Principal Horn, Montreal Symphony Orchestra; Associate Professor

Trumpet
Carroll, Edward; B.Mus., M.Mus.(Juilliard)
DeVuyst, Russell; B.Mus.Ed.(Boston Cons.), M.M.(New England Cons.); Associate Principal Trumpet, Montreal Symphony Orchestra; Assistant Professor
Merkelo, Paul; B.Mus.(Eastman); Principal Trumpet, Montreal Symphony Orchestra; Instructor

Trombone
Box, James; M.M.(S. Methodist), M.M.(Cleveland Inst. Music); Principal Trombone, Montreal Symphony Orchestra; Assistant Professor
Dix, Trevor; M.Mus.(McG.); Instructor

Lee, Vivian; Montreal Symphony Orchestra; Instructor
Martin, David; Montreal Symphony Orchestra; Instructor

Tuba/Euphonium
Cazes, Alain; Premier Prix(Conservatoire de Montréal); Assistant Professor; Brass Area Chair
Johnson, Sasha; Instructor; Associate Brass Area Chair
Miller, Dennis; Principal Tuba, Montreal Symphony Orchestra; Assistant Professor

CHORAL AREA
Wachner, Julian; B.Mus., Mus.Doc.(Boston); Associate Professor; Principal Conductor, Opera McGill

EARLY MUSIC AREA
Beauséjour, Luc; Instructor; Harpsichord
Beghin, Tom; Diplôme Supérieur(Louvain), M.A., D.M.A.(C'nell); Associate Professor; Fortepiano
Bergeron, Sylvain; B.Mus.(Laval); Instructor; Lute
Grew, John; L.T.C.L.(Lond.), B.Mus.(Mt. All.), M.Mus.(Mich.), D.D.(United Theological Coll.), LL.D.(Mt. All.); University Organist; Professor; Organ Area Chair; Organ, Harpsichord; Early Music Area Co-Chair
Guimond, Claire; B.Mus.(McG.); Instructor; Baroque Flute
Jennejohn, Matthew; B.A.(Sask.), B.Mus.(Br. Col.); Instructor; Baroque Oboe
Kinslow, Valerie; B.A.(McG.); Assistant Professor; Early Music, Voice; Early Music Area Co-Chair
Kirk, Douglas; B.S., B.A.Mus. Hons.(Iowa), M.M.(Texas-Austin), Ph.D.(McG.); Instructor; Cornetto
Knox, Hank; B.Mus., M.Mus.(McG.); Associate Professor; Continuo, Harpsichord (*William Dawson Scholar*)
Lortie, Dominique; Instructor; Sackbut
Lussier, Mathieu; Instructor; Baroque Bassoon
MacMillan, Betsy; B.Mus.(W. Ont.), M.Mus.(McG.); Instructor; Viola da Gamba
Maute, Matthias; Instructor; Recorder
Michaud, Nathalie; B.A.(Ott.), Cert. of Interpretation(The Hague), M.A.(Montr.); Instructor; Recorder
Napper, Suzie; Instructor; Baroque Cello
Oldengarm, Jonathan; B.Mus.(W. Laur.); M.Mus., Artist Dip., D.Mus.(McG.); Instructor; Continuo
Plouffe, Hélène; Instructor; Baroque Viola; Baroque Violin
Rémillard, Chantal; B.Mus.(Montr.); Instructor; Baroque Violin

ENSEMBLES
Bouliane, Denys; B.Mus., M.Mus.(Laval), Graduate, Hochschule für Musik(Hamburg); Associate Professor; Contemporary Music Ensemble
Cazes, Alain; Premier Prix(Conservatoire de Montréal); Assistant Professor; Wind Symphony, Wind Orchestra
Di Lauro, Ron; B.Mus.(McG.); Instructor; Jazz Orchestra II
Foote, Gordon; B.Sc., M.A.(Minn.); Associate Professor; Jazz Orchestra I
Hauser, Alexis; Diplom(Konservatorium der Stadt, Wien); Associate Professor; McGill Symphony Orchestra
Thériault, Madeleine; Instructor; Jazz Vocal Workshop
Kennedy, Donny; B.Mus., M.Mus.(McG.); Jazz Combo Coordinator
MacMillan, Betsy; B.Mus.(W. Ont.), M.Mus.(McG.); Instructor; Early Music Ensemble Coordinator
McNabney, Douglas; B.Mus.(Tor.), M.M.(W. Ont.), D.Mus.(Montr.); Associate Professor; Chamber Music Coordinator

JAZZ AREA

Jazz Bass
Boisvert, Guy; Instructor
Denis, Marc; Instructor
Hollins, Fraser; Instructor
Lessard, Daniel; Instructor
Pépin, Pierre; Instructor
Walkington, Alexander; B.Mus., M.Mus.(McG.); Instructor

Jazz Drums
Doxas, Jim; B.Mus.(McG.); Instructor
Laing, David; B.A.(McG.); Instructor
Lambert, Michel; Instructor
McCann, Chris; Instructor
White, André; B.A.(C'dia), M.Mus.(McG.); Associate Professor

Jazz Flute
Gossage, Dave; Instructor

Jazz Guitar
Amirault, Greg; B.Mus.(McG.); Instructor
Clayton, Greg; Instructor
Gauthier, Michael; Instructor
Gearey, Jon; Instructor

Jazz Piano
Downes, Wray; A.T.C.L., L.T.C.L., F.T.C.L.(Lond.); Instructor
Jarczyk, Jan; B.A., M.A.(Academy of Music, Cracow), Dip.(Berklee); Associate Professor; Jazz Area Chair
Johnston, Jeffrey; Instructor
Rager, Josh; B.Mus., M.Mus.(McG.); Instructor
Roney, John; M.Mus.(McG.); Instructor
White, André; B.A.(C'dia), M.Mus.(McG.); Associate Professor

Jazz Saxophone
Bolduc, Rémi; Assistant Professor
Kennedy, Donny; B.Mus., M.Mus.(McG.)
Lozano, Frank; Instructor
Miller, Joel; B.Mus.(McG.); Instructor
Turner, Dave; Instructor

Jazz Trombone
Abdul Al-Khabyyr, Muhammad; Instructor
Grott, David; Instructor

Jazz Trumpet
Couture, Jocelyn; Instructor
Dean, Kevin; B.M.E.(Iowa), M.Mus.(Miami); Professor
Di Lauro, Ron; B.Mus., M.Mus.(McG.); Instructor
Mahar, Bill; B.Mus.(McG.); Instructor
Sullivan, Joe; B.A.(Ott.), M.M.(New England Cons.); Associate Professor

Jazz Voice
Lee, Ranee; Instructor
Thériault, Madeleine; Instructor

OPERA AREA
Hansen, Patrick; B.Mus.(Simpson), M.Mus.(Missouri); Assistant Professor; Opera Director
Haas, Samantha; Instructor
Wachner, Julian; B.Mus., Mus.Doc.(Boston); Associate Professor; Principal Conductor

ORGAN AREA
Gilbert, Kenneth; D.Mus. honoris causa(McG.), O.C., F.R.S.C., HonRAM; Adjunct Professor
Grew, John; L.T.C.L.(Lond.), B.Mus.(Mt. All.), M.Mus.(Mich.), D.D.(United Theological Coll.), LL.D.(Mt. All.); University Organist; Professor; Organ Area Chair
Porter, William; Assistant Professor

PERCUSSION AREA
Huang, Aiyun; B.A.(Tor.), D.M.A.(Calif.-San Diego); Assistant Professor; Percussion Area Chair
Marandola, Fabrice; Premier Prix(Conservatoire de Paris); M.Mus., Ph.D.(Sorbonne); Assistant Professor
Mativetsky, Shawn; B.Mus., M.Mus.(McG.); Instructor

PIANO AREA
Davidson, Thomas; B.Mus.(Qu.), M.Mus.(McG.), Cert. of Advanced Study(R.C.M., Lond.), A.R.C.M., L.T.C.L; Faculty Lecturer
Gavrilova, Julia; M.Mus., D.Mus.(McG.); Instructor

Hashimoto, Kyoko; B.A.(Tokyo); Associate Professor
Laimon, Sara; B.Mus.(Br. Col.), M.Mus.(Yale), D.M.A.(SUNY, Stony Brook); Associate Professor
McMahon, Michael; B.Mus.(McG.), Graduate, Hochschule für Musik (Vienna); Associate Professor
Mdivani, Marina; Post-graduate Dip.(Moscow Cons.); Associate Professor
Plaunt, Tom; B.A.(Tor.), Graduate, Nordwestdeutsche Musik-akademie(Detmold, Germany); Associate Professor
Raymond, Richard; Premier Prix(Conservatoire de Montréal); M.Mus.(Montr.); Associate Professor; Piano Area Chair
Zuk, Luba; L.Mus.(McG.), Graduate, Conservatoire de musique de Québec; Associate Professor

STRING AREA

Violin
Crow, Jonathan; B.Mus. (McG.); Assistant Professor; String Area Chair
Fewer, Mark; B.Mus.(Tor.); Assistant Professor
Lupien, Denise; B.M., M.M.(Juilliard); Concertmaster, Orchestre Métropolitain; Assistant Professor
Roberts, Richard; B.Mus.(Ind.); Concertmaster, Montreal Symphony Orchestra; Assistant Professor
Williams, Thomas; B.Mus.(Bran.); Associate Professor

Viola
Marcotte, Anna-Belle; L.Mus.(McG.); Instructor
McNabney, Douglas; B.Mus.(Tor.), M.M.(W. Ont.), D.Mus.(Montr.); Associate Professor
Roy, André; B.Mus.(Curtis); Associate Professor

Cello
Dolin, Elizabeth; B.Mus.(Tor.), Artist Dip.(Ind.); Assistant Professor
Dyachkov, Yegor; Instructor
Haimovitz, Matt; B.A.(Harv.); Associate Professor
Manker, Brian; Principal Cello, Montreal Symphony Orchestra; Instructor

Double Bass
Chappell, Eric; B.Mus.(McG.); Montreal Symphony Orchestra; Instructor
Denis, Marc; Instructor
Pépin, Pierre; Instructor
Quarrington, Joel; Instructor
Robinson, Brian; B.Mus.(Tor.); Montreal Symphony Orchestra; Instructor
Yazdanfar, Ali; Montreal Symphony Orchestra; Instructor

Guitar
Antonio, Garry; B.Mus., M.Mus.(McG.), D.Mus.(Montr.), D.I.A.(C'dia); Instructor; Guitar Area Chair

Harp
Swartz, Jennifer; Dip.(Curtis); Principal Harp, Montreal Symphony Orchestra; Assistant Professor

VOICE AREA
Algieri, Stefano; Assistant Professor
Evans, Lucile; Dip.(Vincent d'Indy); Associate Professor
Kinslow, Valerie; B.A.(McG.); Assistant Professor; Early Music, Voice Area Chair
Kolomyjec, Joanne; B.Mus.(Tor.); Assistant Professor
Purdy, Winston; B.Mus.(McG.), M.M.(Eastman); Assistant Professor
Sevadjian, Thérèse; B.Mus., M.Mus.(Montr.); Associate Professor
Sylvan, Sanford; Assistant Professor

VOCAL COACHING
Diamond, Louise; M.Mus.(McG.); Vocal Coach
McLean, Pierre; Vocal Coach
Nigrim, Dana; Vocal Coach
Pelletier, Louise; B.Ed., M.Mus.(UQAM), M.Mus.(Montr.); Vocal Coach

WOODWIND AREA

Flute
Bluteau, Denis; M.Mus.(Montr.); Associate Principal, Montreal Symphony Orchestra; Intructor
Christie, Carolyn; B.Mus.(McG.); Montreal Symphony Orchestra; Assistant Professor
Howes, Heather; B.Mus., M.Mus.(McG.); Instructor
Hutchins, Timothy; Dip. L.G.S.M.(Guildhall), B.A. Hons.Mus.(Dal.); Principal Flute, Montreal Symphony Orchestra; Associate Professor
Kestenberg, Abe; Associate Professor; Woodwind Area Chair
Shuter, Cindy; B.Mus.(Tor.); Instructor

Oboe
Baskin, Theodore; B.Mus.(Curtis), M.Mus.(Auck.); Principal Oboe, Montreal Symphony Orchestra; Associate Professor
Forget, Normand; Instructor

Clarinet
Aldrich, Simon; B.Mus., L.Mus.(McG.); Instructor
Crowley, Robert; B.M.(Eastman), M.M.(Cleve. Inst. of Music); Principal Clarinet, Montreal Symphony Orchestra; Assistant Professor
Desgagné, Alain; Instructor
Dumouchel, Michael; B.Mus.(Eastman); Montreal Symphony Orchestra; Instructor
Freedman, Lori; Instructor
Freeman, Peter; L.Mus., B.Mus., M. Mus.(McG.); Instructor
Kestenberg, Abe; Associate Professor; Woodwind Area Chair

Bassoon
Lévesque, Stéphane; Premier Prix(Conservatoire de Montréal); M.Mus.(Yale); Principal Bassoon, Montreal Symphony Orchestra; Assistant Professor
Mangrum, Martin; Montreal Symphony Orchestra; Instructor
Romatz, Mark; Montreal Symphony Orchestra; Instructor

Saxophone
Freeman, Peter; L.Mus., B.Mus., M. Mus.(McG.); Instructor
Kestenberg, Abe; Associate Professor; Woodwind Area Chair

13 Faculty of Religious Studies

Table of Contents

13.1 The Faculty, page 385
- 13.1.1 Location, page 385
- 13.1.2 Administrative Officers, page 385
- 13.1.3 History, page 385
- 13.1.4 Facilities, page 385
- 13.1.5 Birks Lectures, page 385
- 13.1.6 Numata Visiting Professor in Buddhist Studies, page 385

13.2 Degrees Offered by the Faculty, page 385

13.3 Bachelor of Arts (B.A.) in Religious Studies, page 385

13.4 Master of Divinity (M.Div.), page 386

13.5 Bachelor of Theology (B.Th.), page 386
- 13.5.1 ATS Accreditation, page 386
- 13.5.2 Admission Requirements, page 386
  - 13.5.2.1 Mature Student Admissions Policy, page 386
- 13.5.3 Competence in English, page 386
- 13.5.4 Applying to the B.Th. Program, page 387
  - 13.5.4.1 Required Documents, page 387
  - 13.5.4.2 Mailing Address, page 387
- 13.5.5 Application Deadlines, page 387
- 13.5.6 Tuition Fees and Funding, page 387
- 13.5.7 Admissions Review Procedures, page 387
- 13.5.8 Registration Procedures, page 387
- 13.5.9 Withdrawal Procedures, page 387
- 13.5.10 Graduation Requirements, page 387
- 13.5.11 Course Selection, page 387
- 13.5.12 Academic Standing and Course Loads, page 388
- 13.5.13 Academic Achievement, page 388
  - 13.5.13.1 Graduation Honours, page 388
- 13.5.14 Evaluation, page 388
- 13.5.15 Bachelor of Theology Program Requirements, page 388
- 13.5.16 B.Th. Honours, page 389

13.6 Academic Staff, page 389

13.1 The Faculty

13.1.1 Location

William and Henry Birks Building
3520 University Street
Montreal, QC H3A 2A7
Canada

Telephone: 514-398-4121
Website: www.mcgill.ca/religiousstudies

13.1.2 Administrative Officers

Ellen B. Aitken; A.B.(Harv.), M.Div.(University of the South), Th.D.(Harv.) **Dean**

Luvana Di Francesco **Administrative Assistant**

Bruna Salhany **Administrative Affairs/Dean's Assistant**

13.1.3 History

The Faculty and the Colleges

During the 19th century several Theological Colleges in Montreal became affiliated with McGill. In 1912 they formed a Joint Board for the academic study of Theology, leaving each denominational College to provide its own professional training for Christian ministry. This relationship between the Colleges and the University led naturally to the creation in 1948 of a Faculty of Divinity, which assumed the academic functions of the Joint Board, now designated the Montreal School of Theology. In 1970 the name of the Faculty was changed to the Faculty of Religious Studies. This University Faculty now offers the Bachelor of Theology (B.Th.) degree and several graduate degree programs.

13.1.4 Facilities

The Faculty of Religious Studies is located in the handsome William and Henry Birks Building, erected in 1931, formerly known as Divinity Hall, at 3520 University Street. Besides the usual classrooms, offices and common rooms, this building accommodates the Birks Heritage Chapel and the Birks Reading Room.

13.1.5 Birks Lectures

An annual series was established in 1950 through the generosity of the late William M. Birks. The lectures are given by distinguished visitors, usually in late September or early October. The first lecturer was the Right Reverend Leslie Hunter. More recent lecturers have included Huston Smith, Northrop Frye, Wilfred Cantwell Smith, Gregory Baum, Robert McAfee Brown, Krister Stendahl, Charles Adams, Jon Levenson, David Little, Azim Nanji, Paul Griffiths, Bernadette J. Brooten, Harvey Cox, John S. Hawley and Gabriel Vahanian.

13.1.6 Numata Visiting Professor in Buddhist Studies

In recognition of the strong Buddhist Studies program in the Faculty of Religious Studies, the Numata Foundation has given a 20-year grant to the Faculty to bring a visiting scholar in Buddhist Studies to McGill each year.

The Visiting Professor teaches two courses, one at the undergraduate level and one at the graduate level, gives a public lecture and is available to students for conferences and consultation. The first Numata Professor, in 1999-2000, was Dr. Mahinda Deegalle (Ph.D., Chicago), a Theravada Buddhist Sri Lankan monk. Subsequent visiting professors include Dr. John Petitt, Professor Robert Morrison, Dr. Thupten Jinpa, Dr. Kate Crosby, Ven. Yifa, Dr. Robert Kritzer, Dr. Andrew Skilton, Dr. Joel Tatelman and Dr. Miriam Levering.

13.2 Degrees Offered by the Faculty

Bachelor of Arts (B.A.) in Religious Studies, page 385
Master of Divinity (M.Div.), page 386
Bachelor of Theology (B.Th.), page 386

13.3 Bachelor of Arts (B.A.) in Religious Studies

Honours Concentration, Major Concentration and Minor Concentration in Religious Studies are offered in cooperation with the Faculty of Arts. Religious Studies B.A. Honours, Major, and Minor students may take any of the courses described below except where otherwise indicated.

Admission is to the Faculty of Arts and all admission requirements and procedures, academic rules and regulations of that Faculty apply to students in these programs.

For general information on B.A. Honours, Major Concentrations and Minor Concentrations, consult the advisers. Check the Faculty's website for a list of advisers. For specific course information, consult the instructor.

Detailed descriptions of the Religious Studies programs for Arts students are found in the Arts section of the Calendar in section 6.12.45 "Religious Studies (RELG)".

Students who are interested in the Bachelor of Theology (B.Th.) or Master of Divinity (M.Div.) programs should refer to the appropriate listing.

13.4 Master of Divinity (M.Div.)

Students who have completed a first degree prior to the B.Th. with a minimum CGPA of 2.7 are eligible to apply the B.Th. degree towards the Master of Divinity (M.Div.) degree conferred by the Theological Colleges. This degree requires, in addition to the B.Th. degree, successful involvement in integrative seminars during the two B.Th. years and a year of professional pastoral study beyond the B.Th. This is called the "In-Ministry Year" (IMY) and is offered by the three affiliated Theological Colleges under the auspices of the Montreal School of Theology.

Students from the affiliated colleges may be eligible for bursary assistance if they are properly registered candidates for the ministry. Information about church requirements and the professional year should be sought from the principals of the appropriate colleges.

One biblical language, usually Greek, is required by some of the colleges. Ministerial candidates should consult with the College advisers regarding biblical language requirements.

Prospective candidates for ordination with a B.A. Honours or Major in Religious Studies and a CGPA of 3.3 (B+) may apply for the Master of Sacred Theology (S.T.M.) degree, followed upon completion by the professional year (IMY).

Applicants for the M.Div. program must apply to the McGill B.Th. program *as well as* to one of the Theological Colleges. College application forms should be requested from one of the following:

The Montreal School of Theology
(formerly the Joint Board of Theological Colleges)

École théologique de Montréal (affiliée à l'Université McGill)
3473 University Street, Montreal, Quebec H3A 2A8

Montreal Diocesan Theological College
3473 University Street, Montreal, Quebec H3A 2A8

The Presbyterian College
3495 University Street, Montreal, Quebec H3A 2A8

The United Theological College/Le séminaire Uni,
3521 University Street, Montreal, Quebec H3A 2A8

Prospective students should contact the Chair of the B.Th. Committee to discuss their qualifications, expectations and objectives. Appointments can be made by telephoning 514-398-3995 or by visiting the B.Th. Program Coordinator, Room 113, Birks Building.

13.5 Bachelor of Theology (B.Th.)

The Bachelor of Theology (B.Th.) program is designed primarily for those who intend to qualify for the ordained ministry in a Christian denomination, although some students pursue the degree out of an interest in the academic study of theology for its own sake. Those studying for the ordained ministry pursue the B.Th. as part of the Master of Divinity (M.Div.) degrees (see above) offered by the three Theological Colleges affiliated with McGill: Montreal Diocesan Theological College (Anglican Church of Canada), the Presbyterian College (Presbyterian Church in Canada), and United Theological College (United Church of Canada).

The main goals of the program are:

1) to offer the academic disciplines of theology within a university setting and;

2) to contribute to preparation for ministry in the contemporary world by giving special attention to:
   a) the Canadian and North American contexts;
   b) the Quebec context;
   c) religious pluralism.

13.5.1 ATS Accreditation

The B.Th. program offered by McGill and the M.Div. program offered by the Theological Colleges are together fully accredited by the Association of Theological Schools in the U.S. and Canada (ATS).

13.5.2 Admission Requirements

The B.Th. program has three points of entry:

1. To enter the 120-credit degree program from outside Quebec, the applicant must hold a high school diploma, with a minimum average of 75%, or the equivalent. A maximum of 60 credits from another institution of higher learning can be considered for transfer into the 120-credit program.
2. To enter the 90-credit first-degree program, the applicant is expected to have completed the Diploma of Collegial Studies (DCS) of a Quebec CEGEP with a minimum average of cote R of 24, or the equivalent elsewhere. A maximum of 30 credits from another institution of higher learning can be considered for transfer into this program.
3. To enter the 60-credit program, the applicant must have completed a B.A. or other Bachelor's degree with a minimum CGPA of 2.7 (B-). No credits can be transferred from another institution of higher learning into the 60-credit program.

Any McGill student in good standing, with a minimum of 30 credits, may apply for transfer from their current degree program into a B.Th. program.

13.5.2.1 Mature Student Admissions Policy

Those who will be 23 years of age or older by September 1 of the year that they seek admission (or by January 1 for admission to the Winter term) and who lack the academic qualifications normally required for entry into the B.Th. program may apply as mature students for admission to a qualifying year in the B.Th. program.

Admitted students enrol in a qualifying year (30 credits) of designated Religious Studies and Arts courses (determined by the Chair of the B.Th. Committee).

Those who, during the qualifying year, earn a CGPA of 2.5 to 2.9 (with no grade less than 60%) normally will be granted admission to the 120-credit B.Th. program. Credits completed during the qualifying year may be applied toward the 120 credit requirement.

Those who, during the qualifying year, earn a CGPA of at least 3.0 (having taken 30 credits, including at least two 300-level courses and with no grade less than 65%) normally will be granted admission to the 90-credit B.Th. program. Credits completed during the qualifying year may be applied toward the 90 credit requirement.

Students who, during the qualifying year, do not earn a minimum CGPA of 2.5 or who have grades less than 60%, may apply to retake courses, pending approval of the Chair of the B.Th. Committee.

13.5.3 Competence in English

Please note that for non-Canadian applicants whose mother tongue is not English, documented proof of competency in oral and written English by an appropriate examination is required. A Test of English as a Foreign Language (TOEFL) with a minimum score of 577 for the paper based version is required as is 90 for the new internet based composite score (IBT). Each individual component of reading, writing, listening, and speaking for IBT has a minimum score of 21. Permanent residents of Canada may be required to submit a TOEFL score as well. All official documents must be sent to the Faculty of Religious Studies address given below.

13.5.4 Applying to the B.Th. Program

All applications must be made online at the McGill University website for prospective students: www.mcgill.ca/applying. The online application process should take about 20 minutes and a credit card is required for payment of the application fee. Once completed, the online application form may be printed for your own records.

Note: Owing to McGill University's implementation of a comprehensive online application system, paper applications to the B.Th. Program can no longer be accepted. All applicants must apply online.

13.5.4.1 Required Documents

- Two letters of reference, at least one of which should be from an instructor in an academic institution previously attended.
- A personal statement, according to the directions in the application.
- Official transcript(s) of all previous post-secondary academic work.

A complete set of these required documents must be sent to the Faculty of Religious Studies (see address below).

If you are applying for admission to one of the Theological Colleges, another complete set of these required documents must also be sent to the College concerned.

Please note that your file will not be considered by the Admissions Committee until all the required documents have been received.

13.5.4.2 Mailing Address

Bachelor of Theology Program
McGill University
Enrolment Services Documentation Centre
688 Sherbrooke Street West
Montreal, QC H3A 3R1
Canada

13.5.5 Application Deadlines

Applicants to the B.Th. Program may be accepted into either the Fall, Winter, or Summer term. The online application deadline is **June 15 (May 1 for International students) for September admissions; November 1 for January admissions and March 1 for May admissions.** Please note that all required documents listed above must be received by the Faculty of Religious Studies prior to these deadlines in order for the applicant to be considered by the Admissions Committee.

13.5.6 Tuition Fees and Funding

Information concerning current tuition fees may be found at the following website: www.mcgill.ca/student-accounts. Applicants for admission to one of the affiliated Colleges should contact the institution concerned for information regarding College-related fees.

13.5.7 Admissions Review Procedures

An unsuccessful applicant or a Faculty of Religious Studies Council member acting on behalf of an unsuccessful applicant who believes that not all factors having a bearing on the application have been fully considered has the right to request that the B.Th. Admissions and Awards Committee review the application.

[awaiting University's approval]

The written request for a review must include information in support of reconsideration, such as: a description of significant change in the applicant's circumstances since the initial consideration, correction of any missing or erroneous information in the application, or information that the applicant believes may have been overlooked when the original decision was made. Requests for reconsideration must be received at McGill no more than 2 weeks after notification of refusal.

Please note that the original admission decision will stand unless it is discovered that admission standards have been misapplied or an applicant's academic record has been misread.

A $40 certified cheque or money-order made payable to McGill University must accompany the request. Requests for review must be made to the Chair of the B.Th. Admissions and Awards Committee.

Decisions on Special, Visiting, and Exchange applications are final; requests for reconsideration will not be considered.

13.5.8 Registration Procedures

Students register online at www.mcgill.ca/minerva-students.

Minerva for students provides web access to registration, class schedules, course descriptions, and address changes.

- Returning students must register via Minerva between April 7 and the first day of classes. After this period, a late registration fee will be applied.
- New students accepted from CEGEP should register via Minerva between June 9 and September 1, 2009. All other new students should register via Minerva between July 28 and September 1, 2009. After September 1, a late registration fee will be applied.
- All B.Th. students should consult their adviser before registration.

13.5.9 Withdrawal Procedures

Withdrawal from and adding courses prior to the deadline listed in the Calendar (see above) must be done via Minerva. The permission of the adviser is required for all such changes in the initial registration. In case of withdrawal from the University prior to the published course withdrawal deadline, the student must withdraw from all courses via Minerva. In addition, students must contact the Chair of the B.Th. Committee and complete the necessary withdrawal form.

13.5.10 Graduation Requirements

a) The B.Th. is either a 120-credit program (for those admitted from outside Quebec and without a prior Bachelor's degree), a 90-credit program (for those who were admitted on the basis of a Quebec D.C.S. or equivalent), or a 60-credit program (for those who were admitted on the basis of a recognized Bachelor's degree).

b) Qualification for the degree shall include satisfactory standing (a grade of C or better) in all required courses and the complementary courses specified in Year 3, and the accumulation of sufficient acceptable credits to make a total of either 60, 90 or 120 credits. It should be noted that students who take the B.Th. program as part of the M.Div. program need to maintain a minimum CGPA of 2.5 to be eligible for the M.Div. degree.

c) Normally, the program credits must be earned within five years from the date of entrance.

13.5.11 Course Selection

Candidates for the ministry from the three Theological Colleges associated with the Faculty must select their courses in consultation with their College advisers. The course selection form needs to be signed by the Chair of the B.Th. Committee.

Those seeking the degree and not sponsored by one of the three Colleges associated with the Faculty will need to clear their course selections with the chair of the B.Th. Committee.

In all cases this consultation should take place before registration.

13.5.12 Academic Standing and Course Loads

Satisfactory Standing

Students enter the University in satisfactory standing and remain in this standing unless their GPA (grade point average) or CGPA (cumulative grade point average) for any year drops below 2.00. The normal course load in any academic session is five courses per term (15 credits per term). A student with a high GPA (at least 3.00) may take more than the normal five courses per term.

Probationary Standing

A student is placed in probationary standing if the GPA/CGPA falls between 1.50 and 1.99. Probationary students **may take a maximum of 12 credits per term,** and must raise their CGPA to 2.00 within one academic session. Those who fail to do so will be placed in unsatisfactory standing.

A student in probationary standing may return to satisfactory standing at the end of the next academic session by obtaining either a GPA of at least 2.50 or both a GPA and a CGPA of 2.00 or greater unless the student was admitted on probationary standing. A student admitted on probationary standing must obtain a GPA of 2.50.

Students in probationary standing who obtain a GPA between 1.50 and 1.99 remain in probationary standing if they also have a CGPA of 2.00 or greater.

A student in probationary standing who fails to achieve the levels of performance specified above will be placed in unsatisfactory standing.

Unsatisfactory Standing

A GPA of less than 1.50 places a student in unsatisfactory standing.

A student in unsatisfactory standing will have to withdraw, or seek readmission as a probationary student with special permission from the B.Th. Committee and the Dean. A student who is readmitted on probationary standing may have additional restrictions or conditions to meet over and above those required of students referred to above under “Probationary Standing”.

A student in unsatisfactory standing for the second time must withdraw permanently.

Incomplete Standing

A student whose record in any year shows a mark of K, K*, L, L*, or && will have no GPA or CGPA calculated for that year, and the record will show “Standing Incomplete”. After completing the appropriate course requirements the GPA and CGPA will be calculated and the student's standing determined as described above.

Students whose standing is still “incomplete” at the time of registration for the next academic year must obtain a *Letter of Permission to Register* from the Chair of the B.Th. Committee.

13.5.13 Academic Achievement

Several designations are used to acknowledge the superior academic achievement of in-course and graduating students. These designations are awarded at the discretion of the Faculty.

Dean's Honour List: to designate *in-course* students who have completed a minimum of 27 credits during regular session (14 credits for those registered for one term) and have attained a GPA placing them in the top 5% - 10% of their class.

13.5.13.1 Graduation Honours

Dean's Honour List:
For information on the designation of Dean’s Honour List awarded at graduation, see section 3.9.1.1 “Dean’s Honour List”.

Distinction:
For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 “Distinction”.

Honours: to designate graduating students who have completed a minimum of 60 credits at McGill and have fulfilled the Honours course requirements with a CGPA of 3.20, or 3.50 for First Class Honours.

13.5.14 Evaluation

Competence in a course may be determined by examinations and/or essays, or by other means chosen by the instructor and approved by the Dean.

13.5.15 Bachelor of Theology Program Requirements

The course extends over three academic years of full-time studies for those admitted with a Diploma of Collegial Studies and two academic years for those admitted with a Bachelor's degree. The normal load consists of five 3-credit courses (15 credits) each term.

Students entering the B.Th. as a first degree program take 90 credits, beginning with the following courses:

Year 1 - Required Courses (9 credits)
RELG 204 (3) Judaism, Christianity and Islam
RELG 210 (3) Jesus of Nazareth
RELG 334 (3) The Christian Faith

Year 1 - Elective Courses (21 credits)
To be determined in consultation with the B.Th. program adviser.

Students entering the B.Th. as a second degree program take 60 credits, beginning with Year 2 courses:

Year 2 - Required Courses (24 credits)
RELG 302 (3) Old Testament Studies 1
RELG 303 (3) Literature of Ancient Israel 2
RELG 311 (3) New Testament Studies 1
RELG 312 (3) New Testament Studies 2
RELG 322 (3) The Church in History 1
RELG 323 (3) The Church in History 2
RELG 333 (3) Principles of Christian Theology 1
RELG 341 (3) Introduction: Philosophy of Religion

Year 2 - Complementary Courses (6 credits)

To be chosen from among the 300- or 400-level courses offered in the B.Th. or B.A. Religious Studies programs (or RELG 280D1/ RELG 280D2) in consultation with the B.Th. program adviser.

Year 3 - Required Courses (12 credits)
RELG 420* (3) Canadian Church History
RELG 434 (3) Principles of Christian Theology 2
RELG 470 (3) Theological Ethics
RELG 479 (3) Christianity in Global Perspective

* Exception permitted if recommended by College adviser.

Year 3 - Complementary Courses (18 credits)

One 3-credit course in a religious tradition other than Christianity, such as:*
RELG 252 (3) Hinduism and Buddhism
RELG 253 (3) Religions of East Asia
RELG 306 (3) Rabbinic Judaism
RELG 352 (3) Japanese Religions
RELG 354 (3) Chinese Religions
ISLA 380 (3) Islamic Philosophy and Theology
* Students who have previously taken a university-level course in world religions may replace this with another complementary course.

9 credits, one 3-credit course in each of the following areas:
Old Testament
RELG 407 (3) The Writings
RELG 408 (3) The Prophets
New Testament
RELG 411 (3) New Testament Exegesis
RELG 482 (3) Exegesis of Greek New Testament
Christian Theology
RELG 330 (3) Reformed Theology
RELG 336 (3) Contemporary Theological Issues

RELG 399 (3) Christian Spirituality
RELG 423 (3) Reformation Thought

6 credits, to be chosen from among the 300- or 400-level courses offered in the B.Th. or B.A. Religious Studies programs (or RELG 280D1/ RELG 280D2) in consultation with the B.Th. program adviser.

By permission of the B.Th. Committee, students may substitute courses for any of the required courses if they have already taken them or similar courses for credit elsewhere.

Permission is needed from the B.Th. Committee for courses selected from the curriculum of other departments of the University.

By permission of the Dean and the Chair of the B.Th. Committee, students may also enrol for courses at any university in the province of Quebec. See section 3.3.5 "Quebec Inter-University Transfer Agreement (IUT)" in the General University Information section for details.

Professional and vocational courses (e.g., leading to ordination) are available through the In-Ministry Year (Master of Divinity (M.Div.)) upon the completion of the B.Th. degree.

13.5.16 B.Th. Honours

Students who have achieved a CGPA of 3.30 at the end of B.Th. Year 2 may apply to the B.Th. Committee for permission to enter the Honours program. They will be required to complete RELG 494 and 495 in the B.Th. Year 3 with a grade of B or better, to complete the degree with Honours.

13.6 Academic Staff

Emeritus Professors
Gregory B. Baum; B.A.(McM.), M.A.(Ohio St.), D.Th.(Fribourg)
Douglas J. Hall; B.A.(W. Ont.), M.Div., S.T.M., Th.D.(UTS, NY), L.L.D.(Wat.), D.D.(Pres. Coll., Montr.), D.D.(Qu.)
Joseph C. McLelland; B.A.(McM.), M.A.(Tor.), B.D.(Knox, Tor.), Ph.D.(Edin.), D.D.(Montr. Dio. Coll.; Knox, Tor.)

Post-Retirement
Robert C. Culley; B.D.(Knox, Tor.), M.A., Ph.D.(Tor.)
Frederik Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.), Ph.D.(Claremont)

Professors
Maurice Boutin; B.A., B.A., B.A.(Montr.), D.Th.(Munich) (*J.W. McConnell Professor of Philosophy of Religion*)
W.J. Torrance Kirby; B.A.(KCNS), M.A., D.Phil.(Oxf.) (*Ecclesiastical History*)
G.S. Oegema; B.A., Th.D.(Vrije, Amsterdam), M.A., Ph.D.(Freie, Berlin), Dr. Theol. Habil(Tübingen) (*Biblical Studies*)
Arvind Sharma; B.A.(Allahabad), M.A.(Syr.), M.T.S., Ph.D.(Harv.) (*Henry Birks Professor of Comparative Religion*)
Katherine K. Young; B.A.(Vermont), M.A.(Chic.), Ph.D.(McG.) (*James McGill Professor of Hinduism/Comparative Religion*)

Associate Professors
Ellen B. Aitken; A.B.(Harv.), M.Div.(University of the South), Th.D.(Harv.) (*Early Christian History and Literature*)
Douglas B. Farrow; B.R.E.(Providence), M.Div.(Grace), M.Th.(Regent), Ph.D.(Lond.) (*Christian Thought*)
Ian H. Henderson; B.A.(Manit.), B.D.(St. And.), M.A.(McM.) D.Phil.(Oxf.) (*New Testament Studies*)
G. Victor Hori; B.A.(York), M.A.(Tor.), Ph.D.(Stan.) (*Japanese Religions*)
Patricia G. Kirkpatrick; B.A.(McG.), M.Th.(Lond.), D.Phil.(Oxf.), D.D.(Montr. Dio. Coll.) (*Old Testament Studies*)

Assistant Professors
Lara Braitstein; B.A., M.A., Ph.D.(McG.) (*Indo-Tibetan Buddhism*)
Daniel Cere; B.A., M.A.(McG.), Ph.D.(C'dia) (*Religion, Ethics and Public Policy*)
Gaëlle Fiasse; B.A., M.A., Ph.D.(Louvain) (*Ethics and Religious Ethics*) (*joint appointment with Department of Philosophy*)
Devesh Soneji; B.A.(Manit.), Ph.D.(McG.) (*South Asian Religion*)

Faculty Lecturer
Jim Kanaris; B.A.(C'dia), M.A., Ph.D.(McG.) (*Philosophy of Religion*)
Fabian Udoh; B.Phil.(Institut de Philosophie, Kinshasa), S.T.B.(Pontificia Universitas Gregoriana), M.Phil.(Oxf.), Ph.D.(Duke) (*New Testament Studies*)

Numata Visiting Professor
Hiroko Kawanami; B.A., M.A.(Sophia, Tokyo), M.Sc., Ph.D.(LSE)

Adjunct Professors
Philip Joudrey; B.A., M.Div.(Acad.), D.Min.(Andover Newton Theological School)
William Klempa; B.A.(Manit.), M.A.(Tor.), B.D., D.D.(Knox, Tor.), Ph.D.(Edin.)
T. Jinpa Langri; Dr. Div., B.A.(King's Coll., Lond.), Ph.D.(Camb.)
John M. Simons; B.A.(Bishop's), S.T.B.(Trin. Coll., Tor.), Ph.D.(G'town) (PT)
Vanessa Sasson; B.A., M.A., Ph.D.(McG.)
John Vissers; B.A.(Tor.), M.Div.(Knox, Tor.), Th.M.(Prin.), Th.D.(Knox, Tor.) (PT)

Course Lecturers (2009-2010)
Andrew Blakeslee; B.A.(Temple), M.A., Ph.D. Candidate(McG.)
Melissa Curley; B.A., M.A., Ph.D. Candidate(McG.)
Michel DiStefano; B.A.(Providence), M.A.(Trinity International, Ill.), Ph.D.(McG.)
Christopher Durante; B.A.(Fordham, NY), M.A.(Georgia State Univ.), M.Sc.(King's Coll., Lond.), Ph.D. Candidate(McG.)
Scott Halse; B.A., M.A.(Tor.), Ph.D.(McG.)
Meera Kachroo; B.A.(Sask.), M.A., Ph.D. Candidate(McG.)
Jeffrey Keiser; B.Sc.(Biola), M.A.(Harv.), Ph.D. Candidate(McG.)
David Koloszyc; B.A., M.A.(Tor.), Ph.D. Candidate(McG.)
Cory Labrecque; B.Sc., M.A., Ph.D. Candidate(McG.)
Lei Kuan Lai; B.A.(Uni. of the West, Rosemead), M.A.(Qu.), Ph.D. Candidate(McG.)
Nathan Loewen; B.Th.(Can. Mennonite), B.A.(Winn.), M.S.T., S.T.M.(St. And.), Ph.D. Candidate(McG.)
Lucille Marr; B.A., M.A., Ph.D.(Wat.)
Erin McCann; B.A., Ph.D. Candidate(McG.)
Elizabeth Morton; B.A.(Ott.), LL.B.(Vic. (BC)), M.T.S.(Vancouver School of Theology), M.A.(Br. Col.), Ph.D. Candidate(McG.)
Christiane Thuy-Linh Nguyen; B.Th.(IFTM), Ph.D.(Gregorian Univ.)
Ian Pattenden; B.A.(King's Univ. College, W. Ont.), M.A.(Brock), Ph.D. Candidate(McG.)
R. Saraswati Sainath; B.Sc., M.A., M.Phil., Ph.D.(Madr.), Ph.D. Candidate(McG.)
Shital Sharma; B.Sc., M.A., Ph.D. Candidate(McG.)
Manjit Singh; B.A., M.A.(Delhi)
Glenn Smith; B.A.(Mich.), M.A.(Ott.), D.Min.(Northern Baptist Seminary, Ill.), D.Hon.(Union des universités privées d'Haïti)
Michael Storch; B.A.(Alta.), Ph.D.(McG.)
Philippe Turenne; B.A., Ph.D. Candidate(McG.)
Meredith Warren; B.A., M.A., Ph.D. Candidate(McG.)
Jason Zuidema; B.A.(Redeemer), M.T.S.(Calvin), Ph.D.(McG.)

14 Faculty of Science, including School of Computer Science

Table of Contents

14.1 The Faculty, page 392
- 14.1.1 Location, page 392
- 14.1.2 Faculty Administrative Officers, page 392
- 14.1.3 Programs and Teaching in Science, page 392
- 14.1.4 Science Office for Undergraduate Student Advising (SOUSA), page 392

14.2 Faculty Admission Requirements, page 392

14.3 Faculty Degree Requirements, page 393
- 14.3.1 Minimum Credit Requirement, page 393
  - 14.3.1.1 Advanced Standing, page 393
  - 14.3.1.2 Equivalencies for Non-Basic Science Courses, page 393
  - 14.3.1.3 Readmission after Interruption of Studies for a Period of Five Consecutive Years or More, page 393
- 14.3.2 Residency, page 393
- 14.3.3 Cumulative Grade Point Average (CGPA), page 393
- 14.3.4 Time and Credit Limit for the Completion of the Degree, page 393
- 14.3.5 Program Requirements, page 393
  - 14.3.5.1 Science Freshman Program, page 393
  - 14.3.5.2 Liberal, Major, and Honours Programs, page 394
  - 14.3.5.3 Minor and Minor Concentration Programs, page 394
  - 14.3.5.4 Other Second Programs, page 394
  - 14.3.5.5 Concurrent B.Sc. and B.Ed. Program, page 394
  - 14.3.5.6 Internship Year in Science (IYS), page 394
  - 14.3.5.7 McGill School of Environment, page 394
- 14.3.6 Course Requirements, page 394
  - 14.3.6.1 Course Overlap, page 394
  - 14.3.6.2 Courses Outside the Faculties of Arts and Science, page 395
  - 14.3.6.3 Correspondence, Distance Education or Web-based Courses, page 395
  - 14.3.6.4 Courses Taken under the Satisfactory/Unsatisfactory Option, page 395
  - 14.3.6.5 Courses in English as a Second Language (ESL), page 395
  - 14.3.6.6 Course Credit Weight, page 395

14.4 Advising, page 396

14.5 Registration, page 396
- 14.5.1 Program Registration, page 396
- 14.5.2 Course Registration, page 396
  - 14.5.2.1 Registration for First-Year Seminars, page 396
  - 14.5.2.2 Freshman Interest Groups, page 396
  - 14.5.2.3 Registration in Multi-Term Courses, page 397
- 14.5.3 Apply to Graduate, page 397

14.6 Grading and Credit, page 397
- 14.6.1 Incomplete Grades, page 397

14.7 Examinations, page 397

14.8 Supplemental Assessments, page 397
- 14.8.1 Supplemental Examinations, page 397
- 14.8.2 Additional Work, page 398
- 14.8.3 Reassessments and Rereads, page 398

14.9 Academic Standing, page 398

14.10 Awards and Honorary Designations, page 399
- 14.10.1 Honours and First-Class Honours, page 399
- 14.10.2 Distinction, page 399
- 14.10.3 Dean's Honour List, page 399
- 14.10.4 Dean's Multidisciplinary Undergraduate Research List, page 399
- 14.10.5 Medals and Prizes, page 399

14.11 Lists of Programs Offered, page 400
- 14.11.1 Science program groups, page 400
- 14.11.2 Liberal Program - Core Science Components, page 400
- 14.11.3 Major Programs, page 400
- 14.11.4 Joint Major Programs, page 400
- 14.11.5 Honours Programs, page 400
- 14.11.6 Joint Honours Programs, page 401
- 14.11.7 Minor Programs, page 401
- 14.11.8 Concurrent B.Sc. and B.Ed. Program (Science or Mathematics for Teachers), page 401
- 14.11.9 Bachelor of Arts and Science, page 401
- 14.11.10 Internship Programs – Industrial Practicum (IP) and Internship Year in Science (IYS), page 401
- 14.11.11 Faculty of Arts Major and Minor Concentration Programs Available to Science Students, page 401

14.12 Undergraduate Research Opportunities, page 402
- 14.12.1 Department Research Projects, page 402
  - 14.12.1.1 "396" Undergraduate Research Project Courses, page 402
  - 14.12.1.2 Dean's Multidisciplinary Undergraduate Research List, page 402
- 14.12.2 NSERC Undergraduate Student Research Awards, page 403
  - 14.12.2.1 Related program: NSERC Industrial Undergraduate Student Research Awards, page 403
  - 14.12.2.2 Related program: FRSQ Undergraduate Student Research Awards and McEntyre USRA, page 403
- 14.12.3 Undergraduate Research Conference, page 403
- 14.12.4 Industrial Practicum (IP) and Internship Year in Science (IYS), page 403
- 14.12.5 Field study and study abroad, page 403
- 14.12.6 Other opportunities, page 403

14.13 Academic Programs, page 403
- 14.13.1 Science Freshman Program, page 403
- 14.13.2 Anatomy and Cell Biology (ANAT), page 404
- 14.13.3 Atmospheric and Oceanic Sciences (ATOC), page 406
- 14.13.4 Biochemistry (BIOC), page 409
- 14.13.5 Biology (BIOL), page 411
- 14.13.6 Biotechnology (BIOT), page 416
- 14.13.7 Chemistry (CHEM), page 417
- 14.13.8 Cognitive Science, page 421
- 14.13.9 Computer Science (COMP), page 422
- 14.13.10 Earth and Planetary Sciences (EPSC), page 427
- 14.13.11 Earth System Science Interdepartmental Major (ESYS), page 429
- 14.13.12 Environment, page 430
- 14.13.13 Experimental Medicine (EXMD), page 430
- 14.13.14 Field Study, page 430

14.13.15 General Science, page 431
14.13.16 Geography (GEOG), page 431
14.13.17 Immunology Interdepartmental Honours, page 434
14.13.18 Interdisciplinary Life Sciences, page 435
14.13.19 Kinesiology for Science Students, page 436
14.13.20 Management Minor Programs, page 436
14.13.21 Mathematics and Statistics (MATH), page 436
14.13.22 Microbiology and Immunology (MIMM), page 442
14.13.23 Music, page 445
14.13.24 Neurology and Neurosurgery (NEUR), page 445
14.13.25 Neuroscience, page 445
14.13.26 Nutrition (NUTR), page 447
14.13.27 Pathology (PATH), page 447
14.13.28 Pharmacology and Therapeutics (PHAR), page 447
14.13.29 Physics (PHYS), page 449
14.13.30 Physiology (PHGY), page 454
14.13.31 Psychiatry (PSYT), page 456
14.13.32 Psychology (PSYC), page 457
14.13.33 Redpath Museum (REDM), page 460
14.13.34 Science or Mathematics for Teachers, page 460
14.13.35 Technological Entrepreneurship for Science Students, page 463

14.1 The Faculty

14.1.1 Location

Dawson Hall
853 Sherbrooke Street West
Montreal, QC H3A 2T6
Canada

Telephone: 514-398-4210
Faculty website: www.mcgill.ca/science
Science Office for Undergraduate Student Advising (SOUSA): www.mcgill.ca/science/sousa

The Science Office for Undergraduate Advising (SOUSA) and the Office of the Director of Advising Services of the Faculty of Science are located in Dawson Hall, Rooms 110 and 115. The SOUSA Office serves students in the B.Sc. and B.A. & Sc. Degrees.

14.1.2 Faculty Administrative Officers

Martin Grant; B.Sc.(PEI), M.Sc., Ph.D.(Tor.) **Dean**

Laurie Hendren; B.Sc., M.Sc.(Qu.), Ph.D.(C'nell), **Associate Dean (Academic)**

Nicole Allard; B.A.(W. Ont.), M.A.(Guelph), M.Ed.(McG.) **Director of Advising Services**

Peter Grütter; Ph.D.(Basel) (*James McGill Professor*) **Associate Dean (Research and Graduate Education)**

Pete Barry; B.Sc.(C'dia), M.Sc.(McG.) **Chief Academic Adviser**

Josie D'Amico **Assistant to the Dean**

14.1.3 Programs and Teaching in Science

The Faculty of Science is committed to providing outstanding teaching and research facilities. The Faculty draws on its involvement in cutting-edge research to ensure teaching excellence at the undergraduate level. Professors who are spearheading projects that are changing people's understanding of the world teach regularly at the undergraduate level. Also, research-based independent study courses offer students the opportunity to contribute to their professors' work, rather than just learn about it.

In an effort to supplement classroom learning with real life experience, the Faculty of Science has increased opportunities for undergraduate students to participate in fieldwork. All B.Sc. programs can include an internship component. This is on top of the many undergraduate students the Faculty hires for Work Study projects and other research programs. McGill Science students have an opportunity to get involved in the structuring of their own education.

The Faculty of Science offers programs leading to the degree of Bachelor of Science (B.Sc.). Admission is selective; fulfilment of the minimum requirements does not guarantee acceptance. Admission criteria are described in the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

There are also two Diploma programs offered in Science. The "Diploma in Environment", in section 10.11, under the McGill School of Environment, is a 30-credit program available to holders of a B.Sc. or B.A. or equivalent. The Diploma in Meteorology, is a one-year program available to holders of a degree in Mathematics, Engineering, Physics and other appropriate disciplines who wish to qualify for a professional career in Meteorology. See section 14.13.3 "Atmospheric and Oceanic Sciences (ATOC)". All credits for these diplomas must be completed at McGill.

The Concurrent B.Sc. and B.Ed. program is designed to provide students with the opportunity to obtain both a B.Sc. and a B.Ed. after a minimum of 135 credits of study. For more information, see section 14.13.34 "Science or Mathematics for Teachers" and "Concurrent Bachelor of Science (Major or Major Concentration with a Minor for Teachers) and Bachelor of Education Secondary Program", in section 8.6.1.2, Faculty of Education.

In addition to the Major Program in Software Engineering offered in the Faculty of Science, there is also a Bachelor of Software Engineering program offered jointly with the Faculty of Engineering (refer to the "Department of Electrical and Computer Engineering", in section 9.5.4).

Finally, the Faculties of Arts and Science jointly offer the Bachelor of Arts and Science (B.A. & Sc.), which is described in section 7 "Bachelor of Arts and Science".

14.1.4 Science Office for Undergraduate Student Advising (SOUSA)

The Science Office for Undergraduate Student Advising (SOUSA) provides ongoing advice and guidance on programs, degree requirements, registration, course change, procedures for withdrawal, deferred exams, supplemental exams, rereads, academic standing, inter-faculty transfer, year or term away, transfer credits, second programs, second degrees, and graduation.

SOUSA advisers offer help managing academic situations during periods of personal, financial or medical problems, by working with students to identify various possibilities and strategies for making informed decisions. SOUSA advisers can be contacted via email at adviser.science@mcgill.ca.

Special requests can be made, in writing, to the Director of Advising Services. The Committee on Student Standing (CSS) will consider appeals of the Director of Advising Services' decisions. For information about CSS, see the Director of Advising Services' assistant.

14.2 Faculty Admission Requirements

For information about admission requirements for the B.Sc., please refer to the *Undergraduate Admissions Guide*, found at www.mcgill.ca/applying/undergrad.

For information about inter-faculty transfers, please refer to the General University Information and Regulations, "Inter-Faculty Transfer", in section 3.3.12, as well as the relevant information posted on the SOUSA website at www.mcgill.ca/science/sousa, and in the SOUSA Office.

14.3 Faculty Degree Requirements

Each student in the Faculty of Science must be aware of the Faculty Regulations as stated in this Calendar and on the McGill, Science, and SOUSA websites. While departmental and faculty advisers and staff are always available to give advice and guidance, the ultimate responsibility for completeness and correctness of course selection and registration, for compliance with, and completion of, program and degree requirements, and for the observance of regulations and deadlines *rests with the student*. It is the student's responsibility to seek guidance from the Science Office for Undergraduate Student Advising (SOUSA) if in any doubt; misunderstanding or misapprehension will not be accepted as cause for dispensation from any regulation, deadline, program or degree requirement.

To be eligible for a B.Sc. degree, students must fulfil all Faculty and program requirements as indicated below:

"Minimum Credit Requirement", see section 14.3.1
"Residency", see section 14.3.2
"Cumulative Grade Point Average (CGPA)", see section 14.3.3
"Time and Credit Limit for the Completion of the Degree", see section 14.3.4
"Program Requirements", see section 14.3.5
"Course Requirements", see section 14.3.6

14.3.1 Minimum Credit Requirement

Each student's minimum credit requirement for the degree is determined at the time of acceptance and is specified in the letter of admission.

Students are normally admitted to a four-year degree requiring the completion of 120 credits.

14.3.1.1 Advanced Standing

Advanced standing of up to 30 credits may be granted to students who obtain satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, Advanced Placement tests, or the Diploma of Collegial Studies (DCS). Quebec students with a DCS in Science are granted 30 credits advanced standing and will have normally completed the equivalent of, and are therefore exempt from, the basic science courses in biology, chemistry, mathematics and physics. Students with satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests may be exempt from some or all of the basic science courses. Students will not be given additional credit towards their degree for any McGill course where the content overlaps substantially with any other course for which the student has already received credit, such as for advanced standings results.

AP Examination results with a score of 4 or 5 must be declared by the student at the time of initial registration at the university. For more information about advanced standing, please consult: www.mcgill.ca/student-records/transfercredits.

14.3.1.2 Equivalencies for Non-Basic Science Courses

Note that equivalencies for some non-basic science courses, such as CHEM 212 and 222 and PSYC 204, are granted on a per-CEGEP basis. In some cases a grade greater than the minimum passing grade may be required. For more information about equivalences for non-basic Science courses, please consult: www.mcgill.ca/student-records/transfercredits/cegep.

If the CEGEP and/or course is not listed on this website, students should refer to the SOUSA website and follow the instructions for advanced standing for students admitted to McGill from CEGEP: www.mcgill.ca/science/sousa.

14.3.1.3 Readmission after Interruption of Studies for a Period of Five Consecutive Years or More

Students who are readmitted after interrupting their studies for a period of five consecutive years or more may be required to complete a minimum of 60 credits and satisfy the requirements of a program. In this case, a new CGPA will be calculated. The Director of Advising Services, in consultation with the appropriate department, may approve a lower minimum for students who had completed 60 credits or more before interrupting their studies.

Students who are readmitted after a period of absence are subject to the program and degree requirements in effect at the time of readmission. The Director of Advising Services, in consultation with the department, may approve exemption from any new requirements.

14.3.2 Residency

To obtain a B.Sc. degree, students must satisfy the following residency requirements: a minimum of 60 credits of courses used to satisfy the B.Sc. degree requirements must be taken and passed at McGill, exclusive of any courses completed as part of the Science Freshman requirements defined below. At least two-thirds of all departmental program requirements (Honours, Major, Core Science Components, or Minor) must normally be completed at McGill. Exceptionally, students in Major Concentrations or Interfaculty or Honours programs who pursue an approved Study Away or Exchange program may, with prior approval from both their department and the Director of Advising Services, Faculty of Science, be exempted from the two-thirds rule. In addition, some departments may require that their students complete specific components of their program at McGill.

The residency requirement for diplomas is 30 credits completed at McGill.

14.3.3 Cumulative Grade Point Average (CGPA)

Each candidate for the degree must achieve a minimum cumulative grade point average (CGPA) of 2.00.

14.3.4 Time and Credit Limit for the Completion of the Degree

Students who need 96 or fewer credits to complete their degree requirements are expected to complete their degree in no more than eight terms after their initial registration for the degree.

Students in the Freshman Program become subject to these regulations one year after their initial registration. Students who wish to exceed this time limit must seek permission of the Director of Advising Services of the Faculty of Science.

Students registered in the B.Sc. are expected to complete the requirements of their programs and their degree within 120 credits. Students will receive credit for all courses (subject to degree regulations) taken up to and including the semester in which they obtain 120 credits. Students who wish to remain at McGill beyond that semester must also seek permission of the Director of Advising Services, Science. Permission for exceeding the time and/or credit limits will normally be granted only for valid academic reasons, such as a change of program (subject to departmental approval) and part-time status. If permission is granted, students will receive credit only for required and complementary courses necessary to complete their program requirements.

14.3.5 Program Requirements

14.3.5.1 Science Freshman Program

Students who need 97-120 credits (four years) to complete their degree requirements must register in the Science Freshman Program, which is designed to provide the basic science foundation for a student's subsequent three-year Liberal, Major, or Honours program. For a detailed description of the Science Freshman Program, students should consult "Science Freshman Program", in section 14.13.1 and the Science Freshman Student information available on the SOUSA website, www.mcgill.ca/science/sousa.

Students who have completed the Diploma of Collegial Studies, Advanced Placement exams, Advanced Levels, the International Baccalaureate, the French Baccalaureate, or McGill placement

examinations may receive exemption and/or credit for all or part of the basic science courses in biology, chemistry, mathematics and physics. Similarly, students who have completed courses at other universities or colleges may receive exemptions and/or credits. Students should consult www.mcgill.ca/student-records/transfercredits for more information.

14.3.5.2 Liberal, Major, and Honours Programs

Science students who need 96 or fewer credits to complete their degree requirements are required to select their courses in each term with a view to timely completion of their degree and program requirements. Students must register in one of the following types of departmental programs leading to the degree of Bachelor of Science:

LIBERAL PROGRAMS

Liberal Programs provide students with the opportunity to study the core of one science discipline along with a breadth component from another area of science or from many other disciplines. In a Liberal Program, students must complete a Core Science Component (CSC) (45-50 credits), plus a Breadth Component (at least 18 credits). The requirements for the Core Science Components are given in the departmental sections of section 14.13 "Academic Programs".

For the Breadth Component, students must complete one of the following:

- Minor Program (18-24 credits) - one of the programs listed in section 14.11.7 "Minor Programs".
- Arts Minor or Major Concentration (18 or 36 credits) - one of the programs listed in section 14.11.11 "Faculty of Arts Major and Minor Concentration Programs Available to Science Students".
- A Core Science Component in a second area (45-50 credits) - at least 24 credits must be distinct from the courses used to satisfy the primary Core Science Component.

MAJOR PROGRAMS

Major programs are more specialized than Liberal programs and are usually centred on a specific discipline or department. For prospective teachers, the Faculty also offers Major programs that can constitute the Science component of the Concurrent B.Sc. and B.Ed. Program. For more information about this joint degree, refer to section 14.3.5.5 "Concurrent B.Sc. and B.Ed. Program".

HONOURS PROGRAMS

Honours programs typically involve an even higher degree of specialization, often include supervised research, and require students to maintain a high academic standard. Although Honours programs are specially designed to prepare students for graduate studies, graduates of the other degree programs may also be admissible to many graduate schools. Students who intend to pursue graduate studies in their discipline should consult a departmental adviser regarding the appropriate selection of courses in their field.

14.3.5.3 Minor and Minor Concentration Programs

In addition to the above degree programs, students in the Faculty of Science may select a Minor or approved Minor Concentration program. These are coherent sequences of courses in a given discipline or interdisciplinary area that may be taken in addition to the courses required for the degree program.

Science Minors consist of up to 24 credits.

Arts Minor Concentrations consist of 18 credits.

A minimum of 18 new credits must be completed in the Minor or Minor Concentration.

For a list of "Minor Programs", see section 14.11.7; for Minor Concentrations that are approved for Science students, see section 14.11.11 "Faculty of Arts Major and Minor Concentration Programs Available to Science Students".

14.3.5.4 Other Second Programs

In addition to a Major, or Honours program, students may pursue a second Major, or Honours program, or an Arts Major Concentration program. A minimum of 36 new credits must be completed in the second program.

14.3.5.5 Concurrent B.Sc. and B.Ed. Program

The Concurrent B.Sc. and B.Ed. Program described in section 14.13.34 "Science or Mathematics for Teachers" is designed to provide students with the opportunity to obtain both a B.Sc. and a B.Ed. after a minimum of 135 credits of study.

Science students who might want to enter the program should visit the B.Sc. and B.Ed. website or contact Prof. Dik Harris, email: dik.harris@mcgill.ca.

14.3.5.6 Internship Year in Science (IYS)

All B.Sc. programs can include an internship component. For more details, students should refer to www.mcgill.ca/science/internships-field/internships.

14.3.5.7 McGill School of Environment

The Faculty of Science is one of the three faculties in partnership with the McGill School of Environment; see section 10 "McGill School of Environment".

14.3.6 Course Requirements

All required and complementary courses used to fulfil program requirements, including the basic science requirements, must be completed with a grade of C or better. Students who fail to obtain a satisfactory grade in a required course must either pass the supplemental examination in the course or do additional work for a supplemental grade, if these options are available, or repeat the course. Course substitution will be allowed only in special cases; students should consult their academic adviser.

Normally, students are permitted to repeat a failed course only once. (Failure is considered to be a grade of less than C or the administrative failures of J and KF.) If a required course is failed a second time, a student must appeal to the Director of Advising Services for permission to take the course a third time. If permission is denied by the Director of Advising Services and/or by the Committee on Student Standing, on appeal, the student must withdraw from the program. If the failed course is a complementary course required by the program, a student may choose to replace it with another appropriate complementary course. If a student chooses to substitute another complementary course for a complementary course in which a D was received, credit for the first course will still be given, but as an elective. If a student repeats a required course in which a D was received, credit will be given only once.

Full details of the course requirements for all programs offered are given in each unit's section together with the locations of departmental advisory offices, program directors, and telephone numbers should further information be required.

14.3.6.1 Course Overlap

Students will not receive additional credit towards their degree for any course that overlaps in content with a course for which the student has already received credit at McGill, at another university, at CEGEP, or for Advanced Placement, Advanced Level, International Baccalaureate, or French Baccalaureate results. It is the student's responsibility to consult the Science Office for Undergraduate Student Advising (SOUSA) or the department offering the course as to whether or not credit can be obtained and to be aware of exclusion clauses specified in the course description in the Calendar. Please refer to the following website for specific information about advanced standing credits and McGill course exemptions: www.mcgill.ca/student-records/transfercredits.

Sometimes the same course is offered by two different departments. Such courses are called "double-prefix" courses. When such courses are offered simultaneously, students should take the course offered by the department in which they are obtaining their degree. For example, in the case of double-prefix courses CHEM XYZ and PHYS XYZ, Chemistry students take CHEM XYZ and the Physics students take PHYS XYZ. If a double-prefix course is offered by different departments in alternate years, students may take whichever course best fits their schedule.

Credit for computer and statistics courses offered by faculties other than Science requires the permission of the Director of Advising Services and will be granted only under exceptional circumstances.

Credit for statistics courses will be given with the following stipulations:

- Credit will be given for ONLY ONE of the following introductory statistics courses: AEMA 310, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, MATH 203, MGCR 271, PSYC 204, SOCI 350.
- Credit will be given for ONLY ONE of the following intermediate statistics courses: AEMA 411, ECON 227D1/D2, ECON 257D1/D2, GEOG 351, MATH 204, MGCR 272, PSYC 305, SOCI 461 with the exception that students may receive credit for both PSYC 305 and ECON 227D1/D2.
- Students who have already received credit for MATH 324 or MATH 357 will NOT receive credit for any of the following: AEMA 310, AEMA 411, BIOL 373, ECON 227D1/D2, ECON 257D1/D2, EPSC 215, GEOG 202, GEOG 351, MATH 203, MATH 204, MGCR 271, MGCR 272, PSYC 204, PSYC 305, SOCI 350.
- For 500-level statistics courses not listed above, students must consult a program adviser to ensure that no significant overlap exists. Where such overlap exists with a course for which the student has already received credit, credit for the 500-level course will not be allowed.
- Credit for statistics courses offered by faculties other than Arts and Science requires the permission of the Director of Advising Services, Science, except for students in the B.Sc. Major in Environment, who may take required statistics courses in the Faculty of Agricultural and Environmental Sciences necessary to satisfy their program requirements.
- PSYC 204 may not be taken if a grade of 75% or better was received in an equivalent course completed at CEGEP.

14.3.6.2 Courses Outside the Faculties of Arts and Science

Students in the Faculty of Science should consult the statement of regulations for taking courses outside the Faculties of Arts and of Science. The regulations are posted in the SOUSA Office and on the SOUSA website. A list of approved/not approved courses in other faculties is posted with the regulations; students may take courses on the approved list and may not, under any circumstances, take courses on the not-approved list. Requests for permission to take courses that are not on either list should be addressed to the Director of Advising Services.

The regulations are as follows:

- Courses in other faculties that are considered as taught by Science (e.g., BIOT, EXMD, and PHAR) are so designated in the Science section of the Calendar.
- Courses in Music are considered as outside the Faculties of Arts and of Science, except MUAR courses, which are considered as Arts courses.
- Courses in other faculties can be taken as elective courses or as part of a program as specified in the Calendar.
- Students may take only 6 credits per year, up to 18 credits in all, of courses outside the Faculties of Arts and of Science.
- Students must have the necessary prerequisites and permission of the instructor for such courses.
- Credit for courses in Education and Continuing Education requires the permission of the Director of Advising Services, Science.
- Credit for computer and statistics courses offered by faculties other than Arts and Science requires the permission of the Director of Advising Services and will be granted only under exceptional circumstances.
- Students who use Minerva to register for a course that exceeds the specified limitations or that is not approved will have the course flagged for no credit after the course change period.
- Credit will not be given for any "how to" courses offered by other faculties that are intended to provide students with only practical or professional training in specific applied areas. Examples include courses that teach the use of certain computer packages (databases, spreadsheets, etc.) or computer languages (SQL, COBOL, FORTRAN, etc.), machine shop or electronic shop courses, technical drawing courses, and professional practice courses.
- For students registered in the McGill School of Environment before September 2003: Students in the MSE may take as many courses outside the Faculties of Arts and of Science as are necessary to complete their program of study. They may also take up to 18 credits of approved courses outside the Faculties of Arts and of Science beyond the requirements of their MSE programs.
- For students who registered in the McGill School of Environment on or after September 2003: Students in the MSE may exceed the 18-credit limit for courses outside the Faculties of Arts and of Science, provided that all such courses are necessary to complete their program of study.
- Students in the Major in Software Engineering may take as many courses outside the Faculties of Arts and of Science as are necessary to complete their program of study. They may also take up to 18 credits of approved courses outside the Faculties of Arts and Science beyond the requirements of their major.
- Students in the B.Sc. Liberal Program taking a Major Concentration in Music may exceed the 18-credit limit for courses outside the Faculties of Arts and of Science, provided that all such courses are necessary to complete their program of study, up to a maximum of 36 Music credits.
- Students who registered in the Minor in Management before September 2007 may take 21 credits of courses outside the Faculties of Arts and of Science.
- The 18-credit limit applies to students taking the Minor in Nutrition; equivalent courses in Science should be taken instead of courses in the Faculty of Agricultural and Environmental Sciences.

14.3.6.3 Correspondence, Distance Education or Web-based Courses

Science students may obtain transfer credit for correspondence, distance education or web-based courses if they receive prior approval from the appropriate McGill department for the course content **and** prior approval from the Director of Advising Services, Science, for the method of delivery and evaluation. Courses taught through distance education from institutions other than McGill will only be considered for transfer credits under the following conditions:

- The course is given by a government-accredited degree-granting institution acceptable to McGill;
- The course counts for credit towards degrees granted at the institution giving the course.

14.3.6.4 Courses Taken under the Satisfactory/ Unsatisfactory Option

For more information, students should consult "Courses Taken under the Satisfactory/ Unsatisfactory (S/U) Option", in section 3.3.6.

14.3.6.5 Courses in English as a Second Language (ESL)

ESL courses are open to Science students under the regulations specified by the English and French Language Centre; see "English as a Second Language (ESLN)", in section 6.12.18.

14.3.6.6 Course Credit Weight

The credit assigned to a particular course should reflect the amount of effort it demands of the student. Normally, one credit will

represent three hours total work per week for one term — including a combination of lecture hours, other contact hours, such as laboratory periods, tutorials, and problem periods, as well as personal study time.

14.4 Advising

Students who need 96 or fewer credits to complete their degree requirements must consult an academic adviser in their proposed department of study to obtain advice and approval of their course selection. Quebec students with a Diploma of Collegial Studies in Science have normally taken the equivalent of, and are therefore exempt from, the 100-level basic science courses in Biology, Chemistry, Mathematics, and Physics. Such students may also be exempt from some 200-level courses. Students with satisfactory results in International Baccalaureate, French Baccalaureate, Advanced Levels, and Advanced Placement tests may also be exempt from some or all of the Science Freshman courses. To facilitate program planning, they must present their transcripts and letters of admission. For a detailed description of advising and registration procedures, students should refer to "Registration", in section 3.3; "Advising and Support", in section 4; *Welcome to McGill,* which they receive upon acceptance from Enrolment Services; as well as information posted on the SOUSA website, www.mcgill.ca/science/sousa and the departmental websites.

Students who need 97-120 credits to complete their degree requirements will normally be registered in a Freshman Program until they complete their first year. They must consult a SOUSA adviser in the Science Office for Undergraduate Student Advising to obtain advice and approval of their course selection. For a detailed description of advising and registration procedures, Freshman students should refer to *Welcome to McGill*, which they receive upon acceptance from Enrolment Services, as well as the information on the SOUSA website, www.mcgill.ca/science/sousa.

Advising for all returning students takes place in March for the upcoming academic year. For more information, students should refer to the information on the SOUSA website, www.mcgill.ca/science/sousa.

14.5 Registration

All students register by Minerva, McGill's web-based registration system.

For detailed information about registration, students should refer to "Registration", in section 3.3; *Welcome to McGill*; the SOUSA website, www.mcgill.ca/science/sousa; and the Student Records website, www.mcgill.ca/student-records.

Students who fall into unsatisfactory standing at the end of the academic year will have their registration cancelled. They may not re-register in the Faculty. However, students who can provide proof of exceptional extenuating circumstances that affected their academic performance may appeal to the Director of Advising Services for readmission. For more information, students should see section 3.3.13 "Readmission".

Students who have an outstanding fee balance from a previous term or outstanding fines will not be permitted to register. In addition, students who have registered for the upcoming academic year, but subsequently take Summer courses without paying the fees, will have their registration cancelled. Registration on Minerva will be denied until these debts are paid in full. Students must pay all debts before the end of the registration period to be permitted to re-register. Students with financial problems should consult the Student Aid Office, Brown Student Services Building.

Students who decide not to return to McGill after initiating registration must withdraw from all of their courses on Minerva or inform the Science Office for Undergraduate Student Advising (SOUSA) in writing. The deadline for withdrawal from the University is the same deadline as for a course withdrawal; see section 3.3.8 "Regulations Concerning Course Withdrawal" and section 3.3.9 "Regulations Concerning University Withdrawal". After the deadline, students may, under exceptional circumstances, be granted permission to withdraw from the University. Such students should contact the SOUSA Office for further information.

14.5.1 Program Registration

For detailed information about registering for programs, students should refer to *Welcome to McGill*; the Science Registration information on the SOUSA website, www.mcgill.ca/science/sousa; or the Student Records website, www.mcgill.ca/student-records.

See section 14.11 "Lists of Programs Offered" for a list of programs that can be taken by Science students.

14.5.2 Course Registration

All courses have limited enrolment. Subject to the course restrictions listed in this section and unless otherwise indicated, students in the Faculty of Science may register for and take for credit any course in the sections of the Calendar applicable to the Faculties of Arts and of Science.

Since the registration system is unable to verify whether or not Faculty regulations are respected, it is technically possible to register for courses that are closed to Science students. When students' records are manually verified, however, any "closed" courses will be flagged after the end of course change period as "not for credit towards the B.Sc." As a result, the students' expected date of graduation may be delayed.

Some courses may require special permission. Students should consult this Calendar and the Class Schedule at www.mcgill.ca/courses to determine whether permission is required of the instructor, the department, or the Faculty for any course they wish to take.

Students who believe they have valid reasons to take a course that is normally closed to Science students must obtain permission from the Director of Advising Services before registering for the course. Only the Director of Advising Services or, on appeal, the Committee on Student Standing, can make exceptions to the Faculty rules.

14.5.2.1 Registration for First-Year Seminars

Registration for First-Year Seminars is limited to students in their first year of study at McGill, i.e., newly admitted students in U0 or U1. These courses are designed to provide a closer interaction with professors and better working relations with peers than is available in large introductory courses. These seminars endeavour to teach the latest scholarly developments and expose participants to advanced research methods. Registration is on a first-come, first-served basis. The maximum number of students in any seminar is 25, although some are limited to even fewer than that.

Students may take only one First-Year Seminar. Students who register for more than one will be obliged to withdraw from all but one of them. Please consult the departmental listings for course descriptions and availability.

CHEM 199	FYS: Why Chemistry?
COMP 199	FYS: Excursions in Computer Science
EPSC 199	FYS: Earth & Planetary Exploration
GEOG 199	FYS: Geo-Environments (not offered 2009/2010)
PSYT 199	FYS: Mental Illness and the Brain

The First-Year Seminars offered by the Faculty of Arts are also open to Science students. For a complete listing, please consult Arts "First-Year Seminars", in section 6.12.1.

14.5.2.2 Freshman Interest Groups

Freshman Interest Groups (FIGs) are groups of approximately 15 U0 students and U1 in their first semester, in the B.Sc. or B.A. & Sc., led by a professor in the Faculty of Science or Faculty of Medicine and an upper-year undergraduate student. They meet once every two weeks in the Fall semester to discuss a wide range of topics, such as science in the news, program choices, undergraduate research opportunities, or just aspects of life in Montreal. The purpose of a FIG is to ease the transition to McGill and Montreal and to provide students an opportunity to interact with a

professor and with other U0 students in a small group. FIGs carry no credit and there is no charge. For more information and to see how to register refer to www.mcgill.ca/science/student/fig.

14.5.2.3 Registration in Multi-Term Courses

Students who select a multi-term course are making a commitment to that course for its entirety. Students MUST register in the same section in all terms of a multi-term course. Credit will be jeopardized if students deliberately register in different sections of a multi-term course. In exceptional cases, when circumstances are beyond the student's control, the SOUSA Office may grant permission to change sections mid-way through a multi-term course. Students must make their request in writing to the Director of Advising Services, citing their reason for the request. The request must also have the written support of the instructors of the sections involved and of the coordinator of the course (if applicable).

14.5.3 Apply to Graduate

For more information, see section 3.9.2 “Apply to Graduate”.

14.6 Grading and Credit

During the first week of lectures, each instructor will provide students with a written course outline. This information should include, where appropriate:

- whether there will be a final examination in the course;
- how term work will affect the final mark in the course;
- how term work will be distributed through the term;
- whether there will be a supplemental examination in the course, and, if so, whether it will count for 100% of the supplemental grade or whether term work will be included in the supplemental grade (courses with formal final examinations *must* have supplementals);
- whether students with marks of D, F, J or U will have the option of submitting additional work, and, if so, how the supplemental mark will be calculated with the extra work.

14.6.1 Incomplete Grades

An instructor who believes that there is justification for a student to delay submitting term work may extend the deadline until after the end of the course. In this case, the instructor will submit a grade of K (incomplete), indicating the date by which the work is to be completed. The maximum extensions for the submission of grades to the Science Office for Undergraduate Student Advising (SOUSA) are as follows:

- students graduating in June:
  - Fall, Winter, and multi-term courses — April 30
- non-graduating students
  - Fall courses — April 30
  - Winter and multi-term courses — July 30
  - Summer courses — Nov. 30

Students' deadlines for submitting their work must be sufficiently in advance of these dates to ensure that the work can be graded and the mark submitted on time. It is important to note that instructors may impose earlier deadlines than those listed above.

If marks to clear Ks have not been submitted to the SOUSA Office by the deadline specified above for non-graduating students, the K is automatically changed to a KF and counts as an F in the GPA.

Students with a grade of K who have serious extenuating circumstances may request an extension of the K deadline (KE) from the Director of Advising Services. Please refer to "Grading and Grade Point Averages (GPA)", in section 3.5.3 for more information about grading and credit.

14.7 Examinations

Students should refer to "Examinations", in section 3.6, for information about final examinations and deferred examinations. Note that for the Faculty of Science, "University Regulations Concerning Final Examinations", in section 3.6.2.1 applies to courses up to and including the 500 level.

The exam schedules are posted on the McGill website, www.mcgill.ca, normally one month after the start of classes for the Tentative Exam Schedule, and two months after the start of classes for the Final Examination Schedule. Students should also refer to the SOUSA website for more information: www.mcgill.ca/science/sousa.

Students are warned not to make travel arrangements to leave Montreal prior to the scheduled end of any examination period.

14.8 Supplemental Assessments

14.8.1 Supplemental Examinations

Students who wish to write supplemental examinations for certain courses must apply to the Science Office for Undergraduate Student Advising (SOUSA) for permission. The following conditions apply:

- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, F, J or U in the course;
- students must avail themselves of this privilege at the time of the next supplemental examination period;
- special permission is required if a student wishes to write supplementals totalling more than 8 credits;
- only one supplemental examination is allowed in a course;
- the supplemental result may count for 100% of the final grade or may include the same proportion of class work as did the original grade; the instructor will announce the arrangements to be used for the course by the end of the course change period;
- the format and content of the supplemental examination will not necessarily be the same as for the final examination, so students should consult the instructor;
- the supplemental result will not erase the grade originally obtained, which is used in calculating the GPA; both the original mark and the supplemental result will be calculated in the CGPA;
- in courses in which both a supplemental examination and additional work are available, the student may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work;
- additional credit will not be given for a supplemental exam where the original grade for the course was a D and the student already received credit for the course;
- supplemental examinations in courses outside the Faculty of Science are subject to the deadlines, rules and regulations of the relevant faculty;
- no supplemental examinations are available for students who fail to achieve satisfactory grades in deferred examinations.

For courses in the Faculties of Arts and of Science, the supplemental examination period for Fall courses is during the month of May; for Winter courses, and courses spanning Fall/ Winter, the supplemental examination period is during the last week of August.

Supplemental examination applications are available on Minerva, as of January 30, 2009. The deadline for submission of applications is March 1 for Fall courses and July 30 for Winter courses and courses spanning Fall/Winter. A non-refundable fee for each

supplemental exam is payable at the time of application. Students who register for a supplemental examination and subsequently find themselves unprepared for it should not write it; except for the loss of the registration fee, there is no penalty for not writing a supplemental examination. Students should consult the SOUSA Office for further information.

14.8.2 Additional Work

Instructors of courses that include graded written term work may choose to provide the option of additional work to eligible students. The following conditions apply:

- if there is an option for additional work, it must be announced in the course outline at the beginning of the course;
- additional work involves revising one or more previously submitted papers or submitting new written work to replace the original work;
- students must be in satisfactory or probationary standing;
- students must have received a final grade of D, J, F, or U in the course;
- the weight of the additional work will be equal to the weight given the work revised or replaced when the original mark was submitted;
- the mark resulting from the revised or additional work will be recorded as a supplemental mark;
- the supplemental result will not erase the grade originally obtained, which is used in calculating the GPA; both the original mark and the supplemental mark will count in calculating the CGPA;
- in courses in which both a supplemental examination and additional work are available, the student may choose the additional work or the examination or both; where both are written, only one supplemental mark will be submitted, reflecting marks for both the supplemental examination and the additional work;
- additional work in courses outside the Faculty of Science is subject to the deadlines, rules, and regulations of the relevant faculty.

Additional work applications are available in the SOUSA Office. The deadline for submission of applications is March 7 for Fall courses and July 30 for Winter courses and courses spanning Fall/Winter. A non-refundable fee is payable for each course at the time of application. Students should consult the SOUSA Office for further information.

14.8.3 Reassessments and Rereads

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, students have the right to consult any written submission for which they have received a mark, to discuss this submission with the examiner, and to obtain an impartial and competent review of any mark.

The Faculty of Science recognizes two types of impartial reviews: reassessments of coursework (i.e., of term papers, midterms, assignments, quizzes, etc.) and rereads of final examinations. In both cases, rather than recorrect the work and grade it as they would have done themselves, reviewers assess the ***appropriateness*** of the original grade based, for example, on the application of the grading key to the student's work. If a grade is deemed unfair, it is changed, whether the new grade is higher or lower than the original — i.e., the reviewer's grade takes precedence over the original grade.

A. Reassessment of Coursework

Reassessments of coursework are administered and conducted solely by the units involved according to procedures specified by the units and made available to staff and students. Requests for such reassessments must be made within 10 working days after the graded material has been made available for students to view it. Reassessments should normally be completed within 20 working days of the request.

B. Rereads of Final Examinations

Rereads of final examinations are administered by the SOUSA Office, but conducted by the units involved. Students must apply in writing to the SOUSA Office by March 31 for courses in the Fall term and by September 30 for courses in the Winter or Summer terms (these deadlines are strictly enforced and no requests for rereads will be accepted past them). Students are assessed a fee of $35 for such rereads. It is strongly recommended, but not required, that students consult the instructor of the course before requesting a reread of a final examination.

Reassessments and rereads in courses not in the Faculty of Science are subject to the deadlines, rules, and regulations of the relevant faculty.

14.9 Academic Standing

Academic standing is based primarily on students' cumulative grade point average (CGPA), but may also be affected by their term grade point average (TGPA). Academic standing is assessed in January for the Fall term, in May for the Winter term, and in September for the Summer term. Academic standing in each term determines if students will be allowed to continue their studies in the next term and if any conditions will be attached to their registration.

Decisions about academic standing in the Fall term are based only on grades that are available in January. Grades for courses in which students have deferred examinations and Fall term grades for courses that span the Fall and Winter terms do not affect academic standing for the Fall term, even though they will ultimately affect students' Fall TGPA. Therefore, academic standings for the Fall term that are designated as "interim" should be interpreted as advisory. Note that interim standings will not appear on external transcripts. Interim standing decisions are mentioned below only if the rules for them differ from those for regular standing decisions.

Satisfactory/Interim Satisfactory Standing

Students in satisfactory standing may continue in their program.

- New students are admitted to satisfactory standing.
- Students with a CGPA of 2.00 or greater are in satisfactory standing.

Probationary/Interim Probationary Standing

Students in probationary standing may continue in their program, but must carry a reduced load (maximum 14 credits per term) and raise their TGPA and CGPA to return to satisfactory standing (see above). They should see their departmental adviser to discuss their course selection, and their Faculty student adviser to discuss degree planning.

Students in interim probationary standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult a departmental adviser, before the withdrawal deadlines, about their course selection for the Winter term.

- Students who were previously in satisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99.
- Students who were previously in probationary standing will remain in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher, although the TGPA requirement will not apply to the Summer term.
- Students who were previously in interim unsatisfactory standing will be placed in probationary standing if their CGPA falls between 1.50 and 1.99 and their TGPA is 2.50 or higher.
- Students who were previously in unsatisfactory readmitted standing will be placed in probationary standing (for the Fall or Winter term) if their CGPA is less than 2.00, and if they satisfy relevant conditions specified in their letter of readmission.

Unsatisfactory Readmitted Standing

Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Director of Advising Services or the Committee on Student Standing will have their standing changed to unsatisfactory readmitted standing. Their course load is specified in their letter of readmission, as are the conditions they must meet to be allowed to continue in their program. They should see their departmental adviser to discuss their course selection, and their Faculty student adviser to discuss degree planning.

Unsatisfactory/Interim Unsatisfactory Standing

Students in interim unsatisfactory standing may continue in their program, but should evaluate their course load and reduce it as appropriate. They are strongly advised to consult a departmental adviser, before the withdrawal deadlines, about their course selection for the Winter term, and their Faculty student adviser to discuss degree planning.

Students in unsatisfactory standing have failed to meet the minimum standards set by the Faculty. They may not continue in their program, and their registration will be cancelled.

Appeals for readmission by students in unsatisfactory standing should be addressed to the Director of Advising Services no later than July 15 for readmission to the Fall term and November 15 for the Winter term. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation). Students in unsatisfactory standing for the second time must withdraw permanently.

Normally, supplemental examinations are not permitted; however, students in unsatisfactory standing may appeal to the Director of Advising Services for permission to write a supplemental examination, clearly stating the reasons for special consideration and providing proof as appropriate.

- Students will be placed in unsatisfactory standing (Winter or Summer term) or interim unsatisfactory standing (Fall term) if their CGPA falls or remains below 1.50.
- Students who were previously in probationary, unsatisfactory readmitted, or interim unsatisfactory standing will be placed in unsatisfactory standing (Fall or Winter term) if their TGPA falls below 2.50 and their CGPA is below 2.00.
- Students who were previously in unsatisfactory standing and who were readmitted to the Faculty by the Director of Advising Services or the Committee on Student Standing and who have not at least satisfied the conditions to attain probationary standing that were specified in the letter of readmission will be placed in unsatisfactory standing.

Students in the Concurrent B.Sc. and B.Ed. Program who receive an F or J in any Education Field Experience course are placed in unsatisfactory standing. Although they may complete their term, they are required to withdraw from the Concurrent Program. However, they may apply to transfer to a conventional B.Sc. program as outlined in section 14.13.34 “Science or Mathematics for Teachers”.

Incomplete Standings

- Standing awaits deferred examination.
- Must clear Ks, Ls or Supplemental.
- Standing Incomplete.

Students with incomplete standings in the Winter or Summer term may register for the Fall term, but their standing must be resolved by the end of the course-change period for that term. Students whose incomplete standing changes to satisfactory, probationary, or interim unsatisfactory standing may continue in the program. Students whose standing changes to unsatisfactory standing may not continue in their program, and their registration will be cancelled.

Students whose standing changes to unsatisfactory and who wish to ask for permission to continue in their program must make a request to the Director of Advising Services as soon as they are placed in unsatisfactory standing. Readmission will be considered only when proof of extenuating circumstances that affected academic performance can be provided (e.g., medical or other documentation).

Students whose standing is still incomplete by the end of course change period should immediately consult with the Science Office for Undergraduate Student Advising (SOUSA).

At the end of the Winter term, students with a mark of K or L will be placed in the appropriate standing in June, if the outstanding mark in the course will not affect their standing. Otherwise, the standing decision will only be made once their incomplete marks have been cleared. For more information about incomplete grades, please refer to section 14.6.1 “Incomplete Grades”.

14.10 Awards and Honorary Designations

14.10.1 Honours and First-Class Honours

Departments may recommend to the Faculty that graduating students registered in an Honours program be awarded *Honours* or *First-Class Honours* under the following conditions:

- students must complete all requirements imposed by the department;
- for *Honours*, the CGPA at graduation must be at least 3.00;
- for *First-Class Honours*, the CGPA at graduation must be at least 3.50;
- some departments may impose additional requirements, which must be met before students are recommended for *Honours* or *First-Class Honours*. These are found in the departmental descriptions of Honours programs.

Students in an Honours program whose CGPA is below 3.00 or who did not satisfy certain program requirements must consult their adviser to determine if they are eligible to graduate in a program other than Honours.

14.10.2 Distinction

For information on the designation of Distinction awarded at graduation, see section 3.9.1.2 “Distinction”.

14.10.3 Dean’s Honour List

For information on the designation of Dean’s Honour List awarded at graduation, see section 3.9.1.1 “Dean’s Honour List”.

14.10.4 Dean’s Multidisciplinary Undergraduate Research List

The Dean's Multidisciplinary Undergraduate Research List recognizes students who have participated in substantial and broad undergraduate research. To be placed on the Dean's Multidisciplinary Undergraduate Research List at graduation time, a student must have completed at least 9 credits of research-based courses, taken for a letter grade, where qualifying courses are specified in the list of approved research courses (see www.mcgill.ca/science/ours/researchcourses). Furthermore, considering all qualifying research-based courses on the student's transcript at graduation time:

- at least one course, worth at least 3 credits, must be from a different unit than the other research-based courses; and
- every qualifying course must have been completed with a grade of C or above; and
- the average GPA over all qualifying courses must be 3.0 or above.

14.10.5 Medals and Prizes

Various medals, scholarships and prizes are open to continuing and graduating students. Full details of these are set out in the

Undergraduate Scholarships and Awards Calendar, available at www.mcgill.ca/courses. No application is required except in the case of the Moyse Travelling Scholarships.

14.11 Lists of Programs Offered

14.11.1 Science program groups

Science students admitted after September, 2009 are limited to choosing majors or honours programs within the Science group to which they were admitted, but may continue to choose freely from all available minor programs.

The groups within the B.Sc. are:

Group 1 Biological, Biomedical & Life Sciences
Group 2 Microbiology & Immunology
Group 3 Neuroscience
Group 4 Physical, Earth, Math & Computer Science
Group 5 Concurrent B.Sc./B.Ed.

For a list of specific programs in each group, see www.mcgill.ca/science/prospective/scienceatmcgill.

To change to a major or honours program in another Science group students must make an Intra-Faculty Transfer application. See: www.mcgill.ca/student-records/inter-faculty-transfers.

14.11.2 Liberal Program - Core Science Components

Anatomy and Cell Biology, page 405
Atmospheric Science, page 407
Biochemistry, page 410
Biology, page 413
Chemistry: Biological Option, page 420
Chemistry: General Option, page 421
Chemistry: Physical Option, page 421
Computer Science, page 425
Earth and Planetary Science, page 428
Geography, page 432
Mathematics, page 438
Microbiology and Immunology, page 443
Physics, page 451
Physiology, page 455
Psychology, page 459
Software Engineering, page 242
Statistics, page 438

14.11.3 Major Programs

Anatomy and Cell Biology, page 405
Atmospheric Science, page 407
Atmospheric Science (Atmospheric Chemistry option), page 407
Biochemistry, page 410
Biology, page 413
Chemistry, page 420
Chemistry (Bio-organic option), page 420
Chemistry (Atmosphere and Environment option), page 420
Chemistry (Materials option), page 420
Computer Science, page 424
Computer Science (Computer Games option), page 424
Earth and Planetary Sciences, page 428
Earth System Science, page 430
Environment (Atmospheric Environment and Air Quality domain) – see McGill School of Environment, page 321
Environment (Biodiversity and Conservation domain) – see McGill School of Environment, page 312
Environment (Earth Sciences and Economics domain) – see McGill School of Environment, page 322
Environment (Ecological Determinants of Health domain - Cellular) – see McGill School of Environment, page 313
Environment (Ecological Determinants of Health domain – Population) – see McGill School of Environment, page 314
Environment (Environmetrics domain) – see McGill School of Environment, page 315
Environment (Food Production and Environment domain) – see McGill School of Environment, page 316
Environment (Land Surface Processes and Environmental Change domain) – see McGill School of Environment, page 317
Environment (Renewable Resource Management domain) – see McGill School of Environment, page 318
Environment (Water Environments and Ecosystems domain – Biological) – see McGill School of Environment, page 319
Environment (Water Environments and Ecosystems domain – Physical) – see McGill School of Environment, page 320
Geography, page 432
Mathematics, page 439
Microbiology and Immunology – application required, see departmental section for information, page 444
Neuroscience, page 445
Physics, page 451
Physiology, page 455
Pharmacology (subject to the approval of the Ministère de l'Éducation, du Loisir et du Sport), page 448
Psychology, page 459
Software Engineering, page 424

14.11.4 Joint Major Programs

Atmospheric Science and Physics, page 408
Biology and Mathematics, page 415 – **new**
Computer Science and Biology, page 426
Mathematics and Computer Science – see Mathematics and Statistics, page 439
Physics and Computer Science – see Physics, page 452
Physics and Geophysics, page 451
Physiology and Mathematics, page 455
Physiology and Physics, page 456
Statistics and Computer Science, page 440

14.11.5 Honours Programs

Anatomy and Cell Biology, page 406
Applied Mathematics, page 441
Atmospheric Science, page 408
Atmospheric Science (Atmospheric Chemistry option), page 408
Biochemistry, page 411
Biology, page 416
Chemistry, page 419
Chemistry (Bio-organic option), page 419
Chemistry (Atmosphere and Environment option), page 419
Chemistry (Materials), page 420
Computer Science, page 426
Earth Sciences, page 428
Environment, page 323
Planetary Sciences, page 429
Geography, page 433
Immunology (Interdepartmental) – application required, see Faculty of Science section for Immunology, page 434
Mathematics, page 440
Microbiology and Immunology, page 444
Pharmacology (subject to the approval of the Ministère de l'Éducation, du Loisir et du Sport), page 449
Physics, page 452
Physiology, page 456
Probability and Statistics, page 441
Psychology, page 459

14.11.6 Joint Honours Programs

Mathematics and Computer Science – see Mathematics and Statistics, page 442
Mathematics and Physics – see Physics, page 452
Physics and Chemistry – see Physics, page 453
Statistics and Computer Science, page 442

14.11.7 Minor Programs

Atmospheric Science, page 407
Biology, page 413
Biotechnology, page 417
Chemical Engineering – see Chemistry, page 421
Chemistry, page 421
Cognitive Science, page 421
Computational Molecular Biology – see Computer Science, page 424
Computer Science, page 423
Earth and Planetary Sciences, page 427
Education for Science Students – see Science or Mathematics for Teachers, page 461
Electrical Engineering – see Physics, page 454
Environment – see McGill School of Environment, page 306
Field Study – see Field Studies and Study Abroad, page 467
Finance for Non-Management Students – see Desautels Faculty of Management, page 337
General Science, page 431
Geochemistry – see Earth and Planetary Sciences, page 427
Geography, page 432
Geographical Information Systems – see Geography, page 432
Human Nutrition – see Faculty of Agricultural and Environmental Sciences section for School of Dietetics and Human Nutrition, page 107
Interdisciplinary Life Sciences, page 435
Kinesiology – see Faculty of Science section, page 436
Management for Non-Management Students – see Desautels Faculty of Management, page 338
Marketing for Non-Management Students – see Desautels Faculty of Management, page 338
Mathematics, page 437
Musical Applications of Technology – see Schulich School of Music, page 365
Musical Science and Technology – see Schulich School of Music, page 365
Neuroscience, page 446
Operations Management for Non-Management Students – see Desautels Faculty of Management, page 338
Pharmacology, page 448
Physics, page 451
Psychology, page 458
Statistics – see Mathematics and Statistics, page 438
Technological Entrepreneurship for Science Students – application required, see Faculty of Science section, page 463

Notes:

1. The Minor in Chemical Engineering is only available to students in Chemistry.
2. The Minor in Electrical Engineering is only available to students in the Major program in Physics.
3. The Minor in General Science is only available to students in B.Sc. Liberal programs.

14.11.8 Concurrent B.Sc. and B.Ed. Program (Science or Mathematics for Teachers)

Major in Mathematics for Teachers – see Science or Mathematics for Teachers, page 463
Major Concentration in Biology with a Minor in Chemistry for Teachers – see Science or Mathematics for Teachers, page 462
Major Concentration in Biology with a Minor in Physics for Teachers – see Science or Mathematics for Teachers, page 462
Major Concentration in Chemistry with a Minor in Biology for Teachers – see Science or Mathematics for Teachers, page 462
Major Concentration in Chemistry with a Minor in Physics for Teachers – see Science or Mathematics for Teachers, page 462
Major Concentration in Physics with a Minor in Biology for Teachers – see Science or Mathematics for Teachers, page 462
Major Concentration in Physics with a Minor in Chemistry for Teachers – see Science or Mathematics for Teachers, page 463

14.11.9 Bachelor of Arts and Science

Please see the "Bachelor of Arts and Science", in section 7 of the Calendar, for details.

14.11.10 Internship Programs – Industrial Practicum (IP) and Internship Year in Science (IYS)

The Faculty of Science offers an internship program which features the Industrial Practicum (4 months) and the Internship Year in Science (8, 12, 16 months). Participating in an internship offers you the chance to apply theory to practice, to solidify you career goals, to gain some valuable experience and to earn money.

It will also give you the opportunity to enhance your degree: if you complete two IPs or participate in an IYS, the name of your program will change to include the word internship (e.g. Bachelor of Science - Internship Program - Biology).

To learn more about the Science Internship programs, visit www.mcgill.ca/science/internships-field/internships.

14.11.11 Faculty of Arts Major and Minor Concentration Programs Available to Science Students

For more information, please see the relevant departmental entries in the Faculty of Arts section.

Major Concentrations

African Studies, page 127
Anthropology, page 129
Art History, page 132
Canadian Studies, page 135
Classics, page 138
East Asian Studies, page 143
Economics, page 147
English – Cultural Studies, page 151
English – Drama and Theatre, page 151
English – Literature, page 151
Geography (Urban Systems), page 161
German Language and Literature, page 165
German Literature and Culture, page 166
German Studies, Contemporary, page 165
Hispanic Languages, page 168
Hispanic Literature and Culture, page 168
History, page 170
Humanistic Studies, page 172

International Development Studies, page 173
Italian Civilization, page 176
Italian Language and Literature, page 176
Jewish Studies, page 178
Langue et littérature françaises – Études et pratiques littéraires, page 156
Langue et littérature françaises – Linguistique du français, page 157
Note: Program has been retired effective Fall 2009
Langue et littérature françaises – Traduction, page 156
Latin-American Studies, page 181
Linguistics, page 183
Middle East Studies, page 187
Music (available to students in B.Sc. Liberal only), page 189
North American Studies, page 191
Philosophy, page 193
Philosophy and Western Religions, page 195
Political Science, page 201
Québec Studies, page 206
Russian, page 213
Scriptures and Interpretation – see Religious Studies, page 209
Sociology, page 221
Women's Studies, page 223
World Religions – see Religious Studies, page 209

Minor Concentrations
African Studies, page 127
Anthropology, page 129
Art History, page 132
Canada/Québec – see Political Science, page 199
Canadian Ethnic and Racial Studies, page 134
Canadian Studies, page 135
Catholic Studies, page 137
Classics, page 138
Communication Studies – see Art History and Communication Studies, page 133
Comparative Politics – see Political Science, page 200
East Asian Language and Literature, page 141
East Asian Cultural Studies, page 142
East Asian Studies, Advanced, page 143
Economics, page 146
English – Cultural Studies, page 151
English – Literature, page 150
English – Drama and Theatre, page 150
Geographical Information Systems – see Geography, page 160
Geography, page 160
German Language, page 164
German Literature, page 164
German Literature and Culture in Translation, page 164
Hispanic Languages, page 167
Hispanic Literature and Culture, page 168
History, page 170
History and Philosophy of Science, page 171
Humanistic Studies, page 172
International Development Studies, page 173
International Relations – see Political Science, page 200
Islamic Studies, page 175
Italian Language and Literature, page 176
Italian Civilization, page 176
Jewish Law, page 178
Jewish Studies, page 178
Langue et littérature françaises – Critique littéraire, page 156
Langue et littérature françaises – Études et pratiques littéraires, page 155
Langue et littérature françaises – Langue française, page 155
Langue et littérature françaises – Langue française et traduction, page 155
Langue et littérature françaises – Traduction, page 156
Linguistics, page 183
Middle East Studies, page 187
Middle East Languages, page 187
Music, page 189
North American Studies, page 190
Philosophy, page 192
Philosophy and Western Religions, page 195
Political Science, page 198
Political Economy – see Political Science, page 201
Political Theory – see Political Science, page 200
Politics, Law and Society – see Political Science, page 201
Québec Studies, page 205
Russian – see Russian and Slavic Studies, page 212
Russian Culture – see Russian and Slavic Studies, page 213
Scriptural Languages – see Religious Studies, page 208
Sexual Diversity Studies, page 217
Social Studies of Medicine, page 218
Sociology, page 221
South Asia – see Political Science, page 201
World Religions – see Religious Studies, page 207
Women's Studies, page 222

14.12 Undergraduate Research Opportunities

Because McGill is a research-intensive university, research informs the curriculum. There are many opportunities for talented students to take part in research during their undergraduate studies, whether at McGill, in affiliated hospitals, at other universities, or in the field. Many of these are organized through formal courses or programs organized by the Faculty of Science or its departments, and are listed in the following sections; however, see section 14.3.6 "Course Requirements" for information about other opportunities.

The Office for Undergraduate Research in Science (OURS) coordinates several of the following programs, and can help students find out about other opportunities. Visit the OURS website at www.mcgill.ca/science/ours to find out more.

14.12.1 Department Research Projects

Departments offer a variety of research-based courses which allow you to perform research under the supervision of a McGill researcher for academic credit. Depending on the unit, courses featuring undergraduate research may bear names such as: majors project, honours project, advanced lab, independent research, technical project, independent study, research project & seminar. For more information, see the course listings for Faculty of Science departments see "Course Information, Regulations and Descriptions" of the Calendar.

14.12.1.1 "396" Undergraduate Research Project Courses

"396" undergraduate research project courses are offered by most departments – ANAT 396, ATOC 396, BIOC 396, BIOL 396, etc. They are elective courses, which can be taken outside your own department.

Students can consult a list of past projects and currently available projects on the Science website at www.mcgill.ca/science/ours/396, or they can devise a new project in consultation with a McGill researcher and download the required paperwork.

14.12.1.2 Dean's Multidisciplinary Undergraduate Research List

Students interested in the Dean's Multidisciplinary Undergraduate Research list can refer to section 14.10.4 "Dean's Multidisciplinary Undergraduate Research List" for more information.

14.12.2 NSERC Undergraduate Student Research Awards

The Natural Sciences and Engineering Research Council of Canada Undergraduate Student Research Awards (NSERC USRA) in Universities program: this award supports 16 consecutive weeks of paid full-time research under the supervision of a professor who holds an NSERC grant. It is an excellent way to prepare for graduate studies or a future career in science. This program is offered at most universities across Canada, and a travel allowance from NSERC is available.

To apply, students must first identify a proposed supervisor who holds an NSERC grant. Students should apply at the university where they wish to hold the award. Applicants must be Canadian citizens or permanent residents of Canada. See www.mcgill.ca/science/ours/nserc for more information.

14.12.2.1 Related program: NSERC Industrial Undergraduate Student Research Awards

In cooperation with a company, students can also apply for an Industrial NSERC Award to provide salary support to gain industrially relevant experience. Students apply for these awards through one or more companies (not through McGill). For more information on forms, student eligibility, and company eligibility, please visit the NSERC website www.nserc.ca and look for the Industrial Undergraduate Student Research Awards.

14.12.2.2 Related program: FRSQ Undergraduate Student Research Awards and McEntyre USRA

These programs are meant to stimulate interest for research in students registered in an undergraduate program in Health Sciences or other disciplines offering specialization in health sciences, including social sciences, natural sciences, and engineering. For more information see www.mcgill.ca/gps/fellowships/undergrad/frsq-usra.

14.12.3 Undergraduate Research Conference

Each fall, the Faculty of Science holds an Undergraduate Research Conference to celebrate the research accomplishments of our undergraduate students. The conference also includes a public lecture by a Nobel laureate or other luminary on a topic related to scientific discovery.

Students who wish to present their research posters should contact their departments in the preceding summer, since departments nominate participants for the conference.

Everyone is welcome to attend. This is an excellent opportunity to see what McGill undergraduates undertake as research projects.

The conference normally takes place on the Friday of Homecoming weekend.

For more details, please see www.mcgill.ca/science/ours/urc.

14.12.4 Industrial Practicum (IP) and Internship Year in Science (IYS)

These programs are open to all Science undergraduate students. An internship is a career-related, professionally supervised, paid work term and done during your undergraduate degree in a field related to your studies. Internships may have a basis in research. To be eligible to apply:

- You must be a full time undergraduate student in Science before and after the IP or the IYS is completed.
- You must have completed at least 27 credits and should have at least 12 credits remaining in your degree program.
- Your GPA must be 3.0 or higher.
- International students are eligible to apply to all IYS positions (unless otherwise indicated in the job posting) and to summer IPs (provided the student has an off-campus work permit).

For more information on IP and IYS, please see www.mcgill.ca/science/internships-field/internships.

14.12.5 Field study and study abroad

McGill's Field Study Semester programs (in Africa, Barbados, and Panama) are research-based, as are many shorter field courses offered by the Departments of Biology, Earth & Planetary Sciences, and Geography. See "Field Studies and Study Abroad", section 15, and www.mcgill.ca/science/internships-field/field for more information about these programs and courses.

14.12.6 Other opportunities

While the application process for the NSERC USRA and some other research awards may be highly competitive, individual departments and researchers offer many other research opportunities. These may be paid or unpaid, for academic credit or not for credit. Some of these opportunities are formal programs and are listed on this page; however, many opportunities arise as a result of students talking with their professors. Students should feel free to do so.

In addition to opportunities available at McGill, there are several external opportunities at other institutions.

The website of the Office for Undergraduate Research in Science has information on external opportunities as well as how to find opportunities at McGill or elsewhere. For more information, see www.mcgill.ca/science/ours/opportunities and www.mcgill.ca/science/ours/how.

14.13 Academic Programs

14.13.1 Science Freshman Program

Students who need 97-120 credits to complete their degree requirements will normally be registered in the Science Freshman Program until they complete their first year. They must consult an adviser in the Science Office for Undergraduate Student Advising (SOUSA) to obtain advice and approval of their course selection. Full details are available on the SOUSA website at www.mcgill.ca/science/sousa. Academic advising is also available by email. The address is newstudentadvising.science@mcgill.ca.

B.SC. FRESHMAN PROGRAM REQUIREMENTS
Students normally complete 30 credits which must include at least 7 courses from the list of Approved Freshman Science courses, selected as follows:

GENERAL MATH AND SCIENCE BREADTH (6 courses)

Six of the freshman courses must satisfy one of the following:

1. 2 courses from MATH and 4 courses from BIOL, CHEM or PHYS; or
2. 3 courses from MATH and 3 courses from BIOL, CHEM or PHYS.

SCIENCE COMPLEMENTARY (1 course)
One additional course from the list of Approved Freshman Science Courses.
Notes:

1. Students who have not studied all of Biology, Chemistry and Physics at the grade 12 level or equivalent are strongly advised to include at least one course in the missing discipline in their freshman program.
2. Many students will complete more than 7 courses from the Approved Freshman Science Courses list, particularly those who wish to leave several options open for their choice of major.
3. Students entering the Freshman Program should be aware of the department specific requirements when selecting their

courses. Detailed advising information is available at www.mcgill.ca/science/sousa/bsc/freshman.

4. The maximum number of courses per term, required, complementary and elective, is five.
5. Some medical and dental schools have specific freshman course requirements. Check the admission requirements of the school(s) to which you intend to apply.

List of approved Freshman Science Courses

ATOC 104 or EPSC 104 or GEOG104	(3)	The Earth System
BIOL 111	(3)	Principles: Organismal Biology
BIOL 112	(3)	Cell and Molecular Biology
CHEM 110	(4)	General Chemistry 1
CHEM 115	(4)	Accelerated General Chemistry: Giants in Science (not open to students who are taking or have taken CHEM 110 or CHEM 120)
CHEM 120	(4)	General Chemistry 2 (not open to students who have taken CHEM 115)
COMP 202	(3)	Introduction to Computing 1
MATH 133	(3)	Vectors, Matrices and Geometry

First calculus course, one of:

MATH 139	(4)	Calculus
or MATH 140	(3)	Calculus 1
or MATH 150	(4)	Calculus A

Second calculus course, one of:

MATH 141	(4)	Calculus 2
or MATH 151	(4)	Calculus B

First physics course, one of:

PHYS 101	(4)	Introductory Physics - Mechanics
or PHYS 131	(4)	Mechanics and Waves

Second physics course, one of:

PHYS 102	(4)	Introductory Physics - Electromagnetism
or PHYS 142	(4)	Electromagnetism and Optics

PSYC 100	(3)	Introduction to Psychology

ELECTIVES

Students wishing to take elective courses may choose them from introductory courses offered by departments in the Faculties of Science or of Arts. A list of recommended courses is found at www.mcgill.ca/science/sousa/bsc/freshman/approved. Certain courses offered by other faculties may also be taken, but some restrictions apply. Consult the SOUSA website at www.mcgill.ca/science/sousa/bsc/course/outside for more information about taking courses from other faculties.

14.13.2 Anatomy and Cell Biology (ANAT)

Strathcona Anatomy and Dentistry Building
3640 University Street, Room 1/60
Montreal, QC H3A 2B2

Telephone: 514-398-6335
Website: www.mcgill.ca/anatomy

Chair — John J.M. Bergeron

Emeritus Professors
Yves Clermont; B.Sc.(Montr.), Ph.D.(McG.), F.R.C.S.
Dennis G. Osmond; C.M., B.Sc., M.B., Ch.B., D.Sc.(Brist.), M.R.C.S., L.R.C.P., F.R.S.C.
H. Warshawsky; B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)

Professors
Philip Barker; B.Sc.(S. Fraser), Ph.D.(Alta.) (*joint appoint. with Neurology & Neurosurgery*)
Alain Beaudet; M.Sc., Ph.D., M.D.(Montr.) (*joint appoint. with Neurology & Neurosurgery*)
Gary C. Bennett; B.A., B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)
John J.M. Bergeron; B.Sc.(McG.), D.Phil.(Oxf.)
James R. Brawer; B.S.(Tufts), Ph.D.(Harv.)
Miguel Burnier; M.D., M.Sc., Ph.D.(Brazil) (*joint appoint. with Ophthalmology*)
Samuel David; Ph.D.(Manit.) (*joint appoint. with Neurology & Neurosurgery*)
Louis Hermo; B.A.(Loyola), M.Sc., Ph.D.(McG.)
Marc D. McKee; B.Sc., M.Sc., Ph.D.(McG.) (*joint appoint. with Dentistry*)
Peter McPherson; B.Sc.(Manit.), Ph.D.(Iowa) (*joint appoint. with Neurology and Neurosurgery*)
Sandra C. Miller; B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)
Carlos R. Morales; DVM.(U.N., Argentina), Ph.D.(McG.)
Barry I. Posner; M.D.(Manit.), F.R.C.P.(C) (*joint appoint. with Medicine*)
Alfredo Ribeiro-da-Silva; M.D., Ph.D.(Oporto) (*joint appoint. with Pharmacology and Therapeutics*)
Stefano Stifani; Ph.D.(Rome), Ph.D.(Alta.) (*joint appoint. with Neurology & Neurosurgery*)

Associate Professors
Chantal Autexier; B.Sc.(C'dia), Ph.D.(McG.)
Orest W. Blaschuk; B.Sc.(Winn.), M.Sc.(Manit.), Ph.D.(Tor.) *(joint appoint. with Surgery)*
Eugene Daniels; M.Sc., Ph.D.(Manit.)
Elaine Davis; B.Sc., M.Sc.(W.Ont.), Ph.D.(McG.)
Timothy Kennedy; B.Sc.(McM.), M.Phil., Ph.D.(Col.) *(joint appoint. with Neurology & Neurosurgery)*
Nathalie Lamarche-Vane; B.Sc., Ph.D.(Montr.)
John F. Presley; B.A., Ph.D.(Texas)
Dieter Reinhardt; M.S.(Kaiserslautern), Ph.D.(Munich) (*joint appoint. with Dentistry*)
Wayne Sossin; S.B.(MIT), Ph.D.(Stan.) (*joint appoint. with Neurology & Neurosurgery*)
Hojatollah Vali; B.Sc., M.Sc., Ph.D.(Munich) (*joint appoint. with Earth and Planetary Sciences*)
Dominique Walker; B.Sc., Ph.D.(Geneva) (*joint appoint. with Psychiatry*)

Assistant Professors
Fiona Bedford; B.Sc.(Birm.), Ph.D.(Lond.)
Craig Mandato; B.Sc., Ph.D.(Wat.)
Isabelle Rouiller; Ph.D.(UK)

Associate Members
Albert Berghuis (*Biochemistry*)
Colin Chalk (*Neurology & Neurosurgery*)
Jean-François Cloutier *(Neurology & Neurosurgery)*
Claudio Cuello (*Pharmacology & Therapeutics*)
Giovanni DiBattista (*Medicine*)
Alyson Fournier (*Neurology & Neurosurgery*)
Janet Henderson (*Medicine*)
Svetlana Komarova (*Dentistry*)
Paul F. Lasko (*Biology*)
Andrea Leblanc (*Neurology & Neurosurgery*)
Peter Metrakos (*Department of Surgery*)
Edward S. Ruthazer *(Neurology & Neurosurgery)*
Philippe Seguela (*Neurology & Neurosurgery*)
Peter Siegel (*Medicine & Biochemistry*)
David Y. Thomas *(Biochemistry)*
Jackie Vogel (*Biology*)
Xiang-Jiao Yang *(Medicine)*

Adjunct Professors
Michel Cayouette; Ph.D.(Laval)
Miroslaw Cygler; M.Sc., Ph.D.(Lodz, Poland)
Daniel Cyr; B.Sc., M.Sc.(C'dia), Ph.D.(Manit.)
Michel Desjardins; M.Sc., Ph.D.(Montr.)
Jacques Drouin; B.Sc., D.Sc.(Laval)
David Hipfner; B.Sc., Ph.D.(Qu.)
Marko Horb; Ph.D.(SUNY)
Sadayuki Inoue; M.Sc., Ph.D.(Hok. U.)
Artur Kania; Ph.D.(Baylor)
Bartha Knoppers; Ph.D.(France)

André Nantel; B.Sc., M.Sc.(Laval), Ph.D.(Chapel Hill)
Maureen O'Conner-McCourt; Ph.D.(Alta.)
Alexei Pshezhetsky; Ph.D.(Russia)
Joseph Schrag; M.Sc., Ph.D.(Ill.)
Atilla Sik; M.Sc., Ph.D.(Hungary)
Pierre Thibault; Ph.D.(Montr.)
Jan Van Oostrum; M.A., M.Phil., Ph.D.(Columbia)

Faculty Lecturer:
Ayman Behiery; M.B., Ch.B.(Cairo)

The Department of Anatomy and Cell Biology offers courses that deal with cell and molecular biology, histology, embryology, neuroanatomy, and gross anatomy. The Honours Program is designed as the first phase in the training of career cell and molecular biologists. The Major and Liberal programs offer decreasing levels of specialization in Anatomy and Cell Biology but with a broader base in other biological sciences. These programs also form a sound background for graduate studies in Anatomy and Cell Biology, or for further professional training in schools of medicine, dentistry and other health sciences. A B.Sc. in Anatomy and Cell Biology provides an excellent preparation for technical and administrative positions in laboratories of universities, research institutions, hospitals and pharmaceutical and biotechnological industries.

The Department is equipped to perform cell fractionation, protein purification, recombinant DNA technology, micro-injection of molecules into single cells, cytochemical, immunocytochemical and fluorescent analysis and electron microscopy, proteomics and genomics. The Department has a well-equipped centre for electron microscopy as well as a centre for confocal and immunofluorescence.

Inquiries about programs should be directed to the Department of Anatomy and Cell Biology.

A Science Major Concentration in Biomedical Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Biomedical Sciences", in section 7.12.4 for details. **Note:** This program was retired at the end of the 2008-09 academic year and no new students will be accepted as of June 2009.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN ANATOMY AND CELL BIOLOGY (47-48 credits)

Required Courses (32 credits)

ANAT 212	(3)	Molecular Mechanisms of Cell Function
ANAT 214	(3)	Systemic Human Anatomy
ANAT 261	(4)	Introduction to Dynamic Histology
ANAT 262	(3)	Introductory Molecular and Cell Biology
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 212*	(4)	Introductory Organic Chemistry 1
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
MATH 203*	(3)	Principles of Statistics 1
or PSYC 204	(3)	Introduction to Psychological Statistics

* Students who have taken the equivalent of CHEM 212 in CEGEP (as defined at www.mcgill.ca/student-records/transfercredits) are exempt and must replace these credits with an elective course(s).

Complementary Courses (15-16 credits)

List A: 9 credits selected from:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 322	(3)	Neuroendocrinology
ANAT 365	(3)	Cellular Trafficking
ANAT 381	(3)	Basis of Embryology
NEUR 310	(3)	Cellular Neurobiology

List B: 6-7 credits selected from:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 322	(3)	Neuroendocrinology
ANAT 365	(3)	Cellular Trafficking
ANAT 381	(3)	Basis of Embryology
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 301	(4)	Cell and Molecular Laboratory
BIOL 303	(3)	Developmental Biology
BIOL 306	(3)	Neural Basis of Behaviour
BIOL 314	(3)	Molecular Biology of Oncogenes
EXMD 504	(3)	Biology of Cancer
MIMM 314	(3)	Immunology
NEUR 310	(3)	Cellular Neurobiology
PATH 300	(3)	Human Disease
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Disease

MAJOR IN ANATOMY AND CELL BIOLOGY
(67 credits)

Required Courses (43 credits)

ANAT 212	(3)	Molecular Mechanisms of Cell Function
ANAT 214	(3)	Systemic Human Anatomy
ANAT 261	(4)	Introduction to Dynamic Histology (must be taken in U1)
ANAT 262	(3)	Introductory Molecular and Cell Biology
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
MATH 203*	(3)	Principles of Statistics 1
or PSYC 204	(3)	Introduction to Psychological Statistics
or BIOL 373	(3)	Biometry
BIOL 301	(4)	Cell and Molecular Laboratory
MIMM 314	(3)	Immunology

* If the equivalents to these courses were passed in CEGEP (as defined at www.mcgill.ca/student-records/transfercredits) they are not required for the Anatomy and Cell Biology programs, and may not be retaken at McGill. Students must take the equivalent number of credits in Elective Courses to satisfy the total credit requirement for their degree.

Complementary Courses (24 credits)
At least 6 credits must be at the 400-level or higher.

12 credits selected from:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 322	(3)	Neuroendocrinology
ANAT 365	(3)	Cellular Trafficking
ANAT 381	(3)	Basis of Embryology
ANAT 416	(3)	Development, Disease and Regeneration
ANAT 458	(3)	Membranes and Cellular Signaling
ANAT 541	(3)	Cell and Molecular Biology of Aging
NEUR 310	(3)	Cellular Neurobiology

12 credits of biologically oriented courses (BOC), among the courses listed below:

ANAT 322, ANAT 365, ANAT 381, ANAT 416, ANAT 432, ANAT 458/BIOC 458, ANAT 541.

BIOC 311, BIOC 312, BIOC 450, BIOC 454, BIOC 455, BIOC 503.

BIOL 300, BIOL 301, BIOL 303, BIOL 306, BIOL 313, BIOL 314, BIOL 357, BIOL 370, BIOL 389, BIOL 468, BIOL 475, BIOL 514, BIOL 516, BIOL 518, BIOL 520, BIOL 522, BIOL 524, BIOL 530, BIOL 532, BIOL 544, BIOL 551, BIOL 572, BIOL 588.

BIOT 505.

EXMD 401, EXMD 502, EXMD 503, EXMD 504, EXMD 506, EXMD 507, EXMD 508, EXMD 509, EXMD 510, EXMD 512D1/EXMD 512D2.

MIMM 314, MIMM 323, MIMM 324, MIMM 386D1/MIMM 386D2, MIMM 387, MIMM 413, MIMM 414, MIMM 465, MIMM 466, MIMM 509.

NUTR 307.

PATH 300.

PHAR 300, PHAR 301, PHAR 303, PHAR 562, PHAR 563.

PHGY 311, PHGY 312, PHGY 313, PHGY 314, PHGY 451, PHGY 502, PHGY 508, PHGY 513, PHGY 515, PHGY 516, PHGY 517, PHGY 518, PHGY 552, PHGY 556.
PSYT 500.

HONOURS IN ANATOMY AND CELL BIOLOGY (73 credits)

Students should register at the Major level in U1 and, if accepted, may enter the Honours Program at the beginning of U2. To enter the program, the student must obtain a CGPA of at least 3.00 at the end of U1. For promotion to the U3 year of the Honours program, or for entry into the program at this level, the student must have a CGPA of at least 3.20 at the end of their U2 year. It is expected that at the beginning of the third year the students who wish to continue in the Honours Program will be those who feel that they are seriously interested in a career in Cell Biology. The Honours Degree will be recommended after successful completion of the Program with a CGPA of at least 3.20.

Required Courses (52 credits)
All Major Program required courses, plus:
ANAT 432 (9) Honours Research Project

Complementary Courses (21 credits)
At least 6 of the complementary credits must be at the 400-level or higher.
18 credits from:
ANAT 321 (3) Circuitry of the Human Brain
ANAT 322 (3) Neuroendocrinology
ANAT 365 (3) Cellular Trafficking
ANAT 381 (3) Basis of Embryology
ANAT 416 (3) Development, Disease and Regeneration
ANAT 458 (3) Membranes and Cellular Signaling
ANAT 541 (3) Cell and Molecular Biology of Aging
NEUR 310 (3) Cellular Neurobiology

3 credits of biologically oriented courses (BOC), as defined in the Major Program.

14.13.3 Atmospheric and Oceanic Sciences (ATOC)

Burnside Hall, Room 945
805 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-3764
Fax: 514-398-6115
Email: undergraduateinfo@meteo.mcgill.ca
Website: www.mcgill.ca/meteo

Chair — John R. Gyakum

Emeritus Professors
Roddy R. Rogers; B.S.(Texas), S.M.(MIT), Ph.D.(NYU)
Edward J. Stansbury; M.A., Ph.D.(Tor.)

Professors
Jacques F. Derome; M.Sc.(McG.), Ph.D.(Mich.), F.R.S.C.
John R. Gyakum; B.Sc.(Penn.), M.Sc., Ph.D.(MIT)
Henry G. Leighton; M.Sc.(McG.), Ph.D.(Alta.)
Charles A. Lin; B.Sc.(Br. Col.), Ph.D.(MIT)
Lawrence A. Mysak; B.Sc.(Alta.), M.Sc.(Adel.), A.M., Ph.D.(Harv.), F.R.S.C. *(Canada Steamship Lines Professor of Meteorology)*
Man Kong (Peter) Yau; S.B., S.M., Sc.D.(MIT)
Isztar I. Zawadzki; B.Sc.(Buenos Aires), M.Sc., Ph.D.(McG.), F.R.S.C.

Associate Professors
Parisa Ariya; B.Sc., Ph.D.(York) (*William Dawson Scholar*) *(joint appoint. with Chemistry*)
Peter Bartello; M.Sc., Ph.D.(McG.) *(joint appoint. with Mathematics and Statistics)*
Frédéric Fabry; B.Sc., M.Sc., Ph.D.(McG.) *(joint appoint. with McGill School of Environment)*
David Straub; B.S., M.S.(SW Louisiana), Ph.D.(Wash.)

Assistant Professors
Michel Bourqui; B.Sc., M.Sc.(EPFL,Switzerland), Ph.D.(ETHZ, Switzerland) (*joint appoint. with Chemistry*)
Pavlos Kollias; B.Sc., M.Sc.(Athens), Ph.D.(Miami) (*Canada Research Chair*)
Seok-Woo Son; B.Sc., M.Sc.(Seoul National), Ph.D.(Penn.)
Bruno Tremblay; B.Sc.(McG.), M.Sc.(Carl.), Ph.D.(McG.)

Adjunct Professors
Gilbert Brunet, Pierre Gauthier, Hai Lin, Stella Melo, Ronald Stewart

The Department of Atmospheric and Oceanic Sciences offers, at the undergraduate level, a broad range of courses and degree programs in atmospheric science. At the postgraduate level, programs of study are offered in physical oceanography, air-sea interaction, and climate research as well as in different branches of atmospheric science. The study of atmospheric science is based largely on physics and applied mathematics. All required courses except those at the introductory level generally have prerequisites or corequisites in physics, mathematics, and atmospheric science. One of the goals of the discipline is to develop the understanding necessary to improve our ability to predict the weather, but atmospheric science is more than weather forecasting.

Another important area of study focuses on the possible changes in global climate caused by the changing chemical composition of the atmosphere. The approach is always quantitative. Like other parts of physics, atmospheric science attempts to create theoretical models of its complex processes, as a means of analyzing the motion and composition of the air, its thermodynamic behaviour, and its interaction with radiation and with the solid or liquid surface beneath it.

From one viewpoint, the atmosphere may be studied as a large volume of gas by the methods of fluid mechanics: winds, circulation patterns, turbulence, and energy and momentum exchanges are the ideas employed in this approach. Alternatively, the atmosphere may be studied from the point of view of its detailed physics: how water condenses in the air, how cloud droplets make rain, how sunlight warms the ground and the ground warms the air above it by radiation and convection, and how the atmosphere and ocean interact to shape the weather and climate. A comprehensive understanding requires both viewpoints, and these are reflected in the curriculum.

The Department of Atmospheric and Oceanic Sciences offers four main programs in Atmospheric Science: Honours, Major, Minor, and a Joint Major in Atmospheric Science and Physics. The Honours program is meant for students with high standing. It is based on courses similar to those in the Major program, but provides the opportunity to take advanced optional courses. The Major program, although somewhat less intensive, satisfies the requirements for a professional career as a meteorologist, and like the Honours program equips the student to undertake postgraduate study in meteorology, atmospheric science, and related sciences (physical oceanography) at any of the leading universities. The Department also offers a special one-year Diploma program to B.Sc. or B.Eng. graduates.

A degree in Atmospheric Science can lead to a professional career in government service or private industry. The Meteorological Service of Canada has traditionally been the main employer of graduating students, but certain provincial governments and environmental consulting and engineering firms also employ graduates trained in atmospheric science. Positions in teaching and research are available to graduates with M.Sc. and Ph.D. degrees. Students interested in any of the undergraduate programs should consult the Undergraduate Adviser, Room 946, Burnside Hall.

Internship Year in Science (IYS)

IYS is a pregraduate work experience program available to eligible students and normally taken between their U2 and U3 years. For more information, see "Industrial Practicum (IP) and Internship Year in Science (IYS)", in section 14.12.4.

The following programs are also available with an internship component:

Major in Atmospheric Science
Honours in Atmospheric Science

A Science Major Concentration in Earth, Atmosphere and Ocean Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Earth, Atmosphere and Ocean Sciences", in section 7.12.8 for details.

MINOR IN ATMOSPHERIC SCIENCE (18 credits)

The Minor may be taken in conjunction with any program in the Faculty of Science.

Required Courses (15 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 219	(3)	Introduction to Atmospheric Chemistry
or CHEM 219	(3)	Introduction to Atmospheric Chemistry
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere

Complementary Course (3 credits)

ATOC 412	(3)	Atmospheric Dynamics
or ATOC 540	(3)	Synoptic Meteorology 1

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN ATMOSPHERIC AND OCEANIC SCIENCES (46 credits)

Required Courses (37 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 546	(1)	Current Weather Discussion
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus
MATH 315	(3)	Ordinary Differential Equations
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves

Complementary Courses (9 credits)

ATOC 419	(3)	Advances in Chemistry of Atmosphere
or CHEM 419	(3)	Advances in Chemistry of Atmosphere
ATOC 530	(3)	Paleoclimate Dynamics
ATOC 531	(3)	Dynamics of Current Climates
ATOC 541	(3)	Synoptic Meteorology 2
COMP 208	(3)	Computers in Engineering
MATH 203	(3)	Principles of Statistics 1
MATH 319	(3)	Introduction to Partial Differential Equations
PHYS 257	(3)	Experimental Methods 1
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Majors Electricity and Magnetism

MAJOR IN ATMOSPHERIC SCIENCE (61 credits)

Required Courses (46 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2
ATOC 546	(1)	Current Weather Discussion
COMP 208	(3)	Computers in Engineering
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus
MATH 315	(3)	Ordinary Differential Equations
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves
PHYS 257	(3)	Experimental Methods 1

Complementary Courses (15 credits)

3-6 credits to satisfy a statistics requirement, usually:

MATH 203	(3)	Principles of Statistics 1
or MATH 323	(3)	Probability
and MATH 324	(3)	Statistics

3 credits selected from:

PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Majors Electricity and Magnetism

6-9 credits ordinarily selected from:

ATOC 419	(3)	Advances in Chemistry of Atmosphere
or CHEM 419	(3)	Advances in Chemistry of Atmosphere
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
GEOG 322	(3)	Environmental Hydrology
GEOG 372	(3)	Running Water Environments
MATH 317	(3)	Numerical Analysis
MATH 319	(3)	Introduction to Partial Differential Equations
MATH 423	(3)	Regression and Analysis of Variance
PHYS 241	(3)	Signal Processing
PHYS 331	(3)	Topics in Classical Mechanics
PHYS 332	(3)	Physics of Fluids
or MATH 555	(4)	Fluid Dynamics
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 342	(3)	Majors Electromagnetic Waves

MAJOR PROGRAM IN ATMOSPHERIC SCIENCE: ATMOSPHERIC CHEMISTRY OPTION (61 credits)

Required Courses (55 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
ATOC 215	(3)	Oceans, Weather and Climate
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
ATOC 419	(3)	Advances in Chemistry of Atmosphere
or CHEM 419	(3)	Advances in Chemistry of Atmosphere
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2
ATOC 546	(1)	Current Weather Discussion
CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
COMP 208	(3)	Computers in Engineering
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus
MATH 315	(3)	Ordinary Differential Equations
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves
PHYS 257	(3)	Experimental Methods 1

Complementary Courses (6 credits)

3 credits to satisfy a statistics requirement, usually:

MATH 203	(3)	Principles of Statistics 1
or MATH 324	(3)	Statistics

3 credits selected from:

ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 367	(3)	Instrumental Analysis 1
CHEM 575	(3)	Chemical Kinetics
EPSC 542	(3)	Chemical Oceanography
MATH 317	(3)	Numerical Analysis
MATH 319	(3)	Introduction to Partial Differential Equations
MATH 423	(3)	Regression and Analysis of Variance
PHYS 241	(3)	Signal Processing
PHYS 331	(3)	Topics in Classical Mechanics
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Majors Electricity and Magnetism

PHYS 342 (3) Majors Electromagnetic Waves

JOINT MAJOR IN ATMOSPHERIC SCIENCE AND PHYSICS (67 credits)

This Major provides a solid basis for postgraduate study in meteorology, atmospheric physics, or related fields, and the necessary preparation for embarking on a professional career as a meteorologist directly after the B.Sc.

The program is jointly administered by the Department of Physics and the Department of Atmospheric and Oceanic Sciences. Students should consult undergraduate advisers in both departments.

Required Courses (64 credits)

ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 309 (3) Weather Radars and Satellites
ATOC 315 (3) Water in the Atmosphere
ATOC 412 (3) Atmospheric Dynamics
ATOC 540 (3) Synoptic Meteorology 1
ATOC 541 (3) Synoptic Meteorology 2
ATOC 546 (1) Current Weather Discussion
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2
PHYS 331 (3) Topics in Classical Mechanics
PHYS 333 (3) Thermal and Statistical Physics
PHYS 339 (3) Measurements Laboratory in General Physics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 342 (3) Majors Electromagnetic Waves
PHYS 446 (3) Majors Quantum Physics

Complementary Course (3 credits)

PHYS 434 (3) Optics
or PHYS 439 (3) Majors Laboratory in Modern Physics

HONOURS IN ATMOSPHERIC SCIENCE (70 credits)

Students can be admitted to the Honours program after completion of the U1 year of the Major in Atmospheric Science program with a minimum GPA of 3.30. Students having completed a U1 year in a different program with high standing may be admitted to the Honours program on the recommendation of the Department.

A minimum GPA of 3.30 in the Honours Program courses (taken as a whole) is required to remain in the program. A CGPA of 3.30 on the total program is also required to graduate with honours.

Required Courses (52 credits)

ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 309 (3) Weather Radars and Satellites
ATOC 315 (3) Water in the Atmosphere
ATOC 480 (3) Honours Research Project
ATOC 512 (3) Atmospheric and Oceanic Dynamics
ATOC 531 (3) Dynamics of Current Climates
ATOC 540 (3) Synoptic Meteorology 1
ATOC 546 (1) Current Weather Discussion
COMP 208 (3) Computers in Engineering
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
MATH 319 (3) Introduction to Partial Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 257 (3) Experimental Methods 1

Complementary Courses (18 credits)

3-6 credits to satisfy a statistics requirement, usually:
MATH 203 (3) Principles of Statistics 1
or MATH 323 (3) Probability
and MATH 324 (3) Statistics

3 credits selected from:
PHYS 333 (3) Thermal and Statistical Physics
PHYS 340 (3) Majors Electricity and Magnetism

3-6 credits ordinarily selected from:
ATOC 419 or CHEM 419 (3) Advances in Chemistry of Atmosphere
ATOC 515 (3) Turbulence in Atmosphere and Oceans
MATH 317 (3) Numerical Analysis
PHYS 241 (3) Signal Processing
PHYS 331 (3) Topics in Classical Mechanics
PHYS 332 (3) Physics of Fluids
or MATH 555 (4) Fluid Dynamics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 342 (3) Majors Electromagnetic Waves
GEOG 322 (3) Environmental Hydrology
GEOG 372 (3) Running Water Environments
MATH 423 (3) Regression and Analysis of Variance

6 credits selected from:
ATOC 513 (3) Waves and Stability
ATOC 530 (3) Paleoclimate Dynamics
ATOC 541 (3) Synoptic Meteorology 2

HONOURS PROGRAM IN ATMOSPHERIC SCIENCE: ATMOSPHERIC CHEMISTRY OPTION (70 credits)

Required Courses (61credits)

ATOC 214 (3) Introduction: Physics of the Atmosphere
ATOC 215 (3) Oceans, Weather and Climate
ATOC 309 (3) Weather Radars and Satellites
ATOC 315 (3) Water in the Atmosphere
ATOC 412 (3) Atmospheric Dynamics
ATOC 419 (3) Advances in Chemistry of Atmosphere
or CHEM 419 (3) Advances in Chemistry of Atmosphere
ATOC 480 (3) Honours Research Project
ATOC 531 (3) Dynamics of Current Climates
ATOC 540 (3) Synoptic Meteorology 1
ATOC 546 (1) Current Weather Discussion
CHEM 223 (2) Introductory Physical Chemistry 1
CHEM 243 (2) Introductory Physical Chemistry 2
CHEM 253 (1) Introductory Physical Chemistry 1 Laboratory
CHEM 263 (1) Introductory Physical Chemistry 2 Laboratory
COMP 208 (3) Computers in Engineering
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
MATH 319 (3) Introduction to Partial Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 257 (3) Experimental Methods 1

Complementary Courses (9 credits)

3 credits to satisfy a statistics requirement, usually:
MATH 203 (3) Principles of Statistics 1
or MATH 324 (3) Statistics

3 credits selected from:
ATOC 515 (3) Turbulence in Atmosphere and Oceans
CHEM 307 (3) Analytical Chemistry of Pollutants
CHEM 367 (3) Instrumental Analysis 1
CHEM 575 (3) Chemical Kinetics
EPSC 542 (3) Chemical Oceanography
MATH 317 (3) Numerical Analysis
MATH 423 (3) Regression and Analysis of Variance
PHYS 241 (3) Signal Processing

PHYS 331	(3)	Topics in Classical Mechanics
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 342	(3)	Majors Electromagnetic Waves

3 credits selected from:

ATOC 513	(3)	Waves and Stability
ATOC 530	(3)	Paleoclimate Dynamics
ATOC 541	(3)	Synoptic Meteorology 2

DIPLOMA IN METEOROLOGY (30 credits)

The Department offers an intensive, one-year program in theoretical and applied meteorology to B.Sc. or B.Eng. graduates of suitable standing in physics, applied mathematics or other appropriate disciplines, leading to a Diploma in Meteorology. The program is designed for students with little or no previous background in meteorology who wish to direct their experience to atmospheric or environmental applications, or who need to fulfil academic prerequisites in meteorology to qualify for employment. For further information, consult the Administrative Officer, Burnside Hall, Room 946.

An exemption of up to 6 credits may be allowed for courses already taken. Students granted such exemptions are required to add complementary courses from an approved list to maintain a total credit count of 30 completed at McGill.

Required Courses (15 credits)

ATOC 512	(3)	Atmospheric & Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 531	(3)	Dynamics of Current Climates
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2

Complementary Courses (12 credits)

6 credits selected from:

ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere
ATOC 419 or CHEM 419	(3)	Advances in Chemistry of Atmosphere

9 credits ordinarily selected from:

ATOC 515	(3)	Turbulence in Atmosphere and Oceans
ATOC 530	(3)	Paleoclimate Dynamics
GEOG 522	(3)	Advanced Environmental Hydrology
MATH 317	(3)	Numerical Analysis
MATH 319	(3)	Introduction to Partial Differential Equations
PHYS 331	(3)	Topics in Classical Mechanics
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 342	(3)	Majors Electromagnetic Waves
PHYS 332	(3)	Physics of Fluids
or MATH 555	(4)	Fluid Dynamics

EARTH SYSTEM SCIENCE INTERDEPARTMENTAL MAJOR

This program is offered by the Departments of Atmospheric & Oceanic Sciences, Earth & Planetary Sciences and Geography.

Students in the Department of Atmospheric & Oceanic Sciences interested in this program should contact Professor Frédéric Fabry (frederic.fabry@mcgill.ca). For more information, see section 14.13.11 “Earth System Science Interdepartmental Major (ESYS)”.

14.13.4 Biochemistry (BIOC)

McIntyre Medical Sciences Building, Room 802
3655 Promenade Sir William Osler
Montreal, QC H3G 1Y6

Telephone: 514-398-2423
Fax: 514-398-7384
Email: christine.laberge@mcgill.ca
Website: www.mcgill.ca/biochemistry

Chair & Professor — David Y. Thomas; B.Sc.(Brist.), M.Sc., Ph.D.(Univ. Coll., Lond.), F.R.S.C.

Associate Chair & Professor — Peter E. Braun; B.Sc., M.Sc.(Br. Col.), Ph.D.(Calif., Berk.)

Emeritus Professors
Rose M. Johnstone; B.Sc., Ph.D.(McG.), F.R.S.C.
Edward A. Meighen; B.Sc.(Alta), Ph.D.(Calif., Berk.)
Samuel Solomon; M.Sc., Ph.D.(McG.), F.R.S.C.
Theodore L. Sourkes; M.Sc.(McG.), Ph.D.(C’nell), F.R.S.C.
Clifford P. Stanners; B.Sc.(McM.), M.A., Ph.D.(Tor.)

Professors
Nicole Beauchemin; B.Sc., M.Sc., Ph.D.(Montr.) *(joint appoint. with Oncology)*
Albert Berghuis; B.Sc., M.Sc.(Rijks Univ. Groningen, the Netherlands), Ph.D.(Br. Col.)
Rhoda Blostein; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C. *(joint appoint. with Medicine)*
Philip E. Branton; B.Sc., M.Sc., Ph.D.(Tor.) *(Gilman Cheney Professor of Biochemistry)*
Kalle Gehring; M.Sc.(Mich.), Ph.D.(Calif., Berk.)
Vincent Giguère; B.Sc., Ph.D.(Laval) *(joint appoint. with Oncology)*
Philippe Gros; B.Sc., M.Sc.(Montr.), Ph.D.(McG.) (*James McGill Professor*)
Robert E. MacKenzie; M.N.S., B.Sc.(Agr.)(McG.), Ph.D.(C’nell.)
William Muller; B.Sc., Ph.D.(McG.)
Walter E. Mushynski; B.Sc., Ph.D.(McG.)
Alain Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.) (*joint appoint. with Oncology*)
Morag Park; B.Sc., Ph.D.(Glasgow) *(William Dawson Scholar) (joint appoint. with Oncology)*
Jerry Pelletier; B.Sc., Ph.D.(McG.)
Gordon C. Shore; B.Sc.(Guelph), Ph.D.(McG.)
Joseph Shuster; B.Sc.(McG.), Ph.D.(Calif.), M.D.(Alta.) *(joint appoint. with Medicine)*
John R. Silvius; B.Sc., Ph.D.(Alta.)
Nahum Sonenberg; M.Sc., Ph.D.(Weizmann Inst.), F.R.S.C. *(James McGill Professor)*
Michel L. Tremblay; B.Sc., M.Sc.(Sher.), Ph.D.(McM.)
Maria Zannis-Hadjopoulos; B.Sc., M.Sc., Ph.D.(McG.) *(joint appoint. with Oncology)*

Associate Professors
Imed Gallouzi; Maitrise, DEA, Ph.D.(Montpellier, France)
Arnim Pause; B.Sc., M.Sc.(U. Konstanz, Germ.), Ph.D.(McG.) (*joint appoint. with Goodman Cancer Centre*)

Assistant Professors
Maxime Bouchard; B.Sc., Ph.D.(Laval) (*joint appoint. with Goodman Cancer Centre*)
Josée Dostie; B.Sc.(Sher.), Ph.D.(McG.)
Thomas Duchaine; B.Sc., Ph.D.(Montr.) (*joint appoint. with Goodman Cancer Centre*)
Bhushan Nagar; B.Sc., Ph.D.(Tor.)
Julie St-Pierre; B.Sc., M.Sc., Ph.D.(Camb.)
Jose Teodoro; B.Sc.(W. Ont.), Ph.D.(McG.) (*joint appoint. with Goodman Cancer Centre*)
Jason Young; B.Sc.(Tor.), Ph.D.(McM.)

Associate Members
Karine Auclair *(Chemistry)*; William C. Galley *(Chemistry)*; Jacques Genest (*Medicine*); Matthias Götte (*Microbiology and Immunology*); Michael Hallett *(Computer Science)*; Qutayba Hamid *(Medicine and Pathology)*; Robert Scott Kiss (*Medicine*); Gregory Miller *(Pharmacology & Therapeutics)*; Vassilios Papadopoulos (*MUHC*); Peter J. Roughley (*Shriners Hospital)*; Reza Salavati (*Parasitology*); Maya Saleh (*Medicine*); Erwin Schurr *(Exp. Medicine, RVH)*; Charles Scriver *(Pediatrics, MCH);* Peter Siegel (*Medicine*); Bernard Turcotte *(Exp. Medicine, RVH);* Simon Wing *(Medicine);* Xiang-Jiao Yang *(Molecular Oncology, RVH)*

Adjunct Professors
Prabhat Arya *(NRC, Ottawa)*; Katherine Cianflone (*Centre de recherche de l’Hôpital Laval*); Mirek Cygler *(B.R.I.);* Jacques Drouin *(IRCM);* Anny Fortin (*Dafra Pharma*); Karen Meerovitch (*Mimetogen Pharmaceuticals*); Tarik Möröy (*IRCM*); Donald Nicholson *(Merck);* Maureen D. O'Connor-McCourt *(B.R.I.);*

Enrico Purisima *(B.R.I.);* Martine Raymond (*I.R.I.C. Montr.*); René Roy *(UQAM)*; Sophie Roy *(Merck);* Alex Therien *(Merck)*

Biochemistry is the application of chemical, genetic, and biophysical approaches to the study of biological processes at the cellular and molecular level. Biochemists are interested in the dynamic events that occur in cells, for example, in mechanisms of brain function; cellular differentiation; energy utilization by animals and microorganisms; and in the molecular basis of inheritance and disease. The biochemist seeks to determine how specific molecules such as proteins, nucleic acids, lipids, vitamins and hormones function in various cellular processes. Biochemists place particular emphasis on the regulation of reactions in living cells. The knowledge and methods developed by biochemists are applied in all fields of medicine, in agriculture and in many chemical and health-related industries. Biochemistry is unique in providing basic theoretical training as well as basic practical laboratory training and research in both enzymology and genetic engineering, the two basic components in the rapidly expanding field of Biotechnology.

Three programs are offered by the Department of Biochemistry. The Honours and Major programs provide a sound background for students who wish to have a professional career in biochemistry and can lead to postgraduate studies and research careers in hospital, university or industrial laboratories. The Liberal program is less specialized, offering students opportunities to select courses in other fields of interest.

During the first year, each program provides basic training in organic, physical and analytical chemistry as well as in biology and physiology. The Honours and Major programs become more specialized in biochemistry during the following two years with additional work in chemistry and biology.

Students interested in pursuing an *ad hoc* Joint Major or Joint Honours degree between Biochemistry and a second discipline may consult with our Chief Adviser.

The increasing involvement of complex technology in modern society requires personnel trained in both chemistry and biology. With the advent of biotechnology, the combination of chemistry, molecular biology, enzymology and genetic engineering found in the biochemistry program provides the essential background and training in this area as well. The biochemist is in an advantageous position to fulfil this role and assume a wide variety of positions in industry and the health field. These include: research and development in the chemical and pharmaceutical industries; testing as well as research in government and hospital laboratories; management. Many graduates pursue higher degrees in research and attain academic positions in universities and colleges.

PREPROGRAM REQUIREMENTS

Entrance requirements for the Liberal, Major and Honours programs are: 3 credits in elementary biology, 6 credits in general chemistry, 3 credits in organic chemistry, 6 credits in calculus, 8 credits in physics.

Please note that although CHEM 212 is not part of the programs, it is required as a prerequisite for CHEM 222 and either CHEM 212 or CEGEP competency 00XV is required as a corequisite for BIOL 200.

ADVISER

New students interested in Biochemistry should call 514-398-2423 for information regarding program advising.

Returning Students must schedule an advising appointment directly with the academic adviser assigned to them in their first year in Biochemistry.

A Science Major Concentration in Biomedical Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Biomedical Sciences", in section 7.12.4 for details. **Note:** This program will be retired at the end of the 2008-09 academic year and no new students will be accepted as of June 2009.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN BIOCHEMISTRY (47 credits)

U1 Year (26 credits)

U1 Required Courses (20 credits)

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 204	(3)	Physical Chemistry/Biological Sciences 1
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2

* Students with CEGEP-level credit for CHEM 212 and/or CHEM 222 should replace these courses with elective courses.

U1 Complementary Courses** (6 credits)

6 credits selected from:

BIOL 205	(3)	Biology of Organisms
MIMM 211	(3)	Introductory Microbiology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

U2 Year (18 credits)

U2 Required Courses (15 credits)

BIOC 300D1	(3)	Laboratory in Biochemistry
BIOC 300D2	(3)	Laboratory in Biochemistry
BIOC 311	(3)	Metabolic Biochemistry
BIOC 312	(3)	Biochemistry of Macromolecules
CHEM 302	(3)	Introductory Organic Chemistry 3

U2 Complementary Courses** (3 credits)

3 credits selected from:

BIOL 373	(3)	Biometry
COMP 202	(3)	Introduction to Computing 1
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
PSYC 204	(3)	Introduction to Psychological Statistics

** Complementary courses listed for U1 and U2 may be taken in later years if necessary to accommodate courses that must be taken in U1 or U2 as part of the breadth component of the program.

U3 Year (3 credits)

U3 Complementary Courses (3 credits)

3 credits selected from:

BIOC 450	(3)	Protein Structure and Function
BIOC 454	(3)	Nucleic Acids

MAJOR IN BIOCHEMISTRY (66 or 69 credits)

Students may transfer into the Major program at any time provided they have met all course requirements.

U1 Required Courses (19 credits)

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 204	(3)	Physical Chemistry/Biological Sciences 1
CHEM 222	(4)	Introductory Organic Chemistry 2
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

U1 Complementary Courses (9 credits)

6 credits, selected from:

BIOL 205	(3)	Biology of Organisms
MIMM 211	(3)	Introductory Microbiology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

3 credits selected from:

BIOL 309	(3)	Mathematical Models in Biology
BIOL 373	(3)	Biometry
COMP 202	(3)	Introduction to Computing 1
MATH 203	(3)	Principles of Statistics 1

MATH 222 (3) Calculus 3
PSYC 204 (3) Introduction to Psychological Statistics

U2 Required Courses (23 credits)
ANAT 262 (3) Introductory Molecular and Cell Biology
BIOC 300D1 (3) Laboratory in Biochemistry
BIOC 300D2 (3) Laboratory in Biochemistry
BIOC 311 (3) Metabolic Biochemistry
BIOC 312 (3) Biochemistry of Macromolecules
CHEM 214 (3) Physical Chemistry/Biological Sciences 2
CHEM 302 (3) Introductory Organic Chemistry 3
CHEM 362 (2) Advanced Organic Chemistry Laboratory

U2 Complementary Courses (3 credits)
3 credits selected from:
BIOL 303 (3) Developmental Biology
BIOL 313 (3) Eukaryotic Cell Biology
CHEM 352 (3) Structural Organic Chemistry
CHEM 382 (3) Organic Chemistry: Natural Products
MIMM 314 (3) Immunology

U3 Required Courses (6 credits)
BIOC 450 (3) Protein Structure and Function
BIOC 454 (3) Nucleic Acids

U3 Complementary Courses (6 or 9* credits)
at least 3 credits selected from:
BIOC 404 (3) Biophysical Chemistry
BIOC 455 (3) Neurochemistry
BIOC 458 (3) Membranes and Cellular Signaling
BIOC 460* (6) Advanced Lab in Biochemistry
BIOC 503 (3) Immunochemistry

the remainder, if any, to be selected from the following list:
BIOL 300 (3) Molecular Biology of the Gene
BIOL 303 (3) Developmental Biology
BIOL 304 (3) Evolution
BIOL 313 (3) Eukaryotic Cell Biology
BIOL 314 (3) Molecular Biology of Oncogenes
CHEM 352 (3) Structural Organic Chemistry
CHEM 382 (3) Organic Chemistry: Natural Products
CHEM 502 (3) Advanced Bio-organic Chemistry
CHEM 552 (3) Physical Organic Chemistry
CHEM 572 (3) Synthetic Organic Chemistry
EXMD 502 (3) Advanced Endocrinology 01
EXMD 503 (3) Advanced Endocrinology 02
MIMM 314 (3) Immunology
MIMM 324 (3) Fundamental Virology
PHAR 300 (3) Drug Action
PHAR 301 (3) Drugs and Disease
PHGY 311 (3) Channels, Synapses & Hormones
PHGY 312 (3) Respiratory, Renal, & Cardiovascular Physiology

* Students who are given special permission to take BIOC 460 are required to complete 9 credits of complementary courses in U3.

HONOURS IN BIOCHEMISTRY (75 credits)

Admission to the Honours program will not be granted until U2. Students who wish to enter the Honours program in U2 should follow the U1 Major program. Those who satisfactorily complete the U1 Major program with a GPA of at least 3.20 and a mark of B- or better in every required course are eligible for admission to the Honours program.

Students seeking admission to the Honours program must obtain permission from the Student Affairs Officer during the Add/Drop period in September of their second year.

Promotion to U3 year is based on satisfactory completion of U2 courses with a GPA of at least 3.20 and a B in every required course. In borderline cases, the marks received in BIOC 311 and BIOC 312 will be of particular importance for continuation in the U3 Honours year.

For graduation in the Honours program, students must complete a minimum of 90 credits, pass all required courses with no grade less than B, and achieve a CGPA of at least 3.20.

U1 Required Courses (19 credits)
as for the Major Program U1

U1 Complementary Courses (9 credits)
as for the Major Program U1

U2 Required Courses (23 credits)
as for the Major Program U2

U2 Complementary Courses (3 credits)
as for the Major Program U2

U3 Required Courses (9 credits)
BIOC 404 (3) Biophysical Chemistry
BIOC 450 (3) Protein Structure and Function
BIOC 454 (3) Nucleic Acids

U3 Complementary Courses (12 credits)

One of:
BIOC 460 (6) Advanced Lab in Biochemistry
BIOC 462 (6) Research Laboratory in Biochemistry
3 - 6 credits from:
BIOC 455 (3) Neurochemistry
BIOC 458 (3) Membranes and Cellular Signaling
BIOC 491 (6) Independent Research
BIOC 503 (3) Immunochemistry

The remainder, if any, to be selected from the following list:
BIOL 300 (3) Molecular Biology of the Gene
BIOL 303 (3) Developmental Biology
BIOL 304 (3) Evolution
BIOL 313 (3) Eukaryotic Cell Biology
BIOL 314 (3) Molecular Biology of Oncogenes
CHEM 352 (3) Structural Organic Chemistry
CHEM 382 (3) Organic Chemistry: Natural Products
CHEM 502 (3) Advanced Bio-organic Chemistry
CHEM 552 (3) Physical Organic Chemistry
CHEM 572 (3) Synthetic Organic Chemistry
EXMD 502 (3) Advanced Endocrinology 01
EXMD 503 (3) Advanced Endocrinology 02
MIMM 314 (3) Immunology
MIMM 324 (3) Fundamental Virology
PHAR 300 (3) Drug Action
PHAR 301 (3) Drugs and Disease
PHGY 311 (3) Channels, Synapses & Hormones
PHGY 312 (3) Respiratory, Renal, & Cardiovascular Physiology

INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY (see section 14.13.17 “Immunology Interdepartmental Honours”); This program is offered by the Departments of Biochemistry, Microbiology and Immunology, and Physiology.

14.13.5 Biology (BIOL)

Stewart Biological Sciences Building, Room W4-7
1205 avenue Docteur Penfield
Montreal, QC H3A 1B1

Telephone: 514-398-6400
Fax: 514-398-5069
Website: http://biology.mcgill.ca

Chair — Paul F. Lasko

Emeritus Professors
A. Howard Bussey; B.Sc., Ph.D.(Brist.), F.R.S.C.
Robert L. Carroll; B.S.(Mich.), M.A., Ph.D.(Harv.), F.R.S.C.
Clark Fraser; O.C., B.Sc.(Acadia), M.Sc., Ph.D., M.D.(McG.), D.Sc.(Acadia), F.R.C.P.(C), F.R.S.C.(*Molson Emeritus Professor of Genetics*) (*joint appoint. with Human Genetics*)

Sarah P. Gibbs; A.B., M.S.(C'nell), Ph.D.(Harv.), F.R.S.C. (*Macdonald Emeritus Professor of Botany*)
Jacob Kalff; M.S.A.(Tor.), Ph.D.(Ind.)
John B. Lewis; B.Sc., M.Sc., Ph.D.(McG.)
Gordon A. Maclachlan; B.Sc.(Sask.), Ph.D.(Manit.) (*Macdonald Emeritus Professor of Botany*)
Barid B. Mukherjee; B.Sc.(Calc.), M.S.(Brig. Young), Ph.D.(Utah) (*joint appoint. with Human Genetics*)
Rolf Sattler; B.Sc.(Tübingen), Ph.D.(Munich), F.R.S.C.

Professors
Graham A.C. Bell; B.A., D.Phil.(Oxf.), F.R.S.C. (*James McGill Professor*)
Gregory G. Brown; B.Sc.(Notre Dame), Ph.D.(CUNY)
Lauren Chapman; B.Sc.(Alta.), Ph.D.(McG.)
Ronald Chase; A.B.(Stan.), Ph.D.(MIT)
Rajinder S. Dhindsa; B.Sc., M.Sc.(Punj.), Ph.D.(Wash.)
Siegfried Hekimi; M.Sc., Ph.D.(Geneva)
Donald L. Kramer; B.Sc.(Boston Coll.), Ph.D.(Br. Col.)
Paul F. Lasko; A.B.(Harv.), Ph.D.(MIT) (*Molson Professor of Genetics*) (*Associate Member in Anatomy & Cell Biology*)
Martin Lechowicz; B.A.(Mich. St.), M.S., Ph.D.(Wis.)
Louis Lefebvre; B.Sc., M.A., Ph.D.(Montr.)
Michel Loreau; M.Sc., Ph.D.(Free Univ., Brussels)
Gerald S. Pollack; M.A., Ph.D.(Prin.) *(on sabbatical)*
Catherine Potvin; B.Sc., M.Sc.(Montr.), Ph.D.(Duke)
Rima Rozen; B.Sc., Ph.D.(McG.) (*James McGill Professor*)
Daniel J. Schoen; B.Sc., M.Sc.(Mich.), Ph.D.(Calif.) (*Macdonald Professor of Botany*)

Associate Professors
Thomas Bureau; B.Sc.(Calif.), Ph.D.(Texas) (*William Dawson Scholar*)
Joseph A. Dent; B.Sc., Ph.D.(Colo.)
François Fagotto; Ph.D.(Neuchâtel)
Gregor Fussmann; Dipl.(Berlin), Ph.D.(Max-Planck-Institute)
Andrew Gonzalez; B.Sc.(Univ. Nottingham), Ph.D.(Imperial Coll., Univ. Lond.) *(on sabbatical)*
Andrew Hendry; B.Sc.(Vic. (BC)), M.Sc., Ph.D.(Wash.) (*joint appoint. with Redpath Museum*)
Robert L. Levine; B.Sc.(Brooklyn), M.Sc., Ph.D.(Yale)
Laura Nilson; B.A.(Colgate), Ph.D.(Yale) (*Canada Research Chair in Genetics*)
Neil M. Price; B.Sc.(New Br.), Ph.D.(Br. Col.)
Richard Roy; B.Sc.(Bishop's), Ph.D.(Laval) *(on sabbatical)*
Monique Zetka; B.Sc., Ph.D.(Br. Col.) *(on sabbatical)*

Assistant Professors
Ehab Abouheif; M.Sc.(C'dia), Ph.D.(Duke)
Gary Brouhard; M.S.E., Ph.D.(Mich.)
David Dankort; B.Sc., Ph.D.(McM.)
Irene Gregory-Eaves; B.Sc.(Vic. (BC)), M.Sc., Ph.D.(Qu.) (on leave)
Frédéric Guichard; B.Sc.(Montr.), Ph.D.(Laval)
Paul Harrison; B.Sc.(NUI), Ph.D.(Lond.)
Rudiger Krahe; Dipl.(Alexander Univ.), Ph.D.(Humboldt Univ.)
Brian Leung; B.Sc.(Br. Col.), Ph.D.(Car.)
N. Moon; B.Sc., Ph.D.(McG.)
Frieder Schoeck; Dipl.(Erhangen), Ph.D.(Max-Planck-Institute)
Jacalyn Vogel; M.Sc.(E.Ill.), Ph.D.(Kansas)
Tamara Western; B.Sc.(Dal.), Ph.D.(Br. Col.) *(on sabbatical)*
Hugo Zheng; M.Sc.(Helsinki), Ph.D.(Oxf. Brookes)

Associate Members
Anatomy and Cell Biology: Craig Mandato
Anthropology: Colin Chapman
Bellairs: Judith Mendes
Centre for Research in Neuroscience: Sal Carbonetto, Robert Dunn, Yong Rao, Donald Van Meyel
Dept. of Human Genetics, Chair: David Rosenblatt
MCH: Feige Kaplan
MNI: Kenneth Hastings
MSE: Colin Chapman
Physics: Maria Kilfoil
RVH: Hugh J. Clarke, Daniel Dufort, Teruko Taketo
Redpath Museum: David Green, Hans Larsson, Claire de Mazancourt, Virginie Millien, Anthony Ricciardi

Adjunct Professors
NRC Lab: Malcolm S. Whiteway
STRI: Eldredge Bermingham, Rachel Collin, Hector Guzman, Edward Allen Herre, Haris Lessios, Mark Torchin
U. of Montreal: Pierre Drapeau

Biology is the study of living things at the molecular, cellular and organismal levels. It deals with fundamental questions such as the origin and evolution of plants and animals, interactions between living organisms and their environment, mechanisms of embryonic development, structure and function of the living cell and its organelles, molecular basis of inheritance, biochemical and genetic basis of human diseases, and the operation of the brain and the nervous system. The study of biology also has vast practical applications. The knowledge, methods and concepts developed through research in the various fields of biology are applied extensively in agriculture, medicine, biotechnology, genetic engineering, environmental protection and wildlife management.

The Department of Biology offers a Liberal Program, a Major Program, an Honours Program, a Minor Program and a Minor Concentration in Science for Arts students. The details of these programs are given below.

The prerequisites for Biology programs include, in addition to the minimum requirements for admission to the Faculty of Science, an additional Biology, two courses in Physics, and one course in Organic Chemistry. Students who have a DEC in Science but lack these courses must take them as extra requirements. It is advisable to take the additional CEGEP Biology and the two physics courses in advance, if possible, to properly prepare for the Biology program at McGill.

The programs in Biology offer students an opportunity to specialize in more than one area of biology and provide them with a broad training in biology as compared to the more specialized programs in Biochemistry, Microbiology, Physiology and Anatomy. A B.Sc. degree in Biology, therefore, prepares students for a wide range of employment opportunities, including entry to professional schools in medicine, veterinary science, dentistry, agriculture, nursing, education and library science. It also provides solid background for those interested in careers related to environmental protection, wildlife management, biotechnology and genetic engineering. A B.Sc. degree in Biology can also lead to postgraduate studies and research careers in universities, research institutes, hospitals, and industrial or governmental laboratories.

The Department of Biology has well-equipped teaching and research laboratories and its academic staff members, research associates, postdoctoral fellows and graduate students carry out research in areas of molecular biology, human genetics, ecology, animal behaviour, developmental biology, bioinformatics, neurobiology, marine biology, plant biology, and evolution. Its teaching and research resources are extended by the Redpath Museum; the Montreal Children's, Jewish General, Montreal General, Royal Victoria and Shriners Hospitals; Macdonald Campus; Montreal Neurological Institute; and the Sheldon Biotechnology Centre. For courses taught in the field, the stations at the Gault Nature Reserve, the Morgan Arboretum, the Bellairs Research Institute in Barbados, the Huntsman Marine Science Centre in New Brunswick, and the Smithsonian Tropical Research Institute in Panama are used. In addition, field stations near Lake Memphremagog and at Schefferville in northern Quebec are available for research projects.

The Department of Biology Undergraduate Programs 2008-2009 booklet (“Blue Book”) describes in detail the content of each course and the level at which it is given, the aims and methods used, lectures, references, grading procedures, etc. The “Blue Book” also contains more information on registration, counselling, committee structure and the research interests and facilities which are represented in the Department. It is available on the web at http://biology.mcgill.ca/undergrad/bluebook.html.

Inquiries about undergraduate programs should be directed to the Student Affairs Office, in Room W4/8, Stewart Biological Sciences Building, telephone 514-398-7045.

Two Major Concentrations in Biology as well as two Minor Concentrations in Biology (Organismal and Cell/Molecular Options) are available to students pursuing the B.A. & Sc. degree. These Major Concentrations are described in the Bachelor of Arts and Science section of the Calendar; see "Biology (BIOL)", in section 7.12.3 for details.

PREPROGRAM REQUIREMENTS

Requirements for the Major and Honours programs in Biology are 2 courses in elementary Biology, 2 courses in general Chemistry, 2 courses in Calculus and 2 courses in Physics (Mechanics and Electromagnetism). Students entering into the B.A. & Sc., the Liberal Program and the Biology Science Minor have the same Biology, Chemistry and Mathematics requirements. The Physics requirements will vary according to their future direction.

MINOR IN BIOLOGY (24-25 credits)

The Minor in Biology may be taken in conjunction with any primary program in the Faculty of Science (other than programs offered by the Department of Biology). Students are advised to consult the Undergraduate Adviser in Biology as early as possible (preferably during their first year), in order to plan their course selection.

Six credits of overlap are allowed between the Minor and the primary program.

Required Courses (15 credits)

BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
BIOL 205 (3) Biology of Organisms
BIOL 215 (3) Introduction to Ecology and Evolution

Complementary Courses (9-10 credits)

to include:
CHEM 212* (4) Introductory Organic Chemistry 1

Plus an additional two courses from the Biology Department's course offerings, at the 300 level or above.

* Students who have already taken CHEM 212 or its equivalent will choose another appropriate course, to be approved by the adviser.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN BIOLOGY (45-47 credits)

Required Courses (19 credits)

BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
BIOL 205 (3) Biology of Organisms
BIOL 215 (3) Introduction to Ecology and Evolution
CHEM 212* (4) Introductory Organic Chemistry 1

* If a student has already taken CHEM 212 or its equivalent, the four credits can be made up with a complementary.

Complementary Courses (27-28 credits)

3 or 4 credits selected from:
BIOL 206 (3) Methods in Biology of Organisms
BIOL 301 (4) Cell and Molecular Laboratory

24 credits of Biology courses, 9 credits of which, in consultation with the program adviser, can be replaced with appropriate Science courses from other departments.
No more than 6 of the 24 credits can be taken at the 200 level.

MAJOR IN BIOLOGY (58-59 credits)

The Major requires 58 or 59 credits comprising 38 as specified below and 21 additional credits that are to be chosen by students in consultation with their adviser.
Students in the Major Program are permitted to take a maximum of 9 credits of research courses.

U1 Required Courses (18 credits)

BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
BIOL 205 (3) Biology of Organisms
BIOL 206 (3) Methods in Biology of Organisms
BIOL 215 (3) Introduction to Ecology and Evolution

U2 or U3 Required Courses (4 credits)

BIOL 301 (4) Cell and Molecular Laboratory

U1 Complementary Course (0-4 credits)

CHEM 212* (4) Introductory Organic Chemistry 1

U2 or U3 Complementary Courses (12 credits)

12 credits selected from:
BIOL 300 (3) Molecular Biology of the Gene
BIOL 303 (3) Developmental Biology
BIOL 304 (3) Evolution
BIOL 306 (3) Neural Basis of Behaviour
BIOL 308 (3) Ecological Dynamics

Other Complementary Courses (21-24 credits)

To be selected in consultation with the student's adviser. All courses must be at the 300 level or higher; they are to include any seven Biology courses of which at most three may be substituted, given the adviser's consent, with science courses offered by other departments. Unless required by the Major Program, prerequisites for these courses must be taken as electives.

* Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

BIOLOGY CONCENTRATIONS

Note: The concentrations set out below are only guidelines for specialized training. *They do not constitute sets of requirements.*

Students interested in advanced studies in any biological discipline are strongly advised to develop their skills in computing as appropriate. As an aid to students wishing to specialize, the concentrations list key and other suggested courses by discipline.

Animal Behaviour Concentration

Understanding the diverse ways in which animals feed, mate, care for their offspring, avoid predators, select their habitats, communicate, and process information constitute the subject matter of behaviour. Several approaches are used to study these questions. Some focus on ecological consequences and determinants, some on physiological, genetic and developmental mechanisms, others on evolutionary origins.

Key courses:
BIOL 304, BIOL 305, BIOL 306, BIOL 307, BIOL 331 or BIOL 334D1/BIOL 334D2 or another field course with a significant behavioural component, BIOL 373, BIOL 507.

Other suggested courses:
BIOL 377, BIOL 466, BIOL 467, BIOL 468D1/BIOL 468D2, BIOL 469D1/BIOL 469D2

Since animal behaviour builds upon the fields of behaviour, ecology, and evolutionary biology, most courses from these fields will be relevant. Some courses that focus on a particular taxonomic group such as birds (Natural Resource Sciences WILD 420), amphibians and reptiles (BIOL 427) and marine mammals (BIOL 335) include a significant amount of behaviour.

Biological Diversity and Systematics

The study of biological diversity deals with the maintenance, emergence, and history of the inexhaustible variety of different kinds of organisms. It is deeply concerned with the particular characteristics of different organisms and therefore emphasizes the detailed study of particular groups and forms the basis of comparative biology. Our knowledge of diversity is organized through the study of systematics, which seeks to understand the history of life and the phylogenetic and genetic relationships of living things. Appreciation and knowledge of diversity and systematics are essential in

ecology and evolutionary biology and underlie all work in resource utilization and conservation biology.

Key course:
BIOL 304, BIOL 305, BIOL 373

Other suggested courses:
BIOL 240, BIOL 310, BIOL 324, BIOL 331 or
BIOL 334D1/BIOL 334D2, BIOL 335, BIOL 350/ENTO 350,
BIOL 352, BIOL 355, BIOL 377, BIOL 427, BIOL 428, BIOL 429,
BIOL 465, BIOL 466 or BIOL 467, BIOL 468D1/BIOL 468D2,
BIOL 469D1/BIOL 469D2, BIOL 540, BIOL 555D1/BIOL 555D2,
BIOL 569, BIOL 571, BIOL 573, BIOL 594, REDM 400

Macdonald Campus:
AEBI 212, ENTO 440, ENVB 313, PLNT 358, WILD 307,
WILD 350, WILD 420, WILD 424

Conservation Biology Concentration
Conservation Biology is the study and protection of biological diversity. It is a scientific discipline closely connecting ecology and evolutionary biology with applications in public policy and management. Conservation biology focuses on keeping normal evolutionary processes working within a functional ecological context and deals with issues of how the wide variety of organisms and ecosystems can be maintained and prevented from declining. It considers population and habitat viability and complexity in the face of threats and perturbations. Cognizance of biological diversity, knowledge and expertise in both ecology and evolutionary biology, and appreciation for the political, social and economic contexts of the biodiversity crisis underlie all work in conservation biology.

Key courses:
BIOL 308, BIOL 310, BIOL 373, BIOL 465 plus at least one of the following field courses: BIOL 331 or, BIOL 334D1/BIOL 334D2 or BIOL 428 or BIOL 429 or, BIOL 553

Other suggested courses:
BIOL 304, BIOL 305, BIOL 307, BIOL 324, BIOL 335,
BIOL 350/ENTO 350, BIOL 355, BIOL 377, BIOL 413, BIOL 427,
BIOL 434, BIOL 466, BIOL 467, BIOL 468D1/BIOL 468D2,
BIOL 469D1/BIOL 469D2, BIOL 510, BIOL 540, BIOL 590,
BIOL 594; ECON 225, ECON 326; GEOG 350, GEOG 370,
GEOG 380, REDM 400

Macdonald Campus: NRSC 437; PLNT 358; WILD 350,
WILD 415, WILD 420, WILD 421

Evolutionary Biology Concentration
Evolutionary Biology is the study of processes that change organisms and their characteristics through time. Evolutionary biologists are concerned with adaptations of organisms and the process of natural selection.

Key courses:
BIOL 304, BIOL 305, BIOL 307, BIOL 324, BIOL 331, BIOL 352,
BIOL 373, BIOL 377, BIOL 435, BIOL 463, BIOL 466 or BIOL 467
BIOL 468D1/BIOL 468D2, BIOL 469D1/BIOL 469D2,
BIOL 555 D1/BIOL 555 D2, BIOL 569, BIOL 570, BIOL 571,
BIOL 572, BIOL 573, BIOL 594

Other suggested courses in Organismal Biology:
BIOL 240, BIOL 335, BIOL 350/ENTO 350, BIOL 355, BIOL 427,
BIOL 428,

Macdonald Campus: PLNT 358, WILD 420

Genetics and Development: BIOL 300, BIOL 303

Ecology and Behaviour: BIOL 309, BIOL 429, BIOL 434,
BIOL 507, BIOL 590

Human Genetics Concentration
The courses recommended for students interested in Human Genetics are designed to offer a broad perspective in this rapidly advancing area of biology. Genetics is covered at all levels of organization (the gene, the chromosome, the cell, the organism and the population), using pertinent examples from all species, but with special emphasis on humans.

Key courses:
BIOL 301, BIOL 370, BIOL 373, BIOL 416, BIOL 520, BIOL 568,
BIOL 575

Other suggested courses:
BIOC 311; BIOL 314, BIOL 466, BIOL 467
BIOL 468D1/BIOL 468D2, BIOL 469D1/BIOL 469D2; CHEM 203
or CHEM 204 and CHEM 214, MIMM 314

Molecular Genetics and Development Concentration
The discoveries that have fuelled the ongoing biomedical and biotechnology revolution have been derived from the fusion of a number of fields of biological investigation, including molecular biology, genetics, cellular and developmental biology and biochemistry. A substantial amount of this research has been conducted upon model eukaryotic organisms, such as yeast, the fruit fly (Drosophila), the nematode (C. Elegans), and the mustard weed (Arabidopsis). In the molecular genetics and development concentration students will obtain a comprehensive understanding of how these "model eukaryotes" have advanced our knowledge of the mechanisms responsible for cellular function and organismal development. Graduates from this concentration will be well prepared to pursue higher degrees in the fields of basic biology, biotechnology, and biomedicine or to assume a wide variety of positions in government, universities, and medical and industrial institutions.

Key courses:
BIOL 300, BIOL 301, BIOL 303, BIOL 373, BIOL 569; CHEM 203
or CHEM 204 combined with CHEM 214, CHEM 212, CHEM 222

Other suggested courses:
BIOL 313, BIOL 314, BIOL 416, BIOL 466, BIOL 467,
BIOL 468D1/BIOL 468D2, BIOL 469D1/BIOL 469D2, BIOL 518,
BIOL 520, BIOL 524, BIOL 544

Neurobiology Concentration
Nervous systems are perhaps the most complex entities in the natural world, being composed of up to trillions of interconnected cells that must operate in a coordinated manner to produce behaviour which can range from the mundane (e.g., regulation of heart rate) to the magnificent (e.g., musical composition). The neurobiology discipline, one of the fastest growing areas of modern biology, seeks to understand the evolution, development, and operation of nervous systems. The neurobiology concentration addresses these issues by examining neural structure, function and development at levels of organization that range from the molecular to the organismal. As a result of exposure to a wide range of experimental and intellectual approaches, students receive a sound, broadly based education in biology.

Key courses:
BIOL 306, BIOL 373, BIOL 389, BIOL 507, BIOL 514, BIOL 530,
BIOL 532, BIOL 588

Other suggested courses:
ANAT 321, ANAT 322; BIOC 455; BIOL 300, BIOL 303,
BIOL 466, BIOL 467, BIOL 468D1/BIOL 468D2,
BIOL 469D1/BIOL 469D2, NEUR 310, NSCI 200, NSCI 201,
PHAR 562, PHGY 451, PHGY 556, PSYC 311, PSYC 318,
PSYC 342, PSYC 410, PSYC 470, PSYT 500

CONCENTRATIONS AVAILABLE WITHIN THE AREA OF ECOLOGY

Ecology is the study of the interactions between organisms and environment that affect distribution, abundance, and other characteristics of the organisms. A strong analytical and quantitative orientation is common to all areas of ecology, and thus students wishing to specialize in these areas are strongly encouraged to develop their background in statistical analysis, computing, and mathematical modelling. Many of the ecology courses feature a strong analytical component, and students will find that background preparation in this area is very useful, if not essential. Ecology depends heavily on field research, and thus BIOL 331 and/or other field courses should be considered as vital to all concentrations in this area.

Aquatic Ecology Concentration
This concentration is designed to introduce the principles of ecology as they pertain to aquatic ecosystems and aquatic biota. Since it is essential to know how knowledge is obtained, as well as what has been learned, one of the courses (Limnology) involves field work, and one of the courses (Biological Oceanography) a laboratory component, that stress the techniques used to study aquatic ecology. In addition, the concentration includes a field course in ecology. There is also a variety of courses in aquatic disciplines offered in other departments that complement the aquatic ecology courses offered in Biology.

Key courses:
BIOL 305, BIOL 308, BIOL 331 or another field course, BIOL 342, BIOL 373, BIOL 432 (or ENVB 315), BIOL 441, BIOL 465; COMP 202, COMP 273

Other suggested courses:
BIOL 307, BIOL 429, BIOL 434, BIOL 466, BIOL 467, BIOL 468D1/D2, BIOL 469D1/D2, BIOL 540, BIOL 590, GEOG 305, GEOG 306, GEOG 308, GEOG 322

General and Applied Ecology Concentration
The concentration in general and applied ecology is designed to introduce the breadth of contemporary ecology, at the levels of the ecosystem, communities and populations, and at the level of the individual organism, with an accent on the application of this science to practical problems in environmental management, and the management of resources and pests. In addition to general courses dealing with general principles, there is a selection of courses dealing with particular groups of organisms. Since it is essential to know how knowledge is obtained, the concentration includes a field course in ecology.

Key courses:
BIOL 305, BIOL 308, BIOL 331 or BIOL 334, BIOL 350/ENTO 350, BIOL 373; COMP 202, COMP 273

Other suggested courses:
BIOL 307, BIOL 324, BIOL 342, BIOL 377, BIOL 427, BIOL 428, BIOL 429, BIOL 432, BIOL 434, BIOL 441, BIOL 465, BIOL 466, BIOL 467, BIOL 468D1/D2, BIOL 469D1/D2, BIOL 510, BIOL 540, BIOL 571, BIOL 590, BIOL 594; GEOG 302

Macdonald Campus: PLNT 460

Marine Biology Concentration
This concentration is designed to offer students a broad introduction to marine biology and marine ecology, which will form the basis for graduate studies in the fields, or for employment in aquatic biology and oceanography.

Key courses:
BIOL 305, BIOL 308, BIOL 335, BIOL 342, BIOL 373, BIOL 441

Other suggested courses:
ATOC 512, ATOC 550; BIOL 331, BIOL 334D1/BIOL 334D2, BIOL 429, BIOL 432, BIOL 434, BIOL 465, BIOL 540, BIOL 590; EPSC 542

For students intending to proceed to graduate work, one independent studies course (BIOL 466 or BIOL 467, BIOL 468D1/ BIOL 468D2, BIOL 469D1/BIOL 469D2) is recommended. Because of the importance of numerical analyses in all fields of ecology, courses in Biometry (e.g. BIOL 373) and Computer Science (COMP 202 or COMP 273) are recommended.

JOINT MAJOR IN BIOLOGY AND MATHEMATICS (76 credits)

Program Coordinators
Claire de Mazancourt; Bacc.(École des Mines), D.E.A., Ph.D.(Paris VI) (Biology)
Frédéric Guichard; B.Sc.(Montr.), Ph.D.(Laval) (Biology)
Stephen W. Drury; M.A., Ph.D.(Cant.) (Mathematics)
Axel Hundemer; M.Sc., Ph.D.(Munich) (Mathematics)

The program is built on a selection of mathematics and biology courses that recognizes mathematical biology as a field of research, with 3 concentrations within biology: Ecology and Evolutionary Ecology, Molecular Evolution, and Neurosciences.

Before selecting this joint major program, students should have completed the following science courses or their equivalents.

Program Prerequisites: (28 - 32 credits)
BIOL 111 (3) Principles: Organismal Biology
BIOL 112 (3) Cell and Molecular Biology
CHEM 110 (4) General Chemistry 1
CHEM 120 (4) General Chemistry 2
MATH 133 (3) Vectors, Matrices and Geometry
MATH 140 (3) Calculus 1
MATH 141 (4) Calculus 2
PHYS 101 (4) Introductory Physics - Mechanics
PHYS 102 * (4) Introductory Physics - Electromagnetism

* PHYS 102 is required only for students following the Molecular Evolution Stream or Neurosciences Stream of this program. It need not necessarily be taken in U0.

Required Courses (37 credits)
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 215 (3) Introduction to Ecology and Evolution
BIOL 308 (3) Ecological Dynamics
CHEM 212* (4) Introductory Organic Chemistry 1
COMP 202 ** (3) Introduction to Computing 1
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
or MATH 247 (3) Honours Applied Linear Algebra
MATH 242 (3) Analysis 1
MATH 243 (3) Analysis 2
MATH 315 (3) Ordinary Differential Equations
MATH 323 (3) Probability

* If a student has already taken CHEM 212 or its equivalent, the credits can be made up with a complementary course in consultation with the program coordinator.

** Students who have sufficient knowledge in a programming language should take COMP 250 (3) Introduction to Computer Science rather than COMP 202.

Complementary Courses (39 credits)

For the 39 credits, students complete 21 credits of BINF, BIOL, NEUR, PHGY, PSYC courses including one of three Streams (*Ecology and Evolutionary Ecology, Molecular Evolution, Neurosciences*) and 18 credits of MATH courses.

3 credits, Math or Biology Research* course, one of:
BIOL 466 (3) Independent Research Project 1
BIOL 467 (3) Independent Research Project 2
MATH 410 (3) Majors Project

* Students selecting a BIOL course count this toward their 21 credits of BINF, BIOL, NEUR, PHGY, PSYC courses while students selecting a MATH course count this toward their 18 credits of MATH courses.

15 to 18 credits of MATH chosen as follows:

One of two sequences of MATH courses:

Sequence 1, 12 credits:
MATH 314 (3) Advanced Calculus
MATH 317 (3) Numerical Analysis
or MATH 327 (3) Matrix Numerical Analysis
MATH 319 (3) Introduction to Partial Differential Equations
MATH 326 (3) Nonlinear Dynamics and Chaos
or MATH 437 (3) Mathematical Methods in Biology

Sequence 2, 9 credits:
MATH 324 (3) Statistics
MATH 423 (3) Regression and Analysis of Variance
MATH 447 (3) Stochastic Processes

Remaining 3 to 9 credits of MATH courses may be chosen from any of the two preceding sequences and/or from the following list:
MATH 204 (3) Principles of Statistics 2
MATH 340 (3) Discrete Structures 2

MATH 523 (3) Generalized Linear Models
MATH 524 (3) Nonparametric Statistics
MATH 525 (3) Sampling Theory and Applications

18 to 21 credits of BIOL, NEUR, PHGY, PHYS, PSYC courses including one of three Streams.

Ecology and Evolutionary Ecology Stream (at least 15 credits) selected as follows:

Stream required course, 3 credits:
BIOL 206 (3) Methods in Biology of Organisms

3 credits from the following field courses or any other field course with permission:
BIOL 240 (3) Monteregian Flora
BIOL 331 (3) Ecology/Behaviour Field Course
BIOL 334 (3) Applied Tropical Ecology
BIOL 432 (3) Limnology

At least 9 credits chosen from the following list, of which 6 credits must be at the 400-level or above:
BIOL 202 (3) Basic Genetics
BIOL 304 (3) Evolution
BIOL 310 (3) Biodiversity and Ecosystems
BIOL 324 (3) Ecological Genetics
Note: requires BIOL 202
BIOL 434 (3) Theoretical Ecology
BIOL 585 (3) Game Theory and Evolutionary Dynamics
Note: requires BIOL 434
BIOL 590 (3) Linking Community and Ecosystem Ecology
Note: requires BIOL 434
BIOL 594 (3) Advanced Evolutionary Ecology

Molecular Evolution Stream (at least 16 credits) selected as follows:

Stream required courses, 7 credits:
BIOL 202 (3) Basic Genetics
BIOL 301 (4) Cell and Molecular Laboratory

At least 9 credits selected from:
BINF 511 (3) Bioinformatics for Genomics
BIOL 518 (3) Advanced Topics in Cell Biology
Note: prerequisites are at the discretion of the course instructor.
BIOL 569 (3) Developmental Evolution
BIOL 572 (3) Molecular Evolution
BIOL 592 (3) Integrated Bioinformatics

Neurosciences Stream (at least 15 credits) selected as follows:

Stream required course, 3 credits:
BIOL 306 (3) Neural Basis of Behaviour

At least 12 credits selected from:
BIOL 389 (3) Laboratory in Neurobiology
BIOL 530 (3) Advances in Neuroethology
PHGY 314 (3) Integrative Neuroscience
PHGY 425 (3) Analyzing Physiological Systems
Note: prerequisites are at the discretion of the course instructor.
PSYC 427 (3) Sensorimotor Behaviour

For the remaining BINF, BIOL, NEUR, PHGY, PSYC complementary course credits, if any, students top up their credits to the necessary 21 with any course listed in the above streams in Biology or any other course in Biology subject to the approval of the program coordinator.

JOINT MAJOR IN COMPUTER SCIENCE AND BIOLOGY under "JOINT MAJOR IN COMPUTER SCIENCE AND BIOLOGY".

HONOURS IN BIOLOGY (71-75 credits)

The Honours Program in Biology is designed expressly as a preparation for graduate studies and research, and provides students with an enriched training in biology and some research experience in a chosen area. Acceptance into the Honours Program at the end of U2 requires a CGPA of 3.50 and approval of a 9- or 12-credit Independent Studies proposal (see listing of BIOL 479 and BIOL 480 for details). For an Honours degree, a minimum CGPA of 3.50 in the U3 year and adherence to the program as outlined below are the additional requirements. The new 3.50 requirement applies only beginning with students entering McGill in the Fall of 2005.

U1 Required Courses (18 credits)
as for the Major program

U2 and U3 Required Courses (7 credits)
BIOL 301 (4) Cell and Molecular Laboratory
BIOL 373 (3) Biometry

U1 Complementary Course (0-4 credits)
CHEM 212* (4) Introductory Organic Chemistry 1

U2 and U3 Complementary Courses (30-33 credits)
12 credits selected from:
BIOL 300 (3) Molecular Biology of the Gene
BIOL 303 (3) Developmental Biology
BIOL 304 (3) Evolution
BIOL 306 (3) Neural Basis of Behaviour
BIOL 308 (3) Ecological Dynamics

18-21 credits in Biology at the 300-level or higher.

U3 Required Courses (4 credits)
BIOL 499D1 (2) Honours Seminar in Biology
BIOL 499D2 (2) Honours Seminar in Biology

U3 Complementary Courses (9 or 12 credits)

either:
BIOL 479D1 (4.5) Honours Research Project 1
BIOL 479D2 (4.5) Honours Research Project 1

or:
BIOL 480D1 (6) Honours Research Project 2
BIOL 480D2 (6) Honours Research Project 2

* Students who have already taken CHEM 212 or its equivalent will choose another appropriate complementary course, to be approved by the adviser.

PANAMA FIELD STUDY SEMESTER The program is a joint venture between McGill University and the Smithsonian Tropical Research Institute (STRI) in Panama. For more information, see section 15.3.4 "Panama Field Study Semester". You can also visit the following website for details: www.mcgill.ca/science/internships-field/field.

AFRICAN FIELD STUDY SEMESTER
The Department of Geography, Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester, see section 15.3.1 "African Field Study Semester".

Also available is a "MINOR IN COMPUTATIONAL MOLECULAR BIOLOGY"; for more information, see section 14.13.9 "Computer Science (COMP)".

14.13.6 Biotechnology (BIOT)

Sheldon Biotechnology Centre
Lyman Duff Building

Telephone: 514-398-3998

Program Supervisor
Professor Hugh P.J. Bennett; B.A.(York (UK)), Ph.D.(Brunel)

Biotechnology, the science of understanding, selecting and promoting useful organisms and specific gene products for commercial and therapeutic purposes, is the success story of this generation. It demands a broad comprehension of biology and engineering as well as detailed knowledge of at least one basic subject such as molecular genetics, protein chemistry, microbiology, or chemical engineering.

The Minor in Biotechnology is offered by the Faculties of Engineering and of Science, and students combine the Minor with the regular departmental Major (or Honours or Faculty) program. The Minor emphasizes an area relevant to biotechnology which is complementary to the main program.

Students should identify their interest in the Biotechnology Minor to their departmental academic adviser and to the Program Supervisor of the Minor and, at the time of registration for the U2 year, should declare their intent to embark on the Minor. Before registering for the Minor, and with the agreement of the academic adviser, students must submit their course list to the Program Supervisor, who will certify that the student's complete program conforms to the requirements for the Minor. Students should ensure that they will have fulfilled the prerequisite requirements for the courses selected.

The BIOT course listed in the course section of this Calendar is considered as a course taught by the Faculty of Science.

GENERAL REGULATIONS

To obtain the Minor in Biotechnology students must:

a) satisfy the requirements both for the departmental program and for the Minor;

b) complete 24 credits, 18 of which must be exclusively for the Minor program;

c) obtain a grade of C or better in the courses presented for the Minor.

MINOR IN BIOTECHNOLOGY (24 credits)

PROGRAM FOR STUDENTS IN THE FACULTY OF SCIENCE*

Required Courses (15 credits)

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 202	(3)	Basic Genetics
BIOT 505	(3)	Selected Topics in Biotechnology
MIMM 211	(3)	Introductory Microbiology

Complementary Courses (9 credits)
selected from courses outside the department of the main program, these may be taken from those listed as required courses for Engineering students. Alternatively, or in addition, courses may be taken from the lists below, in which case at least three courses must be taken from one area of concentration as grouped.

* As 18 credits must be applied exclusively to the Minor, approved substitutions must be made for any of the specified courses which are part of the student's main program.

Chemical Engineering

CHEE 200	(3)	Introduction to Chemical Engineering
CHEE 204	(3)	Chemical Manufacturing Processes
CHEE 474	(3)	Biochemical Engineering

Biomedicine

ANAT 541	Cell and Molecular Biology of Aging
EXMD 504	Biology of Cancer
PATH 300	Human Disease

Chemistry

CHEM 382	Organic Chemistry: Natural Products
CHEM 502	Advanced Bio-organic Chemistry
CHEM 552	Physical Organic Chemistry

Immunology

ANAT 261	Introduction to Dynamic Histology
BIOC 503	Immunochemistry
MIMM 314	Immunology
MIMM 414	Advanced Immunology
PHGY 513	Cellular Immunology

Management

ECON 208	Microeconomics Analysis and Applications
MGCR 211	Introduction to Financial Accounting
MGCR 341	Finance 1
MGCR 352	Marketing Management 1
MGCR 472	Operations Management

Microbiology

MIMM 323	Microbial Physiology
MIMM 324	Fundamental Virology
MIMM 413	Parasitology
MIMM 465	Bacterial Pathogenesis
MIMM 466	Viral Pathogenesis

Molecular Biology (Biology)

BIOL 300	Molecular Biology of the Gene
BIOL 314	Molecular Biology of Oncogenes
BIOL 520	Gene Activity in Development
BIOL 551	Molecular Biology: Cell Cycle
BIOL 524	Topics in Molecular Biology

Molecular Biology (Biochemistry)

BIOC 311	Metabolic Biochemistry
BIOC 312	Biochemistry of Macromolecules
BIOC 450	Protein Structure and Function
BIOC 454	Nucleic Acids
BIOC 455	Neurochemistry

Physiology

EXMD 401	Physiology and Biochemistry Endocrine Systems
EXMD 502	Advanced Endocrinology 01
EXMD 503	Advanced Endocrinology 02
PHAR 562	General Pharmacology 1
PHAR 563	General Pharmacology 2
PHGY 517	Artificial Internal Organs
PHGY 518	Artificial Cells

Plant Biology

BIOL 357	Plant Physiology
BIOL 526	Plants and Extreme Environments

Pollution

CHEE 471	Industrial Water Pollution Control
CIVE 225	Environmental Engineering
CIVE 430	Water Treatment and Pollution Control
CIVE 526	Solid Waste Management
CIVE 553	Stream Pollution and Control

General

MIME 310	Engineering Economy

PROGRAM FOR STUDENTS IN THE FACULTY OF ENGINEERING

Please see the "Biotechnology Minor", in section 9.6.3 for details.

14.13.7 Chemistry (CHEM)

Otto Maass Chemistry Building
801 Sherbrooke Street West
Montreal, QC H3A 2K6

Website: www.mcgill.ca/chemistry

Departmental Office: Room 322
Telephone: 514-398-6999

Student Advisory Office: Room TBA
Telephone: TBA
Website: www.mcgill.ca/chemistry/advising

Chair — R. Bruce Lennox

Emeritus Professors

Byung Chan Eu; B.Sc.(Seoul), Ph.D.(Brown)
Tak-Hang Chan; B.Sc.(Tor.), M.A., Ph.D.(Prin.), F.C.I.C., F.R.S.C. *(Tomlinson Emeritus Professor of Chemistry)*
John F. Harrod; B.Sc., Ph.D.(Birm.) *(Tomlinson Emeritus Professor of Chemistry)*
Alan S. Hay; B.Sc., M.Sc.(Alta.), Ph.D.(Ill.), D.Sc.(Alta.), F.R.S., F.N.Y., Acad.Sci. *(Tomlinson Emeritus Professor of Chemistry)*

Robert H. Marchessault; B.Sc.(Loyola), Ph.D.(McG.), D.Sc.(C'dia), F.R.S.C. *(E.B. Eddy Professor of Industrial Chemistry)*
Mario Onyszchuk; B.Sc.(McG.), M.Sc.(W. Ont.), Ph.D.(McG.), Ph.D.(Cant.)
Donald Patterson; M.Sc.(McG.), Doc.(St-Etienne) *(Otto Maass Emeritus Professor of Chemistry)*
Arthur S. Perlin; M.Sc., Ph.D.(McG.), F.R.S.C. (*E.B. Eddy Emeritus Professor of Industrial Chemistry*)
William C. Purdy; B.A.(Amh.), Ph.D.(MIT), F.C.I.C. (*William C. Macdonald Emeritus Professor of Chemistry*)
Leon E. St-Pierre; B.Sc.(Alta.), Ph.D.(Notre Dame), F.C.I.C.
Michael A. Whitehead; B.Sc., Ph.D., D.Sc.(Lond.), F.C.I.C.

Professors
D. Scott Bohle; B.A.(Reed College), M.Phil., Ph.D.(Auck.) (*CRC Tier I Chair*)
David H. Burns; B.Sc.(Puget Sound), Ph.D.(Wash.)
Ian S. Butler; B.Sc., Ph.D.(Brist.), F.C.I.C., C.Sci., C.Chem., F.R.S.C.(U.K.)
Masad J. Damha; B.Sc., Ph.D.(McG.) *(James McGill Professor)*
Adi Eisenberg; B.S.(Worcester Polytech.), M.A., Ph.D.(Prin.), F.C.I.C. *(Otto Maass Professor of Chemistry)*
Derek G. Gray; B.Sc.(Belf.), M.Sc., Ph.D.(Manit.), F.C.I.C. (*NSERC Paprican Chair*)
David N. Harpp; A.B.(Middlebury), M.A.(Wesl.), Ph.D.(N. Carolina), F.C.I.C. *(William C. Macdonald Professor of Chemistry)*
R. Bruce Lennox; B.Sc., M.Sc., Ph.D.(Tor.) (*Tomlinson Professor of Chemistry*)
C.J. Li; B.Sc.(Zhengzhou), M.Sc.(C.A.S.), Ph.D.(McG.) (*CRC Tier I Chair*)
David Ronis; B.Sc.(McG.), Ph.D.(MIT)
Eric D. Salin; B.Sc.(Calif.), Ph.D.(Oreg.St.)
Bryan C. Sanctuary; B.Sc., Ph.D.(Br. Col.)
Theo G.M. van de Ven; Kand. Doc.(Utrecht), Ph.D.(McG.) (*NSERC Paprican Chair*)

Associate Professors
Mark P. Andrews; B.Sc., M.Sc., Ph.D.(Tor.)
Bruce Arndtsen; B.A.(Car. College), Ph.D.(Stan.) *(William Dawson Scholar)*
Parisa Ariya; B.Sc., Ph.D.(York (Can.)) *(William Dawson Scholar) (joint appoint. with Atmospheric & Oceanic Sciences)*
Christopher J. Barrett; B.Sc., M.Sc., Ph.D.(Qu.)
William C. Galley; B.Sc.(McG.), Ph.D.(Calif.)
James Gleason; B.Sc.(McG.), Ph.D.(Virg.)
Ashok K. Kakkar; B.Sc.(Punjab), M.Sc.(H.P.U.), Ph.D.(Wat.)
Joan F. Power; B.Sc., Ph.D.(C'dia)
Linda Reven; B.A.(Car. Coll.), Ph.D.(Ill.)
Hanadi Sleiman; B.Sc.(A.U.B.), Ph.D.(Stan.) *(William Dawson Scholar)*
Yula Tsantrizos; B.Sc., M.Sc., Ph.D.(McG.)
Paul Wiseman; B.Sc.(St. FX), Ph.D.(W. Ont.) (*joint appoint. with Physics*)

Assistant Professors
Karine Auclair; B.Sc.(UQAC), Ph.D.(Alta.)
Michel Bourqui; B.Sc.(EPF Lausanne), Ph.D.(ETH Zürich) (*joint appoint. with Atmospheric & Oceanic Sciences*)
Amy S. Blum; B.S.(Prin.), M.S., Ph.D.(Wash.)
Gonzalo Cosa; B.Sc.(Rio Cuarto), Ph.D.(Ott.)
Patanjali Kambhampati; B.A.(Car. Coll.), Ph.D.(Texas)
Anthony Mittermaier; B.Sc.(Guelph), Ph.D.(Tor.)
Nicolas Moitessier; Ph.D.(Nancy)
Audrey Moores; B.Sc., M.Sc., Ph.D.(École Poly., Palaiseau, Fr.) (*Fac. Sci. Tier II Chair*)
Dmitrii Perepichka; B.S., M.Sc., Ph.D.(Ukraine)
Bradley Siwick; B.A.Sc., M.Sc., Ph.D.(Tor.) *(joint appoint. with Physics)*

Faculty Lecturers
John Finkenbine; B.S.(Capital), Ph.D.(McG.)
Grazyna Wilczek; M.Sc., Doctorate Chem. Sci.(Warsaw)

Associate Members
James A. Finch *(Mining & Metallurgical Engineering)*
P. Grütter *(Physics)*
Orval A. Mamer *(University Clinic)*

Adjunct Professors
Yvan Guindon; B.Sc., Ph.D.(Montr.), F.C.I.C., F.R.S.C.
Christian Reber; B.Sc., Ph.D.(Berne)
Ivor Wharf; B.Sc., Ph.D.(Lond.), A.R.C.S., D.I.C.
C.T. Yim; B.Sc.(Fu-Dan), Ph.D.(McG.)
Robert Zamboni; B.Sc., Ph.D.(McG.)

Office for Science and Society

The Office for Science and Society is dedicated to the promotion of critical thinking and the presentation of practical scientific information to the public, educators and students in an accurate and responsible fashion. The Office answers queries from the public as well as from the media, with a view towards establishing scientific accuracy. The Office also offers a variety of educational and interesting presentations on scientific topics and its members contribute to a number of courses under the umbrella of "The World of Chemistry".

Director
Joseph A. Schwarcz; B.Sc., Ph.D.(McG.)

Members
Ariel Fenster; L.Sc., D.E.A.(Paris), Ph.D.(McG.)
David N. Harpp; A.B.(Middlebury), M.A.(Wesl.), Ph.D.(N. Carolina), F.C.I.C. *(William C. Macdonald Professor of Chemistry)*

Chemistry is both a pure science, offering a challenging intellectual pursuit, and an applied science whose technology is of fundamental importance to the economy and society. Modern chemists seek an understanding of the structure and properties of atoms and molecules to predict and interpret the properties and transformations of matter and the energy changes that accompany those transformations. Many of the concepts of physics and mathematics are basic to chemistry, while chemistry is of fundamental importance to many other disciplines such as the biological and medical sciences, geology, metallurgy, etc.

A degree in chemistry leads to a wide variety of professional vocations. The large science-based industries (petroleum refining, plastics, pharmaceuticals, etc.) all employ chemists in research, development and quality control. Many federal and provincial departments and agencies employ chemists in research and testing laboratories. Such positions are expected to increase with the currently growing concern for the environment and for consumer protection. A background in chemistry is also useful as a basis for advanced study in other related fields, such as medicine and the biological sciences. For a business career, a B.Sc. in Chemistry can profitably be combined with a master's degree in Business Administration, or a study of law for work as a patent lawyer or forensic scientist.

Chemistry courses at the university level are traditionally divided into four areas of specialization: 1) organic chemistry, dealing with the compounds of carbon; 2) inorganic chemistry, concerned with the chemistry and compounds of elements other than carbon; 3) analytical chemistry, which deals with the identification of substances and the quantitative measurement of their compositions; and 4) physical chemistry, which treats the physical laws, kinetics, and energetics governing chemical reactions and molecular structure. Naturally, there is a great deal of overlap between these different areas, and the boundaries are becoming increasingly blurred. After a general course at the introductory level, courses in organic, inorganic, analytical and physical chemistry are offered throughout the university years. Since chemistry is an experimental science, laboratory classes accompany most undergraduate courses. In addition, courses are offered in polymer, theoretical, green, nano and biological chemistry to upper-year undergraduates.

There are two main programs in the Department of Chemistry, Honours and Major. The Honours program is intended primarily for students wishing to pursue graduate studies in chemistry. While

the Major program is somewhat less specialized, it is still recognized as sufficient training for a career in chemistry. It can also lead to graduate studies although an additional qualifying year may be necessary. There are also a number of B.Sc. Liberal and other programs available. Interested students may inquire about these at the Student Advisory Office, Room 425, Otto Mass Chemistry Building, or see www.chemistry.mcgill.ca/advising/index.htm.

PRE-PROGRAM REQUIREMENTS

Students entering from the Freshman program must have included CHEM 110 and CHEM 120 or CHEM 115, BIOL 111 or BIOL 112, MATH 133, MATH 140/MATH 141 or MATH 150/MATH 151, PHYS 131/PHYS 142, or their equivalents in their Freshman year. Quebec students must have completed the DEC with appropriate science and mathematics courses. Note that students who have successfully completed MATH 150 and MATH 151 do not have to take MATH 222.

REQUIRED COURSES IN CHEMISTRY PROGRAMS

The required courses in Chemistry programs consist of 56 credits in chemistry, physics and mathematics, listed below. The courses marked with an asterisk (*) are omitted from the program of students who have successfully completed them at the CEGEP level but the Chemistry courses must be replaced by courses in that discipline if students wish to be eligible for admission to the Ordre des chimistes du Québec. Students from outside Quebec or transfer students should consult the academic adviser. See www.chemistry.mcgill.ca/advising/inside/advisors.php.

A computer science course, either COMP 202 or COMP 208, is strongly recommended during U1 for students who have no previous introduction to computer *programming.* Students should contact their adviser on this matter. Completion of Mathematics MATH 222 and MATH 315 during U1 is also strongly recommended. Physics PHYS 242 should be completed during U2.

Chemistry Majors and Honours Programs
Required Courses (53 credits)

CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 345	(3)	Molecular Properties and Structure 1
CHEM 355	(3)	Molecular Properties and Structure 2
CHEM 365	(2)	Statistical Thermodynamics
CHEM 367	(3)	Instrumental Analysis 1
CHEM 377	(3)	Instrumental Analysis 2
CHEM 381	(3)	Inorganic Chemistry 2
CHEM 392	(3)	Integrated Inorganic/Organic Laboratory
CHEM 393	(2)	Physical Chemistry Laboratory 2
MATH 222**	(3)	Calculus 3
MATH 315	(3)	Ordinary Differential Equations
PHYS 242	(2)	Electricity and Magnetism

* denotes courses with CEGEP equivalents.

** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

HONOURS IN CHEMISTRY (71 credits)

Required Courses (53 credits)
53 credits as listed in the table of "Chemistry Majors and Honours Programs, Required Courses".

Complementary Courses (18 credits)
6 credits of research*:

CHEM 470	(6)	Research Project 1
or CHEM 480	(3)	Research Project 2
and CHEM 490	(3)	Research Project 3

and 12 credits of additional Chemistry courses:
6 credits of which must be at the 300 level or higher, and
6 credits of which must be at the 400 level or higher

* Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

Attainment of the Honours degree requires a CGPA of at least 3.00.

HONOURS WITH BIO-ORGANIC OPTION (75 credits)

Required Courses (57 credits)
51 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses" except PHYS 242,
plus the following 6 credits:

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism

Complementary Courses (18 credits)
6 credits of research*:

CHEM 470	(6)	Research Project 1
or CHEM 480	(3)	Research Project 2
and CHEM 490	(3)	Research Project 3

6 credits, two of:

BIOL 202	(3)	Basic Genetics
BIOL 301	(3)	Cell and Molecular Laboratory
CHEM 502	(3)	Advanced Bio-Organic Chemistry
MIMM 211	(3)	Introductory Microbiology
MIMM 314	(3)	Immunology
MIMM 323	(3)	Microbial Physiology
PHGY 201	(3)	Human Physiology: Control Systems
PHGY 202	(3)	Human Physiology: Body Functions
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

and 6 credits of additional Chemistry courses at the 400 level or higher.

* Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

Attainment of the Honours degree requires a CGPA of at least 3.00.

HONOURS IN CHEMISTRY: ATMOSPHERE AND ENVIRONMENT OPTION (75 credits)

Required Courses (60 credits)
51 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses" except PHYS 242,

plus the following 9 credits:

CHEM 219	(3)	Introduction to Atmospheric Chemistry
CHEM 419	(3)	Advances in Chemistry of Atmosphere
CHEM 462	(3)	Green Chemistry

Complementary Courses (15 credits)
6 credits of research*:

CHEM 470	(6)	Research Project 1
or CHEM 480	(3)	Research Project 2
and CHEM 490	(3)	Research Project 3

3 credits, one of:

ATOC 214	(3)	Introduction: Physics of the Atmosphere
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 352	(3)	Structural Organic Chemistry
MATH 317	(3)	Numerical Analysis

6 credits, two of:

ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
CHEM 567	(3)	Chemometrics: Data Analysis
CHEM 575	(3)	Chemical Kinetics
CHEM 597	(3)	Analytical Spectroscopy
EPSC 542	(3)	Chemical Oceanography

* Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

Attainment of the Honours degree requires a CGPA of at least 3.00.

HONOURS IN CHEMISTRY: MATERIALS OPTION (74 credits)

Required Courses (65 credits)

53 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses",

plus the following 12 credits:

CHEM 334	(3)	Advanced Materials
CHEM 470 *	(6)	Research Project 1
CHEM 574	(3)	Introductory Polymer Chemistry

Complementary Courses (9 credits)

9 credits, three of:

CHEM 462	(3)	Green Chemistry
CHEM 531	(3)	Chemistry of Inorganic Materials
CHEM 533	(3)	Small Molecule Crystallography
CHEM 534	(3)	Nanoscience and Nanotechnology
CHEM 543	(3)	Chemistry of Pulp and Paper
CHEM 571	(3)	Polymer Synthesis
CHEM 582	(3)	Supramolecular Chemistry
CHEM 585	(3)	Colloid Chemistry
ANAT 542	(3)	Transmission Electron Microscopy
or MIME 542	(3)	Transmission Electron Microscopy
MIME 260	(3)	Materials Science and Engineering

* Students may take up to 12 Research Project credits but only 6 of these may be used to fulfil the program requirement.

Attainment of the Honours degree requires a CGPA of at least 3.00.

JOINT HONOURS IN PHYSICS AND CHEMISTRY, see "Physics (PHYS)", section 14.13.29.

MAJOR IN CHEMISTRY (59 credits)

Required Courses (53 credits)

53 credits as listed in the table of "Chemistry Majors and Honours Programs, Required Courses".

Complementary Courses (6 credits)

6 credits of additional Chemistry courses at the 300 level or higher.

Attainment of the Major degree requires a CGPA of 2.00.

MAJOR WITH BIO-ORGANIC OPTION (63 credits)

Required Courses (60 credits)

51 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses" except PHYS 242,

plus the following 9 credits:

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
CHEM 502	(3)	Advanced Bio-Organic Chemistry

Complementary Course (3 credits)

one of:

BIOL 202	(3)	Basic Genetics
BIOL 301	(3)	Cell and Molecular Laboratory
MIMM 211	(3)	Introductory Microbiology
PHGY 201	(3)	Human Physiology: Control Systems
PHGY 202	(3)	Human Physiology: Body Functions
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

Attainment of the Major degree requires a CGPA of 2.00.

MAJOR IN CHEMISTRY: ATMOSPHERE AND ENVIRONMENT OPTION (63 credits)

Required Courses (54 credits)

51 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses" except PHYS 242,

plus the following 3 credits:

CHEM 219	(3)	Introduction to Atmospheric Chemistry

Complementary Course (9 credits)

3 credits, one of:

CHEM 419	(3)	Advances in Chemistry of Atmosphere
CHEM 462	(3)	Green Chemistry

3 credits, one of:

ATOC 214	(3)	Introduction: Physics of the Atmosphere
CHEM 307	(3)	Analytical Chemistry of Pollutants
CHEM 352	(3)	Structural Organic Chemistry
MATH 317	(3)	Numerical Analysis

3 credits, one of:

ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
CHEM 567	(3)	Chemometrics: Data Analysis
CHEM 575	(3)	Chemical Kinetics
CHEM 597	(3)	Analytical Spectroscopy
EPSC 542	(3)	Chemical Oceanography

Attainment of the Major degree requires a CGPA of 2.00.

MAJOR WITH MATERIALS OPTION (62 credits)

Required Courses (59 credits)

53 credits, all courses specified in the table of "Chemistry Majors and Honours Programs, Required Courses",

plus the following 6 credits:

CHEM 334	(3)	Advanced Materials
CHEM 574	(3)	Introductory Polymer Chemistry

Complementary Course (3 credits)

one of:

CHEM 531	(3)	Chemistry of Inorganic Materials
CHEM 534	(3)	Nanoscience and Nanotechnology
CHEM 543	(3)	Chemistry of Pulp and Paper
CHEM 571	(3)	Polymer Synthesis
CHEM 585	(3)	Colloid Chemistry

Attainment of the Major degree requires a CGPA of 2.00.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN CHEMISTRY: BIOLOGICAL OPTION (47 credits)

Required Basic Core Courses (26 credits)

CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory
CHEM 381	(3)	Inorganic Chemistry 2
MATH 222**	(3)	Calculus 3

* denotes courses with CEGEP equivalents.

** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

Biological Option Courses (21 credits)

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 352	(3)	Structural Organic Chemistry
CHEM 382	(3)	Organic Chemistry: Natural Products
CHEM 392	(3)	Integrated Inorganic/Organic Laboratory
CHEM 502	(3)	Advanced Bio-Organic Chemistry

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN CHEMISTRY: GENERAL OPTION (49 credits)

Required Basic Core Courses (26 credits)

CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory
CHEM 381	(3)	Inorganic Chemistry 2
MATH 222**	(3)	Calculus 3

* denotes courses with CEGEP equivalents.

** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

General Option Courses (20 credits)

CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 345	(3)	Molecular Properties and Structure 1
CHEM 367	(3)	Instrumental Analysis 1
CHEM 377	(3)	Instrumental Analysis 2
CHEM 392	(3)	Integrated Inorganic/Organic Laboratory
MATH 315	(3)	Ordinary Differential Equations
PHYS 242	(2)	Electricity and Magnetism

Complementary Courses (3 credits)

3 credits from:

CHEM 352	(3)	Structural Organic Chemistry
CHEM 355	(3)	Molecular Properties and Structure 2

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN CHEMISTRY: PHYSICAL OPTION (47 credits)

Required Basic Core Courses (26 credits)

CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory
CHEM 381	(3)	Inorganic Chemistry 2
MATH 222**	(3)	Calculus 3

* denotes courses with CEGEP equivalents.

** Students who have successfully completed MATH 150 and MATH 151 are not required to take MATH 222.

Physical Option Courses (21 credits)

CHEM 345	(3)	Molecular Properties and Structure 1
CHEM 355	(3)	Molecular Properties and Structure 2
CHEM 365	(2)	Statistical Thermodynamics
CHEM 393	(2)	Physical Chemistry Laboratory 2
COMP 208	(3)	Computers in Engineering
MATH 223	(3)	Linear Algebra
MATH 315	(3)	Ordinary Differential Equations
PHYS 242	(2)	Electricity and Magnetism

MINOR IN CHEMISTRY (18 credits)

Required Courses (18 credits)

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 287	(2)	Introductory Analytical Chemistry
CHEM 297	(1)	Introductory Analytical Chemistry Laboratory

* denotes courses with CEGEP equivalents.

Substitutions for these by more advanced courses may be made at the discretion of the adviser.

MINOR IN CHEMICAL ENGINEERING (24 credits)

A Chemical Engineering Minor will be of interest to Chemistry students who wish to study the problems of process engineering and its related subjects. A student completing this Minor will be able to make the important link between molecular sciences and industrial processing. This Minor will not provide Professional Engineering accreditation.

Required Courses (7 credits)

CHEE 200	(4)	Introduction to Chemical Engineering
CHEE 204	(3)	Chemical Manufacturing Processes

Complementary Courses (17 credits)

at least one of:

CHEE 220	(3)	Chemical Engineering Thermodynamics
CHEE 314	(4)	Fluid Mechanics

with the remainder chosen from the following:

CHEE 230	(3)	Environmental Aspects of Technology
CHEE 315	(4)	Heat and Mass Transfer
CHEE 351	(3)	Separation Processes
CHEE 370	(3)	Elements of Biotechnology
CHEE 380	(3)	Materials Science
CHEE 392	(4)	Project Laboratory 1
and CHEE 393	(5)	Project Laboratory 2
CHEE 438	(3)	Engineering Principles in Pulp and Paper Processes
CHEE 452	(3)	Particulate Systems
CHEE 471	(3)	Industrial Water Pollution Control
CHEE 472	(3)	Industrial Air Pollution Control
CHEE 481	(3)	Polymer Engineering
CHEE 487	(3)	Chemical Processing: Electronics Industry
CHEE 494	(3)	Research Project and Seminar
or CHEE 495	(4)	Research Project and Seminar
MATH 314	(3)	Advanced Calculus

14.13.8 Cognitive Science

Ian Gold
Director, Program in Cognitive Science
3465 Peel Street, Room 401
Montreal, QC H3A 1W7

Interdisciplinary Programs Adviser:
Wendy Brett
Email: wendy.brett@mcgill.ca
Telephone: 514-398-7330

Website: www.mcgill.ca/cogsci

Cognitive Science is the multidisciplinary study of cognition in humans and machines. The goal is to understand the principles of intelligence with the hope that this will lead to better understanding of the mind and of learning, and to the development of intelligent devices that constructively extend human abilities.

The Minor in Cognitive Science is intended to supplement and support Major or Honours programs in Computer Science, Linguistics, Philosophy, or Psychology. Students wishing to enrol in this Minor must meet with the Adviser.

MINOR IN COGNITIVE SCIENCE (27 credits)

Required Course (3 credits)

PSYC 532	(3)	Cognitive Science

Complementary Courses (24 credits)

from outside of the student's home department, selected from the courses listed below:

Computer Science
COMP 424 (3) Artificial Intelligence
COMP 527 (3) Logic and Computation
COMP 558 (3) Fundamentals of Computer Vision

Educational Psychology
EDPE 555 (3) Applied Cognitive Science

Linguistics
LING 331 (3) Phonology 1
LING 355 (3) Language Acquisition 1
LING 360 (3) Introduction to Semantics
LING 371 (3) Syntax 1
LING 419 (3) Linguistic Theory and its Foundations
LING 440 (3) Morphology
LING 531 (3) Phonology 2
LING 555 (3) Language Acquisition 2
LING 571 (3) Syntax 2
LING 590 (3) Language Acquisition and Breakdown

Mathematics
MATH 318 (3) Mathematical Logic
MATH 328 (3) Computability and Mathematical Linguistics

Philosophy
PHIL 210 (3) Introduction to Deductive Logic 1
PHIL 304 (3) Chomsky
PHIL 306 (3) Philosophy of Mind
PHIL 310 (3) Intermediate Logic
PHIL 410 (3) Topics in Advanced Logic 1
PHIL 415 (3) Philosophy of Language
PHIL 419 (3) Epistemology
PHIL 506 (3) Seminar: Philosophy of Mind
PHIL 507 (3) Seminar: Cognitive Science

Psychology
NSCI 201 (3) Introduction to Neuroscience 2
PSYC 211 (3) Introductory Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 301 (3) Animal Learning & Theory
PSYC 311 (3) Human Cognition and the Brain
PSYC 353 (3) Laboratory in Human Perception
PSYC 410 (3) Special Topics in Neuropsychology
PSYC 413 (3) Cognitive Development
PSYC 470 (3) Memory and Brain

14.13.9 Computer Science (COMP)

McConnell Engineering Building, Room 318
3480 University Street
Montreal, QC H3A 2A7
Telephone: 514-398-7071
Fax: 514-398-3883

Undergraduate Student Affairs Office
Lorne Trottier Building, Room 2060
3630 University Street
Montreal, QC H3A 2B2
Telephone: 514-398-7071
Fax: 514-398-4653

Email: ugrad-sec@cs.mcgill.ca
Website: www.cs.mcgill.ca

Director — Gregory Dudek

Emeritus Professors
Christopher Paige
Godfried T. Toussaint

Professors
David M. Avis; B.Sc.(Wat.), Ph.D.(Stan.)
Luc P. Devroye; M.S.(Louvain), Ph.D.(Texas) (*James McGill Professor*)
Gregory Dudek; B.Sc.(Qu.), M.Sc., Ph.D.(Tor.) (*James McGill Professor*)
Laurie Hendren; B.Sc., M.Sc.(Qu.), Ph.D.(C'nell)
Prakash Panangaden; M.Sc.(IIT, Kanpur), M.S.(Chic.), Ph.D.(Wis.)
Bruce Reed; B.Sc., Ph.D.(McG.) *(Canada Research Chair)*
Kaleem Siddiqi; B.Sc.(Lafayette), M.Sc., Ph.D.(Brown) (*William Dawson Scholar*)
Denis Thérien; B.Sc.(Montr.), M.Sc., Ph.D.(Wat.) (*James McGill Professor*)

Associate Professors
Mathieu Blanchette; B.Sc., M.Sc.(Montr.), Ph.D.(Wash.)
Xiao-Wen Chang; B.Sc., M.Sc.(Nanjing), Ph.D.(McG.)
Claude Crépeau; B.Sc., M.Sc.(Montr.), Ph.D.(MIT)
Nathan Friedman; B.A.(W. Ont.), Ph.D.(Tor.)
Michael Trevor Hallett; B.Sc.(Qu.), Ph.D.(Vic. (BC))
Patrick Hayden; B.Sc.(McG.), Ph.D.(Oxf.) (*Canada Research Chair*)
Bettina Kemme; B.Sc., M.Sc.(Erlangen-Nuremberg, Germany), Ph.D.(ETH, Zurich)
Jörg Kienzle; Eng.Dip., Ph.D.(Swiss Fed. IT)
Michael Langer; B.Sc.(McG.), M.Sc.(Tor.), Ph.D.(McG.)
Doina Precup; B.Sc.(Cluj-Napoca), M.Sc., Ph.D.(Mass.)
Carl Tropper; B.Sc.(McG.), Ph.D.(Brooklyn Poly.)
Hans Vangheluwe; B.Sc., M.Sc., D.Sc.(Ghent, Belgium) (*on leave 2009-2010*)
Clark Verbrugge; B.A.(Qu.), Ph.D.(McG.)
Adrian Vetta; B.Sc., M.Sc.(LSE), Ph.D.(MIT) (*on leave 2009-2010*)

Assistant Professors
Paul Kry; B.Sc.(Wat.), M.Sc., Ph.D.(Br. Col.)
Xue Liu; B.Sc.(Tsinghua), M.Sc.(Tsinghua), Ph.D.(Ill.)
Muthucumaru Maheswaran; B.Sc.(Peradeniya), M.Sc., Ph.D.(Purd.)
Brigitte Pientka; B.Sc., M.Sc.(Darmstadt), Ph.D.(Carn. Mell) (*on leave 2009-2010*)
Joëlle Pineau; B.Sc.(Wat.), M.Sc., Ph.D.(Carn. Mell) (*on leave 2009-2010*)
Martin Robillard; B.Eng.(École Poly., Montr.), M.Sc., Ph.D.(Br. Col.)

Faculty Lecturer
Joseph Vybihal; B.Sc., M.Sc.(McG.)

Associate Members
Daniel J. Levitin (*Psychology*), Dirk Schlimm *(Philosophy)*, Raja Sengupta *(Geography)*, F. Bruce Shepherd *(Mathematics)*, Thomas Richard Shultz *(Psychology),* Renée Sieber *(Geography)*

Adjunct Professors
Stefan Brands, Renato De Mori, Ted Perkins, Ioannis Rekleitis, Ger Otto Sabidussi, Pascal Tesson

Computer Science covers the theory and practice behind the design and implementation of computer and information systems. Fundamental to computer science are questions how to describe, process, manage, and analyze information and computation. A fundamental building block is the study of algorithms. An algorithm presents a detailed sequence of actions solving a particular task. A computer program is the implementation of an algorithm in a specific programming language so that a computer can execute the algorithm. Software generally refers to a computer program or a set of related computer programs.

Based on the building blocks of algorithms and programs, computer science is split into many different areas such as the study of algorithms and data structures, programming languages and methodology, theory of computation, software engineering (the design of large software systems), computer architecture (the structure of the hardware), communication between computers, operating systems (the software that shields users from the underlying hardware), database systems (software that handles large amounts of data efficiently), artificial intelligence (algorithms that imitate human information processing), computer vision (algorithms that let computers see and recognize their environment), computer graphics, robotics (algorithms that control

robots), and computational biology (algorithms and methods that address problems inspired by biology). Computer science also plays an important role in many other fields, including Biology, Physics, Engineering, Business, Music, and Neuroscience, where it is necessary to process and reason about large amounts of data.

Computer Science is strongly related to mathematics, linguistics and engineering. In contrast to traditional fields of science that aim in understanding the natural world, computer science advances our understanding of information and computation, and applies science to create algorithms and software that can be executed on computers.

A degree in Computer Science offers excellent job prospects. As the use of computers and specialized software has played an increasingly important role in any area of business, science and our personal life, computer graduates are in high demand. Computer scientists find jobs in software development in many areas of computer science, in consulting, and in project management. As computer scientists often develop the software for a specific application domain (e.g., business, engineering, medicine), computer scientists must be prepared and willing to get to know their application area.

The School of Computer Science offers a wide range of programs. Most programs start with the same set of basic courses allowing students to decide on their exact program once they get a basic understanding of the discipline. Within the Faculty of Science, there are a major, an honours, a liberal and a minor program in Computer Science, a major and a liberal program in Software Engineering, a major in Computer Science: Computer Games Option, a minor in Computational Biology, a joint major and a joint honours program in Mathematics and Computer Science (see section 14.13.21 “Mathematics and Statistics (MATH)”), a joint major and a joint honours program in Statistics and Computer Science (see section 14.13.21 “Mathematics and Statistics (MATH)”), a joint major in Physics and Computer Science (see section 14.13.29 “Physics (PHYS)”), and a joint major in Computer Science and Biology. The School also offers a major concentration and minor concentrations in Computer Science through the Faculty of Arts (see section 6.12.12 “Computer Science (COMP)”) or as part of a Bachelor of Arts and Science (see section 7.11 “Programs in the B.A. & Sc.”).

The School's courses are available as electives to Engineering students. Engineering students interested in a Minor in Computer Science should consult "Computer Science Courses and Minor Program", in section 9.6.5 in the Faculty of Engineering section.

Most course instructors are faculty members of the School that do research in the areas they teach. Students will learn in a small classroom environment, get to know their professors and have opportunity to do cutting-edge research. Some graduate courses in Computer Science are available to suitable qualified senior undergraduates. The School offers their students large computing labs in the Lorne Trottier Building that is dedicated to undergraduate students.

All students planning to enter Computer Science programs should make an appointment with an academic adviser through the School's Undergraduate Student Affairs Office.

Internship Opportunities

Students who want to get practical experience in industry before graduation are encouraged to participate in one of the following internship programs:

The Internship Year in Science (IYS) is an academic program offered for a duration of 8, 12, or 16 months. It will be reflected on your transcript and is included in your program name (Bachelor of Science - Internship Program).

The Industrial Practicum (IP) has a duration of 4 months and is usually carried out starting in May. It will appear as a 0-credit, pass/fail course on your transcript. If you complete two IPs, the name of your program will change to include the word internship.

For more information on these programs, consult "Industrial Practicum (IP) and Internship Year in Science (IYS)", in section 14.12.4 or, www.mcgill.ca/science/internships-field/internships.

Research Opportunities

Several research opportunities are provided to interested students through the 396 project courses, as well as through NSERC undergraduate research assistantships in the School. Students who take 396 courses in more than one department can be eligible for the Dean's Multidisciplinary Undergraduate Research list. Students in Honours programs also have research opportunities in the COMP 400 course. For more information, consult "Dean's Multidisciplinary Undergraduate Research List", in section 14.12.1.2.

Admissions

Students intending to pursue a Major in Computer Science or Software Engineering should have a reasonable mathematical background and should have completed MATH 140 (or MATH 150), MATH 141 (or MATH 151) and MATH 133, or their CEGEP equivalents. These three mathematics courses should have been completed with at least an average of B-. A background in computer science is not necessary as students may start their studies with the introductory course COMP 202. However, taking COMP 202 in the Freshman Year, or completing an equivalent course in CEGEP, would be an asset and allows students to take more advanced courses earlier in their program.

More information about the admission process and the programs is available at www.cs.mcgill.ca.

MINOR IN COMPUTER SCIENCE (24 credits)

The Minor in Computer Science is designed for students who want to gain a basic understanding of computer science principles and get an overview of some computer science areas. Basic computer science skills are important in many domains. Thus, the Minor is useful for students majoring in any discipline. It can be taken in conjunction with any program in the Faculties of Science and Engineering (with the exception of other programs in Computer Science).

Students must obtain approval from the adviser of their main program. Students are strongly encouraged to talk to an adviser of the School of Computer Science before choosing the complementary courses. Approval must be given by the School for the particular selection of courses to be credited towards the Minor. This should be done before registering for the final term of studies.

Students may receive credit towards their Computer Science Minor by taking certain approved courses outside the School of Computer Science. These courses must have a high computer science content. A student will not be permitted to receive more than six credits from such courses. These courses must be approved by the School of Computer Science in advance.

If a student's Major program requires Computer Science courses, up to six credits of Computer Science courses may be used to fulfil both Major and Minor requirements.

Required Courses (9 credits)

COMP 202*	(3)	Introduction to Computing 1
COMP 203	(3)	Introduction to Computing 2
or COMP 250	(3)	Introduction to Computer Science
COMP 206	(3)	Introduction to Software Systems

* Students who have sufficient knowledge in a programming language do not need to take COMP 202, but it must be replaced with an additional computer science complementary course.

Complementary Courses (15 credits)

selected from:

COMP 251**	(3)	Data Structures and Algorithms
COMP 273	(3)	Introduction to Computer Systems
MATH 222	(3)	Calculus 3
MATH 240	(3)	Discrete Structures 1

and computer science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431.

** Note: COMP 251 is a prerequisite for many of the other complementary courses.

MINOR IN COMPUTATIONAL MOLECULAR BIOLOGY
(24 credits)

Computational molecular biology is the sub-discipline of bioinformatics that is located at the intersection of computer science and molecular biology. The focus of this area is on techniques for managing and analyzing molecular sequence data. This program will provide undergraduate students in the biological sciences with the skills from computer science to solve computational problems arising in molecular biology and genomics and will provide students with the necessary skills to build software tools from these algorithms.

The Minor in Computational Molecular Biology is not open to students in Computer Science or Joint Computer Science programs.

Required Courses (24 credits)
COMP 202 (3) Introduction to Computing 1
COMP 203 (3) Introduction to Computing 2
COMP 251 (3) Data Structures and Algorithms
COMP 360 (3) Algorithm Design Techniques
COMP 462 (3) Computational Biology Methods
COMP 563 (3) Molecular Evolution Theory
COMP 564 (3) Computational Gene Regulation
MATH 240 (3) Discrete Structures 1

MAJOR IN COMPUTER SCIENCE (60-63 credits)

This program is the standard Major program offered by the School of Computer Science. It provides a broad introduction to the principles of computer science and offers ample opportunity to acquire in-depth knowledge of several sub-disciplines. At the same time, its credit requirements allow students to take an additional minor.

Students should talk to an academic adviser before choosing their complementary courses.

Required Courses (27-30 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 310 (3) Operating Systems
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202.

Complementary Courses (33 credits)
At least 6 credits selected from:
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 350 (3) Numerical Computing
COMP 360 (3) Algorithm Design Techniques

At least 3 credits selected from:
COMP 303 (3) Software Development
COMP 304 (3) Object-Oriented Design

3-9 credits selected from:
(Must include at least one of MATH 323 and MATH 340)
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 340 (3) Discrete Structures 2

The remaining credits selected from computer science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431) and ECSE 508.

Note: Students have to make sure that they have the appropriate prerequisites when choosing upper-level courses.

MAJOR IN COMPUTER SCIENCE: COMPUTER GAMES OPTION (62-69 credits)

This program is a specialization within Computer Science. It fulfils all the basic requirements of the Major in Computer Science. Complementary courses focus on topics that are important to understanding the technology behind computer games and to gaining experience in software development and design needed for computer game development.

Required Courses (41-44 credits)
COMP 202* (3) Introduction to Computing 1
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 206 (3) Introduction to Software Systems
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 308 (1) Computer Systems Lab
COMP 310 (3) Operating Systems
COMP 322 (1) Introduction to C++
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 361 (3) Systems Development Project
COMP 557 (3) Fundamentals of Computer Graphics
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1
MATH 323 (3) Probability

* Students who have sufficient knowledge in a programming language do not need to take COMP 202.

Complementary Courses (21-25 credits)
3 credits selected from:
COMP 350 (3) Numerical Computing
COMP 360 (3) Algorithm Design Techniques

6-8 credits selected from:
COMP 303 (3) Software Development
COMP 304 (3) Object-Oriented Design
COMP 335 (3) Software Engineering Methods
COMP 529 (4) Software Architecture
COMP 533 (3) Object-Oriented Software Development

6 credits selected from:
COMP 409 (3) Concurrent Programming
COMP 421 (3) Database Systems
COMP 535 (3) Computer Networks 1
or COMP 435 (3) Basics of Computer Networks

6-8 credits selected from:
COMP 424 (3) Artificial Intelligence
COMP 507 (3) Computational Geometry
COMP 521 (4) Modern Computer Games
COMP 522 (4) Modelling and Simulation

MAJOR IN SOFTWARE ENGINEERING (69 credits)

This program provides a broad introduction to the principles of computer science and covers in depth the design and development of software systems.

Required Courses (60 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 304 (3) Object-Oriented Design
COMP 310 (3) Operating Systems
or ECSE 427 (3) Operating Systems
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 360 (3) Algorithm Design Techniques
COMP 361 (3) Systems Development Project
ECSE 321 (3) Introduction to Software Engineering
ECSE 428 (3) Software Engineering Practice

ECSE 429 (3) Software Validation
ECSE 495 (3) Software Engineering Design Project
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1
MATH 323 (3) Probability
MATH 324 (3) Statistics

* Students who have sufficient knowledge in a programming language do not need to take COMP 202.

Complementary Courses (9 credits)
selected from the following:
COMP 303 (3) Software Development
COMP 308 (1) Computer Systems Lab
COMP 321 (1) Programming Challenges
COMP 322 (1) Introduction to C++
COMP 335 (3) Software Engineering Methods
COMP 350 (3) Numerical Computing
COMP 409 (3) Concurrent Programming
COMP 420 (3) Secondary Storage Algorithms and Data Structures
COMP 421 (3) Database Systems
COMP 424 (3) Artificial Intelligence
COMP 435 (3) Basics of Computer Networks
COMP 505 (3) Advanced Computer Architecture
COMP 512 (4) Distributed Systems
COMP 520 (4) Compiler Design
COMP 521 (4) Modern Computer Games
COMP 522 (4) Modelling and Simulation
COMP 523 (3) Language-based Security
COMP 525 (3) Formal Verification
COMP 526 (3) Probabilistic Reasoning and AI
COMP 529 (4) Software Architecture
COMP 533 (3) Object-Oriented Software Development
COMP 535 (3) Computer Networks 1
COMP 537 (3) Internet Programming
COMP 547 (4) Cryptography and Data Security
COMP 557 (3) Fundamentals of Computer Graphics
or ECSE 532 (3) Computer Graphics
COMP 558 (3) Fundamentals of Computer Vision
COMP 560 (3) Graph Algorithms and Applications
COMP 566 (3) Discrete Optimization 1
COMP 575 (3) Fundamentals of Distributed Algorithms
COMP 577 (3) Distributed Database Systems
ECSE 200 (3) Fundamentals of Electrical Engineering
ECSE 210 (3) Circuit Analysis
ECSE 291 (2) Electrical Measurement Laboratory
ECSE 303 (3) Signals and Systems 1
ECSE 304 (3) Signals and Systems 2
ECSE 322 (3) Computer Engineering
ECSE 323 (5) Digital Systems Design
ECSE 404 (3) Control Systems
ECSE 411 (3) Communications Systems
ECSE 420 (3) Parallel Computing
ECSE 421 (3) Embedded Systems
ECSE 422 (3) Fault Tolerant Computing
ECSE 424 (3) Human-Computer Interaction
ECSE 425 (3) Computer Organization and Architecture
ECSE 426 (3) Microprocessor Systems
ECSE 504 (3) Computer Control
ECSE 508 (3) Multi-Agent Systems
ECSE 522 (3) Asynchronous Circuits and Systems
ECSE 526 (3) Artificial Intelligence
ECSE 529 (3) Image Processing and Communication
ECSE 530 (3) Logic Synthesis
MATH 315 (3) Ordinary Differential Equations
MATH 381 (3) Complex Variables and Transforms

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN COMPUTER SCIENCE (45 credits)

This program provides an introduction to the principles of computer science and offers opportunity to get insight into some of its sub-areas. Having only 45 credits, it allows students to combine it with minor or major concentrations in other disciplines.

Required Courses (21 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
MATH 222 (3) Calculus 3
MATH 240 (3) Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202, but it must be replaced with an additional computer science complementary course.

Complementary Courses (24 credits)
3-6 credits from:
MATH 223 (3) Linear Algebra
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 340 (3) Discrete Structures 2

At least 3 credits from:
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 350 (3) Numerical Computing
COMP 360 (3) Algorithm Design Techniques

At least 3 credits from:
COMP 302 (3) Programming Languages and Paradigms
COMP 303 (3) Software Development

The remaining complementary courses should be selected from any COMP courses at the 300-level or above except COMP 364, COMP 396, COMP 400 and COMP 431.
Note: Advanced COMP courses have more prerequisites than the required courses for this program. Students have to make sure that they have the appropriate prerequisites when choosing upper-level courses.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN SOFTWARE ENGINEERING (48-49 credits)

This program covers a core of programming and Software Engineering courses and allows students to select courses that aim at practical aspects of software development.

Required Courses (36 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 303 (3) Software Development
COMP 304 (3) Object-oriented Design
COMP 310 (3) Operating Systems
COMP 361 (3) Systems Development Project
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 and can replace it with additional computer science complementary course credits.

Complementary Courses (12-13 credits)
3 credits selected from:
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 360 (3) Algorithm Design Techniques

3 credits selected from:
COMP 335 (3) Software Engineering Methods
ECSE 321 (3) Introduction to Software Engineering

6-7 credits selected from:
COMP 322 (1) Introduction to C++
COMP 409 (3) Concurrent Programming
COMP 421 (3) Database Systems
COMP 435 (3) Basics of Computer Networks
or COMP 535 (3) Computer Networks 1
COMP 520 (4) Compiler Design
COMP 525 (3) Formal Verification
COMP 529 (4) Software Architecture
COMP 533 (3) Object-Oriented Software Development

Or any computer science course at the 300-level or above, excluding COMP 364, COMP 396, and COMP 431.

HONOURS IN COMPUTER SCIENCE (72-75 credits)

Honours students must maintain a CGPA of at least 3.00 during their studies and at graduation.

Required Courses (42-45 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 252 (3) Algorithms and Data Structures
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 310 (3) Operating Systems
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 350 (3) Numerical Computing
COMP 362 (3) Honours Algorithm Design
COMP 400 (3) Technical Project and Report
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1
MATH 340 (3) Discrete Structures 2
or MATH 350 (3) Graph Theory and Combinatorics

* Students who have sufficient knowledge in a programming language do not need to take COMP 202.

Complementary Courses (30 credits)
At least 3 credits selected from:
COMP 303 (3) Software Development
COMP 304 (3) Object-oriented Design

6 credits selected from:
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 324 (3) Statistics

The remaining credits selected from computer science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431) and ECSE 508. At least 12 credits must be at the 500-level.

JOINT MAJOR IN COMPUTER SCIENCE AND BIOLOGY (69-73 credits)

This program will train students in the fundamentals of biology - with a focus on molecular biology - and will give them computational and mathematical skills needed to manage, analyze, and model large biological datasets. Three integrative features of the program are a three-credit joint independent studies course, co-supervised by a Biology professor and a Computer Science professor; a one-credit seminar; and a three-credit course BIOL 495 "Integrative Computing in Biology."

Required Mathematics & Statistics Courses (6 credits)
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra

Required Computer Science Courses (12, 15 or 16 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 462 (3) Computational Biology Methods
or COMP 561 (4) Computational Biology Methods and Research

* Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Required Biology Courses (20 credits)
BIOL 200 (3) Molecular Biology
BIOL 201 (3) Cell Biology and Metabolism
BIOL 202 (3) Basic Genetics
BIOL 215 (3) Introduction to Ecology and Evolution
BIOL 301 (3) Cell and Molecular Laboratory
CHEM 212 (4) Introductory Organic Chemistry 1

Required Joint Courses (7 credits)
BIOL 495 (3) Integrative Computing in Biology
COMP 401 (3) Project in Biology and Computer Science
COMP 499 (1) Undergraduate Bioinformatics Seminar

Complementary Courses (24 credits)
6 credits, ONE of the following pairs of courses:
MATH 203 (3) Principles of Statistics 1
and MATH 204 (3) Principles of Statistics 2
OR
MATH 323 (3) Probability
and MATH 324 (3) Statistics
OR
BIOL 309 (3) Mathematical Models in Biology
and BIOL 373 (3) Biometry

At least 18 credits from the following lists with the following two requirements:

1) 9 credits from each block (Computer Science and Biology)
2) at least one course at the 400-level from each block

COMPUTER SCIENCE BLOCK
MATH 240 (3) Discrete Structures 1
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 303 (3) Software Development
COMP 304 (3) Object-Oriented Design
COMP 310 (3) Operating Systems
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 335 (3) Software Engineering Methods
COMP 350 (3) Numerical Computing
COMP 360 (3) Algorithm Design Techniques

All COMP courses at the 400-level (except 401, 462, and 499) and all courses at the 500-level (except 561).

BIOLOGY BLOCK
BIOL 300 (3) Molecular Biology of the Gene
BIOL 309 (3) Mathematical Models in Biology
BIOL 310 (3) Large-scale Ecology
BIOL 313 (3) Eukaryotic Cell Biology
BIOL 435 (3) Natural Selection
BIOL 518 (3) Advanced Topics in Cell Biology
BIOL 568 (3) Topics on the Human Genome
BIOL 569 (3) Developmental Evolution
BIOL 572 (3) Molecular Evolution
BIOL 583 (3) Advanced Biometry

JOINT MAJOR IN MATHEMATICS AND COMPUTER SCIENCE under "Mathematics and Statistics (MATH)", in section 14.13.21.

JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE under "Mathematics and Statistics (MATH)", in section 14.13.21. Students must consult an Honours adviser in both Departments.

JOINT MAJOR IN STATISTICS AND COMPUTER SCIENCE under "Mathematics and Statistics (MATH)", in section 14.13.21.

JOINT HONOURS IN STATISTICS AND COMPUTER SCIENCE under "Mathematics and Statistics (MATH)", in

section 14.13.21. Students must consult an Honours adviser in both Departments.

JOINT MAJOR IN PHYSICS AND COMPUTER SCIENCE
under "Physics (PHYS)", in section 14.13.29.

MINOR IN COGNITIVE SCIENCE
Students following Major or Honours programs in Computer Science may want to consider the Minor in Cognitive Science.

14.13.10 Earth and Planetary Sciences (EPSC)

Frank Dawson Adams Building, Room 238
3450 University Street
Montreal, QC H3A 2A7

Telephone: 514-398-6767
Fax: 514-398-4680
Email: kristy.thornton@mcgill.ca
Website: www.eps.mcgill.ca

Chair — John Stix

Emeritus Professors
Jafar Arkani-Hamed; B.Eng.(Tehran), Ph.D.(MIT)
Wallace H. MacLean; B.Geol.Eng.(Colorado Sch. of Mines), M.Sc.(Appl.), Ph.D.(McG.)
Eric W. Mountjoy; B.A.Sc.(Br. Col.), Ph.D.(Tor.) *(William E. Logan Emeritus Professor of Geology)*
Colin W. Stearn; B.Sc.(McM.), M.S., Ph.D.(Yale), F.R.S.C.

Professors
Don R. Baker; A.B.(Chic.), Ph.D.(Penn. St.)
Don M. Francis; B.Sc.(McG.), M.Sc.(Br. Col.), Ph.D.(MIT) *(Dawson Professor of Geology)*
Andrew J. Hynes; B.Sc.(Tor.), Ph.D.(Cant.) *(William E. Logan Professor of Geology)*
Olivia G. Jensen; B.Sc., M.Sc., Ph.D.(Br. Col.)
Alfonso Mucci; B.Sc., M.Sc.(Montr.), Ph.D.(Miami)
John Stix; A.B.(Dart.), M.Sc., Ph.D.(Tor.)
A.E. (Willy) Williams-Jones; B.Sc., M.Sc.(Natal), Ph.D.(Qu.)

Associate Professors
Jeanne Paquette; B.Sc., M.Sc.(McG.), Ph.D.(Stonybrook)
Hojatollah Vali; B.Sc., M.Sc., Ph.D.(Munich) *(Director, Electron Microscopy Centre)*

Assistant Professors
Eric Galbraith; B.Sc.(McG.), Ph.D.(Br. Col.)
Jeffrey McKenzie; B.Sc.(McG.), M.Sc., Ph.D.(Syr.)
Boswell Wing; A.B.(Harv.), M.A., Ph.D.(Johns H.) (*Canada Research Chair in Earth Systems Science (Geochemistry)*)

Faculty Lecturer
W. Minarik; B.A.(St. Olaf), M.Sc.(Wash.), Ph.D.(Rensselaer)

Adjunct Professors
M. Duchesne, H. Hofmann, H. Short, B. Sundby

Retired Professors
R. Hesse, R.F. Martin

The domain of Earth and Planetary Sciences includes the solid Earth and its hydrosphere and extends to the neighbouring terrestrial planets. It is a multidisciplinary field in which the principles of chemistry, physics, and mathematics are applied to the rich problems of the real world in order to understand how planets like the Earth work; in the past, the present, and the future.

Career opportunities are many and varied for graduates in the Earth and Planetary Sciences. There is presently a demand for graduates with expertise in many disciplines of the Earth Sciences. Our students are recruited for employment in the petroleum and mining industries, and in the environmental sector.

During the summer months, undergraduate students are generally able to obtain employment from industry or government agencies, providing them with both financial benefits and first-hand geoscientific experience. Career opportunities in planetary science are present in universities and research organizations.

The Department has a full-time staff of 14 professors and one faculty lecturer. There are approximately 40 graduate and 35 undergraduate students. Classes are therefore small at all levels, resulting in an informal and friendly atmosphere throughout the Department in which most of the faculty and students interact on a first-name basis. Emphasis is placed equally on quality teaching and research providing undergraduate students with a rich and exciting environment in which to explore and learn.

The undergraduate curriculum is designed to provide both a rigorous foundation in the physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching, or research. In addition to the Major and Honours undergraduate programs, the Department is part of the Earth System Science Inter-departmental program, and also offers a Joint Major in Physics and Geophysics which provides a rigorous mathematics and physics preparation and a geological background in the geosciences.

The Minor in Earth and Planetary Sciences offers students from other departments the opportunity to obtain exposure to the Earth Sciences, while the Minor in Geochemistry is oriented towards Chemistry Major students who want to see the application of chemistry to problems in Earth and Planetary Sciences.

A Science Major Concentration in Earth, Atmosphere and Ocean Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Earth, Atmosphere and Ocean Sciences", in section 7.12.8 for details.

Students interested in any of the programs should inquire at Room 238, Frank Dawson Adams Building, 514-398-6767, or should consult the Undergraduate Director:

Professor Jeanne Paquette
Frank Dawson Adams Building, Room 214
Email: jeanne.paquette@mcgill.ca
Telephone: 514-398-4402

MINOR IN EARTH AND PLANETARY SCIENCES
(18 credits)

Required Courses (6 credits)
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology

Complementary Courses (12 credits)
EPSC 201 (3) Understanding Planet Earth
or EPSC 233 (3) Earth and Life History

9 credits selected from:
EPSC 203 (3) Structural Geology
EPSC 231 (3) Field School 1
EPSC 243 (3) Environmental Geology
EPSC 334 (3) Invertebrate Paleontology
EPSC 350 (3) Tectonics
EPSC 451 (3) Hydrothermal Mineral Deposits
EPSC 452 (3) Mineral Deposits
EPSC 542 (3) Chemical Oceanography
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2
BIOL 352 (3) Vertebrate Evolution

Other Earth and Planetary Sciences courses may be substituted with permission.

MINOR IN GEOCHEMISTRY (24 credits)

Required Courses (9 credits)
EPSC 201 (3) Understanding Planet Earth
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology

Complementary Courses (15 credits)

15 credits selected from:
EPSC 220 (3) Principles of Geochemistry
EPSC 243 (3) Environmental Geology
EPSC 501 (3) Crystal Chemistry
EPSC 519 (3) Isotope Geology

EPSC 542 (3) Chemical Oceanography
EPSC 545 (3) Low-Temperature Geochemistry
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN EARTH AND PLANETARY SCIENCES (45 credits)

The B.Sc. (Liberal) degree in Earth and Planetary Sciences provides the graduate with a solid core of knowledge of Geology, Geophysics, Earth Systems Science and Planetary Science while allowing for a broadening of the student's educational experience with courses from the other sciences or the arts. The program is flexible, allowing students to assemble a truly interdisciplinary degree.

Required Courses (21 credits)
EPSC 203 (3) Structural Geology
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
EPSC 231 (3) Field School 1
EPSC 233 (3) Earth and Life History
EPSC 320 (3) Elementary Earth Physics

Complementary Courses (24 credits)

3 credits, one of:
EPSC 331 (3) Field School 2
EPSC 341 (3) Field School 3

plus 21 credits chosen from the following:
EPSC 312 (3) Spectroscopy of Minerals
EPSC 330 (3) Earthquakes and Earth Structure
EPSC 334 (3) Invertebrate Paleontology
EPSC 340 (3) Earth and Planetary Inference
EPSC 350 (3) Tectonics
EPSC 423 (3) Igneous Petrology
EPSC 425 (3) Sediments to Sequences
EPSC 435 (3) Geophysical Applications
EPSC 445 (3) Metamorphic Petrology
EPSC 451 (3) Hydrothermal Mineral Deposits
EPSC 452 (3) Mineral Deposits
EPSC 455 (3) Sedimentary Geology
EPSC 501 (3) Crystal Chemistry
EPSC 519 (3) Isotope Geology
EPSC 525 (3) Subsurface Mapping
EPSC 530 (3) Volcanology
EPSC 542 (3) Chemical Oceanography
EPSC 547 (3) High Temperature Geochemistry
EPSC 548 (3) Processes of Igneous Petrology
EPSC 549 (3) Hydrogeology
EPSC 550 (3) Selected Topics 1
EPSC 551 (3) Selected Topics 2
EPSC 552 (3) Selected Topics 3
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2
EPSC 570 (3) Cosmochemistry
EPSC 580 (3) Aqueous Geochemistry
EPSC 590 (3) Applied Geochemistry Seminar
ESYS 300 (3) Investigating the Earth System
ESYS 301 (3) Earth System Modelling
ESYS 500 (3) Earth System Applications

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

MAJOR IN EARTH AND PLANETARY SCIENCES (66 credits)

Undergraduate Director: Jeanne Paquette, FD Adams 214, 514-398-4402

The program curriculum is designed to provide a rigorous foundation in physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching and research. The program is accepted for professional qualification in most Canadian provinces.

U1 Required Courses (24 credits)
EPSC 203 (3) Structural Geology
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
EPSC 231 (3) Field School 1
EPSC 233 (3) Earth and Life History
EPSC 312 (3) Spectroscopy of Minerals
MATH 222 (3) Calculus 3

U2 and/or U3 Required Courses (24 credits)
EPSC 320 (3) Elementary Earth Physics
EPSC 334 (3) Invertebrate Paleontology
EPSC 340 (3) Earth and Planetary Inference
EPSC 350 (3) Tectonics
EPSC 423 (3) Igneous Petrology
EPSC 445 (3) Metamorphic Petrology
EPSC 452 (3) Mineral Deposits
EPSC 455 (3) Sedimentary Geology

Complementary Courses (18 credits)

3 credits, one of:
EPSC 331 (3) Field School 2
EPSC 341 (3) Field School 3

plus 15 credits (5 courses) chosen from the following:
EPSC 330 (3) Earthquakes and Earth Structure
EPSC 425 (3) Sediments to Sequences
EPSC 435 (3) Geophysical Applications
EPSC 451 (3) Hydrothermal Mineral Deposits
EPSC 470D1 (3) Undergraduate Thesis Research
EPSC 470D2 (3) Undergraduate Thesis Research
EPSC 501 (3) Crystal Chemistry
EPSC 510 (3) Geodynamics and Geomagnetism
EPSC 519 (3) Isotope Geology
EPSC 525 (3) Subsurface Mapping
EPSC 530 (3) Volcanology
EPSC 542 (3) Chemical Oceanography
EPSC 547 (3) High Temperature Geochemistry
EPSC 548 (3) Processes of Igneous Petrology
EPSC 549 (3) Hydrogeology
EPSC 550 (3) Selected Topics 1
EPSC 551 (3) Selected Topics 2
EPSC 552 (3) Selected Topics 3
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2
EPSC 570 (3) Cosmochemistry
EPSC 580 (3) Aqueous Geochemistry
EPSC 590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

HONOURS IN EARTH SCIENCES (75 credits)
(CGPA $\geq$ 3.20)

The program curriculum is designed to provide a rigorous foundation in physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching and research. It is intended to provide an excellent preparation for graduate work in the Earth Sciences. The program is accepted for professional qualification in most Canadian provinces.

U1 Required Courses (24 credits)
EPSC 203 (3) Structural Geology
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
EPSC 231 (3) Field School 1

EPSC 233 (3) Earth and Life History
EPSC 312 (3) Spectroscopy of Minerals
MATH 222 (3) Calculus 3

U2 and/or U3 Required Courses (33 credits)
EPSC 320 (3) Elementary Earth Physics
EPSC 340 (3) Earth and Planetary Inference
EPSC 350 (3) Tectonics
EPSC 423 (3) Igneous Petrology
EPSC 445 (3) Metamorphic Petrology
EPSC 452 (3) Mineral Deposits
EPSC 455 (3) Sedimentary Geology
EPSC 480D1 (3) Honours Research Project
EPSC 480D2 (3) Honours Research Project
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations

Complementary Courses (18 credits)

3 credits, one of:
EPSC 331 (3) Field School 2
EPSC 341 (3) Field School 3

plus 15 credits (5 courses) chosen from the following:
EPSC 330 (3) Earthquakes and Earth Structure
EPSC 334 (3) Invertebrate Paleontology
EPSC 425 (3) Sediments to Sequences
EPSC 435 (3) Geophysical Applications
EPSC 451 (3) Hydrothermal Mineral Deposits
EPSC 501 (3) Crystal Chemistry
EPSC 510 (3) Geodynamics and Geomagnetism
EPSC 519 (3) Isotope Geology
EPSC 525 (3) Subsurface Mapping
EPSC 530 (3) Volcanology
EPSC 542 (3) Chemical Oceanography
EPSC 547 (3) High Temperature Geochemistry
EPSC 548 (3) Processes of Igneous Petrology
EPSC 549 (3) Hydrogeology
EPSC 550 (3) Selected Topics 1
EPSC 551 (3) Selected Topics 2
EPSC 552 (3) Selected Topics 3
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2
EPSC 570 (3) Cosmochemistry
EPSC 580 (3) Aqueous Geochemistry
EPSC 590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

HONOURS IN PLANETARY SCIENCES (81 credits)
CGPA ≥ 3.20
The program curriculum is designed to provide a rigorous foundation in physical sciences and the flexibility to create an individualized program in preparation for careers in industry, teaching and research. It is intended to provide an excellent preparation for graduate work in the Earth and Planetary Sciences.

U1 Required Courses (27 credits)
EPSC 203 (3) Structural Geology
EPSC 210 (3) Introductory Mineralogy
EPSC 212 (3) Introductory Petrology
EPSC 220 (3) Principles of Geochemistry
EPSC 231 (3) Field School 1
EPSC 233 (3) Earth and Life History
EPSC 312 (3) Spectroscopy of Minerals
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra

U2 and/or U3 Required Courses (42 credits)
EPSC 320 (3) Elementary Earth Physics
EPSC 330 (3) Earthquakes and Earth Structure
EPSC 340 (3) Earth and Planetary Inference
EPSC 350 (3) Tectonics
EPSC 423 (3) Igneous Petrology
EPSC 480D1 (3) Honours Research Project
EPSC 480D2 (3) Honours Research Project
EPSC 510 (3) Geodynamics and Geomagnetism
EPSC 570 (3) Cosmochemistry
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
MATH 317 (3) Numerical Analysis
MATH 319 (3) Introduction to Partial Differential Equations
PHYS 340 (3) Majors Electricity and Magnetism

Complementary Courses (12 credits)

3 credits, one of:
PHYS 251 (3) Honours Classical Mechanics 1
PHYS 230 (3) Dynamics of Simple Systems

plus 9 credits (3 courses) chosen from the following:
EPSC 334 (3) Invertebrate Paleontology
EPSC 425 (3) Sediments to Sequences
EPSC 435 (3) Geophysical Applications
EPSC 451 (3) Hydrothermal Mineral Deposits
EPSC 501 (3) Crystal Chemistry
EPSC 519 (3) Isotope Geology
EPSC 525 (3) Subsurface Mapping
EPSC 530 (3) Volcanology
EPSC 542 (3) Chemical Oceanography
EPSC 547 (3) High Temperature Geochemistry
EPSC 548 (3) Processes of Igneous Petrology
EPSC 549 (3) Hydrogeology
EPSC 550 (3) Selected Topics 1
EPSC 551 (3) Selected Topics 2
EPSC 552 (3) Selected Topics 3
EPSC 561 (3) Ore-forming Processes 1
EPSC 562 (3) Ore-forming Processes 2
EPSC 580 (3) Aqueous Geochemistry
EPSC 590 (3) Applied Geochemistry Seminar

Note: Courses at the 300 or higher level in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of the Director of Undergraduate Studies.

JOINT MAJOR IN PHYSICS AND GEOPHYSICS under "Physics (PHYS)", in section 14.13.29.

14.13.11 Earth System Science Interdepartmental Major (ESYS)

Earth System Science (ESYS) views Earth as a single integrated system that provides a unifying context to examine the interrelationships between all components of the Earth system. The approach concentrates on the nature of linkages among the biological, chemical, human and physical subsystems of the Earth. ESS primarily involves studying the cycling of matter and energy through the atmosphere, biosphere, cryosphere, exosphere, and hydrosphere. ESS examines the dynamics and interrelationships among these processes at time scales that range from billions of years to days, and seeks to understand how these interrelationships have changed over time.

The ESS Major is offered jointly by the following departments:
Atmospheric and Oceanic Sciences (ATOC)
Earth and Planetary Sciences (EPSC)
Geography (GEOG)

The individual departments, their disciplines, and specific courses offered by them are described in their respective entries in this Calendar.

Program Adviser:

Professor Jeffrey McKenzie
Frank Dawson Adams, Room 131C
Email: mckenzie@eps.mcgill.ca
Telephone: 514-398-3833

MAJOR IN EARTH SYSTEM SCIENCE (57 credits)

Required Courses (36 credits)

ATOC 214	(3)	Introduction: Physics of the Atmosphere
BIOL 215	(3)	Introduction to Ecology and Evolution
ENVR 200	(3)	The Global Environment
ENVR 201	(3)	Society and Environment
ESYS 200	(3)	Earth System Processes
ESYS 300	(3)	Investigating the Earth System
ESYS 301	(3)	Earth System Modelling
ESYS 500	(3)	Earth Systems Applications
GEOG 203	(3)	Environmental Systems
GEOG 308	(3)	Principles of Remote Sensing
MATH 203	(3)	Principles of Statistics 1 (or equivalent course)
MATH 222	(3)	Calculus 3

Complementary Courses (21 credits)

3 credits, one of the following courses:

EPSC 210	(3)	Introductory Mineralogy
EPSC 220	(3)	Principles of Geochemistry

18 credits from the following course list, with at least 3 credits from each of subject codes ATOC, EPSC, and GEOG. At least 9 of the 18 credits must be at the 400 level or higher.

ATOC 215	(3)	Oceans, Weather and Climate
ATOC 309	(3)	Weather Radars and Satellites
ATOC 315	(3)	Water in the Atmosphere
ATOC 412	(3)	Atmospheric Dynamics
ATOC 419	(3)	Advances in Chemistry of Atmosphere
ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 530	(3)	Paleoclimate Dynamics
ATOC 531	(3)	Dynamics of Current Climates
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2
BIOL 308	(3)	Ecological Dynamics
BIOL 309	(3)	Mathematical Models in Biology
BIOL 432	(3)	Limnology
BIOL 441	(3)	Biological Oceanography
BIOL 465	(3)	Conservation Biology
BIOL 534	(3)	Theoretical Ecology
BIOL 540	(3)	Ecology of Species Invasions
BREE 319	(3)	Engineering Mathematics *(offered on Macdonald Campus)*
ECON 347	(3)	Economics of Climate Change
ECON 405	(3)	Natural Resource Economics
EPSC 212	(3)	Introductory Petrology
EPSC 312	(3)	Spectroscopy of Minerals
EPSC 320	(3)	Elementary Earth Physics
EPSC 330	(3)	Earthquakes & Earth Structure
EPSC 331	(3)	Field School 2
EPSC 334	(3)	Invertebrate Paleontology
EPSC 341	(3)	Field School 3
EPSC 350	(3)	Tectonics
EPSC 423	(3)	Igneous Petrology
EPSC 425	(3)	Sediments to Sequences
EPSC 445	(3)	Metamorphic Petrology
EPSC 451	(3)	Hydrothermal Mineral Deposits
EPSC 452	(3)	Mineral Deposits
EPSC 455	(3)	Sedimentary Geology
EPSC 519	(3)	Isotope Geology
EPSC 525	(3)	Subsurface Mapping
EPSC 530	(3)	Volcanology
EPSC 542	(3)	Chemical Oceanography
EPSC 549	(3)	Hydrogeology
EPSC 580	(3)	Aqueous Geochemistry
EPSC 590	(3)	Applied Geochemistry Seminar
GEOG 272	(3)	Earth's Changing Surface
GEOG 305	(3)	Soils and Environment
GEOG 306	(3)	Raster Geo-Information Science
GEOG 307	(3)	Socioeconomic Applications of GIS
GEOG 321	(3)	Climatic Environments
GEOG 322	(3)	Environmental Hydrology
GEOG 350	(3)	Ecological Biogeography
GEOG 351	(3)	Quantitative Methods
GEOG 372	(3)	Running Water Environments
GEOG 380	(3)	Adaptive Environmental Management
GEOG 495	(3)	Field Studies - Physical Geography
GEOG 499	(3)	Subarctic Field Studies
GEOG 505	(3)	Global Biogeochemistry
GEOG 506	(3)	Advanced Geographic Information Science
GEOG 522	(3)	Advanced Environmental Hydrology
GEOG 535	(3)	Remote Sensing and Interpretation
GEOG 536	(3)	Geocryology
GEOG 537	(3)	Advanced Fluvial Geomorphology
GEOG 550	(3)	Historical Ecology Techniques
MATH 314	(3)	Advanced Calculus
MATH 315	(3)	Ordinary Differential Equations
MATH 317	(3)	Numerical Analysis
MATH 319	(3)	Introduction to Partial Differential Equations
MATH 323	(3)	Probability
MATH 326	(3)	Nonlinear Dynamics and Chaos
MATH 423	(3)	Regression and Analysis of Variance
MATH 437	(3)	Mathematical Methods in Biology
MATH 447	(3)	Stochastic Processes
MATH 525	(3)	Sampling Theory and Applications
NRSC 540	(3)	Socio-Cultural Issues in Water
PHYS 331	(3)	Topics in Classical Mechanics
PHYS 332	(3)	Physics of Fluids
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 342	(3)	Majors Electromagnetic Waves

Note: Courses at the 300 level or higher in other departments in the Faculties of Science and Engineering may also be used as complementary credits, with the permission of an academic adviser. Please see the list posted on the Departmental webpage.

14.13.12 Environment

All courses given by the McGill School of Environment (Subject Code ENVR) are considered as courses taught by the Faculty of Science.

Science students who are interested in studying the environment should refer to the "McGill School of Environment", in section 10, where they will find information concerning the Minor Program in Environment, the B.Sc. Major Program in Environment and the B.Sc. Honours Program in Environment.

14.13.13 Experimental Medicine (EXMD)

Lady Meredith House, Room 101
Email: experimental.medicine@mcgill.ca
Website: www.medicine.mcgill.ca/EXPMED/expmed1.html

Experimental Medicine is a division of the Department of Medicine. There are no B.Sc. programs in Experimental Medicine, but the EXMD courses listed in the Courses section of this Calendar are considered as courses taught by the Faculty of Science.

14.13.14 Field Study

For details about the Minor Program in Field Study, see "Field Study Minor", in section 15.3.5.

14.13.15 General Science

Interdisciplinary Programs Adviser:
Wendy Brett
Email: wendy.brett@mcgill.ca
Telephone: 514-398-7330

The Minor in General Science is restricted to students in the B.Sc. Liberal program and may be used for the breadth component in this option. Students should consult their program adviser for their core science component and the Interdisciplinary Programs Adviser when selecting courses for this minor.

MINOR IN GENERAL SCIENCE (18 credits)

Complementary Courses (18 credits)
Courses are to be chosen according to the following guidelines:

All courses must be offered by the Faculty of Science and must be above the 200-level.

All courses must be different from the student's core science component *courses*.

Two options:

9 credits at the 300-level or above and at least 9 credits outside the student's core science component *subject.*

or

12 credits at the 300-level or above and at least 6 credits outside the student's core science component *subject*.

Note: None of the credits toward this program can be "General Interest" science courses (see the list below).

General Interest Science Courses at the 200-level or above

These courses cannot be used toward the General Science Minor.

Anatomy and Cell Biology
ANAT 205 (3) Astrobiology

Atmospheric and Ocean Sciences
ATOC 210 (3) Introduction to Atmospheric Science
ATOC 220 (3) Introduction to Oceanic Sciences
ATOC 230 (3) Climate and Climate Change
ATOC 240 (3) Science of Storms
ATOC 250 (3) Natural Disasters

Earth and Planetary Sciences
EPSC 200 (3) The Terrestrial Planets
EPSC 201 (3) Understanding Planet Earth
EPSC 205 (3) Astrobiology
EPSC 221 (3) General Geology
EPSC 225 (1) Properties of Minerals
EPSC 250 (3) Natural Disasters

Physics
PHYS 200 (3) Space, Time & Matter
PHYS 202 (3) Everyday Physics
PHYS 205 (3) Our Evolving Universe
PHYS 206 (3) The Milky Way Inside and Out
PHYS 224 (3) Physics and Psychophysics of Music
PHYS 228 (3) Energy and the Environment

All Undergraduate Research Project courses with the 396 course number.
ANAT 396 (3) Undergraduate Research Project
ATOC 396 (3) Undergraduate Research Project
BIOL 396 (3) Undergraduate Research Project
CHEM 396 (3) Undergraduate Research Project
COGS 396 (3) Undergraduate Research Project
COMP 396 (3) Undergraduate Research Project
ENVR 396 (3) Undergraduate Research Project
EPSC 396 (3) Undergraduate Research Project
GEOG 396 (3) Undergraduate Research Project
MATH 396 (3) Undergraduate Research Project
MIMM 396 (3) Undergraduate Research Project
NSCI 396 (3) Undergraduate Research Project
PHGY 396 (3) Undergraduate Research Project
PHYS 396 (3) Undergraduate Research Project
PSYC 396 (3) Undergraduate Research Project
REDM 396 (3) Undergraduate Research Project

14.13.16 Geography (GEOG)

Burnside Hall, Room 705
805 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-4951 or 514-398-4111
Fax: 514-398-7437
Website: www.geog.mcgill.ca

Chair — T.R. Moore

Emeritus Professor
B.J. Garnier; M.A.(Camb.)

Professors
P.G. Brown; B.A.(Haver.), M.A., Ph.D.(Col.) *(joint appoint. with McGill School of Environment and Natural Resource Sciences)*
T.R. Moore; B.Sc.(Swansea), Ph.D.(Aberd.)
N.T. Roulet; B.Sc., M.Sc.(Trent), Ph.D.(McM.) *(James McGill Professor)*
G.W. Wenzel; M.A.(Manit.), Ph.D.(McG.)

Associate Professors
G.L. Chmura; B.S.(Mass.), M.S.(R.I.), Ph.D.(L.S.U.)
O.T. Coomes; B.Sc.(Vic. (BC)), M.A.(Tor.), Ph.D.(Wis.) (*on leave winter 2010*)
B. Forest; A.B.(Chic), M.A., Ph.D.(Calif.-LA)
M.F. Lapointe; B.Sc., M.Sc.(McG.), Ph.D.(Br. Col.)
T.C. Meredith; B.E.S.(Wat.), M.Sc., Dip.Cons.(Lond.), Ph.D.(Camb.) (*on leave Fall 2009*)
W.H. Pollard; B.A., M.Sc.(Guelph), Ph.D.(Ott.)
N.A. Ross; B.A., M.A.(Qu.), Ph.D.(McM.)
R.E. Sieber; B.Sc.(Mich. St.), M.P.A.(W. Mich.), Ph.D.(Rutgers) (*joint appoint. with McGill School of Environment*)
I.B. Strachan; B.Sc.(Tor.), M.Sc., Ph.D.(Qu.) (*cross appoint. with Natural Resource Sciences*)
S. Turner; B.Soc.Sci., M.Soc.Sc.(Waikato), Ph.D.(Hull)
J. Unruh; B.A.(Kansas), M.S.(Wis.), Ph.D.(Ariz.)

Assistant Professors
L. Berrang Ford; B.Sc.(Guelph), M.Sc.(Oxf.), Ph.D.(Guelph)
S. Breau; B.A.(Moncton), M.A.(Laval), Ph.D.(Calif.-LA)
M. Kalácska; B.Sc., M.Sc., Ph.D.(Alta.)
B. Lehner; Dip. Hydrol.(Freiburg), Ph.D.(Frankfurt)
N. Oswin; B.A. Hons.(Tor.), M.A.(Dal.), Ph.D.(Br. Col.)
G. Peterson; B.A.Sc., M.Sc.(Wat.), Ph.D.(Flor.) *(joint appoint. with McGill School of Environment)*
N. Ramankutty; B.E.(P.S.G. Coll. of Tech.), M.S.(Ill.), Ph.D.(Wis.)
R. Sengupta; B.Sc.(Bombay), M.Sc.(IIT, Mumbai), M.S., Ph.D.(S. Illinois-Carbondale) *(joint appoint. with McGill School of Environment)*

The Department of Geography offers programs in both Arts and Science. All B.A. programs in Geography (including Urban Systems) can be found in the Faculty of Arts entry "Geography (GEOG)", in section 6.12.23.

Geography is a broad, holistic discipline - both a natural and a social science because it examines people and their environment and serves as a bridge between physical and cultural processes. Human Geography (a social science, thus B.A. programs) is concerned especially with the political, economic, social, and cultural processes and resource practices that create spatial patterns and that define particular places. Physical Geography (B.Sc. programs) integrates disciplines such as climatology, geomorphology, geology, biology, hydrology, ecology, soil science and even marine science. Whether considering greenhouse gas emissions, the spread of disease, or threats to biodiversity, in all cases, geographers are interested in where things happen, why, and with what consequences.

Our graduates go on to careers in environmental consulting, social agencies or non-governmental organizations. Skills in Geographic Information Science (GIS) are very marketable. Students are well prepared for graduate work in social sciences, urban planning and environmental studies at leading schools.

PREREQUISITES
There are no departmental prerequisites for entrance to the B.Sc. Geography programs. Students who have completed college or preuniversity geography courses fully equivalent to those in the first year of university may, with an adviser's approval, substitute other courses as part of their program.

A Science Major Concentration in Geography - Physical Option is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Geography (GEOG)", section 6.12.23 for details.

MINOR IN GEOGRAPHY (expandable into the B.Sc. Major in Geography) (18 credits)

The Minor in Geography is designed to provide students in the Faculty of Science with an overview of basic elements of geography at the introductory and advanced level.

This Minor permits no overlap with any other programs.

Required Courses (12 credits)
GEOG 203 (3) Environmental Systems
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 302 (3) Environmental Management 1

Complementary Courses (6 credits)
6 credits of Geography courses at the 300- and 400-level.

B.Sc. MINOR IN GEOGRAPHICAL INFORMATION SYSTEMS (18 credits)

The Minor in GIS is designed to provide students in the Faculty of Science who have an interest in GIS with a basic, but comprehensive, knowledge of concepts and methods relating to the analysis of geospatial data.

Required Courses (15 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 306 (3) Raster Geo-Information Science
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 308 (3) Principles of Remote Sensing
GEOG 506 (3) Advanced Geographic Information Science

Complementary Course (3 credits)
one course to be chosen from:
ATOC 309 (3) Weather Radars and Satellites
COMP 420 (3) Secondary Storage Algorithms and Data Structures
COMP 557* (3) Fundamentals of Computer Graphics
GEOG 535 (3) Remote Sensing and Interpretation
GEOG 551 (3) Environmental Decisions
URBP 505 (3) Geographic Information Systems
* Note prerequisites

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN GEOGRAPHY (49 credits)

Required Courses (22 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 203 (3) Environmental Systems
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 272 (3) Earth's Changing Surface
GEOG 290 (1) Local Geographical Excursion (In 2009 reserve October 2 - 4)
GEOG 302 (3) Environmental Management 1
GEOG 351 (3) Quantitative Methods

Complementary Courses (27 credits)

One (3 credits) from the following statistics* courses:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research

* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 14.3.6.1 "Course Overlap".

One (3 credits) from the following GIS/Remote Sensing courses:
GEOG 306 (3) Raster Geo-Information Science
GEOG 307 (3) Socioeconomic Applications of GIS
GEOG 308 (3) Principles of Remote Sensing

Four courses (12 credits) from the following:
GEOG 305 (3) Soils and Environment
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
GEOG 372 (3) Running Water Environments
GEOG 470 (3) Wetlands

One (3 credits) from the following field courses:
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters
GEOG 499 (3) Subarctic Field Studies

(Field course availability is determined each year in February.)

Two additional courses (6 credits) from the list of approved Geography courses, including at least one at the 400-level or above.

B.Sc. MAJOR IN GEOGRAPHY (58 credits)

The Major is designed to provide a coverage of the main elements of physical geography.

Required Courses (22 credits)
GEOG 201 (3) Introductory Geo-Information Science
GEOG 203 (3) Environmental Systems
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City
GEOG 272 (3) Earth's Changing Surface
GEOG 290 (1) Local Geographical Excursion (In 2009 reserve October 2 - 4)
GEOG 302 (3) Environmental Management 1
GEOG 351 (3) Quantitative Methods

Complementary Courses (36 credits)
3 credits of statistics*
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research
* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 14.3.6.1 "Course Overlap"

3 credits of GIS techniques:
GEOG 306 (3) Raster Geo-Information Science
GEOG 308 (3) Principles of Remote Sensing

12 credits of systematic physical geography:
GEOG 305 (3) Soils and Environment
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
GEOG 372 (3) Running Water Environments
GEOG 470 (3) Wetlands

3 credits of field courses:
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters

GEOG 499 (3) Subarctic Field Studies

(Field course availability is determined each year in February.)

15 credits from approved courses in Geography, or elsewhere in the Faculty of Science, or in the Faculty of Engineering; at least 9 credits of which are to be taken outside Geography. Students may also include any courses that are not already counted towards the GIS techniques or the systematic physical geography requirements. Admission to 500-level courses in Geography requires the instructor's permission. It is not advisable to take more than one 500-level course in a term.

Advising Note: See the Geography website for the list of approved courses in the Faculty of Science. Some courses require the permission of the Department and from the Associate Dean of Science, Student Affairs.

Geography Approved Course List – Major, Honours and Liberal Programs

GEOG 404 (3) Environmental Management 2
GEOG 501 (3) Modelling Environmental Systems
GEOG 505 (3) Global Biogeochemistry
GEOG 506 (3) Advanced Geographic Information Science
GEOG 522 (3) Advanced Environmental Hydrology
GEOG 523 (3) Advanced Climatology
GEOG 535 (3) Remote Sensing and Interpretation
GEOG 536 (3) Geocryology
GEOG 537 (3) Advanced Fluvial Geomorphology
GEOG 550 (3) Historical Ecology Techniques
GEOG 555 (3) Ecological Restoration

B.Sc. HONOURS IN GEOGRAPHY (66 credits)

The Honours program is designed to provide specialized systematic training in physical geography. In addition to the Faculty requirement that Honours students maintain a minimum CGPA of at least 3.00, students who enter a Geography Honours Program on or after September 2006 must have a program GPA of 3.3.

Honours students are encouraged to participate in 500-level seminars with graduate students, but it is not advisable to take more than one in a term.

Required Courses (24 credits)

GEOG 201 (3) Introductory Geo-Information Science
GEOG 203 (3) Environmental Systems
GEOG 272 (3) Earth's Changing Surface
GEOG 302 (3) Environmental Management 1
GEOG 351 (3) Quantitative Methods
GEOG 381 (3) Geographic Thought and Practice
GEOG 491D1 (3) Honours Research
GEOG 491D2 (3) Honours Research

Complementary Courses (42 credits)

6 credits of introductory courses, two of:
GEOG 210 (3) Global Places and Peoples
GEOG 216 (3) Geography of the World Economy
GEOG 217 (3) The Canadian City

3 credits of statistics*, one of:
BIOL 373 (3) Biometry
GEOG 202 (3) Statistics and Spatial Analysis
MATH 203 (3) Principles of Statistics 1
PSYC 204 (3) Introduction to Psychological Statistics
SOCI 350 (3) Statistics in Social Research

* Credit given for statistics courses is subject to certain restrictions, see Faculty Degree Requirements, section 14.3.6.1 "Course Overlap".

3 credits of GIS techniques:
GEOG 306 (3) Raster Geo-Information Science
GEOG 308 (3) Principles of Remote Sensing

12 credits of systematic physical geography:
GEOG 305 (3) Soils and Environment
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
GEOG 372 (3) Running Water Environments
GEOG 470 (3) Wetlands

3 credits of field courses:
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters
GEOG 499 (3) Subarctic Field Studies

15 credits from approved courses in Geography, or elsewhere in the Faculty of Science or the Faculty of Engineering; at least 9 credits of which are to be taken outside Geography. Students may also include any courses that are not already counted towards the GIS techniques or the systematic physical geography requirements. Admission to 500-level courses in Geography requires the instructor's permission. It is not advisable to take more than one in a term.

Advising Note: See the Geography website for the list of approved courses in the Faculty of Science. Some courses require the permission of the Department and from the Associate Dean of Science, Student Affairs.

AFRICAN FIELD STUDY SEMESTER

The Department of Geography, Faculty of Science, coordinates the 15-credit interdisciplinary African Field Study Semester, see section 15.3.5 "Field Study Minor".

PANAMA FIELD STUDY SEMESTER

The program is a joint venture between McGill University and the Smithsonian Tropical Research Institute (STRI) in Panama. For more information, see section 15.3.4 "Panama Field Study Semester".

Geography courses of most interest to Science students:

GEOG 199 (3) FYS: Geo-Environments
GEOG 201 (3) Introductory Geo-Information Science
GEOG 203 (3) Environmental Systems
GEOG 205 (3) Global Change: Past, Present and Future
GEOG 221 (3) Environment and Health
GEOG 272 (3) Earth's Changing Surface
GEOG 302 (3) Environmental Management 1
GEOG 305 (3) Soils and Environment
GEOG 306 (3) Raster Geo-Information Science
GEOG 308 (3) Principles of Remote Sensing
GEOG 321 (3) Climatic Environments
GEOG 322 (3) Environmental Hydrology
GEOG 351 (3) Quantitative Methods
GEOG 370 (3) Protected Areas
GEOG 372 (3) Running Water Environments
GEOG 396 (3) Undergraduate Research Project
GEOG 404 (3) Environmental Management 2
GEOG 470 (3) Wetlands
GEOG 490 (3) Geography: Independent Studies
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 497 (3) Ecology of Coastal Waters
GEOG 499 (3) Subarctic Field Studies
GEOG 501 (3) Modelling Environmental Systems
GEOG 505 (3) Global Biogeochemistry
GEOG 506 (3) Advanced Geographic Information Science
GEOG 522 (3) Advanced Environmental Hydrology
GEOG 523 (3) Advanced Climatology
GEOG 535 (3) Remote Sensing and Interpretation
GEOG 536 (3) Geocryology
GEOG 537 (3) Advanced Fluvial Geomorphology
GEOG 550 (3) Historical Ecology Techniques
GEOG 555 (3) Ecological Restoration

EARTH SYSTEM SCIENCE INTERDEPARTMENTAL MAJOR; see section 14.13.11 "Earth System Science Interdepartmental Major (ESYS)".

This program is offered by the Departments of Atmospheric & Oceanic Sciences, Earth & Planetary Sciences and Geography.

Students in the Department of Geography interested in this program should contact:

Professor Bernhard Lehner (bernhard.lehner@mcgill.ca)

14.13.17 Immunology Interdepartmental Honours

Students must obtain a U1 GPA or a U2 CGPA of 3.30 for admission to this enrolment-limited program. U1 students should inform one of the program coordinators listed below of their intent to enter the Honours Immunology Program during their U1 Winter term and confirm their intention in writing by April 1. U2 or U3 students can apply for admission at any time.

For graduation in the Honours program, the student must complete a minimum of 90 credits, and achieve a CGPA of not less than 3.30. The immunology courses (BIOC 503, MIMM 314, MIMM 414, MIMM 509, PHGY 419D1/D2, PHGY 513, PHGY 531) must all be passed with a grade not less than B.

Students who do not maintain Honours standing must transfer their registration to a program in one of the three participating Departments.

Apply to Dr. C. Piccirillo, Microbiology and Immunology, ciro.piccirillo@mcgill.ca, 514-398-2872 or Dr. Monroe Cohen, Physiology, monroe.cohen@mcgill.ca, 514-398-4342.

INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY
(75 credits)

Required Courses (48 credits)

U1 Required Courses (20 credits)

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
CHEM 203	(3)	Survey of Physical Chemistry
or CHEM 204	(3)	Physical Chemistry/Biological Sciences 1
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
or MIMM 211	(3)	Introductory Microbiology

U2 Required Courses (13 credits)

ANAT 261	(4)	Introduction to Dynamic Histology
BIOC 311	(3)	Metabolic Biochemistry
BIOC 312	(3)	Biochemistry of Macromolecules
MIMM 314	(3)	Immunology

U3 Required Courses (15 credits)

MIMM 414	(3)	Advanced Immunology
PHGY 419D1	(4.5)	Project and Seminar in Immunology
PHGY 419D2	(4.5)	Project and Seminar in Immunology
PHGY 513	(3)	Cellular Immunology

Complementary Courses (27credits)

U1 Complementary Courses (6 credits)

3 credits selected from:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics

plus 3 credits selected from:

ANAT 214	(3)	Systematic Human Anatomy
ANAT 262	(3)	Introductory Molecular and Cell Biology
BIOL 202	(3)	Basic Genetics
BIOL 205	(3)	Biology of Organisms
BIOL 304	(3)	Evolution
CHEM 257D1	(2)	Introductory Analytical Chemistry
and CHEM 257D2	(2)	Introductory Analytical Chemistry
COMP 202	(3)	Introduction to Computing 1
COMP 203	(3)	Introduction to Computing 2
MATH 204	(3)	Principles of Statistics 2
MIMM 211	(3)	Introductory Microbiology
MIMM 212	(2)	Laboratory in Microbiology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

U2 Complementary Courses (12 credits)

6 credits selected from:

BIOC 300D1	(3)	Laboratory in Biochemistry
and BIOC 300D2	(3)	Laboratory in Biochemistry
or		
MIMM 386D1	(3)	Laboratory in Microbiology and Immunology
and MIMM 386D2	(3)	Laboratory in Microbiology and Immunology
or		
PHGY 212	(1)	Introductory Physiology Laboratory 1
and PHGY 213	(1)	Introductory Physiology Laboratory 2
and BIOL 301	(4)	Cell and Molecular Laboratory

plus 6 credits, selected from:

ANAT 365	(3)	Cellular Trafficking
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 314	(3)	Molecular Biology of Oncogenes
CHEM 302	(3)	Introductory Organic Chemistry 3
MATH 222	(3)	Calculus 3
MATH 315	(3)	Ordinary Differential Equations
or BIOL 309	(3)	Mathematical Models in Biology
MIMM 323	(3)	Microbial Physiology
MIMM 324	(3)	Fundamental Virology
PATH 300	(3)	Human Disease
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Disease
PHAR 303	(3)	Principles of Toxicology
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience

U3 Complementary Courses (9 credits)

3 credits selected from:

BIOC 503	(3)	Immunochemistry
MIMM 509	(3)	Inflammatory Processes
PHGY 531	(3)	Topics in Applied Immunology

plus 6 credits selected from:

BIOL 520	(3)	Gene Activity in Development
BIOC 404	(3)	Biophysical Chemistry
BIOC 450	(3)	Protein Structure and Function
BIOC 454	(3)	Nucleic Acids
BIOC 458	(3)	Membranes and Cellular Signaling
or ANAT 458	(3)	Membranes and Cellular Signaling
BIOC 503	(3)	Immunochemistry
MIMM 413	(3)	Parasitology
MIMM 465	(3)	Bacterial Pathogenesis
MIMM 466	(3)	Viral Pathogenesis
MIMM 509	(3)	Inflammatory Processes
PHAR 503	(3)	Drug Design and Development 1
PHAR 504	(3)	Drug Design and Development 2
PHGY 531	(3)	Topics in Applied Immunology
PHGY 552	(3)	Cellular and Molecular Physiology

14.13.18 Interdisciplinary Life Sciences

Interdisciplinary Programs Advisor:
Wendy Brett
Email: wendy.brett@mcgill.ca
Telephone: 514-398-7330

The Interdisciplinary Life Sciences minor will allow students from the earth, physical, math, and computational science areas to broaden their studies with some basic life sciences, health social science, and empirical technological science. The program comprises 24 credits and is very flexible. Students must take 9 credits from an extensive list of basic life science courses, 3 credits from an extensive list of health and social science courses, and 3 credits from an empirical and technological science list. The remaining 9 credits may be taken from any of the three categories.

This Minor is not open to students taking a Major, Honours, or Core Science Component in the following units: Anatomy and Cell Biology, Biochemistry, Microbiology and Immunology, Physiology.

This Minor may have restricted enrolment.

Interested students should contact the Interdisciplinary Programs Advisor.

MINOR IN INTERDISCIPLINARY LIFE SCIENCES

(24 credits)

The 24 credits required for this program must satisfy the following criteria:

At least 18 credits must be new credits that are not used to satisfy any other program.

At least 18 credits must be outside the student's main discipline.

Depth requirement:
at least 6 credits must be at the 300-level or above.

Breadth requirement:
at least 9 credits must be taken from the Basic Life Sciences List,
at least 3 credits from the Health Social Sciences List,
at least 3 credits from the Empirical Science and Technology List.
The remaining 9 credits may be selected from any of the lists.

Complementary Courses (24 credits)

Basic Life Sciences (at least 9 credits):

ANAT212	(3)	Molecular Mechanisms of Cell Function
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
ANAT 214	(3)	Systemic Human Anatomy
ANAT 261	(4)	Introduction to Dynamic Histology
ANAT 262	(3)	Introductory Molecular and Cell Biology
ANAT 321	(3)	Circuitry of the Human Brain
ANAT 365	(3)	Cellular Trafficking
ANAT 381	(3)	Basis of Embryology
BIOC 311	(3)	Metabolic Biochemistry
BIOC 450	(3)	Protein Structure and Function
BIOC 458	(3)	Membranes and Cellular Signaling
BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
BIOL 202	(3)	Basic Genetics
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 301	(4)	Cell and Molecular Laboratory
BIOL 303	(3)	Developmental Biology
BIOL 306	(3)	Neural Basis of Behaviour
BIOL 314	(3)	Molecular Biology of Oncogenes
BIOL 370	(3)	Human Genetics Applied
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 502	(3)	Advanced Bio-Organic Chemistry
CHEM 503	(3)	Drug Design and Development 1
CHEM 504	(3)	Drug Design and Development 2
EXMD 401	(3)	Physiology and Biochemistry Endocrine Systems
MIMM 211	(3)	Introductory Microbiology
MIMM 314	(3)	Immunology
MIMM 323	(3)	Microbial Physiology
MIMM 324	(3)	Fundamental Virology
MIMM 387	(3)	Applied Microbiology and Immunology
MIMM 465	(3)	Bacterial Pathogenesis
MIMM 466	(3)	Viral Pathogenesis
NSCI 201	(3)	Introduction to Neuroscience 2
NUTR 307	(3)	Human Nutrition
PATH 300	(3)	Human Disease
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Disease
PHAR 303	(3)	Principles of Toxicology
PHAR 503	(3)	Drug Design and Development 1
PHAR 504	(3)	Drug Design and Development 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
PSYC 211	(3)	Introductory Behavioural Neuroscience
PSYC 311	(3)	Human Cognition and the Brain
PSYC 317	(3)	Genes and Behaviour
PSYC 318	(3)	Behavioural Neuroscience 2
PSYC 342	(3)	Hormones and Behaviour

Health Social Science (at least 3 credits)

ANTH 204	(3)	Anthropology of Meaning
ANTH 227	(3)	Medical Anthropology
ANTH 302	(3)	New Horizons in Medical Anthropology
ANTH 314	(3)	Psychological Anthropology 01
ECON 440	(3)	Health Economics
GEOG 221	(3)	Environment and Health
GEOG 303	(3)	Health Geography
HIST 212	(3)	Science and Medicine in Canada
HIST 249	(3)	Health and the Healer in Western History
HIST 350	(3)	Science and the Enlightenment
HIST 381	(3)	Colonial Africa: Health/Disease
HIST 396	(3)	Disease in Africa Since 1960
HIST 424	(3)	Gender, Sexuality & Medicine
HIST 447	(3)	The Natural History of America
HSEL 308	(3)	Issues in Women's Health
HSEL 309	(3)	Women's Reproductive Health
PHIL 237	(3)	Contemporary Moral Issues
PHIL 343	(3)	Biomedical Ethics
PHIL 443	(3)	Topics in Biomedical Ethics
POLI 417	(3)	Health Care in Canada
PSYC 215	(3)	Social Psychology
PSYC 304	(3)	Child Development
PSYC 333	(3)	Personality and Social Psychology
PSYC 412	(3)	Developmental Psychopathology
PSYC 413	(3)	Cognitive Development
PSYC 414	(3)	Social Development
SOCI 225	(3)	Medicine and Health in Modern Society
SOCI 309	(3)	Health and Illness
SOCI 310	(3)	Sociology of Mental Disorder
SOCI 338	(3)	Introduction to Biomedical Knowledge
SOCI 365	(3)	Health and Development
SOCI 390	(3)	Gender and Health
SOCI 422	(3)	Health Care Providers
SOCI 515	(3)	Medicine and Society
SOCI 525	(3)	Health Care Systems in Comparative Perspective
SOCI 538	(3)	Selected Topics in Sociology of Biomedical Knowledge

Empirical Science and Technology (at least 3 credits)

BIOL 309	(3)	Mathematical Models in Biology
COMP 202	(3)	Introduction to Computing 1
COMP 364	(3)	Computer Tools for Life Sciences
COMP 462	(3)	Computational Biology Methods

At most one of:

GEOG 202	(3)	Statistics and Spatial Analysis
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics
BIOL 373	(3)	Biometry

At most one of:

MATH 204	(3)	Principles of Statistics 2
PSYC 305	(3)	Statistics for Experimental Design

MATH 323	(3)	Probability
MATH 324*	(3)	Statistics*

* Students who have already received credit for MATH 324 will NOT receive credit for GEOG 202, MATH 203, PSYC 204, BIOL 373, MATH 204 or PSYC 305.

14.13.19 Kinesiology for Science Students

The Minor in Kinesiology is designed to provide students in B.Sc. programs with basic but comprehensive knowledge of scientific bases of human physical activity and its relationship with health and well-being.

Students registered in the Minor in Kinesiology for Science Students may not take additional courses outside the Faculties of Arts and of Science.

To obtain the Minor, all courses must be completed with a grade of C or better.

MINOR IN KINESIOLOGY FOR SCIENCE STUDENTS
(24 credits)

Required Courses (15 credits)

EDKP 206	(3)	Biomechanics of Human Movement
EDKP 261	(3)	Motor Development
EDKP 395	(3)	Exercise Physiology
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

Complementary Courses (9 credits)

9 credits, three of the following courses:

EDKP 330	(3)	Physical Activity and Health
EDKP 394	(3)	Historical Perspectives
EDKP 396	(3)	Adapted Physical Activity
EDKP 405	(3)	Sport in Society
EDKP 444	(3)	Ergonomics
EDKP 445	(3)	Exercise Metabolism
EDKP 446	(3)	Physical Activity and Ageing
EDKP 447	(3)	Motor Control
EDKP 448	(3)	Exercise and Health Psychology
EDKP 449	(3)	Exercise Pathophysiology 2
EDKP 485	(3)	Exercise Pathophysiology 1
EDKP 495	(3)	Scientific Principles of Training
EDKP 498	(3)	Sport Psychology
EDKP 542	(3)	Environmental Exercise Physiology
EDKP 550	(3)	Analyzing Instructional Behaviors
EDKP 553	(3)	Physical Activity Assessments
EDKP 566	(3)	Advanced Biomechanics Theory

14.13.20 Management Minor Programs

The Desautels Faculty of Management offers four programs for non-Management students open for application to students in the Faculty of Science. Please refer to the Desautels Faculty of Management section of the calendar for detailed information about program requirements and applying.

Finance for Non-Management Students, page 337

Management for Non-Management Students, page 337

Marketing for Non-Management Students, page 338

Operations Management for Non-Management Students, page 338

As of the 2008-09 academic year the Minor in Management for Science students was retired. Students currently registered in the program should consult with their program adviser and refer to the calendar for the academic year in which they began the program for guidance about program requirements.

Also available to Science students is the Minor in Technological Entrepreneurship for Science students, in section 14.13.35 "Technological Entrepreneurship for Science Students".

14.13.21 Mathematics and Statistics (MATH)

Burnside Hall, Room 1005
805 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-3800
Fax: 514-398-3899
Website: www.math.mcgill.ca

Chair — Jacques Hurtubise

Emeritus Professors
Michael Barr; A.B., Ph.D.(Penn.) *(Peter Redpath Emeritus Professor of Pure Mathematics)*
Marta Bunge; M.A., Ph.D.(Penn.)
Jal R. Choksi; B.A.(Cant.), Ph.D.(Manc.)
Joachim Lambek; M.Sc., Ph.D.(McG.), F.R.S.C.*(Peter Redpath Emeritus Professor of Pure Mathematics)*
Sherwin A. Maslowe; B.Sc.(Wayne State), M.Sc., Ph.D.(Calif.)
Arak M. Mathai; M.Sc.(Kerala), M.A., Ph.D.(Tor.)
V. Seshadri; B.Sc., M.Sc.(Madr.), Ph.D.(Okla.)
George P.H. Styan; M.A., Ph.D.(Col.)
John C. Taylor; B.Sc.(Acad.), M.A.(Qu.), Ph.D.(McM.)

Professors
William J. Anderson; B.Eng., Ph.D.(McG.)
William G. Brown; M.A.(Col.), B.A., Ph.D.(Tor.)
Henri Darmon; B.Sc.(McG.), Ph.D.(Harv.), F.R.S.C. (*James McGill Professor*)
Stephen W. Drury; M.A., Ph.D.(Cant.)
Kohur GowriSankaran; B.A., M.A.(Madr.), Ph.D.(Bombay)
Pengfei Guan; B.Sc.(Zhejiang), M.Sc., Ph.D.(Prin.)
Jacques C. Hurtubise; B.Sc.(Montr.), Ph.D.(Oxf.), F.R.S.C.
Dmitry Jakobson; B.Sc.(MIT), Ph.D.(Prin.) *(William Dawson Scholar)*
Vojkan Jaksic; B.S.(Belgrade), Ph.D.(Caltech)
Niky Kamran; B.Sc., M.Sc.(Brussels), Ph.D.(Wat.), F.R.S.C. *(James McGill Professor)*
Olga Kharlampovich; M.A.(Ural State), Ph.D.(Leningrad), Dr. of Sc.(Steklov Institute)
Michael Makkai; M.A., Ph.D.(Bud.) *(Peter Redpath Professor of Pure Mathematics)*
Alexei Miasnikov; M.Sc.(Novosibirsk), Ph.D., Dr.Sc.(Leningrad) *(Canada Research Chair)*
Charles Roth; M.Sc.(McG.), Ph.D.(Hebrew)
Karl Peter Russell; Vor.Dip.(Hamburg), Ph.D.(Calif.)
F. Bruce Shepherd; B.Sc.(Vic. (Tor.)), M.Sc., Ph.D.(Wat.) *(James McGill Professor)*
David A. Stephens; B.Sc., Ph.D.(Nott.)
John A. Toth; B.Sc., M.Sc.(McM.), Ph.D.(MIT) (*William Dawson Scholar*)
David Wolfson; M.Sc.(Natal), Ph.D.(Purd.)
Keith J. Worsley; B.Sc., M.Sc., Ph.D.(Auck.), F.R.S.C.*(James McGill Professor)*
Jian-Ju Xu; B.Sc., M.Sc.(Beijing), M.Sc., Ph.D.(Renss.)

Associate Professors
Masoud Asgharian; B.Sc.(Shahid Beheshti), M.Sc., Ph.D.(McG.)

Peter Bartello; B.Sc.(Tor.), M.Sc., Ph.D.(McG.) *(joint appoint. with Atmospheric and Oceanic Sciences)*
Eyal Z. Goren; B.A., M.S., Ph.D.(Hebrew)
Antony Humphries; B.A., M.A.(Camb.), Ph.D.(Bath)
Wilbur Jonsson; M.Sc.(Manit.), Dr.Rer.Nat.(Tübingen)
Ivo Klemes; B.Sc.(Tor.), Ph.D.(Calif. Tech.)
James G. Loveys; B.A.(St. Mary's (Can.)), M.Sc., Ph.D.(S. Fraser)
Neville G.F. Sancho; B.Sc., Ph.D.(Belf.)
Russell Steele; B.S., M.S.(Carn. Mell), Ph.D.(Wash.)
Tibor Szabo; M.Sc.(Eotvos Lorand, Bud.), Ph.D.(Ohio)
Alain Vandal; B.Sc., M.Sc.(McG.), Ph.D.(Auck.)
Adrian Vetta; B.Sc., M.Sc.(LSE), Ph.D.(MIT) (*joint appoint. with Computer Science*)
Daniel T. Wise; B.A.(Yeshiva), Ph.D.(Prin.)

Associate Members
Xiao-Wen Chang (*Computer Science*), Luc P. Devroye *(Computer Science),* P.R.L. Dutilleul *(Plant Science),* Leon Glass *(Physiology),* Jean-Louis Goffin *(Management),* James A. Hanley *(Epidemiology & Biostatistics)*, Lawrence Joseph *(Epidemiology & Biostatistics),* Michael Mackey *(Physiology),* Lawrence A. Mysak *(A.O.S.),* Christopher Conway Paige *(Computer Science),* Prakash Panangaden *(Computer Science),* Robert W. Platt (*Pediatrics*), James O. Ramsay *(Psychology),* George Alexander Whitmore *(Management),* Christina Wolfson *(Epidemiology & Biostatistics)*

Adjunct Professors
Donald A. Dawson; B.Sc., M.Sc.(McG.), Ph.D.(MIT)
Martin J. Gander; M.S.(ETH), M.S., Ph.D.(Stan.)
Andrew Granville; B.A., CASM(Camb.), Ph.D.(Qu.)
Adrian Iovita; B.S.(Buc.), Ph.D.(Boston)
Ming Mei; B.Sc., M.Sc.(Jiangxi Normal University), Ph.D.(Kanazawa)
M. Ram Murty; B.Sc.(Car.), Ph.D.(MIT), F.R.S.C.
Vladimir Remeslennikov; M.Sc.(Perm, Russia), Ph.D.(Novosibirsk)
Robert A. Seely; B.Sc.(McG.), Ph.D.(Cant.)

Faculty Lecturers
Jose A. Correa; M.Sc.(Wat.), Ph.D.(Car.)
Axel Hundemer; M.Sc., Ph.D.(Munich)
Armel Djivede Kelome; M.Sc.(Benin), M.Sc.(McG.), Ph.D. (Georgia Tech.)

Mathematics has evolved to a discipline that is mainly characterized by its method of proof, its concern for a progressive broadening of its concepts, and by the search for mathematical entities and operations that represent aspects of reality. It is a subject that is pursued by many for its own sake, and regarded as part of the mainstream of human culture. Mathematics pervades modern society with an impact which, already immense, is rapidly growing.

The two principal divisions of mathematics are pure mathematics and applied mathematics. The pure mathematician is interested in abstract mathematical structures and in mathematics as an intellectual enterprise. The primary concern may not be with its utilitarian aspects or with the current needs of science and technology, although many problems in pure mathematics have developed from the sciences.

The applied mathematician is more interested in how mathematics can be used to study some aspects of the world. Mathematicians are engaged in the creation, study and application of advanced mathematical methods relevant to scientific problems. Statistical science and methodology today is concerned with phenomena in which there is a background of uncertainty arising from inherent variability and the investigator is obliged to arrive at decisions from limited data. A key tool in statistics is probability.

Some of the fields in which pure mathematicians work are algebra, analysis, geometry, topology, number theory and foundations. Applied mathematics, which once referred to the application of mathematics to such disciplines as mechanics and fluid dynamics, has currently assumed a much broader meaning and embraces such diverse fields as communication theory, theory of optimization, theory of games and numerical analysis.

Mathematics offers many vocational possibilities. Such fields as teaching, computing, applied statistics and actuarial science offer opportunities for B.Sc. graduates. Opportunities to do original research in pure and applied mathematics are available in universities and research institutions. Employment is to be found in financially or technologically oriented business firms. The Department of Mathematics and Statistics through its various programs attempts to provide courses to suit the diverse interests within mathematics and statistics.

The Honours Program demands of the student a talent for abstraction in addition to a high level of competence in the use of mathematical tools. This program is intended for students who plan to work in an area where mathematical innovations may be needed. It is almost essential for students contemplating a career in mathematical research.

The Major Program involves the same subjects as the Honours Program but is less demanding in terms of abstraction. It is designed primarily for students who will need mathematical tools in their work but whose creative activity will involve applications of mathematics to other areas. Within the framework of the Mathematics Major, various combinations of courses are suggested to meet the needs of different students. These include course suggestions for secondary school teachers, careers in management, and for careers in industry, government or actuarial sciences.

It is possible for Major students to include a number of Honours courses in their programs. This will be an advantage for those students who plan to use their mathematics in graduate studies.

Students interested in a Mathematics program linked to other disciplines are advised to consider the B.Sc. Liberal Program with a core component in Mathematics or Statistics, or our joint programs with Computer Science, Physiology and Physics.

In planning their programs students are advised to seriously consider developing some depth in another discipline – preferably one for which mathematics has some relevance and use. Mathematics has been closely linked to areas such as computer science, physics and engineering but has recently come to play an increasingly important role in fields such as biology, linguistics, management and psychology. Students should consider completing the requirements for Minor programs such as those available in Cognitive Science, Computer Science and Statistics.

Students considering programs in Mathematics and Statistics should contact the Department to arrange for academic advising.

The student's attention is called to the fact that a B.Com. degree with a Major in Mathematics is available from the Desautels Faculty of Management. In addition, the Schulich School of Music offers the B.Mus. degree with Honours in Theory with Mathematics Option.

Internship Opportunities
Students who want to get practical experience in industry before graduation are encouraged to participate in one of the following internship programs:

- The Internship Year in Science (IYS) is an academic program offered for a duration of 8, 12 or 16 months. It is reflected on the transcript and included in the program name (Bachelor of Science - Internship program). Eligible students usually take this program between their U2 and U3 years.
- The Industrial Practicum (IP) has a duration of 4 months and is usually carried out starting in May. It will appear as a 0-credit, pass/fail course on your transcript.

For more information on these programs, consult "Industrial Practicum (IP) and Internship Year in Science (IYS)", in section 14.12.4.

Note: Students entering a program listed below that has MATH 222 (Calculus 3) as a required course and who have successfully completed a course equivalent to MATH 222 with a grade of C or better may omit MATH 222 (Calculus 3) from the program, but must replace it with 3 credits of elective courses.

MINOR IN MATHEMATICS (24 credits)

The Minor may be taken in conjunction with any primary program in the Faculty of Science (other than programs in Mathematics). Students should declare their intention to follow the Minor in

Mathematics at the beginning of the penultimate year and should obtain approval for the selection of courses to fulfil the requirements for the Minor from the Departmental Chief Adviser (or delegate).

It is strongly recommended that students in the Minor Program take MATH 323. The remaining credits may be freely chosen from the required and complementary courses for Majors and Honours students in Mathematics, with the obvious exception of courses that involve duplication of material. Alternatively, up to six credits may be allowed for appropriate courses from other departments.

All courses counted towards the Minor must be passed with a grade of C or better.

Generally no more than six credits of overlap are permitted between the Minor and the primary program. However, with an approved choice of substantial courses the overlap restriction may be relaxed to nine credits for students whose primary program requires 60 credits or more and to 12 credits when the primary program requires 72 credits or more.

Required Courses (9 credits)

MATH 222	(3)	Calculus 3
MATH 223*	(3)	Linear Algebra
MATH 315	(3)	Ordinary Differential Equations

* MATH 223 may be replaced by MATH 235 and MATH 236. In this case the complementary credit requirement is reduced by three.

Complementary Courses (15 credits)

To be selected from the required and complementary courses for Majors and Honours students in Mathematics, with MATH 323 strongly recommended; alternatively, up to 6 credits may be allowed for appropriate courses from other departments.

MINOR IN STATISTICS (24 credits)

The Minor may be taken in conjunction with any primary program in the Faculty of Science. Students should declare their intention to follow the Minor in Statistics at the beginning of the penultimate year and must obtain approval for the selection of courses to fulfil the requirements for the Minor from the Departmental Chief Adviser (or delegate).

All courses counted towards the Minor must be passed with a grade of C or better. Generally no more than six credits of overlap are permitted between the Minor and the primary program. However, with an approved choice of substantial courses the overlap restriction may be relaxed to nine credits for students whose primary program requires 60 credits or more and to 12 credits when the primary program requires 72 credits or more.

Required Courses (15 credits)

MATH 222	(3)	Calculus 3
MATH 223*	(3)	Linear Algebra
MATH 323	(3)	Probability
MATH 324	(3)	Statistics
MATH 423	(3)	Regression and Analysis of Variance

* MATH 223 may be replaced by MATH 235 and MATH 236. In this case the complementary credit requirement is reduced by three.

Complementary Courses (9 credits)

selected from:

CHEM 593	(3)	Statistical Mechanics
GEOG 351	(3)	Quantitative Methods
MATH 447	(3)	Stochastic Processes
MATH 523	(4)	Generalized Linear Models
MATH 525	(4)	Sampling Theory and Applications
MATH 556	(4)	Mathematical Statistics 1
MATH 557	(4)	Mathematical Statistics 2
PHYS 362	(3)	Statistical Mechanics
PHYS 559	(3)	Advanced Statistical Mechanics
SOCI 504	(3)	Quantitative Methods 1
SOCI 505	(3)	Quantitative Methods 2

No more than 6 credits may be taken outside the Department of Mathematics and Statistics.

Further credits (if needed) may be freely chosen from the required and complementary courses for Majors and Honours students in Mathematics, with the obvious exception of courses that involve duplication of material.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN MATHEMATICS (45 credits)

Students entering the Core Science Component in Mathematics are normally expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents. Otherwise, they will be required to make up any deficiencies in these courses over and above the 45 credits required for the program.

Refer to the “Guidelines for Selection of Courses for the Major Program” for information about course selection to be discussed with the program adviser.

Required Courses (27 credits)

MATH 222	(3)	Calculus 3
MATH 235	(3)	Algebra 1
MATH 236	(3)	Algebra 2
MATH 242	(3)	Analysis 1
MATH 243	(3)	Analysis 2
MATH 314	(3)	Advanced Calculus
MATH 315	(3)	Ordinary Differential Equations
MATH 316	(3)	Complex Variables
or MATH 249	(3)	Honours Complex Variables
MATH 323	(3)	Probability

Complementary Courses (18 credits)

18 credits selected from the following list, with at least 6 credits selected from:

MATH 317	(3)	Numerical Analysis
MATH 324	(3)	Statistics
MATH 335	(3)	Computational Algebra
MATH 340	(3)	Discrete Structures 2

the remainder of the 18 credits to be selected from:

MATH 204	(3)	Principles of Statistics 2
MATH 318	(3)	Mathematical Logic
MATH 319	(3)	Introduction to Partial Differential Equations
MATH 320	(3)	Differential Geometry
MATH 326	(3)	Nonlinear Dynamics and Chaos
MATH 327	(3)	Matrix Numerical Analysis
MATH 328	(3)	Computability and Mathematical Linguistics
MATH 329	(3)	Theory of Interest
MATH 338	(3)	History and Philosophy of Mathematics
MATH 339	(3)	Foundations of Mathematics
MATH 346	(3)	Number Theory
MATH 348	(3)	Topics in Geometry
MATH 352	(1)	Problem Seminar
MATH 407	(3)	Dynamic Programming
MATH 410	(3)	Majors Project
MATH 417	(3)	Mathematical Programming
MATH 423	(3)	Regression and Analysis of Variance
MATH 430	(3)	Mathematical Finance
MATH 447	(3)	Stochastic Processes
MATH 523	(4)	Generalized Linear Models
MATH 524	(4)	Nonparametric Statistics
MATH 525	(4)	Sampling Theory and Applications

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN STATISTICS (45 credits)

Students entering the Core Science Component in Statistics are normally expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents. Otherwise, they will be required to make up any deficiencies in these courses over and above the 45 credits required for the program.

Required Courses (27 credits)
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
MATH 242 (3) Analysis 1
MATH 243 (3) Analysis 2
MATH 314 (3) Advanced Calculus
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 423 (3) Regression and Analysis of Variance

Complementary Courses (18 credits)

18 credits selected from the following list, with at least 6 credits selected from:
MATH 315 (3) Ordinary Differential Equations
MATH 316 (3) Complex Variables
or MATH 249 (3) Honours Complex Variables
MATH 317 (3) Numerical Analysis
MATH 335 (3) Computational Algebra
MATH 340 (3) Discrete Structures 2

at least 7 credits selected from:
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 525 (4) Sampling Theory and Applications

the remainder of the 18 credits to be selected from:
MATH 204 (3) Principles of Statistics 2
MATH 318 (3) Mathematical Logic
MATH 319 (3) Introduction to Partial Differential Equations
MATH 320 (3) Differential Geometry
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 327 (3) Matrix Numerical Analysis
MATH 328 (3) Computability and Mathematical Linguistics
MATH 329 (3) Theory of Interest
MATH 338 (3) History and Philosophy of Mathematics
MATH 339 (3) Foundations of Mathematics
MATH 346 (3) Number Theory
MATH 348 (3) Topics in Geometry
MATH 352 (1) Problem Seminar
MATH 407 (3) Dynamic Programming
MATH 410 (3) Majors Project
MATH 417 (3) Mathematical Programming
MATH 430 (3) Mathematical Finance

MAJOR IN MATHEMATICS (54 credits)

Students entering the Major program are normally expected to have completed MATH 133, MATH 140 and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 54 credits of required courses.

Major students who have done well in MATH 242 and MATH 235 are urged to consider, in consultation with their adviser and the instructors concerned, entering the Honours stream by registering for MATH 251 and MATH 255.

Guidelines for Selection of Courses in the Major Program

The following informal guidelines should be discussed with the student's adviser. Where appropriate, Honours courses may be substituted for equivalent Major courses. Students planning to pursue graduate studies are encouraged to make such substitutions.

Students interested in computer science are advised to choose courses from the following: MATH 317, MATH 318, MATH 327, MATH 328, MATH 335, MATH 340, MATH 407, MATH 417 and to complete the Computer Science Minor.

Students interested in probability and statistics are advised to take MATH 204, MATH 324, MATH 407, MATH 423, MATH 447, MATH 523, MATH 525.

Students interested in applied mathematics should take MATH 317, MATH 319, MATH 324, MATH 326, MATH 327, MATH 407, MATH 417.

Students considering a career in secondary school teaching are advised to take MATH 318, MATH 328, MATH 338, MATH 339, MATH 346, MATH 348.

Students interested in careers in business, industry or government are advised to select courses from the following list: MATH 317, MATH 319, MATH 327, MATH 329, MATH 407, MATH 417, MATH 423, MATH 430, MATH 447, MATH 523, MATH 525.

Required Courses (27 credits)
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
MATH 242 (3) Analysis 1
MATH 243 (3) Analysis 2
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
MATH 316 (3) Complex Variables
or MATH 249 (3) Honours Complex Variables
MATH 323 (3) Probability

Complementary Courses (27 credits)

21 credits selected from the following list, with at least 6 credits selected from:
MATH 317 (3) Numerical Analysis
MATH 324 (3) Statistics
MATH 335 (3) Computational Algebra
MATH 340 (3) Discrete Structures 2

the remainder of the 21 credits to be selected from:
MATH 204 (3) Principles of Statistics 2
MATH 318 (3) Mathematical Logic
MATH 319 (3) Introduction to Partial Differential Equations
MATH 320 (3) Differential Geometry
MATH 326 (3) Nonlinear Dynamics and Chaos
MATH 327 (3) Matrix Numerical Analysis
MATH 328 (3) Computability and Mathematical Linguistics
MATH 329 (3) Theory of Interest
MATH 338 (3) History and Philosophy of Mathematics
MATH 339 (3) Foundations of Mathematics
MATH 346 (3) Number Theory
MATH 348 (3) Topics in Geometry
MATH 352 (1) Problem Seminar
MATH 407 (3) Dynamic Programming
MATH 410 (3) Majors Project
MATH 417 (3) Mathematical Programming
MATH 423 (3) Regression and Analysis of Variance
MATH 430 (3) Mathematical Finance
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 525 (4) Sampling Theory and Applications

6 additional credits in Mathematics or related disciplines selected in consultation with the adviser.

JOINT MAJOR IN BIOLOGY AND MATHEMATICS
See "JOINT MAJOR IN BIOLOGY AND MATHEMATICS" on page 415, under Biology.

JOINT MAJOR IN MATHEMATICS AND COMPUTER SCIENCE (72 credits)

Students entering the Joint Major in Mathematics and Computer Science are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 72 credits of courses in the program specification.

Required courses (54 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems

COMP 302 (3) Programming Languages and Paradigms
COMP 310 (3) Operating Systems
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 360 (3) Algorithm Design Techniques
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
MATH 242 (3) Analysis 1
MATH 315 (3) Ordinary Differential Equations
MATH 317 (3) Numerical Analysis
MATH 318 (3) Mathematical Logic
MATH 323 (3) Probability
MATH 340 (3) Discrete Structures 2

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 but can replace it with an additional Computer Science complementary course.

Complementary Courses (18 credits)

9 credits from the set of courses recommended for a Major or Honours Program in Mathematics.

9 credits selected from Computer Science courses at the 300-level or above (except COMP 364, COMP 396, COMP 400, COMP 431) and ECSE 508.

JOINT MAJOR IN STATISTICS AND COMPUTER SCIENCE (72 credits)

This program provides students with a solid training in both computer science and statistics together with the necessary mathematical background. As statistical endeavours involve ever increasing amounts of data, some students may want training in both disciplines.

Students entering the Joint Major in Statistics and Computer Science are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 72 credits of courses in the program specification.

Required courses (51 credits)
COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 251 (3) Data Structures and Algorithms
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 350 (3) Numerical Computing
or MATH 317 (3) Numerical Analysis
COMP 360 (3) Algorithm Design Techniques
MATH 222 (3) Calculus 3
MATH 235 (3) Algebra 1
MATH 236 (3) Algebra 2
or MATH 223 (3) Linear Algebra
MATH 242 (3) Analysis 1
MATH 314 (3) Advanced Calculus
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 423 (3) Regression and Analysis of Variance

* Students who have sufficient knowledge in a programming language do not need to take COMP 202 but can replace it with an additional Computer Science complementary course.

Complementary Courses (21 credits)

12 credits in Mathematics selected from:
MATH 327 (3) Matrix Numerical Analysis
MATH 340 (3) Discrete Structures 2
or MATH 350 (3) Graph Theory and Combinatorics
MATH 352 (1) Problem Seminar
MATH 410 (3) Majors Project
MATH 447 (3) Stochastic Processes
MATH 523 (4) Generalized Linear Models
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications
MATH 578** (4) Numerical Analysis 1

9 credits in Computer Science selected as follows:

At least 6 credits selected from:
COMP 423 (3) Data Compression
COMP 424 (3) Artificial Intelligence
COMP 462 (3) Computational Biology Methods
COMP 490 (3) Introduction to Probabilistic Analysis of Algorithms
COMP 526 (3) Probabilistic Reasoning and AI
COMP 540** (3) Matrix Computations
COMP 547 (4) Cryptography and Data Security
COMP 564 (3) Computational Gene Regulation
COMP 566 (3) Discrete Optimization 1
COMP 567 (3) Discrete Optimization 2

** MATH 578 and COMP 540 cannot both be taken for program credit.

The remaining Computer Science credits are selected from COMP courses at the 300-level or above (except COMP 396, COMP 400, and COMP 431) and ECSE 508.

JOINT MAJOR IN PHYSIOLOGY AND MATHEMATICS under "Physiology (PHGY)", in section 14.13.30.

HONOURS PROGRAMS

The minimum requirement for entry into the Honours program is that the student has completed with high standing the following courses: MATH 133, MATH 140, MATH 141, or their equivalents. In addition, a student who has not completed the equivalent of MATH 222 must take it in the first term without receiving credits towards the credits required in the Honours program.

Students who transfer to Honours in Mathematics from other programs will have credits for previous courses assigned, as appropriate, by the Department.

To remain in an Honours program and to be awarded the Honours degree, the student must maintain a 3.00 GPA in the required and complementary Mathematics courses of the program, as well as an overall CGPA of 3.00.

HONOURS IN MATHEMATICS (60 credits)

Required Courses (45 credits)
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248* (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
MATH 255 (3) Honours Analysis 2
MATH 325 (3) Honours Ordinary Differential Equations
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356 (3) Honours Probability
MATH 357 (3) Honours Statistics
MATH 366 (3) Honours Complex Analysis
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 375 (3) Honours Partial Differential Equations
MATH 380 (3) Honours Differential Geometry

* MATH 314 may be substituted for MATH 248 if MATH 222 had to be taken in the Fall.

Complementary Courses (15 credits)

15 credits selected from:
MATH 350 (3) Graph Theory and Combinatorics
MATH 352 (1) Problem Seminar
MATH 376 (3) Honours Nonlinear Dynamics
MATH 377 (3) Honours Number Theory
MATH 387 (3) Honours Numerical Analysis
MATH 397 (3) Honours Matrix Numerical Analysis
MATH 470 (3) Honours Project (highly recommended)

MATH 480 (3) Honours Independent Study
MATH 487 (3) Honours Mathematical Programming
MATH 488 (3) Set Theory

all MATH 500-level courses

Honours-level courses from related disciplines:
COMP 250* (3) Introduction to Computer Science
COMP 252 (3) Algorithms and Data Structures

* COMP 250 may be preceded by COMP 202

no more than 6 credits from the following courses for which no Honours equivalent exists:
MATH 204 (3) Principles of Statistics 2
MATH 329 (3) Theory of Interest
MATH 338 (3) History and Philosophy of Mathematics
MATH 339 (3) Foundations of Mathematics
MATH 348 (3) Topics in Geometry
MATH 407 (3) Dynamic Programming
MATH 437 (3) Mathematical Methods in Biology
MATH 447 (3) Stochastic Processes

Other courses with the permission of the Department.

HONOURS IN APPLIED MATHEMATICS (68 credits)

Aside from seeking to develop a sound basis in Applied Mathematics, one of the objectives of the program is to kindle the students' interest in possible areas of application. The extra-mural courses are included to ensure that the student has some appreciation of the scope of Applied Mathematics and is familiar with at least one of the diverse areas in which applications can be found.

Required Courses (36 credits)
COMP 252 (3) Algorithms and Data Structures
COMP 250* (3) Introduction to Computer Science
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248 (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
MATH 255 (3) Honours Analysis 2
MATH 325 (3) Honours Ordinary Differential Equations
MATH 356 (3) Honours Probability
MATH 357 (3) Honours Statistics
MATH 366 (3) Honours Complex Analysis
or MATH 249 (3) Honours Complex Variables
MATH 375 (3) Honours Partial Differential Equations

* COMP 250 may be preceded by COMP 202

Complementary Courses (32 credits)

at least 3 credits selected from:
MATH 387 (3) Honours Numerical Analysis
MATH 397 (3) Honours Matrix Numerical Analysis

at least 6 credits selected from:
MATH 350 (3) Graph Theory and Combinatorics
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 380 (3) Honours Differential Geometry

at least 9 credits selected from:
MATH 352 (1) Problem Seminar
MATH 376 (3) Honours Nonlinear Dynamics
MATH 470 (3) Honours Project
MATH 487 (3) Mathematical Programming
MATH 490 (3) Honours Mathematics of Finance
MATH 523 (4) Generalized Linear Models
MATH 525 (4) Sampling Theory and Applications
MATH 533 (4) Honours Regression and Analysis of Variance
MATH 552 (4) Combinatorial Optimization
MATH 555 (4) Fluid Dynamics
MATH 556 (4) Mathematical Statistics 1
MATH 557 (4) Mathematical Statistics 2
MATH 560 (4) Optimization
MATH 561 (4) Analytical Mechanics
MATH 574 (4) Ordinary Differential Equations
MATH 578 (4) Numerical Analysis 1
MATH 579 (4) Numerical Differential Equations
MATH 580 (4) Partial Differential Equations 1
MATH 581 (4) Partial Differential Equations 2

and the following, for which half credit only may be counted:
MATH 204 (3) Principles of Statistics 2
MATH 407 (3) Dynamic Programming
MATH 447 (3) Stochastic Processes

12 credits of extra-mural courses, chosen in consultation with the student's adviser from approved courses in other departments.

A list of such courses is available from the Department of Mathematics and Statistics. Student initiative is encouraged in suggesting other courses that fulfil the intentions of this section as described above. Such suggestions must receive departmental approval. They must be in a field related to Applied Mathematics such as Atmospheric and Oceanic Science, Biology, Biochemistry, Chemistry, Computer Science, Earth and Planetary Science, Economics, Engineering, Management, Physics, Physiology and Psychology. At least 6 credits must be chosen from a single department other than Computer Science.

HONOURS IN PROBABILITY AND STATISTICS (64 credits)

Required Courses (46 credits)
COMP 250* (3) Introduction to Computer Science
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248 (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
or MATH 247 (3) Honours Applied Linear Algebra
MATH 255 (3) Honours Analysis 2
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356 (3) Honours Probability
MATH 357 (3) Honours Statistics
MATH 523 (4) Generalized Linear Models
MATH 533 (4) Honours Regression and Analysis of Variance
MATH 556 (4) Mathematical Statistics 1
MATH 557 (4) Mathematical Statistics 2

* COMP 250 may be preceded by COMP 202

Complementary Courses (18 credits)

selected from:
MATH 325 (3) Honours Ordinary Differential Equations
MATH 350 (3) Graph Theory and Combinatorics
MATH 352 (1) Problem Seminar
MATH 366 (3) Honours Complex Analysis
MATH 375 (3) Honours Partial Differential Equations
MATH 380 (3) Honours Differential Geometry
MATH 387 (3) Honours Numerical Analysis
MATH 397 (3) Honours Matrix Numerical Analysis
MATH 470 (3) Honours Project
MATH 490 (3) Honours Mathematics of Finance
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications
MATH 550 (4) Combinatorics
MATH 587 (4) Advanced Probability Theory 1
MATH 589 (4) Advanced Probability Theory 2

with at most 3 credits from the following courses having no Honours version:
MATH 204 (3) Principles of Statistics 2
MATH 407 (3) Dynamic Programming
MATH 447 (3) Stochastic Processes

JOINT HONOURS IN MATHEMATICS AND COMPUTER SCIENCE (72 - 75 credits)

Students must consult an Honours adviser in both departments. Students entering the Joint Honours in Mathematics and Computer Science are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise they will be required to make up any deficiencies in these courses over and above the 72 - 75 credits of courses in the program specification.

Required Courses (42 - 45 credits)

COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 252 (3) Algorithms and Data Structures
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 310 (3) Operating Systems
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 362 (3) Honours Algorithm Design
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248 (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
MATH 255 (3) Honours Analysis 2
MATH 350 (3) Graph Theory and Combinatorics

* Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Complementary Courses (30 credits)

18 credits in Mathematics,
at least 12 credits selected from:

MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 356* (3) Honours Probability
MATH 370 (3) Honours Algebra 3
MATH 371 (3) Honours Algebra 4
MATH 387 (3) Honours Numerical Analysis

The remaining credits selected from honours courses given by the Department of Mathematics and Statistics.

* Students with appropriate background in probability may substitute MATH 587 for MATH 356 and must then also register for MATH 355.

12 credits in Computer Science, selected from Computer Science courses at the 300-level or above (except COMP 364, COMP 396, COMP 431) and ECSE 508.

JOINT HONOURS IN STATISTICS AND COMPUTER SCIENCE (76 - 79 credits)

This is a challenging program providing students with a solid training in both computer science and statistics suitable for entry into graduate school in either discipline.

Students entering the Joint Honours program in Statistics and Computer Science are normally expected to have completed MATH 133, MATH 140, and MATH 141 or their equivalents. Otherwise, they will be required to make up any deficiencies in these courses over and above the 76 -79 credits of courses in the program.

Required courses (46 - 49 credits)

COMP 202* (3) Introduction to Computing 1
COMP 206 (3) Introduction to Software Systems
COMP 250 (3) Introduction to Computer Science
COMP 252 (3) Algorithms and Data Structures
COMP 273 (3) Introduction to Computer Systems
COMP 302 (3) Programming Languages and Paradigms
COMP 330 (3) Theoretical Aspects: Computer Science
COMP 362 (3) Honours Algorithm Design
MATH 235 (3) Algebra 1
MATH 242 (3) Analysis 1
MATH 248 (3) Honours Advanced Calculus
MATH 251 (3) Honours Algebra 2
or MATH 247 (3) Honours Applied Linear Algebra
MATH 255 (3) Honours Analysis 2
MATH 356 (3) Honours Probability
MATH 357 (3) Honours Statistics
MATH 533 (4) Honours Regression and Analysis of Variance

* Students who have sufficient knowledge in a programming language are not required to take COMP 202.

Complementary Courses (30 credits)

15 credits in Mathematics selected as follows:

Either:
MATH 387 (3) Honours Numerical Analysis
or MATH 397 (3) Honours Matrix Numerical Analysis

At least 8 credits selected from:
MATH 523 (4) Generalized Linear Models
MATH 524 (4) Nonparametric Statistics
MATH 525 (4) Sampling Theory and Applications
MATH 556 (4) Mathematical Statistics 1
MATH 557 (4) Mathematical Statistics 2

The remaining Mathematics credits are selected from:
MATH 350 (3) Graph Theory and Combinatorics
MATH 352 (1) Problem Seminar
MATH 354 (3) Honours Analysis 3
MATH 355 (3) Honours Analysis 4
MATH 578** (4) Numerical Analysis 1

15 credits in Computer Science selected as follows:

At least 6 credits selected from:
COMP 423 (3) Data Compression
COMP 424 (3) Artificial Intelligence
COMP 462 (3) Computational Biology Methods
COMP 490 (3) Introduction to Probabilistic Analysis of Algorithms
COMP 526 (3) Probabilistic Reasoning and AI
COMP 540** (3) Matrix Computations
COMP 547 (4) Cryptography and Data Security
COMP 552 (4) Combinatorial Optimization
COMP 564 (3) Computational Gene Regulation
COMP 566 (3) Discrete Optimization 1
COMP 567 (3) Discrete Optimization 2

** MATH 578 and COMP 540 cannot both be taken for program credit.

The remaining Computer Science credits are selected from COMP courses at the 300-level or above except COMP 396 and COMP 431.

JOINT HONOURS PROGRAM IN MATHEMATICS AND PHYSICS under "Physics (PHYS)", in section 14.13.29.

14.13.22 Microbiology and Immunology (MIMM)

Lyman Duff Medical Sciences Building, Room 511
3775 University Street
Montreal, QC H3A 2B4

Telephone: 514-398-3915
Fax: 514-398-7052
Email: office.microimm@mcgill.ca
Website: www.mcgill.ca/microimm

Chair — Greg J. Matlashewski

Professors
Zafer Ali-Khan; B.Sc.(Bilar), M.Sc.(Karachi), Ph.D.(Tulane)
Malcolm G. Baines; B.Sc., M.Sc., Ph.D.(Qu.)
James W. Coulton; B.Sc.(Tor.), M.Sc.(Calg.), Ph.D.(W. Ont.)
John Hiscott; B.Sc., M.Sc.(W. Ont.), Ph.D.(NYU)
Greg Matlashewski; B.Sc.(C'dia), Ph.D.(Ott.)
Robert A. Murgita; B.Sc.(Me.), M.S.(Vt.), Ph.D.(McG.)

Mark A. Wainberg; B.Sc.(McG.), M.Sc., Ph.D.(Col.)

Associate Professors
Albert Berghuis; M.Sc.(The Netherlands), Ph.D.(Br. Col.)
Dalius J. Briedis; B.A., M.D.(Johns H.)
Benoit Cousineau; B.Sc., M.Sc., Ph.D.(Montr.)
Sylvie Fournier; Ph.D.(Montr.)
M. Gotte; Ph.D.(Max Planck)
Hervé Le Moual; Ph.D.(Montr.)
Gregory T. Marczynski; B.Sc., Ph.D.(Ill.)
Martin Olivier; B.Sc.(Montr.), Ph.D.(McG.)

Assistant Professors
Samantha Gruenheid; B.Sc.(Br. Col.), Ph.D.(McG.)
Shan-Lu Liu; Ph.D.(Wash.)
Ciriaco Piccirillo; B.Sc., Ph.D.(McG.)
Donald Sheppard; M.D.(Tor.)

Associate Members
Agricultural & Environmental Sciences: Byong Lee
Human Genetics: Silvia Vidal
Institute of Parasitology: Armando Jardim, Paula Ribeiro
Microbiology & Immunology: Lawrence Kleiman
Medicine: Marcel Behr, Andre Dascal, Sabah Hussain, Arnold Kristof, Richard Lalonde, Chen Liang, Vivian Loo, Amee Manges, Jack Mendelson, Mark A. Miller, Jay Nadeau, Marianna Newkirk, Roger G.E. Palfree, Kostas Pantopoulos, Joyce E. Rauch, Michael Reed, Maya Saleh, Christos Tsoukas, Bernard Turcotte, Brian J. Ward
Neuroimmunology: Amit Bar-Or
Neurology & Neurosurgery: Jack Antel
Oncology: Anne Gatignol, Antonis E. Koromilas, Andrew Mouland, Arnim Pause, Stephane Richard
Opthalmology: Miguel Burnier
Surgery: Nicholas V. Christou
Virology: Shan Cen

Adjunct Professors
Vibhuti Dave; M.Sc., Ph.D.(Bombay)
Albert Descoteaux; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)
Elias Haddad; B.Sc., M.Sc.(Beirut), Ph.D.(McG.)
Taff Jones; B.Sc., Ph.D.(Univ. Coll., Lond.)
George Kukolj; B.Sc., Ph.D.(McG.)
Peter Lau; Ph.D.(Ott.)
Andrew Makrigiannis; B.Sc., Ph.D.(Dal.)
Allan M. Matte; B.Sc., M.Sc.(Guelph), Ph.D.(Sask.)
Clement Rioux; B.Sc., M.Sc.(Laval), Ph.D.(Guelph)
Rafick-P. Sekaly; B.A.(Stanislas), B.Sc., M.Sc.(Montr.), Ph.D.(Lausanne)
Woong-Kyung Suh; B.Sc., M.Sc.(Seoul), Ph.D.(Tor.)

Affiliated Centre:
Centre for Host Resistance
Montreal General Hospital
1650 Cedar Avenue
Montreal, QC H3G 1A4
Telephone: 514-398-8038.

Director: E. Skamene

Microbiology is the study of microorganisms such as bacteria, viruses, unicellular eukaryotes, and parasites. Microorganisms play an important role in human and animal disease, food production (bread, cheese, wine), decay and spoilage, contamination and purification of water and soil. Microbiologists study these tiny, self-replicating machines to understand the basic principles of life: growth, metabolism, cell division, control of gene expression, response to environmental stimuli. Microbiologists are also concerned with controlling or harnessing microorganisms for the benefit of people, by isolating antibiotics or producing vaccines to protect against disease, and by developing and perfecting microorganisms for industrial uses.

Immunology is the study of the molecular and cellular basis of host resistance and immunity to external agents such as pathogenic microorganisms. Immunologists study the mechanisms by which the body recognizes foreign antigens, generates appropriate antibodies to an enormously diverse spectrum of antigens, and sequesters and kills invading microorganisms. Their discoveries lead to vaccination against disease, transfusions and organ transplants, allergies, cancer, autoimmune diseases and immune-deficiency diseases such as AIDS. Antibodies may soon be used in conjunction with antibiotics or chemical agents as specific "magic bullets" to diagnose disease and attack microbes and cancers.

The disciplines of microbiology and immunology are natural partners in research, and both fields use the modern methods of cell biology, molecular biology and genetics to study basic life processes. The members of the Department of Microbiology and Immunology perform research on microbial physiology and genetics, microbial pathogenesis, molecular virology, cellular and molecular immunology, and parasitology. Students registered in the Department therefore are exposed to these related areas and receive an excellent background in basic biology and chemistry as well as in the more applied areas of biotechnology and medicine.

Many opportunities exist for careers in basic or applied microbiology and immunology, medical microbiology, environmental microbiology, and biotechnology. They include positions in industry (pharmaceutical and biotechnology), hospitals, universities, and government (environment, public health, and energy). A degree in microbiology also provides an excellent basis for entering professional and postgraduate programs in medicine, dentistry, the veterinary sciences, research, and education.

Notes on admission to Microbiology and Immunology programs. Please note that enrolment in Microbiology and Immunology programs is limited to a total of 120 students per year. Students seeking admission to the Faculty, Majors and Honours programs must have completed BIOL 112, CHEM 110, CHEM 120, MATH 112, MATH 139 or MATH 140, MATH 141, PHYS 101 and PHYS 102 or their equivalent with an overall average of at least B+ (75%).

Students transferring from other programs may be admitted with a B+ average up to the maximum program capacity of 120 students. Applicants not admitted will be placed on a waiting list and will be considered should vacancies occur. Application deadline for U0 or transfer students from other departments and faculties is April 21. Students who want to transfer to Microbiology and Immunology should consider taking MIMM 211, or equivalent, as a complementary course.

An Undergraduate handbook, containing detailed course descriptions, a listing of faculty research interests, and information on careers in microbiology and immunology, is available from the Student Affairs Office in Room 511 of the Lyman Duff Building and on the web at www.mcgill.ca/microimm.

All students (U1, U2, U3) must attend an advising session. Please check www.mcgill.ca/microimm for dates.

A Science Major Concentration in Biomedical Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Biomedical Sciences", in section 7.12.4 for details.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN MICROBIOLOGY AND IMMUNOLOGY (48 credits)

U1 Required Courses (15 credits)

BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 212*	(4)	Introductory Organic Chemistry 1
MIMM 211	(3)	Introductory Microbiology
MIMM 212	(2)	Laboratory in Microbiology

* Students who have taken CHEM 212 in CEGEP are exempt and must replace these credits with an elective course(s).

U1 Complementary Courses (3 credits)

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 201	(3)	Cell Biology and Metabolism

U1, U2 or U3 Required Course (3 credits)
BIOL 373 (3) Biometry
or MATH 203 (3) Principles of Statistics 1
or PSYC 204 (3) Introduction to Psychological Statistics

U2 Required Courses (15 credits)
MIMM 314 (3) Immunology
MIMM 323 (3) Microbial Physiology
MIMM 324 (3) Fundamental Virology
MIMM 386D1 (3) Laboratory in Microbiology and Immunology
MIMM 386D2 (3) Laboratory in Microbiology and Immunology

U3 Complementary Courses (6 credits)
6 credits selected from:
MIMM 387 (3) Applied Microbiology and Immunology
MIMM 413 (3) Parasitology
MIMM 414 (3) Advanced Immunology
MIMM 465 (3) Bacterial Pathogenesis
MIMM 466 (3) Viral Pathogenesis
MIMM 509 (3) Inflammatory Processes

U1, U2 or U3 Complementary Courses (6 credits)
6 credits selected from:
ANAT 261 (4) Introduction to Dynamic Histology
ANAT 262 (3) Introductory Molecular and Cell Biology
ANAT 365 (3) Cellular Trafficking
ANAT 458 (3) Membranes and Cellular Signaling
or BIOC 458 (3) Membranes and Cellular Signaling
BIOC 311 (3) Metabolic Biochemistry
BIOC 312 (3) Biochemistry of Macromolecules
BIOC 450 (3) Protein Structure and Function
BIOC 454 (3) Nucleic Acids
BIOL 300 (3) Molecular Biology of the Gene
BIOL 314 (3) Molecular Biology of Oncogenes
BIOT 505 (3) Selected Topics in Biotechnology
CHEM 203 (3) Survey of Physical Chemistry
or CHEM 204 (3) Physical Chemistry/Biological Sciences 1
CHEM 222** (4) Introductory Organic Chemistry 2
CHEM 302 (3) Introductory Organic Chemistry 3
EXMD 504 (3) Biology of Cancer
MIMM 387 (3) Applied Microbiology and Immunology
MIMM 413 (3) Parasitology
MIMM 414 (3) Advanced Immunology
MIMM 465 (3) Bacterial Pathogenesis
MIMM 466 (3) Viral Pathogenesis
MIMM 509 (3) Inflammatory Processes
PATH 300 (3) Human Disease
PHAR 300 (3) Drug Action
PHAR 301 (3) Drugs and Diseases
PHGY 209 (3) Mammalian Physiology 1 (Class Schedule conflict with MIMM 324, if taken should be in U1 or U3)
PHGY 210 (3) Mammalian Physiology 2

** Students who have taken CHEM 222 in CEGEP must replace it with another complementary course.

MAJOR IN MICROBIOLOGY AND IMMUNOLOGY (67 credits)

The Major Program is designed for students who want to acquire a substantial background in microbiology and immunology and related disciplines (chemistry, biology, biochemistry) which will prepare them for professional schools, graduate education, or entry into jobs in industry or research institutes.

U1 Required Courses (25 credits)
as for the Faculty Program, plus:
CHEM 222 (4) Introductory Organic Chemistry 2
CHEM 203 (3) Survey of Physical Chemistry
or CHEM 204 (3) Physical Chemistry/Biological Sciences 1

U1, U2 or U3 Required Statistics Courses (3 credits)
as for the Liberal Program

U2 Required Courses (21 credits)
as for the Faculty program, plus
BIOC 311 (3) Metabolic Biochemistry
BIOC 312 (3) Biochemistry of Macromolecules

U3 Required Courses (9 credits)
MIMM 413 (3) Parasitology
MIMM 465 (3) Bacterial Pathogenesis
MIMM 466 (3) Viral Pathogenesis

Complementary Courses (9 credits)
9 credits selected from:
ANAT 261 (4) Introduction to Dynamic Histology
ANAT 262 (3) Introductory Molecular and Cell Biology
ANAT 458 (3) Membranes and Cellular Signaling
or BIOC 458 (3) Membranes and Cellular Signaling
ANAT 365 (3) Cellular Trafficking
BIOC 450 (3) Protein Structure and Function
BIOC 454 (3) Nucleic Acids
BIOL 300 (3) Molecular Biology of the Gene
BIOL 314 (3) Molecular Biology of Oncogenes
BIOT 505 (3) Selected Topics in Biotechnology
CHEM 302 (3) Introductory Organic Chemistry 3
EXMD 504 (3) Biology of Cancer
MIMM 387 (3) Applied Microbiology and Immunology
MIMM 414 (3) Advanced Immunology
MIMM 509 (3) Inflammatory Processes
PATH 300 (3) Human Disease
PHAR 300 (3) Drug Action
PHAR 301 (3) Drugs and Diseases
PHGY 209 (3) Mammalian Physiology 1 (Class Schedule conflict with MIMM 324, if taken should be in U1 or U3)
PHGY 210 (3) Mammalian Physiology 2

HONOURS IN MICROBIOLOGY AND IMMUNOLOGY
(73 required credits)

The Honours Program is designed to offer, in addition to the substantial background given by the Major Program, a significant research experience in a laboratory within the Department during the U3 year. Students are prepared for this independent research project by following an advanced laboratory course in U2. This Program is intended to prepare students for graduate study in microbiology and immunology or related fields, but could also be chosen by students intending to enter medical research after medical school, or intending to enter the job market in a laboratory research environment.

Students intending to apply to Honours must follow the Major program in U1 and U2 and must obtain a CGPA of at least 3.50 at the end of their U2 year. For graduation in Honours, students must pass all required courses with a C or better, and achieve a sessional GPA of at least 3.30 in the U3 year.

U1 Required Courses (25 credits)
as for the Major Program

U1, U2 or U3 Required Statistics Courses (3 credits)
as for the Liberal Program

U2 Required Courses (21 credits)
as for the Major program

U3 Required Courses (21 credits)
as for the Major Program, plus:
MIMM 502D1 (6) Honours Research Project
MIMM 502D2 (6) Honours Research Project

Complementary Courses (3 credits)
3 credits selected from:
BIOL 520 (3) Gene Activity in Development
BIOT 505 (3) Selected Topics in Biotechnology
ANAT 458 (3) Membranes and Cellular Signaling
or BIOC 458 (3) Membranes and Cellular Signaling
BIOC 404 (3) Biophysical Chemistry
BIOC 450 (3) Protein Structure and Function

BIOC 454	(3)	Nucleic Acids
BIOC 455	(3)	Neurochemistry
MIMM 414	(3)	Advanced Immunology
MIMM 509	(3)	Inflammatory Processes
PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2

INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY, under "Immunology Interdepartmental Honours", in section 14.13.17.

This program is offered by the Departments of Biochemistry, Microbiology and Immunology, and Physiology.

Students interested in immunology may choose between this Honours program and the Honours program of the Department of Microbiology and Immunology.

Details of this program may also be obtained from Professor Piccrillo in the Department of Microbiology and Immunology, Room 510, telephone 514-398-2872, email: ciro.piccirillo@mcgill.ca.

14.13.23 Music

Strathcona Music Building
555 Sherbrooke Street West
Montreal, QC H3A 1E3

Telephone: 514-398-4535
Fax: 514-398-8061
Website: www.mcgill.ca/music

Department of Music Research Chair — Peter Schubert

Department of Performance Chair — André Roy

Adviser (B.A./B.Sc. Music programs) — B. Minorgan, 514-398-4535, ext. 6333

MINOR IN MUSICAL APPLICATIONS OF TECHNOLOGY and MINOR IN MUSICAL SCIENCE AND TECHNOLOGY

Science students may apply for admission to either the Minor in Musical Applications of Technology, see section 12.6.2.11, or the Minor in Musical Science and Technology, see section 12.6.2.12. Enrolment in Music Technology programs is highly restricted. Application forms will be available from the Department of Music Research in the Schulich School of Music from February 1 and must be completed and returned to that office by May 15 of each academic year. Late applications will not be accepted and no students will be admitted in January. Successful applicants will be notified by June 1. Registration will be limited to available lab space.

SCIENCE MINOR IN MUSIC TECHNOLOGY (24 credits)

This program was retired as of the 2008-09 academic year. Students currently registered in the program should consult with their program adviser and refer to the calendar for the academic year in which they began the program for guidance about program requirements.

Science students are eligible to take the Arts Minor Concentration in Music, see section 6.12.38 "Music (MUAR)".

Music courses listed as MUAR (see Faculty of Arts courses) are considered to be Arts courses. All other Music courses are considered by the Faculty of Science to be courses outside of Arts and Science (see section 14.3.6.2 "Courses Outside the Faculties of Arts and Science" for the relevant regulations).

14.13.24 Neurology and Neurosurgery (NEUR)

There are no B.Sc. programs in Neurology and Neurosurgery, but the NEUR course listed in the Courses section of this Calendar, which is part of the Minor in Neuroscience, is considered as a course taught by the Faculty of Science.

14.13.25 Neuroscience

Interim Director of Neuroscience:
Professor Monroe Cohen, Department of Physiology
McIntyre Medical Sciences Building, Room 1150

Interdisciplinary Programs Adviser:
Wendy Brett
Email: wendy.brett@mcgill.ca
Telephone: 514-398-7330
Website: www.mcgill.ca/neuroscience

Neuroscience is a multidisciplinary science devoted to the understanding of the nervous system. The brain is one of the most complex systems in the universe, and understanding how it functions is among the most challenging questions in science. Scientists are investigating the brain at many levels, from the molecules at synapses to complex forms of behaviour, and use methods of inquiry that are drawn from a number of disciplines including molecular and cellular biology, physiology, behavioural and cognitive psychology, computer science and artificial intelligence. In addition, scientists are investigating the nervous system of many different animals, from simple invertebrates to humans. These wide-ranging investigations are providing a clearer understanding of how neurons work: how they communicate with one another, how they are organized into local or distributed networks, how the connections between neurons are established and change with experience, how neuronal function is influenced by pharmacological agents, and during disease states. As a result, we are gaining deeper insights into the neural basis of mental activity, as well as developing new therapeutic approaches to alleviate neurological and psychological diseases.

MAJOR IN NEUROSCIENCE (67 - 68 credits)

The interdisciplinary Major program in Neuroscience is a focused program for students interested in how the nervous system functions. Research in neuroscience is highly interdisciplinary in nature, and borrows principles from a number of subjects including: biology, biochemistry, immunology, physiology, psychology, as well as mathematics, physics and computer science. To ensure that students have the appropriate foundation, they are required to take 32 credits in lower-level courses from physiology, biology, mathematics, computer science, psychology, and ethics. While flexible, the program offers students a concentrated selection of 15 credits to be taken from one of three areas of current scientific activities in the neurosciences: Cell/Molecular, Neurophysiology/Computation, or Cognition/Behaviour. In addition, students select 21 credits from a wide array of upper-level complementary courses to obtain more specialized training in areas of neuroscience that best suit their interest.

All course selections for the Major in Neuroscience must be approved by an adviser. Contact Ms. Wendy Brett at wendy.brett@mcgill.ca.

Notes on admission to the Neuroscience Major Program: Please note that enrolment in the Neuroscience Major is limited to a total of 50 students per year. Students seeking admission to the program must have a minimum overall average of 3.2 and have completed BIOL 112, CHEM 110, CHEM 120, MATH 139 or MATH 140, MATH 141, PHYS 101 and PHYS 102 (or equivalent). Information concerning the application process and requirements are found on the neuroscience website (www.mcgill.ca/neuroscience).

Core Required Courses (19 - 20 credits)

BIOL 200	(3)	Molecular Biology
CHEM 212*	(4)	Introductory Organic Chemistry 1
NSCI 200	(3)	Introduction to Neuroscience 1
NSCI 201	(3)	Introduction to Neuroscience 2
NSCI 300	(3)	Neuroethics
NSCI 400D1/D2	(1)	Neuroscience Seminar
PSYC 311	(3)	Human Cognition and the Brain

* Note: If CHEM 212 is taken prior to the start of the program, credits must be replaced with an alternative three- or four-course with approval from the program adviser.

Core Complementary Courses (12 credits)
3 credits from:
PSYC 211 (3) Introductory Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition

3 credits from:
BIOL 373 (3) Biometry
PSYC 305 (3) Statistics for Experimental Design

3 credits from:
COMP 202 (3) Introduction to Computing 1
or equivalent in Computer Science

3 credits from:
MATH 222** (3) Calculus 3
BIOL 309 (3) Mathematical Models in Biology

Complementary Courses (36 credits)

15 credits from Stream A, Stream B, or Stream C:

A. Cell and Molecular Stream (15 credits)
BIOL 201 (3) Cell Biology and Metabolism
or BIOC 212 (3) Molecular Mechanisms of Cell Function
BIOL 202 (3) Basic Genetics
BIOC 311 (3) Metabolic Biochemistry
MIMM 314 (3) Immunology
PHGY 311 (3) Channels, Synapses & Hormones

B. Neurophysiology/Neural Computation Stream (15 credits)
ANAT 321 (3) Circuitry of the Human Brain
BIOL 201 (3) Cell Biology and Metabolism
or BIOC 212 (3) Molecular Mechanisms of Cell Function
BIOL 306 (3) Neural Basis of Behaviour
MATH 222** (3) Calculus 3
or BIOL 309 (3) Mathematical Models in Biology
or COMP 206 (3) Introduction to Software Systems
PHGY 311 (3) Channels, Synapses & Hormones

C. Cognitive/Behavioural Stream (15 credits)
PSYC 318 (3) Behavioural Neuroscience 2
and 12 credits chosen from:
BIOL 306 (3) Neural Basis of Behaviour
or PHGY 314 (3) Integrative Neuroscience
LING 390 (3) Neuroscience of Language
PSYC 317 (3) Genes and Behaviour
PSYC 342 (3) Hormones and Behaviour
PSYC 410 (3) Special Topics in Neuropsychology
PSYC 427 (3) Sensorimotor Behaviour
PSYC 470 (3) Memory and Brain

** Note: Students who have successfully completed an equivalent to MATH 222 at CEGEP or elsewhere, must substitute another 3-credit course for MATH 222.

21 credits from the list below.
At least 18 credits must be at the 400- or 500- level.

One course must be taken from the following list:
BIOL 301 (4) Cell and Molecular Laboratory
BIOL 389 (3) Laboratory in Neurobiology
NSCI 410 (6) Independent Research 1
or NSCI 420D1/D2 (9) Independent Research 2

The remaining credits from the following list:
BIOC 311 (3) Metabolic Biochemistry
BIOC 455 (3) Neurochemistry
BIOL 300 (3) Molecular Biology of the Gene
BIOL 301 (4) Cell and Molecular Laboratory
BIOL 306 (3) Neural Basis of Behaviour
BIOL 389 (3) Laboratory in Neurobiology
BIOL 514 (3) Neurobiology of Learning and Memory
BIOL 530 (3) Advances in Neuroethology
BIOL 532 (3) Developmental Neurobiology Seminar
BIOL 588 (3) Advances in Molecular/Cellular Neurobiology
BMDE 519 (3) Biomedical Signals and Systems
CHEM 222 (4) Introductory Organic Chemistry 2
COMP 206 (3) Introduction to Software Systems
or equivalent 300- or 400- level Computer Science course
LING 390 (3) Neuroscience of Language
MATH 315 (3) Ordinary Differential Equations
MATH 323 (3) Probability
MATH 324 (3) Statistics
MATH 437 (3) Mathematical Methods in Biology
or PHYS 413 (3) Physical Basis of Physiology
MIMM 414 (3) Advanced Immunology
MIMM 509 (3) Inflammatory Processes
NEUR 310 (3) Cellular Neurobiology
NEUR 550 (3) Free Radical Biomedicine
PHAR 562 (3) General Pharmacology 1
PHAR 563 (3) General Pharmacology 2
PHGY 311 (3) Channels, Synapses & Hormones
PHGY 314 (3) Integrative Neuroscience
PHGY 451 (3) Advanced Neurophysiology
PHGY 513 (3) Cellular Immunology
PHGY 520 (3) Ion Channels
PHGY 556 (3) Topics in Systems Neuroscience
PHIL 306 (3) Philosophy of Mind
PHIL 341 (3) Philosophy of Science 1
PSYC 317 (3) Genes and Behaviour
PSYC 318 (3) Behavioural Neuroscience 2
PSYC 342 (3) Hormones and Behaviour
PSYC 410 (3) Special Topics in Neuropsychology
PSYC 427 (3) Sensorimotor Behaviour
PSYC 470 (3) Memory and Brain
PSYC 505 (3) The Psychology of Pain
PSYC 526 (3) Advances in Visual Perception
PSYC 532 (3) Cognitive Science
PSYT 500 (3) Advances: Neurobiology of Mental Disorders

MINOR IN NEUROSCIENCE (24 credits)

The Minor is composed of 24 credits, 18 of which must be selected from two of the five topic areas listed below. Twelve credits of the 18 must be at the 400- or 500-level and from two different departments. A maximum of 6 credits can be counted both for the student's primary program and for the Minor in Neuroscience, where appropriate.

All course selections for the Minor in Neuroscience must be approved by an adviser. Contact Ms. Wendy Brett at wendy.brett@mcgill.ca.

Complementary Courses (24 credits)
6 credits selected from:
ANAT 321 (3) Circuitry of the Human Brain
NEUR 310 (3) Cellular Neurobiology
NSCI 201 (3) Introduction to Neuroscience 2
or BIOL 306 (3) Neural Basis of Behaviour
or PHGY 311 (3) Channels, Synapses & Hormones

18 additional credits:
9 credits each from 2 of the 5 areas listed below, 6 credits in each area must be from 400- or 500-level courses.

Neurobiology and Behaviour
BIOL 306 (3) Neural Basis of Behaviour
BIOL 389 (3) Laboratory in Neurobiology
BIOL 514 (3) Neurobiology of Learning and Memory
BIOL 530 (3) Neural Basis of Behaviour
PHGY 311 (3) Channels, Synapses & Hormones
PHGY 556 (3) Topics in Systems Neuroscience
PSYC 318 (3) Behavioural Neuroscience 2
PSYC 427 (3) Sensorimotor Behaviour

PSYC 505	(3)	The Psychology of Pain
PSYC 522	(3)	Neurochemistry and Behaviour
PSYT 500	(3)	Advances: Neurobiology of Mental Disorders

Molecular and Developmental Neurobiology

ANAT 321	(3)	Circuitry of the Human Brain
BIOC 455	(3)	Neurochemistry
BIOL 532	(3)	Developmental Neurobiology Seminar
BIOL 588	(3)	Advances in Molecular/Cellular Neurobiology
NEUR 310	(3)	Cellular Neurobiology
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 451	(3)	Advanced Neurophysiology

Neurophysiology

ANAT 322	(3)	Neuroendocrinology
BIOL 389	(3)	Laboratory in Neurobiology
BIOL 514	(3)	Neurobiology of Learning and Memory
BIOL 588	(3)	Advances in Molecular/Cellular Neurobiology
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 451	(3)	Advanced Neurophysiology
PHGY 520	(3)	Ion Channels
PHGY 556	(3)	Topics in Systems Neuroscience
PSYC 427	(3)	Sensorimotor Behaviour

Neuropsychology

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 322	(3)	Neuroendocrinology
BIOL 306	(3)	Neural Basis of Behaviour
PSYC 311	(3)	Human Cognition and the Brain
PSYC 318	(3)	Behavioural Neuroscience 2
PSYC 410	(3)	Special Topics in Neuropsychology
PSYC 470	(3)	Memory and Brain
PSYC 505	(3)	The Psychology of Pain
PSYC 522	(3)	Neurochemistry and Behaviour
PSYC 526	(3)	Advances in Visual Perception

Neuropharmacology

ANAT 321	(3)	Circuitry of the Human Brain
BIOC 455	(3)	Neurochemistry
BIOL 588	(3)	Advances in Molecular/Cellular Neurobiology
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drug and Disease
PHAR 562	(3)	General Pharmacology 1
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 451	(3)	Advanced Neurophysiology
PHGY 520	(3)	Ion Channels
PSYT 301	(3)	Issues in Drug Dependence
PSYT 500	(3)	Advances: Neurobiology of Mental Disorders

14.13.26 Nutrition (NUTR)

The School of Dietetics and Human Nutrition offers a Minor in Human Nutrition which can be taken by Science students, see section 5.6.3 "Bachelor of Science (Nutritional Sciences) - B.Sc.(Nutr.Sc.)".

NUTR 307 is considered as a course taught by the Faculty of Science and is offered simultaneously on both campuses.

14.13.27 Pathology (PATH)

There are no B.Sc. programs in Pathology, but the PATH course listed in the Courses section of this Calendar is considered as one taught by the Faculty of Science.

14.13.28 Pharmacology and Therapeutics (PHAR)

McIntyre Medical Building
3655 Promenade Sir William Osler
Montreal, QC H3G 1Y6

Telephone: 514-398-3623
Website: www.medicine.mcgill.ca/pharma

Chair — Hans H. Zingg

Emeritus Professor
Brian Collier; B.Sc., Ph.D.(Leeds)
Theodore Sourkes; Ph.D.(C'nell)

Professors
Guillermina Almazan; Ph.D.(McG.)
Radan Capek; M.D., Ph.D.(Prague)
Paul B.S. Clarke; M.A.(Cant.), Ph.D.(Lond.)
A. Claudio Cuello; M.D.(Buenos Aires), M.A., D.Sc.(Oxf.) F.R.S.C.
Barbara Hales; M.Sc.(Phil. Coll. of Pharm. and Science), Ph.D.(McG.)
Dusica Maysinger; Ph.D.(S. Calif.)
Peter J. McLeod; M.D.(Manit.), F.R.C.P.(C.)
Alfredo Ribeiro-da-Silva; M.D., Ph.D.(Oporto)
Bernard Robaire; B.A.(Calif.), Ph.D.(McG.)
H. Uri Saragovi; Ph.D.(Miami)
Moshe Szyf; M.Sc., Ph.D.(Hebrew)
Jacquetta Trasler; M.D.,C.M., Ph.D.(McG.)
Daya R. Varma; M.D.(Lucknow), Ph.D.(McG.)
Hans H. Zingg; M.D., Ph.D.(McG.)

Associate Professors
Daniel Bernard; Ph.D.(Johns H.)
Derek Bowie; B.Sc., Ph.D.(Lond.)
Terence Hébert; M.Sc.(Windsor), Ph.D.(Tor.)
Anne McKinney; Ph.D.(Ulster)
Stanley Nattel; B.Sc., M.D.,C.M.(McG.)
Ante L. Padjen; M.D., M.Sc., D.Sc.(Zagreb)
Betty I. Sasyniuk; B.S.P., Ph.D.(Manit.)
Edith A. Zorychta; B.Sc.(St. FX), M.Sc., Ph.D.(McG.)

Assistant Professors
Greg Miller; Ph.D.(W. Ont.)
Jason Chaim Tanny; Ph.D.(Harv.)

Associate Members
Moulay Alaoui-Jamali; Ph.D.(Sorbonne)
Gerald Batist; M.D.,C.M.(McG.)
Martine Culty; Ph.D.(Fr.)
Giovanni Di Battista; B.Sc., Ph.D.(Montr.)
Pierre Fiset; M.D.(Laval), F.R.C.P.S.(C).
Serge Gauthier; M.D.(Montr.)
Timothy Geary; Ph.D.(Mich.)
Bertrand Jean-Claude; M.Sc.(Moncton), Ph.D.(McG.)
Sarah Kimmins; Ph.D.(Dal.)
Stephane Laporte; Ph.D.(Sher.)
Cristian O'Flaherty; Ph.D.(McG.)
Vassilios Papadopoulos; Ph.D.(Université Pierre et Marie Curie)
Roger Prichard; B.Sc., Ph.D.(N.S.W.)
Yoram Shir; M.D.(Israel), Ph.D.(Johns H.)
Laura Stone; Ph.D.(Minn.)
Simon Rousseau; Ph.D.(Laval)
Remi Quirion; M.Sc., Ph.D.(Sher.)
Xiang-Jiao Yang; Ph.D.(Shanghai)

Adjunct Professors
Bruce Allen; Ph.D.(Br. Col.)
Martin Bruno; Ph.D.(McG.)
Sylvain Chemtob; M.D.(Montr.), Ph.D.(McG.)
Yves De Koninck; Ph.D.(McG.)
Lesley Fellows; M.D.(McG.), Ph.D.(Oxf.)
Lorella Garofalo; Ph.D.(McG.)
Jennifer M.A. Laird; Ph.D.(Brist.)
Joseph Mancini; M.Sc., Ph.D.(McG.)
Graciela Pineyro; M.D.(Uruguay), Ph.D.(McG.)

Deborah Slipetz; Ph.D.(McG.)

Pharmacology is the science that deals with all aspects of drugs and their interactions with living organisms. Thus, it involves the physical and chemical properties of drugs, their biochemical and physiological effects, mechanisms of action, pharmacokinetics, and therapeutic and other uses. Since the word “drug” encompasses all chemical substances that produce an effect on living cells, it is evident that pharmacology is a very extensive subject. Pharmacology is a multidisciplinary science. It has developed its own set of principles and methods to study the mode of the action of drugs, but it has also utilized many techniques and approaches from various disciplines including biochemistry, physiology, anatomy and molecular biology, as well as others. Pharmacology encompasses a number of different areas such as pharmacogenomics, molecular biology, bioinformatics, neuropharmacology, reproductive pharmacology, endocrine pharmacology, receptor pharmacology, cardiovascular pharmacology, toxicology, developmental pharmacology, autonomic pharmacology, biochemical pharmacology, and therapeutics.

Training in pharmacology is conducted at both the undergraduate and graduate levels. Because of its breadth, students may be attracted to the subject from a variety of viewpoints; this includes those completing a Bachelor's degree in any number of basic science disciplines, such as biology, zoology, chemistry, physics, biochemistry, microbiology, anatomy and physiology. At the undergraduate level, seven lecture courses are offered. A course involving research projects in pharmacology is also available to provide the student with the opportunity to get first-hand experience in a pharmacology research laboratory. These courses provide students with knowledge concerning the actions of drugs on living systems and insight into approaches to basic pharmacological research.

A Science Major Concentration in Biomedical Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Biomedical Sciences", in section 7.12.4 for details. **Note:** This program will be retired at the end of the 2008-09 academic year and no new students will be accepted as of June 2009.

MINOR IN PHARMACOLOGY (24 credits)

The Minor in Pharmacology is intended for students registered in a complementary B.Sc. program who are interested in a focused introduction to specialized topics in pharmacology to prepare them for professional schools, graduate education, or entry into jobs in industry or research institutes. Students should declare their intent to enter the Minor in Pharmacology at the beginning of their U2 year. They must consult with, and obtain the approval of, the Coordinator for the Minor Program in the Department of Pharmacology and Therapeutics. (Please contact the coordinator: Dr. Terry Hébert; terence.hebert@mcgill.ca; 514-398-1398).

All courses in the Minor Program must be passed with a minimum grade C or better. Generally, no more than 6 credits of overlap are permitted between the Minor and the primary program.

Required Courses (9 credits)

PHAR 300	(3)	Drug Action
PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2

Complementary Courses (15 credits)

3 credits, one of:

BIOL 200	(3)	Molecular Biology
BIOL 201	(3)	Cell Biology and Metabolism
BIOC 212	(3)	Molecular Mechanisms of Cell Function

3 credits, one of:

PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2

9 credits, chosen from:

PHAR 301	(3)	Drugs and Diseases
PHAR 303	(3)	Principles of Toxicology
PHAR 503	(3)	Drug Design and Development 1
PHAR 504*	(3)	Drug Design and Development 2
PHAR 599	(6)	Research Projects in Pharmacology

* can be taken with PHAR 503 only.

MAJOR IN PHARMACOLOGY (65 credits)

(Awaiting approval of the Ministère de l'Éducation, du Loisir, et du Sport)

This program incorporates extensive studies in Pharmacology with a strong component of related biomedical sciences, providing a solid preparation for employment opportunities or for entry into graduate or professional training programs. Students must consult an adviser upon entering the program and at the beginning of U2 to verify courses and progress. Additional consultation at regular intervals is encouraged.

U1 Required Courses (19 credits)

BIOL 200	(3)	Molecular Biology
CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2

U2 Required Courses (19 credits)

BIOC 311	(3)	Metabolic Biochemistry
BIOL 202	(3)	Basic Genetics
BIOL 301	(4)	Cell and Molecular Laboratory
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Diseases
PHAR 303	(3)	Principles of Toxicology

U3 Required Courses (12 credits)

PHAR 503	(3)	Drug Design and Development 1
PHAR 558	(3)	Pharmacology Research Topics
PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2

Complementary Courses (15 credits)

3 credits selected from:

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 201	(3)	Cell Biology and Metabolism

3 credits selected from:

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 204	(3)	Physical Chemistry/Biological Sciences 1

3 credits selected from:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics

6 credits selected from the following upper level science courses:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 365	(3)	Cellular Trafficking
ANAT 458	(3)	Membranes and Cellular Signaling
or BIOC 458	(3)	Membranes and Cellular Signaling
BIOC 450	(3)	Protein Structure and Function
BIOC 454	(3)	Nucleic Acids
BIOC 455	(3)	Neurochemistry
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 303	(3)	Developmental Biology
BIOL 306	(3)	Neural Basis of Behaviour
BIOL 314	(3)	Molecular Biology of Oncogenes
BIOT 505	(3)	Selected Topics in Biotechnology
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 502	((3)	Advanced Bio-Organic Chemistry
CHEM 504	(3)	Drug Design and Development 2
or PHAR 504	(3)	Drug Design and Development 2
EXMD 504	(3)	Biology of Cancer
EXMD 511	(3)	Joint Venturing with Industry
MIMM 314	(3)	Immunology
MIMM 387	(3)	Applied Microbiology and Immunology

MIMM 414	(3)	Advanced Immunology
NEUR 310	(3)	Cellular Neurobiology
PATH 300	(3)	Human Disease
PHAR 504	(3)	Drug Design and Development 2
PHAR 599D1/D2	(6)	Research Projects in Pharmacology
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
PHGY 520	(3)	Ion Channels
PSYC 311	(3)	Human Cognition and the Brain

Committee approval is required to substitute an upper-level science course not in the above list.

HONOURS IN PHARMACOLOGY (74 credits)

(Awaiting approval of the Ministère de l'Éducation, du Loisir, et du Sport)

The Honours program is designed as a preparation for graduate studies and research. In addition to the strong training provided by the Major program, it requires students to have direct research experience in a chosen area during their final year of study. Acceptance into the Honours program takes place in the Winter term of U2 and requires a CGPA of 3.30. Students who wish to enter the Honours program should follow the Major program; those who satisfactorily complete the first three terms with a CGPA of at least 3.30 and a mark of B or higher in core Pharmacology courses are eligible for admission. Applications can be obtained from the Office of the Department of Pharmacology in the McIntyre Medical Building or on the departmental website.

U1 Required Courses (19 credits)

BIOL 200	(3)	Molecular Biology
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2

* Students with prior credit for CHEM 212 may take an elective in place of this course.

U2 Required Courses (19 credits)

BIOC 311	(3)	Metabolic Biochemistry
BIOL 202	(3)	Basic Genetics
BIOL 301	(4)	Cell and Molecular Laboratory
PHAR 300	(3)	Drug Action
PHAR 301	(3)	Drugs and Diseases
PHAR 303	(3)	Principles of Toxicology

U3 Required Courses (18 credits)

PHAR 503	(3)	Drug Design and Development 1
PHAR 558	(3)	Pharmacology Research Topics
PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2
PHAR 599D1/D2	(6)	Research Projects in Pharmacology

Complementary Courses (18 credits)

3 credits selected from:

BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 201	(3)	Cell Biology and Metabolism

3 credits selected from:

CHEM 203	(3)	Survey of Physical Chemistry
CHEM 204	(3)	Physical Chemistry/Biological Sciences 1

3 credits selected from:

BIOL 373	(3)	Biometry
MATH 203	(3)	Principles of Statistics 1
PSYC 204	(3)	Introduction to Psychological Statistics

9 credits selected from the following upper level science courses:

ANAT 321	(3)	Circuitry of the Human Brain
ANAT 365	(3)	Cellular Trafficking
ANAT 458	(3)	Membranes and Cellular Signaling
or BIOC 458	(3)	Membranes and Cellular Signaling
BIOC 450	(3)	Protein Structure and Function
BIOC 454	(3)	Nucleic Acids
BIOC 455	(3)	Neurochemistry
BIOL 300	(3)	Molecular Biology of the Gene
BIOL 303	(3)	Developmental Biology
BIOL 306	(3)	Neural Basis of Behaviour
BIOL 314	(3)	Molecular Biology of Oncogenes
BIOT 505	(3)	Selected Topics in Biotechnology
CHEM 302	(3)	Introductory Organic Chemistry 3
CHEM 502	((3)	Advanced Bio-Organic Chemistry
CHEM 504	(3)	Drug Design and Development 2
or PHAR 504	(3)	Drug Design and Development 2
EXMD 504	(3)	Biology of Cancer
EXMD 511	(3)	Joint Venturing with Industry
MIMM 314	(3)	Immunology
MIMM 387	(3)	Applied Microbiology and Immunology
MIMM 414	(3)	Advanced Immunology
NEUR 310	(3)	Cellular Neurobiology
PATH 300	(3)	Human Disease
PHAR 504	(3)	Drug Design and Development 2
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
PHGY 520	(3)	Ion Channels
PSYC 311	(3)	Human Cognition and the Brain

Committee approval is required to substitute an upper-level science course not in the above list.

14.13.29 Physics (PHYS)

Rutherford Physics Building, Room 108
3600 University Street
Montreal, QC H3A 2T8

Telephone: 514-398-6477
Fax: 514-398-8434
Email: secretariat@physics.mcgill.ca
Website: www.physics.mcgill.ca

Chair — C. Gale

Emeritus Professors

Subal Das Gupta; B.A., M.Sc.(Calc.), Ph.D.(McM.) (*William C. Macdonald Emeritus Professor of Physics*)
Nicholas DeTakacsy; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)
Harry C.S. Lam; B.Sc.(McG.), Ph.D.(MIT)
M.P. Langleben; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C.
Tommy S.K. Mark; B.Sc., M.Sc., Ph.D.(McG.) *(William C. Macdonald Emeritus Professor of Physics)*
Douglas G. Stairs; B.Sc., M.Sc.(Qu.), Ph.D.(Harv.) *(William C. Macdonald Emeritus Professor of Physics)*
John O. Strom-Olsen; B.A., M.S., Ph.D.(Cant.)
Martin J. Zuckermann; M.A., D.Phil.(Oxf.), F.R.S.C. *(William C. Macdonald Emeritus Professor of Physics)*

Post-Retirement

John E. Crawford; B.A., M.A.(Tor.), Ph.D.(McG.)
Jonathan K.P. Lee; B.Eng., M.Sc., Ph.D.(McG.)
Robert B. Moore; B.Eng., M.Sc., Ph.D.(McG.)
Popat M. Patel; B.Sc., M.Sc.(Manc.), Ph.D.(Harv.)

Professors

Jean Barrette; B.Sc., M.Sc., Ph.D.(Montr.)
Robert Brandenberger; Dipl., A.M., Ph.D.(Harv.) (*Canada Research Chair)*
James M. Cline; B.Sc.(Calif.), M.Sc., Ph.D.(Cal. Tech.)

François Corriveau; B.Sc.(Laval), M.Sc.(Br. Col.), Docteur Sc.Nat.(Zurich)
Charles Gale; B.Sc.(Ott.), M.Sc., Ph.D.(McG.) (*James McGill Professor)*
Martin Grant; B.Sc.(PEI), M.Sc., Ph.D.(Tor.), F.R.S.C. *(James McGill Professor)*
Peter Grutter; Dipl., Ph.D.(Basel) *(James McGill Professor)*
Hong Guo; B.Sc.(Sichuan), M.Sc., Ph.D.(Pitt.), F.R.S.C. *(James McGill Professor)*
David Hanna; B.Sc.(McG.), M.A., Ph.D.(Harv.) *(William C. Macdonald Professor of Physics)*
Richard Harris; B.A.(Oxf.), D.Phil.(Sus.)
Victoria Kaspi; B.Sc.(McG.), M.A., Ph.D.(Prin.) (*Canada Research Chair*) (*Lorne Trottier Chair in Astrophysics and Cosmology*)
Shaun Lovejoy; B.A.(Cant.), Ph.D.(McG.)
Kenneth J. Ragan; B.Sc.(Alta.), D.Sc.(Geneva) *(William C. Macdonald Professor of Physics)*
Dominic H. Ryan; B.A., Ph.D.(Trin. Coll.)
Mark Sutton; B.Sc., M.Sc., Ph.D.(Tor.) *(Ernest Rutherford Professor of Physics)*
Jorge Vinals; B.Sc., M.Sc., Ph.D.(Barcelona) *(Canada Research Chair)*

Associate Professors
Michael Hilke; B.Sc., M.Sc., Ph.D.(Geneva)
Sangyong Jeon; B.Sc.(Seoul), M.Sc., Ph.D.(Wash.)
Guy Moore; B.Sc.(Calif.), Ph.D.(Prin.)
Steve Robertson; B.Sc.(Calg.), M.Sc., Ph.D.(Vic. (BC))
Paul Wiseman; B.Sc.(St. FX), Ph.D.(W. Ont.) (*joint appoint. with Chemistry)*

Assistant Professors
Aashish Clerk; B.Sc.(Tor.), Ph.D.(C'nell) *(Canada Research Chair)*
Andrew Cumming; B.A.(Camb.), Ph.D.(Calif., Berk.)
Keshav Dasgupta; B.Sc., M.Sc.(IIT), Ph.D.(Tata)
Matt Dobbs; B.Sc.(McG.), Ph.D.(Vic. (BC)) *(Canada Research Chair)*
Guillaume Gervais, B.Sc.(Sherb.), M.Sc.(McM.), Ph.D.(North. Univ.)
Gil Holder; B.Sc., M.Sc.(Qu.), Ph.D.(Chic.) *(Canada Research Chair)*
Maria Kilfoil; B.Sc.(New Br.), M.Sc., Ph.D.(Nfld.)
Alex Maloney; B.Sc., M.Sc.(Stan.), Ph.D.(Harv.)
Bob Rutledge; B.Sc.(S. Calif.), Ph.D.(MIT)
Brad Siwick; B.A.Sc., M.Sc., Ph.D.(Tor.) (*Canada Research Chair*)
Andreas Warburton; B.Sc.(Vic. (BC)), M.Sc., Ph.D.(Tor.)
Tracy Webb; B.Sc.(Tor.), M.Sc.(McM.), Ph.D.(Tor.)
Brigitte Vachon; B.Sc.(McG.), Ph.D.(Vic. (BC)) *(Canada Research Chair)*

Lecturers
Z. Altounian; B.Sc., M.Sc.(Cairo), Ph.D.(McM.)
F. Buchinger; Dipl.(Mainz), Ph.D.(Joh. Gutenberg U.)

Associate Members
M. Chacron (*Physiology*), B.C. Eu (*Chemistry*), K. Gehring (*Biochemistry*), P. Hayden (*Computer Science*), M. Mackey (*Physiology*), Z. Mi *(Electrical & Computer Engineering)*, J. Nadeau (*Biomedical Engineering*), E. Podgorsak (*Radiation Oncology*), D. Rassier *(Kinesiology & Physical Education)*, D. Ronis (*Chemistry*), J. Seuntjens (*Medical Physics*), P.S. Swain (*Physiology*), T. Szkopek (*Electrical & Computer Engineering*), F. Verhaegen (*Oncology & Medical Physics*)

Curator (Rutherford Museum and McPherson Collection)
Jean Barrette; B.Sc., M.Sc., Ph.D.(Montr.)

Physics is in many ways the parent of the other natural sciences and its discoveries and laws continually affect their development. Its range and scope extend in space and time from subnuclear particles to the universe itself. The subfields of physics such as mechanics, thermodynamics, electricity, atomic physics and quantum mechanics, to mention but a few, permeate all other scientific disciplines. People trained in physics are employed in industry, government, and educational systems where they find many challenges as teachers, researchers, administrators and in the rapidly developing area of scientific business.

The two main undergraduate programs in Physics at McGill are the Honours and the Major. The Honours program is highly specialized and the courses are very demanding. This program is appropriate for students who wish to make an in-depth study of the subject in preparation for graduate work and an academic or professional career in physics. The two joint honours, one in Mathematics and Physics and the other in Physics and Chemistry, are even more specialized and demanding. They are intended for students who wish to develop a strong basis in both physics and the other discipline and are intended as preparation for graduate work and a professional or academic career. Although these two programs have a bias for theoretical work, they are broad enough and strong enough to prepare students for further study in either experimental physics or respectively mathematics or chemistry. High standing in CEGEP or Freshman-year mathematics and physics is a requirement for admission to these Honours programs.

The Major program, on the other hand, offers a broad training in classical and modern physics and yet leaves room for the student to take a meaningful sequence of courses in other areas. It is intended primarily for students who wish to pursue careers in fields for which physics provides a basis. However, this program also provides a preparation for graduate studies.

It is possible for students to transfer from the Major program to the Honours program after the first year of studies; see comments to this effect below after the description of the Honours program.

There are also a number of other Major programs: Atmospheric Sciences and Physics, Physics and Computer Science, Physics and Geophysics, and Physiology and Physics, offered jointly with other departments, and a Minor program in Electrical Engineering, available only to students in the Physics Major program. In addition, there is a Minor in Physics and a core Physics component of the Liberal Science Program, for students less interested in a specialized education.

For those interested in a career as a high school science teacher, the concurrent program leading to both a B.Sc. and a B.Ed. degree provides several physics options. These combine physics courses from the Major and Minor programs with courses from either Biology or Chemistry and with Education courses. (For details, see "Science or Mathematics for Teachers", in section 14.13.34.)

Students from outside of the Province of Quebec will ordinarily register in the Science Freshman program. Physics offers two sequences of courses for this program: they are described below.

The list of pre- and corequisites is not absolute. In many cases permission of the Department may be sought to have a specific prerequisite waived. The procedure is to ask the professor in charge of the course to review the request for such a waiver. The prerequisites of the 100-level courses are described in the following section entitled Science Freshman Program.

Students interested in any of the Physics programs should contact the Department for an adviser.

A Science Major Concentration in Physics is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Physics (PHYS)", in section 14.13.29 for details.

Internship Year in Science (IYS)

IYS is a pregraduate work experience program available to eligible students and normally taken between their U2 and U3 years. For more information, see "Industrial Practicum (IP) and Internship Year in Science (IYS)", in section 14.12.4, under Faculty of Engineering.

The following programs are also available with an internship component:

Major in Physics
Honours in Physics
Joint Honours Program in Physics and Chemistry
Joint Honours Program in Physics and Mathematics
Joint Major Program in Atmospheric Science and Physics
Joint Major Program in Physics and Computer Science
Joint Major Program in Physics and Geophysics

SCIENCE FRESHMAN PROGRAM
Students entering McGill with a Quebec CEGEP profile in Science will normally begin their programs in Physics with courses at the 200-level.

Students without this profile should normally take courses PHYS 131 and PHYS 142 if they have previously taken physics at the high school level and should be taking differential calculus concurrently with PHYS 131 and integral calculus concurrently with PHYS 142. Those students who have not previously taken physics at the high school level and who intend to do programs in the Biological Sciences may instead take courses PHYS 101 and PHYS 102. All students are expected to have reasonable fluency in algebra, geometry and trigonometry at the high school level. If this is not the case, then MATH 112 should be taken concurrently with PHYS 101. Those for whom this is not necessary are advised to take MATH 139 concurrently with PHYS 101.

PHYSICS PREPROGRAM REQUIREMENTS
Students entering Physics programs from the Freshman Program must have successfully completed PHYS 131/142; CHEM 110/120; either BIOL 111 or BIOL 112; MATH 133; and either MATH 140/141 or MATH 150/151; or their equivalents. Quebec students must have completed the DEC with appropriate science and mathematics courses.

MINOR IN PHYSICS (18 credits)

The 18-credit Minor permits no overlap with any other programs. It contains no Mathematics courses, although many of the courses in it have Math pre- or corequisites. It will, therefore, be particularly appropriate to students in Mathematics, but it is also available to any Science student with the appropriate mathematical background.

Students in certain programs (e.g., the Major in Chemistry) will find that there are courses in the Minor that are already part of their program, or that they may not take for credit because of a substantial overlap of material with a course or courses in their program. After consultation with an adviser, such students may complete the Minor by substituting any other physics course(s) from the Major or Honours Physics programs.

Required Course (3 credits)
PHYS 257 (3) Experimental Methods 1

Complementary Courses (15 credits)
15 credits to be selected as follows:
PHYS 230 (3) Dynamics of Simple Systems
or PHYS 251 (3) Honours Classical Mechanics 1
PHYS 232 (3) Heat and Waves
or PHYS 253 (3) Thermal Physics
PHYS 258 (3) Experimental Methods 2
or PHYS 241 (3) Signal Processing
PHYS 271 (3) Quantum Physics
or PHYS 260 (3) Modern Physics and Relativity
or PHYS 214 (3) Introductory Astrophysics
or PHYS 225 (3) Musical Acoustics
PHYS 340 (3) Majors Electricity and Magnetism
or PHYS 350 (3) Honours Electricity and Magnetism

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN PHYSICS (48 credits)

Required Courses (39 credits)
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 241 (3) Signal Processing
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2
PHYS 333 (3) Thermal and Statistical Physics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 436 (3) Modern Physics
PHYS 446 (3) Majors Quantum Physics

Complementary Courses (9 credits)

9 credits selected from:
PHYS 328 (3) Electronics
PHYS 331 (3) Topics in Classical Mechanics
PHYS 339 (3) Measurements Laboratory in General Physics
PHYS 342 (3) Majors Electromagnetic Waves
PHYS 434 (3) Optics
PHYS 439 (3) Majors Laboratory in Modern Physics

MAJOR IN PHYSICS (60 credits)

U1 Required Courses (21 credits)
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 241 (3) Signal Processing
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2

U2 Required courses (24 credits)
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 328 (3) Electronics
PHYS 331 (3) Topics in Classical Mechanics
PHYS 333 (3) Thermal and Statistical Physics
PHYS 339 (3) Measurements Laboratory in General Physics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 342 (3) Majors Electromagnetic Waves

U3 Required Courses (15 credits)
PHYS 434 (3) Optics
PHYS 436 (3) Modern Physics
PHYS 439 (3) Majors Laboratory in Modern Physics
PHYS 446 (3) Majors Quantum Physics
PHYS 449 (3) Majors Research Project

It is possible for students to transfer from the Major to the Honours program after the U1 year; see the conditions and courses described after the description of the Honours program.

JOINT MAJOR IN PHYSICS AND GEOPHYSICS (69 credits)

The Joint Major program in Physics and Geophysics provides a firm basis for graduate work in geophysics and related fields as well as a sound preparation for those who wish to embark on a career directly after the B.Sc.

U1 Required Courses (30 credits)
EPSC 203 (3) Structural Geology 1
EPSC 210 (3) Introductory Mineralogy
EPSC 231 (3) Field School 1
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2

U2 Required Courses (18 credits)
EPSC 320 (3) Elementary Earth Physics
EPSC 350 (3) Tectonics
MATH 315 (3) Ordinary Differential Equations
MATH 319 (3) Introduction to Partial Differential Equations
PHYS 339 (3) Measurements Laboratory in General Physics
PHYS 340 (3) Majors Electricity and Magnetism

U2 or U3 Required Courses (6 credits)
EPSC 330 (3) Earthquakes and Earth Structure
EPSC 510 (3) Geodynamics and Geomagnetism

U3 Required Courses (15 credits)
PHYS 331 (3) Topics in Classical Mechanics
PHYS 332 (3) Physics of Fluids
PHYS 333 (3) Thermal and Statistical Physics
PHYS 342 (3) Majors Electromagnetic Waves
PHYS 446 (3) Majors Quantum Physics

JOINT MAJOR IN ATMOSPHERIC SCIENCE AND PHYSICS, under "Atmospheric and Oceanic Sciences (ATOC)", in section 14.13.3. This program provides a firm basis for graduate work in atmospheric science and related fields as well as a sound preparation for those who wish to embark on a career directly after the B.Sc. Students should consult undergraduate advisers in both departments.

JOINT MAJOR IN PHYSICS AND COMPUTER SCIENCE (66 credits)

The Joint Major in Physics and Computer Science is designed to give motivated students the opportunity to combine the two fields in a way that will distinguish them from the graduates of either field by itself. The two disciplines complement each other, with physics providing an analytic problem-solving outlook and basic understanding of nature, while computer science enhances the ability to make practical and marketable applications, in addition to having its own theoretical interest. Graduates of this program may be able to present themselves as being more immediately useful than a pure physics major, but with more breadth than just a programmer. They will be able to demonstrate their combined expertise in the Special Project course which is the centrepiece of the final year of the program.

U1 Required Courses (21 credits)
COMP 250 (3) Introduction to Computer Science
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 240 (3) Discrete Structures 1
PHYS 230 (3) Dynamics of Simple Systems
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2

U2 Required Courses (24 credits)
COMP 206 (3) Introduction to Software Systems
COMP 251 (3) Data Structures and Algorithms
COMP 302 (3) Programming Languages and Paradigms
COMP 350 (3) Numerical Computing
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 232 (3) Heat and Waves
PHYS 241 (3) Signal Processing

U3 Required Courses (21 credits)
COMP 360 (3) Algorithm Design Techniques
MATH 323 (3) Probability
PHYS 331 (3) Topics in Classical Mechanics
PHYS 339 (3) Measurements Laboratory in General Physics
PHYS 340 (3) Majors Electricity and Magnetism
PHYS 446 (3) Majors Quantum Physics
PHYS 489 (3) Special Project

JOINT MAJOR IN PHYSIOLOGY AND PHYSICS under "Physiology (PHGY)", in section 14.13.30. This program provides a firm basis for graduate work in bio-physics and other interdisciplinary fields involving the physical and biological sciences.

HONOURS IN PHYSICS (78 credits)

Students entering this program for the first time should have high standing in mathematics and physics. In addition, a student who has not completed the equivalent of MATH 222 must take it in the first term without receiving credits toward the 78 credits required in the Honours program.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C (in both the final examination and supplemental examination if taken), may not register in the Honours program the following year, or graduate with the Honours degree, except with the permission of the Department.

U1 Required Courses (27 credits)
MATH 247 (3) Honours Applied Linear Algebra
MATH 248 (3) Honours Advanced Calculus
MATH 249 (3) Honours Complex Variables
MATH 325 (3) Honours Ordinary Differential Equations
PHYS 241 (3) Signal Processing
PHYS 251 (3) Honours Classical Mechanics 1
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2
PHYS 260 (3) Modern Physics and Relativity

U2 Required Courses (24 credits)
MATH 375 (3) Honours Partial Differential Equations
PHYS 253 (3) Thermal Physics
PHYS 350 (3) Honours Electricity and Magnetism
PHYS 357 (3) Honours Quantum Physics 1
PHYS 359 (3) Honours Laboratory in Modern Physics 1
PHYS 362 (3) Statistical Mechanics
PHYS 451 (3) Honours Classical Mechanics 2
PHYS 457 (3) Honours Quantum Physics 2

U3 Required Courses (6 credits)
PHYS 551 (3) Quantum Theory
PHYS 352 (3) Honours Electromagnetic Waves

U3 Complementary Courses (21 credits)
6 credits selected from:
PHYS 459D1 (3) Honours Research Thesis
and PHYS 459D2 (3) Honours Research Thesis
PHYS 469 (3) Honours Laboratory in Modern Physics 2
PHYS 479 (3) Honours Research Project

15 credits selected from:
PHYS 332 (3) Physics of Fluids
PHYS 434 (3) Optics
PHYS 479 (3) Honours Research Project
PHYS 514 (3) General Relativity
PHYS 521 (3) Astrophysics
PHYS 557 (3) Nuclear Physics
PHYS 558 (3) Solid State Physics
PHYS 559 (3) Advanced Statistical Mechanics
PHYS 562 (3) Electromagnetic Theory
PHYS 567 (3) Particle Physics
PHYS 580 (3) Introduction to String Theory
or other 3-credit course approved by the Department of Physics.

Physics Major students may enter the Honours program after their first year if they have passed all of the following courses with a C or better, and obtained a GPA of 3.5 or better in these courses:
MATH 222 (3) Calculus 3
MATH 223 (3) Linear Algebra
MATH 314 (3) Advanced Calculus
MATH 315 (3) Ordinary Differential Equations
PHYS 230 (3) Dynamics of Simple Systems
PHYS 232 (3) Heat and Waves
PHYS 241 (3) Signal Processing
PHYS 257 (3) Experimental Methods 1
PHYS 258 (3) Experimental Methods 2

The written permission of an adviser is required for this change of program.

Note: The missing MATH 249 and PHYS 260 from the U1 Honours Year should be taken in U2.

JOINT HONOURS IN MATHEMATICS AND PHYSICS (81 credits)

This is a specialized and demanding program intended for students who wish to develop a strong basis in both Mathematics and Physics in preparation for graduate work and a professional or

academic career. Although the program is optimized for theoretical physics, it is broad enough and strong enough to prepare students for further study in either experimental physics or mathematics.

The minimum requirement for entry into the program is completion with high standing of the usual CEGEP courses in physics and in mathematics, or the Physics PreProgram Requirements as explained above. In addition, a student who has not completed the equivalent of MATH 222 must take it in the first term without receiving credits toward the 81 credits required in the Joint Honours program.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C (in both the final examination and supplemental examination if taken), may not register in this Joint Honours program the following year, or graduate with the Joint Honours degree, except with permission of both Departments.

The student will have two advisers, one from Mathematics and the other from Physics.

U1 Required Courses (27 credits)

MATH 235	(3)	Algebra 1
MATH 248	(3)	Honours Advanced Calculus
MATH 249	(3)	Honours Complex Variables
MATH 325	(3)	Honours Ordinary Differential Equations
PHYS 241	(3)	Signal Processing
PHYS 251	(3)	Honours Classical Mechanics 1
PHYS 257	(3)	Experimental Methods 1
PHYS 258	(3)	Experimental Methods 2
PHYS 260	(3)	Modern Physics and Relativity

U1 Complementary Course (3 credits)

3 credits selected from:

MATH 251	(3)	Honours Algebra 2
MATH 247	(3)	Honours Applied Linear Algebra

U2 Required Courses (27 credits)

MATH 242	(3)	Analysis 1
MATH 255	(3)	Honours Analysis 2
MATH 375	(3)	Honours Partial Differential Equations
PHYS 253	(3)	Thermal Physics
PHYS 350	(3)	Honours Electricity and Magnetism
PHYS 357	(3)	Honours Quantum Physics 1
PHYS 362	(3)	Statistical Mechanics
PHYS 451	(3)	Honours Classical Mechanics 2
PHYS 457	(3)	Honours Quantum Physics 2

U3 Required Courses (12 credits)

MATH 354	(3)	Honours Analysis 3
MATH 380	(3)	Honours Differential Geometry
PHYS 352	(3)	Honours Electromagnetic Waves
PHYS 359	(3)	Honours Laboratory in Modern Physics 1

U3 Complementary Courses (12 credits)

3 credits selected from:

MATH 355	(3)	Honours Analysis 4
MATH 370	(3)	Honours Algebra 3

6 credits selected from:

PHYS 479	(3)	Honours Research Project
PHYS 514	(3)	General Relativity
PHYS 551	(3)	Quantum Theory
PHYS 521	(3)	Astrophysics
PHYS 557	(3)	Nuclear Physics
PHYS 558	(3)	Solid State Physics
PHYS 559	(3)	Advanced Statistical Mechanics
PHYS 562	(3)	Electromagnetic Theory
PHYS 567	(3)	Particle Physics
PHYS 580	(3)	Introduction to String Theory

3 credits in Honours Mathematics.

JOINT HONOURS IN PHYSICS AND CHEMISTRY (80 credits)

This is a specialized and demanding program intended primarily, although not exclusively, for students with a theoretical bias who are interested in working in fields of study at the crossroads of physical chemistry and physics. The program will prepare students for either theoretical or experimental graduate work in departments where there is an emphasis on such cross-disciplinary areas as condensed matter physics, chemical physics, or material science.

A student whose average in the required and complementary courses in any year falls below a GPA of 3.00, or whose grade in any individual required or complementary course falls below a C (in both the final examination and supplemental examination if taken), may not register in this Joint Honours program the following year, or graduate with the Joint Honours degree, except with permission of both Departments.

The student will have two advisers, one from Chemistry and the other from Physics.

U1 Required Courses (30 credits)

CHEM 223	(2)	Introductory Physical Chemistry 1
CHEM 243	(2)	Introductory Physical Chemistry 2
CHEM 253	(1)	Introductory Physical Chemistry 1 Laboratory
CHEM 263	(1)	Introductory Physical Chemistry 2 Laboratory
MATH 247	(3)	Honours Applied Linear Algebra
MATH 248	(3)	Honours Advanced Calculus
MATH 249	(3)	Honours Complex Variables
MATH 325	(3)	Honours Ordinary Differential Equations
PHYS 241	(3)	Signal Processing
PHYS 251	(3)	Honours Classical Mechanics 1
PHYS 257	(3)	Experimental Methods 1
PHYS 258	(3)	Experimental Methods 2

U2 Required Courses (24 credits)

CHEM 212	(4)	Introductory Organic Chemistry 1
CHEM 281	(3)	Inorganic Chemistry 1
CHEM 355	(3)	Molecular Properties and Structure 2
CHEM 365	(2)	Statistical Thermodynamics
COMP 208	(3)	Computers in Engineering
PHYS 350	(3)	Honours Electricity and Magnetism
PHYS 357	(3)	Honours Quantum Physics 1
PHYS 457	(3)	Honours Quantum Physics 2

U3 Required Courses (14 credits)

CHEM 393	(2)	Physical Chemistry Laboratory 2
CHEM 556	(3)	Advanced Quantum Mechanics
CHEM 574	(3)	Introductory Polymer Chemistry
PHYS 352	(3)	Honours Electromagnetic Waves
PHYS 558	(3)	Solid State Physics

U3 Complementary Courses (12 credits)

(with at least 3 credits in Chemistry and 3 credits in Physics)

3 credits selected from:

CHEM 593	(3)	Statistical Mechanics
PHYS 559	(3)	Advanced Statistical Mechanics

9 credits selected from:

CHEM 480D1 /D2 and CHEM 490D1/D2	(3) (3)	Research Project 2 Research Project 3
CHEM 531	(3)	Chemistry of Inorganic Materials
CHEM 575	(3)	Chemical Kinetics
CHEM 585	(3)	Colloid Chemistry
MATH 375	(3)	Honours Partial Differential Equations
PHYS 434	(3)	Optics
PHYS 451	(3)	Honours Classical Mechanics 2
PHYS 469	(3)	Honours Laboratory in Modern Physics 2
PHYS 479	(3)	Honours Research Project
PHYS 562	(3)	Electromagnetic Theory

MINOR IN ELECTRICAL ENGINEERING (24 credits)
[Program registration done by Student Affairs Office]

The Minor program does not carry professional recognition. Only students who satisfy the requirements of the Major in Physics are eligible for this Minor. Students registered for this option cannot count PHYS 241 towards the requirements of the Major in Physics, and should replace this course by another Physics or Mathematics course. Students who select ECSE 334 in the Minor cannot count PHYS 328 towards the requirements of the Major in Physics, and should replace this course by another Physics or Mathematics course.

Required Courses (12 credits)
ECSE 200 (3) Fundamentals of Electrical Engineering
ECSE 210 (3) Circuit Analysis
ECSE 303 (3) Signals and Systems 1
ECSE 330 (3) Introduction to Electronics

Complementary Courses (12 credits)
ECSE 305 (3) Probability and Random Sig. 1
or ECSE 334 (3) Introduction to Microelectronics

and 9 credits of ECSE courses at the 200-, 300-, or 400-level subject to approval by the Department of Electrical and Computer Engineering.

14.13.30 Physiology (PHGY)

McIntyre Medical Sciences Building, Room 1021
3655 Promenade Sir William Osler
Montreal, QC H3G 1Y6

Telephone: 514-398-4316
Fax: 514-398-7452
Website: www.medicine.mcgill.ca/physio

Chair — John Orlowski

Emeritus Professors
G. Melvill Jones; B.A., M.A., M.B., B.Ch., M.D.(Cant.)
Kresmir Krnjevic; O.C., B.Sc., Ph.D., M.B., Ch.B.(Edin.), F.R.S.C.
Thomas M.S. Chang; B.Sc., M.D.,C.M., Ph.D.(McG.), F.R.C.P.(C)

Professors
Monroe W. Cohen; B.Sc., Ph.D.(McG.)
Ellis J. Cooper; B.Eng.(Sir G. Wms.), M.Sc.(Surrey), Ph.D.(McM.)
Kathleen Cullen; B.Sc.(Brown), Ph.D.(Chic.) (*William Dawson Scholar*)
Leon Glass; B.S.(Brooklyn), Ph.D.(Chic.) (*Isadore Rosenfeld Professor of Cardiology*)
Phil Gold; C.C., B.Sc., M.Sc., Ph.D., M.D.,C.M.(McG.), F.R.C.P.(C.), F.R.S.C. (*joint appoint. with Medicine*)
David Goltzman; B.Sc., M.D.,C.M.(McG.) (*Antoine G. Massabki Professor of Medicine*) (*joint appoint. with Medicine)*
John Hanrahan; Ph.D.(Br. Col.)
Mortimer Levy; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C) *(joint appoint. with Medicine)*
Gergely Lukacs; M.D., Ph.D.(Budapest)
Michael Mackey; B.A., Ph.D.(Wash.) (*Joseph Morley Drake Professor of Physiology*)
Jacapo P. Mortola; M.D.(Milan)
John Orlowski; B.Sc.(McG.), M.Sc., Ph.D.(Qu.) (*James McGill Professor*)
Premsyl Ponka; M.D., Ph.D.(Prague)
Alvin Shrier; B.Sc.(C'dia), Ph.D.(Dal.) (*Hosmer Professor of Physiology*)
Douglas G.D. Watt; M.D., Ph.D.(McG.)

Assistant Professors
Erik Cook; Ph.D.(Baylor College, Houston)
Maurice Chacron; Ph.D.(Ott.)
Julie Desbarats; Ph.D.(McG.)
Pejmun Haghighi; Ph.D.(McG.)
Russell Jones; Ph.D.(Tor.)
Julio Martinez-Trujillo; Ph.D.(Tübingen)

Associate Professors
Riaz Farookhi; B.Sc., M.Sc.(MIT), Ph.D.(Tufts)
Mladen Glavinovic; B.Sc.(Zagreb), M.Sc.(Tor.), Ph.D.(McG.)
Michael Guevara; B.Sc., M.Eng., Ph.D.(McG.)
Sheldon Magder; M.D.(Tor.) (*joint appoint. with Medicine*)
Ursula Stochaj; Ph.D.(Cologne)
Teresa Trippenbach; M.D., Ph.D.(Warsaw)
Ann Wechsler; B.A.(Tor.), M.Sc., Ph.D.(McG.)
John White; B.Sc., M.Sc.(Car.), Ph.D.(Harv.)

Associate Professor (Part Time)
Nicole Bernard; B.Sc.(McG.), Ph.D.(Duke)

Associate Members
Anaesthesia: Steven Backman, Fernando Cervero
Biomedical Engineering: Robert E. Kearney, Satya Prakash
Electrical and Computer Engineering: Sam Musallam
Kinesiology and Physical Education: Dilson Rassier
Medicine: Albert Aguayo, Volker Blank, Mark Blostein, Andrey Cybulsky, Abraham Fuks, Claude Gagnon, Raymonde Gagnon, Imed Gallouzi, Harry Goldsmith, Geoffrey Hendy, Louise Larose, Anne Marie Lauzon, James Martin, Shree Mulay, Mariana Newkirk, Barry Posner, Shafaat Rabbani, Mary Stevenson, Simon Wing, Hans Zingg
Nephrology: Serge Lemay, Tomoko Takano
Neurology: David Ragsdale
Neurology & Neurosurgery: Jack Antel, Massimo Avoli, Charles Bourque, Sal T. Carbonetto, Daniel Guitton, Christopher Pack, Melissa Vollrath
Ophthalmology: Curtis Baker
Otolaryngology: Bernard Segal
Pediatrics: Charles Rohlicek
Pharmacology: Terence Hebert
Psychiatry: Nicolas Cermakian, Bernardo Dubrovsky, Christina Gianoulakis

Adjunct Professors
Roy Caplan, Montreal
Pierre Drapeau, Montreal
John Milton, Chicago
Serge Rossignol, Montreal
Malmur R.I. Sairam, Montreal

Adjunct Member
Peter Swain, London

Physiology has its roots in many of the basic sciences including biology, chemistry, mathematics, and physics. Physiology overlaps with other biomedical sciences such as anatomy, biochemistry, pathology and pharmacology, and with psychology and biomedical engineering, and is one of the prime contributors of basic scientific knowledge to the clinical medical sciences.

Members of the Department of Physiology at McGill are engaged in studies dealing with molecules, single cells, or entire systems in a variety of vertebrates, including man. A wide range of interest and expertise is represented, including cardiovascular, respiratory, gastrointestinal and renal physiology, the physiology of exercise, neurophysiology, endocrinology, immunology, biophysics and biomathematics. Some faculty members have formal or informal links with the departments of mathematics, physics, electrical engineering, and chemistry, and with clinical departments (medicine, surgery, pediatrics, neurology, obstetrics, psychiatry, anesthesia), reflecting and reinforcing the close ties between physiology and other disciplines.

Graduates at the B.Sc. level have found rewarding careers in teaching, in secondary schools and CEGEPs, government service, and laboratory technical assistance, such as in pharmaceutical houses, hospitals, and institutions of higher learning. Moreover, physiology provides an excellent background for medicine, dentistry or other postgraduate work, in such fields as physiology, experimental medicine, pharmacology, biochemistry or physiological psychology.

The programs offered in Physiology differ in their orientation but they all have a common core of material covering cardiovascular, respiratory, gastrointestinal and renal physiology, neurophysiology, endocrinology and immunology. The specified U1 courses

are identical for all programs except the Joint Major Programs in Physiology and Physics, Physiology and Mathematics, and the Joint Honours Program in Immunology and thus afford the student maximal flexibility before deciding on a particular program to follow in U2 and U3.

Academic advising is compulsory. All new students to the Department, Freshman and CEGEP, must see an adviser upon entering the program. Contact the Student Affairs Officer at 514-398-3689 for more information.

Returning students are required to consult with their advisers during the advising period for returning students, and regularly throughout the year. It is important that graduating students have their record checked by their adviser at the beginning of their final year.

PLEASE NOTE: Complementary courses are not electives. The difference between Complementary courses and Required courses is that Complementary courses are defined as offering an element of choice, however small that choice may be. Students may choose from the two (or more) courses specified within Complementary Course segments of a program description, but ONLY from those. For further information, refer to "Course Information, Regulations and Descriptions".

A Science Major Concentration in Biomedical Sciences is available to students pursuing the B.A. & Sc. degree. This Major Concentration is described in the Bachelor of Arts and Science section of the Calendar; see "Biomedical Sciences", in section 7.12.4 for details.

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN PHYSIOLOGY (50 credits)

Required Courses (38 credits)

BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
BIOL 301	(4)	Cell and Molecular Laboratory
CHEM 212*	(4)	Introductory Organic Chemistry 1
CHEM 222*	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience

* Students who have taken CHEM 212 and/or CHEM 222 in CEGEP are exempted and must replace these credits with an elective course(s).

Complementary Courses (12 credits)

6 credits selected from:

BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 373	(3)	Biometry
or BIOL 309	(3)	Mathematical Models in Biology

6 credits selected from upper-level physiology courses – see approved list on Department website.

MAJOR IN PHYSIOLOGY (64-65 credits)

The Major Program includes, in addition to some intensive studies in Physiology, a strong core content of related biomedical sciences. Admission to the Major Program will be in U2, upon completion of the U1 required courses, and in consultation with the student's adviser.

If not previously taken CHEM 212 “Introductory Organic Chemistry 1” must be completed in addition to the 64-65 program credits.

U1 Required Courses (18 credits)

BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
CHEM 222	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2

U2 and U3 Required Courses (19 credits)

PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
BIOL 301	(4)	Cell and Molecular Laboratory
BIOC 311	(3)	Metabolic Biochemistry

Complementary Courses (27-28 credits)

12-13 credits selected from:

BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 373	(3)	Biometry
or BIOL 309	(3)	Mathematical Models in Biology
CHEM 203	(3)	Survey of Physical Chemistry
or CHEM 204	(3)	Physical Chemistry/Biological Sciences 1
ANAT 214	(3)	Systemic Human Anatomy
or ANAT 261	(4)	Introduction to Dynamic Histology

9 credits selected from upper-level physiology courses – see approved list on Department website.

6 credits selected from upper-level science courses – see approved list on Department website.

JOINT MAJOR IN PHYSIOLOGY AND MATHEMATICS (77 credits)

U1 Required Courses (14 credits)

PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2
MATH 222	(3)	Calculus 3
MATH 247	(3)	Honours Applied Linear Algebra
or MATH 223	(3)	Linear Algebra
BIOL 200	(3)	Molecular Biology
BIOL 309	(3)	Mathematical Models in Biology

U1 Complementary Courses (15 credits)

9 credits selected from:

BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
PHGY 209	(3)	Mammalian Physiology 1
and PHGY 210	(3)	Mammalian Physiology 2
or PHGY 201	(3)	Human Physiology: Control Systems
and PHGY 202	(3)	Human Physiology: Body Functions

6 credits selected from:

MATH 248	(3)	Honours Advanced Calculus
or MATH 314	(3)	Advanced Calculus
MATH 325	(3)	Honours Ordinary Differential Equations
or MATH 315	(3)	Ordinary Differential Equations

U2 Required Courses (24 credits)

MATH 242	(3)	Analysis 1
MATH 243	(3)	Analysis 2
MATH 323	(3)	Probability
MATH 326	(3)	Nonlinear Dynamics and Chaos
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience

U2 or U3 Required Courses (6 credits)

MATH 437	(3)	Mathematical Methods in Biology
PHYS 413	(3)	Physical Basis of Physiology

U3 Required Courses (18 credits)

BMDE 519	(3)	Analysis of Biomedical Systems & Signals
MATH 319	(3)	Introduction to Partial Differential Equations
MATH 324	(3)	Statistics
PHGY 461D1	(4.5)	Experimental Physiology
PHGY 461D2	(4.5)	Experimental Physiology

JOINT MAJOR IN PHYSIOLOGY AND PHYSICS (80 credits)

This program provides a firm foundation in physics, mathematics and physiology. It is appropriate for students interested in applying methods of the physical sciences to problems in physiology and allied biological sciences.

U1 Required Courses (17 credits)

MATH 222	(3)	Calculus 3
PHGY 212*	(1)	Introductory Physiology Laboratory 1
PHGY 213*	(1)	Introductory Physiology Laboratory 2
PHYS 230	(3)	Dynamics of Simple Systems
PHYS 232	(3)	Heat and Waves
PHYS 257	(3)	Experimental Methods 1
PHYS 258	(3)	Experimental Methods 2

U1 Complementary Courses (9 credits)

MATH 223	(3)	Linear Algebra
or MATH 247	(3)	Honours Applied Linear Algebra
PHGY 209	(3)	Mammalian Physiology 1
and PHGY 210*	(3)	Mammalian Physiology 2
or PHGY 201	(3)	Human Physiology: Control Systems
and PHGY 202	(3)	Human Physiology: Body Functions

* The corequisite BIOL 200, BIOL 201 is waived for this program.

U2 Required Courses (21 credits)

MATH 326	(3)	Nonlinear Dynamics and Chaos
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
PHYS 328	(3)	Electronics
PHYS 339	(3)	Measurements Laboratory in General Physics

U2 Complementary Course (6 credits)

MATH 315	(3)	Ordinary Differential Equations
or MATH 325	(3)	Honours Ordinary Differential Equations
MATH 314	(3)	Advanced Calculus
or MATH 248	(3)	Honours Advanced Calculus

U2 or U3 Required Courses (6 credits)

MATH 437	(3)	Mathematical Methods in Biology
PHYS 413	(3)	Physical Basis of Physiology

U3 Required Courses (21 credits)

BMDE 519	(3)	Analysis of Biomedical Systems and Signals
PHGY 461D1	(4.5)	Experimental Physiology
PHGY 461D2	(4.5)	Experimental Physiology
PHYS 333	(3)	Thermal and Statistical Physics
PHYS 340	(3)	Majors Electricity and Magnetism
PHYS 446	(3)	Majors Quantum Physics

HONOURS IN PHYSIOLOGY (75 credits)

All admissions to the Honours program will be in U2, and the student must have a U1 GPA of 3.30, with no less than a B in PHGY 209 and PHGY 210. Admission to U3 requires a U2 CGPA of 3.20 with no less than a B in U2 Physiology courses. Decisions for admission to U3 will be heavily influenced by student standing in U2 courses.

The Department reserves the right to restrict the number of entering students in the Honours program. Students who do not maintain Honours standing may transfer their registration to the Major Program in Physiology.

The deadline to apply to the Honours Program is June 1. Application forms are available in McIntyre 1021. Students should include in their letters telephone numbers where they can be reached during the last week of August. Students are responsible for picking up their letters of decision in McIntyre 1021 no later than one week before classes start.

Graduation: To graduate from the Honours Physiology Program the student will have a CGPA of 3.20 with a mark no less than a B in all Physiology courses.

If not previously taken CHEM 212 Introductory Organic Chemistry 1 must be completed in addition to the 75 program credits.

Required Courses (60 credits)

ANAT 261	(4)	Introduction to Dynamic Histology
BIOC 311	(3)	Metabolic Biochemistry
BIOL 200	(3)	Molecular Biology
BIOL 202	(3)	Basic Genetics
BIOL 301	(4)	Cell and Molecular Laboratory
CHEM 222	(4)	Introductory Organic Chemistry 2
PHGY 209	(3)	Mammalian Physiology 1
PHGY 210	(3)	Mammalian Physiology 2
PHGY 212	(1)	Introductory Physiology Laboratory 1
PHGY 213	(1)	Introductory Physiology Laboratory 2
PHGY 311	(3)	Channels, Synapses & Hormones
PHGY 312	(3)	Respiratory, Renal, & Cardiovascular Physiology
PHGY 313	(3)	Blood, Gastrointestinal, & Immune Systems Physiology
PHGY 314	(3)	Integrative Neuroscience
PHGY 351	(3)	Research Techniques: Physiology
PHGY 359D1	(.5)	Tutorial in Physiology
PHGY 359D2	(.5)	Tutorial in Physiology
PHGY 459D1	(3)	Physiology Seminar
PHGY 459D2	(3)	Physiology Seminar
PHGY 461D1	(4.5)	Experimental Physiology
PHGY 461D2	(4.5)	Experimental Physiology

Complementary Courses (15 credits)

9 credits selected from:

BIOL 201	(3)	Cell Biology and Metabolism
or BIOC 212	(3)	Molecular Mechanisms of Cell Function
BIOL 373	(3)	Biometry
or BIOL 309	(3)	Mathematical Models in Biology
CHEM 203	(3)	Survey of Physical Chemistry
or CHEM 204	(3)	Physical Chemistry/Biological Sciences 1

6 credits selected from upper-level physiology courses – see approved list on Department website.

INTERDEPARTMENTAL HONOURS IN IMMUNOLOGY, under "Immunology Interdepartmental Honours", in section 14.13.17. This program is offered by the Departments of Biochemistry, Microbiology and Immunology, and Physiology. Students interested in the program should contact Dr. C. Piccirillo, Microbiology and Immunology, ciro.piccirillo@mcgill.ca, 514-398-2872 or Dr. Monroe Cohen, Physiology, monroe.cohen@mcgill.ca, 514-398-4342.

14.13.31 Psychiatry (PSYT)

There are no B.Sc. programs in Psychiatry, but the PSYT courses listed in the Courses section of this Calendar are administered by the Faculty of Science and are open to Arts and Science students and to graduate students.

14.13.32 Psychology (PSYC)

Stewart Biological Sciences Building, Room W8/1
1205 avenue Docteur Penfield
Montreal, QC H3A 1B1

Telephone: 514-398-6100
Fax: 514-398-4896
Email: info@psych.mcgill.ca
Website: www.psych.mcgill.ca

Chair — K. Franklin

Emeritus Professors
Albert S. Bregman; M.A.(Tor.), Ph.D.(Yale)
Virginia I. Douglas; B.A.(Qu.), M.A., M.S.W., Ph.D.(Mich.)
Wallace E. Lambert; M.A.(Colgate), Ph.D.(N.Carolina), F.R.S.C.
A.A.J. Marley; B.Sc.(Birm.), Ph.D.(Penn.)
Ronald Melzack; M.Sc., Ph.D.(McG.), F.R.S.C. (*E.P. Taylor Emeritus Professor of Psychology*)
Peter M. Milner; B.Sc.(Leeds), M.Sc., Ph.D.(McG.)

Professors
Frances E. Aboud; B.A.(Tor.), M.A., Ph.D.(McG.)
Mark Baldwin; B.A.(Tor.), M.A., Ph.D.(Wat.)
Irving M. Binik; B.A.(NYU), B.H.L.(Jewish Theological Seminary), M.A., Ph.D.(Penn.)
Avi Chaudhuri; B.Sc., M.Sc.(Tor.), Ph.D.(Calif., Berk.) (*James McGill Professor*)
Blaine Ditto; B.S.(Iowa), Ph.D.(Ind.)
Keith B.J. Franklin; B.A., M.A.(Auck.), Ph.D.(Lond.)
Fred H. Genesee; B.A.(W. Ont.), M.A., Ph.D.(McG.)
Richard F. Koestner; B.A., Ph.D.(Roch.)
John Lydon; B.A.(Notre Dame), M.A., Ph.D.(Wat.)
Jeffrey S. Mogil; B.Sc.(Tor.), Ph.D.(Calif.-LA) (*E.P. Taylor Professor of Psychology and Canada Research Chair in Genetics of Pain*)
Debbie S. Moskowitz; B.S.(Kirkland), M.A., Ph.D.(Conn.)
Yuriko Oshima-Takane; B.A., M.A.(Tokyo), Ph.D.(McG.)
David J. Ostry; B.A.Sc., M.A.Sc., Ph.D.(Tor.)
Caroline Palmer; B.Sc.(Mich.), M.Sc.(Rutg.), Ph.D.(C'nell) *(Canada Research Chair in Cognitive Neuropsychology of Performance)*
Michael Petrides; B.Sc., M.Sc.(Lond.), Ph.D.(Cant.) (*joint appoint. with Neurology and Neurosurgery)*
Robert O. Pihl; B.A.(Lawrence), Ph.D.(Ariz.)
James O. Ramsay; B.Ed.(Alta.), Ph.D.(Prin.)
Barbara B. Sherwin; B.A., M.A., Ph.D.(C'dia) (*James McGill Professor, CIHR Distinguished Scientist*)
Thomas R. Shultz; B.A.(Minn.), Ph.D.(Yale)
Michael J.L. Sullivan; B.A.(McG.), M.A., Ph.D.(C'dia)
Yoshio Takane; B.L., M.A.(Tokyo), Ph.D.(N. Carolina)
Donald M. Taylor; B.A., M.A., Ph.D.(W. Ont.)
Norman M. White; B.A.(McG.), M.S., Ph.D.(Pitt.)
David C. Zuroff; B.A.(Harv.), M.A., Ph.D.(Conn.)

Associate Professors
John R.Z. Abela; B.A.(Brown), M.A., Ph.D.(Penn.) *(William Dawson Scholar)*
A.G. Baker; B.A.(Br. Col.), M.A., Ph.D.(Dal.)
Evan S. Balaban; B.A.(Mich. St.), Ph.D.(Rockefeller)
Don C. Donderi; B.A., B.Sc.(Chic.), Ph.D.(C'nell)
Baerbel Knaeuper; Dipl., Dr. phil.(U. of Mannheim), Dr. phil. habil.(Free Univ., Berlin)
Daniel J. Levitin; A.B.(Stan.), M.S., Ph.D.(Ore.) (*FCAR/FQRNT Strategic Professor, Bell Professor of Psychology and E-Commerce*)
James C. Macdougall; B.A.(Car.), M.A., Ph.D.(McG.) (*part-time*)
Morton J. Mendelson; B.Sc.(McG.), A.M., Ph.D.(Harv.)
Karim Nader; B.Sc., Ph.D.(Tor.) *(William Dawson Scholar and Alfred Sloan Fellow, CIHR New Investigator)*
Gillian A. O'Driscoll; B.A.(Welles.), M.A., Ph.D.(Harv.) (*William Dawson Scholar*)
Debra Titone; B.A.(NY), M.A., Ph.D.(SUNY, Binghamton) *(Canada Research Chair in Cognitive Neuroscience of Language and Memory)*

Assistant Professors
Ian F. Bradley; B.Sc., M.Sc.(Tor.), Ph.D.(Wat.) (*part-time*)
Yogita Chudusama; B.Sc., Ph.D.(Cardiff Univ.)
Heungsun Hwang; B.A.(Chung-Ang Univ), Ph.D.(McG.)
Kristine Onishi; B.A.(Brown), M.A., Ph.D.(Ill.)
Zeev Rosberger; B.Sc.(McG.), M.A., Ph.D.(C'dia) (*part-time*)

Lecturers
Rhonda Amsel; B.Sc., M.Sc.(McG.)
Paola Carvajal; B.Sc.(C'dia), M.A.(McG.)

Associate Members
Clinical Research Institute of Montreal: Terrance J. Coderre
Douglas Hospital: Howard Steiger
Desautels Faculty of Management (McG.): Ulf Bockenholt
Montreal Neurological Institute: Lesley Fellows, Marilyn Jones-Gotman, Daniel Guitton, Brenda Milner, Edward Ruthazer, Wayne Sossin, Viviane Sziklas, Robert Zatorre
Psychiatry: Frances Abbott, Marco Leyton, Amir Raz
Vision Research Unit (Ophthalmology): Curtis Baker, Robert Hess, Frederick A.A. Kingdom, Kathleen Mullen
Music Faculty: Stephen McAdams

Adjunct Professors
M. Bruck; B.A.(Wheaton), M.A., Ph.D.(McG.)
S. Burstein; B.Sc.(McG.), M.A., Ph.D.(Wat.)
P. Delise; B.Sc., M.Ps., Ph.D.(Montr.)
P. Gregoire; B.A.(College St. Marie), B.Ph., L.Ph., Ph.D.(Montr.)
Moon-Ho R. Ho; B.Sc., M.Phil.(Chinese Univ. of Hong Kong), M.S., Ph.D.(Ill.)
Z. Pleszewski; M.A., Ph.D.(Poznan)
A. Routtenberg; B.A.(McG.), M.A.(N'western), Ph.D.(Mich.)
D. Sookman; B.A.(McG.), M.A.(Guelph), Ph.D.(C'dia)
M. Spevack; B.Sc.(McG.), M.A.(Dal.), Ph.D.(McG.)
A. Surkis; Ph.D.(Montr.)
P. Zelazo; B.A.(Amer.Int'l. Coll.), M.S.(N. Carolina), Ph.D.(Wat.)

Part-time Appointments
Veronique Bohbot; B.A.(McG.), M.A., Ph.D.(Ariz.)
Elizabeth Foley; B.A.(Tor.), Ph.D.(McG.)
Judith LeGallais; B.A., M.A., Ph.D.(McG.)
Marco Leyton; B.Sc.(Nlfd.), M.A., Ph.D.(C'dia)
Sazzad Nasir; B.Sc.(Dhaka), Ph.D.(Camb.)
Zbigniew Pleszewski; M.A., Ph.D.(Poznan)
Marjorie Rabiau; B.Sc.(Alta.), Ph.D.(McG.)
Maria Rajah; B.Sc., M.A., Ph.D.(Tor.)
Stephen Stotland; B.A.(C'dia), M.A.(Tor.), Ph.D.(McG.)

The Department of Psychology offers programs in both Arts and Science. All B.A. programs in Psychology can be found in the Faculty of Arts entry, see section 6.12.43 "Psychology (PSYC)".

Psychology is the scientific study of mind and behaviour. It is both a social and a biological science. As a social science, psychology studies social interactions. As a biological science, it regards humans as the product of evolution and so studies them in biological perspective, comparing and contrasting human behaviour with that of other species.

The data of psychology are collected within the psychological laboratory by the use of experimental methods in the study of behaviour, and outside the laboratory by systematic observation of the behaviour of humans and animals. The aim is to formulate general principles of perception, learning, motivation, cognition and social psychology that are relevant to different aspects of human life. Experimentation, laboratory techniques, observational procedures, measurement, and statistical methods are important tools of the psychologist.

Psychology has many interdisciplinary aspects. The study of psychological problems often involves knowledge drawn from other disciplines such as biology, physiology, linguistics, sociology, philosophy, and mathematics. For this reason a student with varied interests can frequently find a place for these in psychology.

Psychology is a young science so that explanations of the processes underlying observed phenomena are often theoretical and speculative. The major objectives of psychological study are to

reduce the discrepancy between theory and fact and to provide better answers about why humans think and behave as they do.

Although a number of undergraduate courses in psychology have applied implications, applied training is not the purpose of the undergraduate curriculum. Its purpose is to introduce the student to an understanding of the basic core of psychological knowledge, theory, and method, regardless of questions of practical application.

The B.Sc. or B.A. with a Major or Honours degree in psychology is not a professional qualification. It does not qualify the individual to carry on professional work in psychology. In the Province of Quebec the minimum requirement for membership in the Order of Psychologists, the professional association governing the work of psychologists in the province, is a doctoral degree. All students planning to practise in the Province of Quebec will be examined on their proficiency in French before being admitted to the professional association. Undergraduate courses in psychology may prove of considerable value to students planning careers in professional fields other than psychology. These include but are not restricted to medicine, education, social work, human communication sciences, or business and industry.

Students who are interested in psychology as a career must pursue graduate studies. Persons who hold graduate degrees in psychology, usually the Ph.D., may find employment in universities, research institutes, hospitals, community agencies, government departments, large corporations, or may act as self-employed consultants. At the graduate level, psychology has many specialized branches including social psychology, physiological psychology, experimental psychology, clinical psychology, child psychology, industrial psychology, community psychology, educational psychology, and others.

Requirements for admission to graduate studies in psychology vary from one university to another and from one country to another. Nonetheless, both the Honours and Major degrees in psychology *may* qualify the student for admission to many graduate schools, provided that sufficiently high grades are obtained and, in some cases, that research experience has been obtained. During the U2 year, undergraduate students are strongly advised to verify the admission requirements of various graduate programs. This is to ensure that sufficient time is available for students to complete all necessary requirements for admission to their preferred graduate programs.

The essential differences between the Honours and the Major program are an emphasis on research methodology courses and practice in the Honours program, and that higher academic standards are required of Honours students. Honours students also have an opportunity to work in small groups closely with staff members.

INFORMATION MEETINGS FOR NEW STUDENTS

All new students entering the Psychology undergraduate program are required to attend an Information Meeting prior to registration. Students who have been accepted into a Bachelor of Science program in Psychology **must** attend one of these meetings. Newly admitted students from CEGEPs should attend the information session on Wednesday, June 17, 2009 at 11:30 a.m. in room N2/2 in the Stewart Biological Sciences building. There will be an identical information session on Monday, August 24, 2009 at 2:30 p.m. in room N2/2 in the Stewart Biological Sciences building for all other students, and for any CEGEP students who could not attend the earlier meeting. Students accepted into a Bachelor of Arts program must attend a different information meeting. (For details, see section 6.12.43 “Psychology (PSYC)”.) At this meeting, Jessey Bernstein, the academic adviser, will explain the requirements of the Department's programs. Incoming students will have an opportunity to ask questions and receive advice on how to plan their courses. After this meeting students will make appointments for individual advising sessions, and fill out their Study Plan form for registration.

Entering students must bring their letter of acceptance and a copy of their collegial transcript(s). They will also need access to this Calendar and a preliminary Class Schedule before their individual advising session. Students will also find the *Psychology Department Handbook* helpful. It contains more detailed descriptions of psychology courses and provides guidelines for how students might pursue particular areas of interest. The Handbook is available on the Department website, www.psych.mcgill.ca/ugrad/ugradm.htm.

Students entering the Psychology program in January are strongly encouraged to visit the academic adviser, Jessey Bernstein, in early December to clarify their course selections.

MINOR IN PSYCHOLOGY (24 credits)

A Minor program in Psychology is available to students registered in any B.Sc. program (other than Psychology). This program is intended to complement a student's primary field of study by providing a focused introduction to specialized topics in psychology.

A separate Minor Concentration exists for students registered in a program in the Faculty of Arts. Please see section 6.12.43 “Psychology (PSYC)” in Faculty of Arts section for more information.

The Minor program for Science students requires the completion of 24 credits, of which no more than 6 may overlap with the primary program. All courses in the Minor program must be passed with a minimum grade of C. A prerequisite to the program is PSYC 204 or equivalent, see section 14.3.6.1 “Course Overlap”.

Complementary Courses (24 credits)

at least 3, but no more than 6, credits selected from:

PSYC 211	(3)	Intro Behavioural Neuroscience
PSYC 212	(3)	Perception
PSYC 213	(3)	Cognition
PSYC 215	(3)	Social Psychology

18-21 credits selected from among Psychology courses at the 300 level or above

LIBERAL, MAJOR AND HONOURS PROGRAMS IN PSYCHOLOGY

Recommended Background

It is expected that most students who enter a Major or Honours Program in Psychology will have taken introductory psychology, biology and statistics at the collegial level. Recommended CEGEP courses include Psychology 350-101 or 350-102 or equivalent, Biology CEGEP objective 00UK, 00XU or equivalent, Statistics (Mathematics) 201-307 or 201-337 or equivalent. Students must obtain a minimum grade of 75% in their CEGEP level statistics course. In the first year those students who have not taken the recommended collegial level statistics course, or those who have obtained a grade below 75%, must take Psychology PSYC 204. Those who have not taken the recommended collegial level biology must take BIOL 111 or BIOL 112, and those who have not taken Introductory Psychology in college must take PSYC 100.

Course Groups: List A and List B

The study of psychology covers many fields. To develop a breadth of understanding in psychology, students are expected to obtain knowledge beyond the introductory level in two or more areas of psychology. To ensure this requirement is met, Psychology courses are divided into two lists. List A covers the areas of behavioural neuroscience, cognition and quantitative methods. List B covers social, health and developmental psychology.

List A
(Behavioural Neuroscience, Cognition and Quantitative Methods)

NSCI 201*	(3)	Introduction to Neuroscience 2
PSYC 301	(3)	Animal Learning and Theory
PSYC 310	(3)	Human Intelligence
PSYC 311	(3)	Human Cognition and the Brain
PSYC 315	(3)	Computational Psychology
PSYC 317	(3)	Genes and Behaviour
PSYC 318	(3)	Behavioural Neuroscience 2
PSYC 329	(3)	Introduction to Auditory Cognition
PSYC 340	(3)	Psychology of Language
PSYC 341	(3)	The Psychology of Bilingualism
PSYC 342	(3)	Hormones and Behaviour
PSYC 352	(3)	Cognitive Psychology Laboratory
PSYC 353	(3)	Laboratory in Human Perception

PSYC 403 (3) Modern Psychology in Historical Perspective
PSYC 406 (3) Psychological Tests
PSYC 410 (3) Special Topics in Neuropsychology
PSYC 413 (3) Cognitive Development
PSYC 427 (3) Sensorimotor Behaviour
PSYC 451 (3) Human Factors Research and Techniques
PSYC 470 (3) Memory and Brain
PSYC 502 (3) Psychoneuroendocrinology
PSYC 505 (3) The Psychology of Pain
PSYC 510 (3) Statistical Analysis of Tests
PSYC 522 (3) Neurochemistry and Behaviour
PSYC 526 (3) Advances in Visual Perception
PSYC 529 (3) Music Cognition
PSYC 531 (3) Structural Equation Models
PSYC 532 (3) Cognitive Science
PSYC 536 (3) Correlational Techniques
PSYC 537 (3) Advanced Seminar in Psychology of Language
PSYC 541 (3) Multilevel Modelling
PSYC 545 (3) Topics in Language Acquisition
PSYC 561 (3) Methods: Developmental Psycholinguistics
PSYC 562 (3) Measurement of Psychological Processes

* Advising Notes Regarding PSYC 308 and NSCI 201:
PSYC 308 is not currently offered but can be substituted with the equivalent course NSCI 201.
In all cases, PSYC 308 and NSCI 201 should be considered interchangeable with respect to prerequisite, exemption, etc., requirements.
Students who have taken PSYC 308 should not take NSCI 201.

List B (Social, Health and Developmental Psychology)
PSYC 304 (3) Child Development
PSYC 316 (3) Psychology of Deafness
PSYC 331 (3) Inter-Group Relations
PSYC 332 (3) Introduction to Personality
PSYC 333 (3) Personality and Social Psychology
PSYC 337 (3) Introduction: Abnormal Psychology 1
PSYC 338 (3) Introduction: Abnormal Psychology 2
PSYC 343 (3) Language Acquisition in Children
PSYC 351 (3) Research Methods in Social Psychology
PSYC 408 (3) Principles of Cognitive Behaviour Therapy
PSYC 409 (3) Positive Psychology
PSYC 412 (3) Developmental Psychopathology
PSYC 414 (3) Social Development
PSYC 416 (3) Advanced Topics in Child Development
PSYC 429 (3) Health Psychology
PSYC 436 (3) Human Sexuality and its Problems
PSYC 471 (3) Human Motivation
PSYC 473 (3) Social Cognition and the Self
PSYC 474 (3) Interpersonal Relationships
PSYC 491D1 (3) Advanced Study: Behavioural Disorders
PSYC 491D2 (3) Advanced Study: Behavioural Disorders
PSYC 507 (3) Emotions, Stress, and Illness
PSYC 511 (3) Infant Competence
PSYC 512 (3) Advanced Personality Seminar
PSYC 528 (3) Vulnerability to Depression
PSYC 530 (3) Applied Topics in Deafness
PSYC 533 (3) International Health Psychology
PSYC 535 (3) Advanced Topics in Social Psychology

Unclassified Courses
PSYC 395 (6) Psychology Research Project 1
PSYC 450D1 (4.5) Research Project and Seminar
PSYC 450D2 (4.5) Research Project and Seminar
PSYC 488D1 (1.5) Special Topics Seminar
PSYC 488D2 (1.5) Special Topics Seminar
PSYC 492 (3) Special Topics Seminar 1
PSYC 493 (3) Special Topics Seminar 2
PSYC 494D1 (4.5) Psychology Research Project
PSYC 494D2 (4.5) Psychology Research Project
PSYC 495 (6) Psychology Research Project 2
PSYC 499 (1) Reading Project

LIBERAL PROGRAM: CORE SCIENCE COMPONENT IN PSYCHOLOGY (45 credits)

The Core Science Component in Psychology requires the completion of 45 credits in Psychology, all of which need to be passed with a minimum grade of C. A prerequisite to the program is PSYC 100 or equivalent. Students completing a Liberal Program with a Core Science Component in Psychology must also complete at least one Breadth component in a second area.

Required Course (3 credits)
PSYC 204 (3) Introduction to Psychological Statistics

Complementary Courses (42 credits)

9 credits from:
PSYC 211 (3) Intro Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology

6 credits in Psychology from List A

6 credits in Psychology from List B

15 credits in Psychology at the 300 level or above

6 credits in Psychology at the 400 or 500 level

B.Sc. MAJOR IN PSYCHOLOGY (54 credits)

Students majoring in Psychology must obtain a minimum grade of C in all 54 credits of the program. A grade lower than C may be made up by taking another equivalent course (if there is one), by successfully repeating the course, or by successfully writing a supplemental examination (if there is one).

U1 Required Courses (12 credits)
PSYC 211 (3) Intro Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology

Note: PSYC 100 may be taken as a corequisite with these basic courses.

U1 or U2 Required Course (3 credits)
PSYC 305 (3) Statistics for Experimental Design

Complementary Courses (39 credits)

6 credits in Psychology from List A

6 credits in Psychology from List B

6 credits in Psychology at the 300 level or above

9 credits in Psychology at the 400 or 500 level

12 credits at the 300 level or above in any of the following disciplines: Psychology (PSYC), Anatomy and Cell Biology (ANAT), Biology (BIOL), Biochemistry (BIOC), Chemistry (CHEM), Computer Science (COMP), Mathematics (MATH), Physiology (PHGY), Psychiatry (PSYT).

B.Sc. HONOURS IN PSYCHOLOGY (60 credits)

Honours in Psychology prepares students for graduate study, and so emphasizes practice in the research techniques which are used in graduate school and professionally later on. Students are accepted into Honours at the beginning of their U2 year, and the two-year sequence of Honours courses continues through U3.

Admission to Honours is selective. Students with a cumulative grade point average of 3.00 or better are eligible to apply; since enrolment is limited the usual GPA for admission to this program is 3.50 (based on a 27/30 graded credit program over two terms). Students must complete the following courses in their U1 year to be eligible to apply to the Honours Program: PSYC 204, PSYC 211, PSYC 212, PSYC 213 and PSYC 215. Students who have been exempted from PSYC 204 due to previous courses completed in CEGEP are advised to complete PSYC 305 in their U1 year. Once in the Honours Program, the student must obtain a GPA of 3.00 in the U2 year in order to continue in the program for U3. Honours students are encouraged to take at least 27 graded

credits per academic year. This is usually the minimum number of credits required to be eligible for fellowships and awards.

Applications can be obtained from the Undergraduate Office of the Department of Psychology, Room N7/9A, Stewart Biological Sciences Building. The applications must be completed and returned to the Undergraduate Office by August 1 for September admission and by December 1 for January admission. Candidates will be advised of the Department's decision via email and through a notice posted in front of the Undergraduate Adviser's Office, N7/9, before classes begin in September or in January.

Students should note that awarding of the Honours degree will depend on both cumulative grade point average and a minimum grade of B on PSYC 380D1/PSYC 380D2, PSYC 482. "First Class Honours" is awarded to students who obtain a minimum cumulative grade point average of 3.50 and a minimum CGPA of 3.50 and a minimum grade of A- in the required honours courses, namely PSYC 380D1/PSYC 380D2, PSYC 482. "Honours" is awarded to students with a minimum cumulative grade point average of 3.00 and a minimum program GPA of 3.00 and a minimum grade of B in the required honours courses, namely PSYC 380D1/PSYC 380D2, PSYC 482. Moreover, the awarding of the Honours degree normally requires completion of two full years of study, U2 and U3, in the Psychology Department. Students with particularly strong academic records may be admitted for the U3 year only on the basis of their marks and research experience. These students must complete all honours program requirements.

U1 Required Courses (12 credits)
PSYC 211 (3) Intro Behavioural Neuroscience
PSYC 212 (3) Perception
PSYC 213 (3) Cognition
PSYC 215 (3) Social Psychology

Note: PSYC 100 may be taken as a corequisite with these basic courses.

U1 or U2 Required Course (3 credits)
PSYC 305 (3) Statistics for Experimental Design

U2 Required Courses (9 credits)
PSYC 380D1 (4.5) Honours Research Project and Seminar
PSYC 380D2 (4.5) Honours Research Project and Seminar

U3 Required Courses (3 credits)
PSYC 482 (3) Advanced Honours Seminar

Complementary Courses (33 credits)
12 credits to be selected from*:
PSYC 403 (3) Modern Psychology in Historical Perspective
PSYC 483 (3) Seminar in Experimental Psychopathology
PSYC 495 (6) Psychology Research Project 2
PSYC 496 (6) Seniors Honours Research 1
PSYC 497 (6) Seniors Honours Research 2
PSYC 498D1 (4.5) Senior Honours Research
PSYC 498D2 (4.5) Senior Honours Research
Any Psychology course at the 500 level.

6 credits in Psychology from List A

6 credits in Psychology from List B

9 credits at the 300 level or above selected from: Anatomy and Cell Biology (ANAT), Biochemistry (BIOC), Biology (BIOL), Chemistry (CHEM), Computer Science (COMP), Mathematics (MATH), Physiology (PHGY), Psychiatry (PYST), Psychology (PSYC).

* Please see Faculty Regulations concerning "Course Requirements", section 14.3.6.

14.13.33 Redpath Museum (REDM)

Redpath Museum, Room 102
859 Sherbrooke Street West
Montreal, QC H3A 2K6

Telephone: 514-398-4086
Fax: 514-398-3185
Website: www.mcgill.ca/redpath

Director — David M. Green

Emeritus Professor
Robert L. Carroll; B.Sc.(Mich.), Ph.D.(Harv.), F.R.S.C., F.L.S.

Professor
David M. Green; B.Sc.(Br. Col.), M.Sc., Ph.D.(Guelph), F.L.S.

Associate Professors
Brian J. Alters; B.Sc., Ph.D.(S. Calif.) (*Tomlinson Chair in Science Education, Sir William Dawson Scholar*)
Andrew Hendry; B.Sc.(Vic. (BC)), M.Sc., Ph.D.(Wash.) (*joint appoint. with Biology*)
Anthony Ricciardi; B.Sc.(Agr.), M.Sc., Ph.D.(McG.) (*joint appoint. with MSE*)

Assistant Professors
Claire de Mazancourt; Bacc.(École des Mines), DEA, Ph.D.(Paris VI)
Hans C.E. Larsson; B.Sc.(McG.), Ph.D.(Chic.) *(CRC Tier 2 Chair in Paleontology)*
Brian Leung; B.Sc.(Br. Col.), Ph.D.(Car.) *(joint appoint. with Biology & MSE)*
Virginie Millien; Maîtrise(Paris VI), DEA, Ph.D.(Montpellier II)

Curator
Karen E. Samonds; B.S., B.A.(Mass.), M.Phil., M.A., Ph.D.(Stony Brook) *(joint appoint. with Anatomy & Dentistry)*

Faculty Lecturer
Linda Cooper; B.A.(C'dia), M.A.(McM.)

Associate Members
Biology: Graham A.C. Bell; Earth & Planetary Sciences: Jeanne Paquette

Adjunct Professors
Hendry M. Reiswig, Hans Hofmann, Robert Holmes, Michael Woloch

The Redpath Museum exists to foster the study of the history and diversity of the natural world. Its mandate includes biological, geological and cultural diversity, and science education. It conducts academic teaching and research activities and also provides academic services to other units. There are no B.Sc. Programs at the Redpath Museum but the REDM courses listed in the Courses section of this Calendar are considered as ones taught by the Faculty of Science.

14.13.34 Science or Mathematics for Teachers

Rutherford Physics Building
3600 University Street
Montreal, QC H3A 2T8

Fax: 514-398-8434
Email: bscbed@physics.mcgill.ca
Website: www.mcgill.ca/scienceforteachers

Coordinator - Science — R. Harris
Telephone: 514-398-6522

Coordinator - Education — G. Seiler
Telephone: 514-398-7106

The training and certification of school teachers has traditionally been the responsibility of the Faculty of Education and requires the completion of a Bachelor of Education, subject to *Ministère de l'Éducation, du Loisir et du Sport* (MELS) regulations. The Faculties of Education and of Science have introduced a number of programs for students who wish to combine Science or Mathematics

with Education at McGill. These include the Minor in Education for Science Students, and the Concurrent B.Sc. and B.Ed.

Note: The traditional Bachelor of Education, Secondary Program, Science and Technology, or Secondary Program, Mathematics is also available within the Faculty of Education, "Bachelor of Education Secondary Program (120 credits)", see section 8.6.1.1.

MINOR IN EDUCATION FOR SCIENCE STUDENTS (18 credits)

Program Adviser —
Student Affairs Office, Faculty of Education
www.mcgill.ca/edu-sao/minors

This Minor allows Science students to develop or explore an interest in Education without committing themselves to completing a B.Ed. degree. Science students who have taken this Minor in Education will have completed a substantial number of the necessary credits for the B.Ed. degree should they wish to enrol in that program. The Minor also allows the possibility of transferring into the Concurrent B.Sc. and B.Ed. program, since the 18 credits for the Minor, with the exception of EDEM 220, are also among the Education courses required in this dual degree program. Equally, students having completed a B.Sc. degree, including the Minor, whose content substantially matches that of one of the concurrent B.Sc. and B.Ed. combinations (see below) are likely eligible for the maximum number of 60 Advanced standing credits, as specified by the Faculty of Education "Credit Requirements", in section 8.2.1.2.

Required Course (3 credits)
EDPE 300 (3) Educational Psychology

Complementary Courses (15 credits)

9 credits from:
EDEC 233 (3) First Nations and Inuit Education
or EDEC 248 (3) Multicultural Education
EDEC 260 (3) Philosophical Foundations
or EDEC 261 (3) Philosophy of Catholic Education
EDEM 220 (3) Contemporary Issues in Education
or EDEC 247 (3) Policy Issues in Quebec Education

6 credits from:
EDEC 262 (3) Media, Technology and Education
EDPE 304 (3) Measurement and Evaluation
EDPI 309 (3) Exceptional Students
EDES 335 (3) Teaching Secondary Science 1
or EDES 353 (3) Teaching Secondary Mathematics 1

CONCURRENT B.SC. AND B.ED.

The Concurrent B.Sc. and B.Ed. is intended as a very rigorous but rewarding alternative to taking the B.Sc. and the B.Ed. in sequence. It is specifically designed to prepare teacher/scientists and is aligned with the requirements of the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS). This program has been designed to provide students with the opportunity to attain a Bachelor of Science degree and a Bachelor of Education degree after **135 credits of study (165 credits for students who have not completed the basic sciences)**. The program is highly structured and closely integrated so as to satisfy the academic requirements of both degrees.

To be admitted, candidates must satisfy the admission requirements of both faculties. Normally, students will be admitted to both components of the Concurrent B.Sc. and B.Ed. simultaneously. It is possible for students to apply for transfer into this program at any time during their B.Sc. or B.Ed. program. However, because this is a concurrent program, both degrees must be granted at the same Convocation. After admission, students should contact one of the coordinators to discuss course selection and scheduling.

Students in the Concurrent B.Sc. and B.Ed. may apply to transfer to either a conventional B.Sc. or a conventional B.Ed. program. To do so, they must submit a Faculty Transfer Application to the appropriate Student Affairs Office. The decision will be based on their grades in the relevant component of the Concurrent Program. Students who do transfer to a conventional program may not transfer back to the Concurrent B.Sc. and B.Ed. degrees.

The two components of the Concurrent B.Sc. and B.Ed. are the B.Ed. Secondary program and one of the B.Sc. programs for teachers. These two components are described in what follows, including an identification of the elements that are counted towards the requirements of both degrees. These provisions are exceptional and apply exclusively to the Concurrent B.Sc. and B.Ed.

For more detailed information about the Concurrent Program, particularly how some elements are double-counted so as to satisfy the requirements of both the Faculty of Education and the Faculty of Science, see the program website: www.mcgill.ca/scienceforteachers.

BACHELOR OF EDUCATION COMPONENT OF THE CONCURRENT PROGRAM

SECONDARY PROGRAM, SCIENCE AND TECHNOLOGY OR SECONDARY PROGRAM, MATHEMATICS (120 credits)
The aim of the B.Ed. is to prepare teachers for the secondary school level through a program of academic and professional studies centred on school-based field experiences according to the specifications of the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS).

The required 60 credits of Education courses must combine with science courses and electives to total 135 (or 165) credits and fulfil all the requirements for graduation for both the Bachelor of Education and the Bachelor of Science.

See the Faculty of Education for a full description of the "Bachelor of Education Secondary Program (120 credits)", in section 8.6.1.1. In summary, it consists of the following:

Education Component (60 credits)

Required Courses (48 credits):
EDEC 201 (1) First Year Professional Seminar
EDEC 247* (3) Policy Issues in Quebec Education
EDEC 254 (1) Second Professional Seminar (Secondary)
EDEC 262* (3) Media, Technology and Education
EDEC 351 (2) Third Professional Seminar (Secondary)
EDEC 404 (3) Fourth Year Professional Seminar (Sec)
EDFE 200 (2) First Field Experience (K/Elem & Secondary)
EDFE 254 (3) Second Field Experience (Secondary)
EDFE 351 (8) Third Field Experience (Secondary)
EDFE 451 (7) Fourth Field Experience (Secondary)
EDPE 300* (3) Educational Psychology
EDPE 304 (3) Measurement and Evaluation
EDPI 309* (3) Exceptional Students
EDPI 341 (3) Instruction in Inclusive Schools
EDES 350 (3) Classroom Practices (Secondary)

Complementary Courses (12 credits):
One of the two following courses:
EDEC 248* (3) Multicultural Education
EDEC 233* (3) First Nations and Inuit Education
One of the two following courses:
EDEC 260* (3) Philosophical Foundations
EDEC 261* (3) Philosophy of Catholic Education

ONE of the two SETS of courses below, associated with the respective major:
EDES 335 (3) Teaching Secondary Science 1 and
EDES 435 (3) Teaching Secondary Science 2
or
EDES 353 (3) Teaching Secondary Mathematics 1 and
EDES 453 (3) Teaching Secondary Mathematics 2
* Note: The starred courses are counted toward both degrees. They will count as “electives” for the B.Sc. degree.

B.Sc. Components (54 credits):
These 54 credits will be selected from the B.Sc. components of the Concurrent B.Sc. and B.Ed. and will count towards both degrees.
Electives (6 credits)

BACHELOR OF SCIENCE COMPONENT OF THE CONCURRENT PROGRAM: SCIENCE OR MATHEMATICS (120 credits)

These B.Sc. programs, with the exception of the Major in Mathematics, are designed specifically as the Science component of the Concurrent B.Sc. and B.Ed. The general structure of these B.Sc. programs is as follows:

Basic sciences (30 credits): Quebec students with a DCS in Science are granted 30 credits advanced standing and will have normally completed the equivalent of, and are therefore exempt from, the basic science courses in biology, chemistry, mathematics and statistics, and physics. Students with satisfactory results in International Baccalaureate, French Baccalaureate and Advanced Levels, and Advanced Placement tests may be exempt from some or all of the basic science courses.

Elective courses (20-36 credits): Elective courses must be suitably chosen if the student wishes to complete the Concurrent B.Sc. and B.Ed. with the minimum of 135 credits. The following 18 Education credits can be counted as electives in the B.Sc. component of the Concurrent B.Sc. and B.Ed. and will count towards both degrees: EDEC 247, EDEC 262, EDPI 309, EDPE 300, either EDEC 260 or EDEC 261, and either EDEC 248 or EDEC 233.

Advising note: A grade of "D" is acceptable for elective courses counted toward the B.Sc. degree; however, in order for these courses to count toward the program requirements of the B.Ed. degree, a grade of "C" or better is needed.

Required and complementary courses (54-70 credits): The details of these programs are given below. Note that 54 of these credits can be counted towards the academic component of the B.Ed. program, but only for students in the Concurrent B.Sc. and B.Ed.

BACHELOR OF SCIENCE COMPONENT OF THE CONCURRENT PROGRAM: SCIENCE

Six combinations of Major Concentrations and Minors in Science have been specifically designed as the Science component of the Concurrent B.Sc. and B.Ed. and are aligned with the teachable subject areas in Education. The following list shows the possible Major Concentration and Minor combinations that may be chosen. Note that these are Major Concentrations, not Major programs.

Major Concentration (36-37 credits)	**Minor (18-24 credits)**
Biology	Chemistry
Biology	Physics
Chemistry	Biology
Chemistry	Physics
Physics	Biology
Physics	Chemistry

MAJOR CONCENTRATION IN BIOLOGY WITH A MINOR IN CHEMISTRY FOR TEACHERS (69 or 70 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN BIOLOGY - CELL/MOLECULAR OPTION", under "Biology (BIOL)", in section 7.12.3 **or** the 37 credits of the "MAJOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION", under "Biology (BIOL)", in section 7.12.3 and the 18 credits of the "MINOR IN CHEMISTRY", under "Chemistry (CHEM)", in section 14.13.7, as well as the 15 credits of Science courses listed below.

Additional Science courses (15 credits)

BIOL 210	(3)	Perspectives of Science
CHEM 381	(3)	Inorganic Chemistry 2
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3

plus 3 credits, one of:

CHEM 150	(3)	World of Chemistry: Food
CHEM 160	(3)	World of Chemistry: Technology
CHEM 170	(3)	World of Chemistry: Drugs
CHEM 180	(3)	World of Chemistry: Environment

Note: Students must take one additional BIOL course (3 credits) from the complementary course list for the Major Concentration. This course is required because both the Major Concentration and the Minor include CHEM 212 Introductory Organic Chemistry 1.

MAJOR CONCENTRATION IN BIOLOGY WITH A MINOR IN PHYSICS FOR TEACHERS (69 or 70 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN BIOLOGY - CELL/MOLECULAR OPTION", "Biology (BIOL)", in section 7.12.3 **or** the 37 credits of the "MAJOR CONCENTRATION IN BIOLOGY - ORGANISMAL OPTION", under "Biology (BIOL)", in section 7.12.3, and the 18 credits of the "MINOR IN PHYSICS", under "Physics (PHYS)", in section 14.13.29, as well as the 15 credits of Science courses listed below.

Additional Science courses (15 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus

MAJOR CONCENTRATION IN CHEMISTRY WITH A MINOR IN BIOLOGY FOR TEACHERS (69 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN CHEMISTRY", under "Chemistry (CHEM)", in section 7.12.5, the 24 credits of the "MINOR IN BIOLOGY", under "Biology (BIOL)", in section 14.13.5 and the 9 credits of Science courses listed below.

Additional Science courses (9 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3

MAJOR CONCENTRATION IN CHEMISTRY WITH A MINOR IN PHYSICS FOR TEACHERS (69 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN CHEMISTRY", under "Chemistry (CHEM)", in section 7.12.5, the 18 credits of the "(18 credits)", under "Physics (PHYS)", in section 14.13.29, and the 15 credits of Science courses listed below.

Additional Science courses (15 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1
MATH 222	(3)	Calculus 3
MATH 223	(3)	Linear Algebra
MATH 314	(3)	Advanced Calculus

MAJOR CONCENTRATION IN PHYSICS WITH A MINOR IN BIOLOGY FOR TEACHERS (69 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN PHYSICS", under "Physics (PHYS)", in section 7.12.12, the 24 credits of the "MINOR IN BIOLOGY", under "Biology (BIOL)", in section 14.13.5, and the 9 credits of Science courses listed below.

Additional Science courses (9 credits)

BIOL 210	(3)	Perspectives of Science
MATH 203	(3)	Principles of Statistics 1

plus one additional Physics course (3 credits) approved by the Physics Department.

MAJOR CONCENTRATION IN PHYSICS WITH A MINOR IN CHEMISTRY FOR TEACHERS (69 credits)

This program includes the 36 credits of the "MAJOR CONCENTRATION IN PHYSICS", under "Physics (PHYS)", in section 7.12.12, the 18 credits of the "MINOR IN CHEMISTRY", under "Chemistry (CHEM)", in section 14.13.7 and the 15 credits of Science courses listed below.

Additional Science courses (15 credits)

BIOL 210 (3) Perspectives of Science
CHEM 381 (3) Inorganic Chemistry 2
MATH 203 (3) Principles of Statistics 1
plus 3 credits, one of:
CHEM 150 (3) World of Chemistry: Food
CHEM 160 (3) World of Chemistry: Technology
CHEM 170 (3) World of Chemistry: Drugs
CHEM 180 (3) World of Chemistry: Environment
plus one additional Physics course (3 credits) approved by the Physics Department.

BACHELOR OF SCIENCE COMPONENT OF THE CONCURRENT PROGRAM: MATHEMATICS

MAJOR IN MATHEMATICS FOR TEACHERS (54 credits)

This program includes the 54 credits of the standard "MAJOR IN MATHEMATICS", under "Mathematics and Statistics (MATH)", in section 14.13.21. However, students taking the Major in Mathematics as part of the Concurrent Program are **required** to include the following courses as part of the Major.

COMP 202* (3) Introduction to Computing 1
MATH 324 (3) Statistics
MATH 338 (3) History and Philosophy of Mathematics
MATH 348 (3) Topics in Geometry
* or equivalent

14.13.35 Technological Entrepreneurship for Science Students

Science students who wish to become entrepreneurs or to enter small to medium-sized companies in the high technology sector will find within this Minor a set of six (6) courses that cover relevant management concepts and skills.

Acceptance to the program is both competitive and restricted. Application procedures will be announced in September. Please consult Ron Critchley, Student Adviser, Desautels Faculty of Management Student Affairs Office, Bronfman 110, for details.

Students registered in the Minor in Technological Entrepreneurship for Science Students may not take additional courses outside the Faculties of Arts and of Science.

To obtain the Minor, all courses must be completed with a grade of C or better.

Please note: the courses must be taken sequentially over five terms, as follows: ACCT 210, MRKT 360 and either MGCR 320 or ORGB 321, BUSA 465, MGPO 562, BUSA 466.

MINOR IN TECHNOLOGICAL ENTREPRENEURSHIP FOR SCIENCE STUDENTS (18 credits)

Required Courses (15 credits)

ACCT 210 (3) Accounting for Managers
MRKT 360 (3) Marketing of Technology
BUSA 465 (3) Technological Entrepreneurship
MGPO 562 (3) Seminar in Organizational Strategy
BUSA 466 (3) Technological Entrepreneurship Project

Complementary Courses (3 credits)

one of the following courses:
MGCR 320 (3) Managing Human Resources
ORGB 321 (3) Leadership

15 Field Studies and Study Abroad

Table of Contents

15.1 Opportunities for Field Study and Study Abroad, page 465
15.2 Study Abroad Options, page 465
- 15.2.1 Bilateral Student Exchanges, page 465
- 15.2.2 CRÉPUQ Exchanges, page 465
- 15.2.3 Field Study Semesters and Off-Campus Courses, page 465
- 15.2.4 Study Away On Your Own, page 465

15.3 Field Studies, page 466
- 15.3.1 African Field Study Semester, page 466
- 15.3.2 Barbados Field Study Semester, page 466
- 15.3.3 Barbados Interdisciplinary Tropical Studies Field Semester, page 467
- 15.3.4 Panama Field Study Semester, page 467
- 15.3.5 Field Study Minor, page 467

15.4 Exchange Programs, page 468
- 15.4.1 Eligibility, page 468
- 15.4.2 Applying for an Exchange, page 468
  - 15.4.2.1 Deadlines, page 468
  - 15.4.2.2 Bilateral or CRÉPUQ, page 468
- 15.4.3 Awards and Financial Assistance, page 468
  - 15.4.3.1 Travel Awards, page 468
  - 15.4.3.2 Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents, page 468
  - 15.4.3.3 Universitas 21 Travel Awards, page 468
  - 15.4.3.4 McGill Scholarships and Awards, page 468

15.5 Financial Assistance, page 468
- 15.5.1 Transfer of Credits from Host Institution, page 468
- 15.5.2 Universitas 21, page 468
- 15.5.3 The Killam Fellowships Program, page 468
- 15.5.4 Further Information and the Student Exchanges and Study Abroad (SESA) Service Desk, page 468

15.6 Internships and Co-op Programs, page 469
15.7 Off-Campus Summer Programs, page 469
- 15.7.1 Peking University Summer Chinese Program, page 469
- 15.7.2 McGill Summer Courses in Italy, page 469
- 15.7.3 Desautels Faculty of Management, page 469

15.8 Off-Campus Courses, page 469
- 15.8.1 Architecture, page 469
- 15.8.2 Art History & Communication Studies, page 469
- 15.8.3 Biology, page 469
- 15.8.4 Classics, page 469
- 15.8.5 Earth & Planetary Sciences, page 470
- 15.8.6 East Asian Studies, page 470
- 15.8.7 Geography, page 470
- 15.8.8 Italian Studies, page 470
- 15.8.9 Music, page 470
- 15.8.10 Political Science, page 470

15.1 Opportunities for Field Study and Study Abroad

Besides the many academic resources McGill offers on campus, there are also unparalleled opportunities to enrich your educational experience through exchange programs, internships, field study programs and McGill courses taught abroad.

15.2 Study Abroad Options

There are four types of Study Abroad options available:

15.2.1 Bilateral Student Exchanges

Bilateral student exchange agreements are tuition exchange agreements that exist between McGill University and one other institution, which have been reviewed and approved by McGill. McGill University has bilateral agreements in many countries including: Australia, Austria, Belgium, Canada, China, Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, New Zealand, Norway, Russia, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, the United Kingdom, and the United States of America. Exchange programs can be university-wide or faculty-specific. Faculty-specific agreements are only open to students in the specified faculty.

The full listing of bilateral partners can be found at www.mcgill.ca/studyabroad.

15.2.2 CRÉPUQ Exchanges

The *Conférence des recteurs et principaux des universités du Québec* has established tuition exchange agreements in which all Quebec university students may participate, regardless of whether or not they are Quebec residents. The listing of CRÉPUQ partners is accessible from www.echanges-etudiants.crepuq.qc.ca.

15.2.3 Field Study Semesters and Off-Campus Courses

McGill offers students a chance to put theory into practice through local, regional, and international field study semesters and individual courses. Field studies provide practical experience and a chance to integrate and apply knowledge gained in the classroom. In many cases, field courses can be counted towards major program requirements. Students should see their adviser for details.

Field Study Semesters are packages of McGill courses aimed at upper year students which focus on the physical and social aspects of the environment. They are offered in various regions around the world in the Fall or Winter term. Currently, Field Study Semesters are offered in East Africa (Kenya, Uganda and/or Tanzania), Barbados, and Panama. Enrolment is limited, and application deadlines and costs vary, so students should consult the relevant sections of the Calendar for details. Students who are interested in participating should begin planning their courses well in advance of the Field Study semester, as some of the field courses require prerequisites.

Off-campus McGill courses are also offered to students, and sometimes require separate departmental application. The courses are typically offered during the summer months and can be offered in places as varied as Italy, Mexico, Brazil or China and in disciplines in Arts, Engineering, Science, Management or Music.

15.2.4 Study Away On Your Own

Students who wish to study as a Visiting student at a university with which McGill does not have a student exchange agreement must consult the Student Affairs Office of their McGill faculty, as well as the Admissions Office of the university to which they are applying regarding application requirements. Students pay tuition to the host institution.

15.3 Field Studies

15.3.1 African Field Study Semester

Website: www.mcgill.ca/africa

The African Field Study Semester (AFSS) is run through McGill's Canadian Field Study in Africa Program (CFSIA).

The AFSS provides one term of integrated field study in East Africa, with emphasis on environmental conservation, culture change and sustainable development. Students investigate challenges of sustaining biological diversity and social justice in African environments subject to cultural change, economic development and environmental stress. Cultural and ecological variation is examined in highland, montane, rangeland, desert, riverine, salt and fresh water lake, coastal, and urban settings.

McGill students should note that although the AFSS is not a degree program, its 15 credits constitute a full single-term credit load that can be counted towards certain McGill degrees with the permission of program advisers.

Students from other universities are eligible to apply to the McGill CFSIA and must also meet the criteria for admission to McGill as a Visiting Student. Please see the AFSS website for details.

The AFSS comprises 15 credits of field study courses. Two courses (6 credits) in the natural and social sciences provide interdisciplinary academic context for field study. The other 9 credits are taken from course offerings in two thematic areas and Special Topics.

Visit the AFSS website www.mcgill.ca/africa, or go to www.mcgill.ca/courses (Course Calendars) in July for details of program updates.

Offered: Winter term

Location: East Africa

Enrolment Limit: 38 students

Fees: In addition to the regular McGill fees, students will be required to pay the additional costs associated with delivering the courses in the field. These costs include airfare, local travel, all food and accommodation, special admission fees for parks and museums as well as other field costs. Airfares and currency fluctuation will determine the amount of this charge. The 2009 trip cost is $12,250 CDN. The actual cost for 2010 will be determined by September 2009.

Quebec residents may be eligible for a financial subsidy from the Ministère de l'Éducation, du Loisir et du Sport (MELS), see section 15.4.3.2 "Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents".

Application Deadline: April 30, 2009. Depending on space, there will be a second intake with a deadline date of November 1, 2009.

Application Details: Students must submit a letter of intent, a CV, a copy of their transcript and two reference letters to Martine Dolmière in the Faculty of Science, Dawson Hall, Room 408. See the website for details: www.mcgill.ca/africa/application.

Prerequisites: The AFSS is intended for students in their final two years. A GPA of 3.00 and higher is recommended.

AFRICAN FIELD STUDY SEMESTER
(15 credits)

Required Courses (6 credits)

ANTH 451	(3)	Research in Society and Development in Africa
or GEOG 451	(3)	Research in Society and Development in Africa
BIOL 451	(3)	Research in Ecology and Development in Africa
or NRSC 451	(3)	Research in Ecology and Development In Africa

Complementary Courses (9 credits)
9 credits selected from the following:

ANTH 411	(3)	Primate Studies & Conservation
ANTH 416	(3)	Environment/Development Africa
BIOL 428	(3)	Biological Diversity in Africa
BIOL 429	(3)	East African Ecology
GEOG 404*	(3)	Environmental Management 2
GEOG 408	(3)	Geography of Development
HIST 413	(3)	Independent Reading
NRSC 405	(3)	Natural History of East Africa
or REDM 405	(3)	Natural History of East Africa
NUTR 403*	(3)	Nutrition in Society
WILD 420*	(3)	Ornithology

* Offered on a rotational basis, at least 3 credits annually

15.3.2 Barbados Field Study Semester

Website: www.mcgill.ca/bfss

The Barbados Field Study Semester (BFSS) provides one term of integrated field study for students with an interest in global issues related to natural resource use as affected by socio-economic, management, urban and physical constraints. Offered at the Bellairs Research Institute in Barbados, this program challenges students to be more effective environmental decision makers, policy makers and managers. There is a growing need for professionals with such skills at all levels of government, within NGOs, and in the private sector. The overall goal of the BFSS is to equip future leaders to address the complexity of issues associated with the formulation and implementation of organizational strategies compatible with the societal goal of sustainable use and development of our natural resources.

The BFSS is intended for senior undergraduate students from across the University. Students must apply to participate in the program. Selection will be based on the student's academic standing and demonstrated interests and involvement in international issues related to natural resource use.

The semester is not a degree program, but credits can be counted toward certain McGill degrees with the permission of program advisers.

Offered: Fall term

Location: Bellairs Research Institute in Barbados

Enrolment Limit: 25 students

Fees: In addition to the regular McGill fees, students will be required to pay the additional costs associated with delivering the courses in the field. These costs include airfare, accommodation and most food, as well as other field costs. Fees for 2008 were $6,150 CDN, this does not include airfare.

Quebec residents may be eligible for a financial subsidy from the Ministère de l'Éducation, du Loisir et du Sport (MELS), see section 15.4.3.2 "Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents".

Application Deadline: March 16, 2009

Application Details: Students must submit a letter of intent, a CV and a copy of their transcript to the Department of Bioresource Engineering, c/o susan.gregus@mcgill.ca. Further details are available at www.mcgill.ca/bfss.

Prerequisites: None

BARBADOS FIELD STUDY SEMESTER
(15 credits)
Required Courses (6 credits)
URBP 507 (3) Planning and Infrastructure
URBP 520 (3) Globalization: Planning and Change

Complementary Courses (9 credits)
one of the following cross-listed courses:
AGRI 452 (3) Water Resources in Barbados
CIVE 452 (3) Water Resources in Barbados

and one of the following cross-listed project courses:
AGRI 519 (6) Sustainable Development Plans
CIVE 519 (6) Sustainable Development Plans
URBP 519 (6) Sustainable Development Plans

15.3.3 Barbados Interdisciplinary Tropical Studies Field Semester

Website: www.mcgill.ca/bits

The Barbados Interdisciplinary Tropical Studies (BITS) Field Semester is an activity-filled, hands-on, experience for students with an interest in international studies with a Caribbean flavour. The focus is on sustainable agri-food and energy production and nutrition on a tropical island with a tourist-based economy. It is offered annually (in the summer). It consists of three 2-hour orientation sessions conducted on the Macdonald Campus followed by three 3-credit and one 6-credit project course at Bellairs Research Institute in Barbados. This program integrates intensive course work with group project work and contributes to the formation of professionals with planning, managing, decision-making, and communication skills. The program addresses a global need for experienced professionals capable of interacting with various levels of government, non-governmental organizations, and the private sector.

Required Courses (15 credits)
AEBI 421 (3) Tropical Horticultural Ecology
AEBI 423 (3) Sustainable Land Use
AEBI 425 (3) Tropical Energy and Food
AEBI 427 (6) Barbados Interdisciplinary Project

McGill students should note that although BITS is not a degree program, its 15 credits comprise a full single-term credit load that can be counted towards certain McGill degrees with the permission of program advisors.

Students from other universities are eligible to apply to McGill's BITS and must also meet the criteria for admission to McGill as a Visiting Student.

Enrolment Limit: 22 students

Fees: In addition to the regular McGill fees, students will be required to pay the additional costs associated with delivering the courses in the field. These costs include airfare, accommodation and most food, as well as other field costs. Fees for 2009 are $7,000 CDN; this does not include airfare. A $1,000 deposit is required and is non-refundable.

Quebec residents may be eligible for a financial subsidy from the Quebec *Ministère de l'Éducation, du Loisir et du Sport* (MELS), see section 15.4.3.2 "Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents".

Application Deadline: March 13, 2009 for Summer 2009 (in future, fall deadline for Summer semester).

Application Details: Students must submit a letter of intent, a CV and a copy of their transcript to the Department of Plant Science, c/o carolyn.bowes@mcgill.ca. Further details are available at www.mcgill.ca/bits.

Prerequisites: BITS is intended for students in their final two years. A GPA of 3.00 and higher is recommended.

15.3.4 Panama Field Study Semester

Website: www.mcgill.ca/pfss

This program is offered in Panama with the support of the Smithsonian Tropical Research Institute (STRI).

Hands-on experience is gained through research projects organized around multidisciplinary environmental issues. The nature of these projects will centre on practical environmental problems/questions important for Panama. Students will form teams that will work with Panamanian institutions (NGO, governmental or research).

There is a one or two day period of transition and 13 weeks of course attendance in Panama. Field trips will be integrated into each of the courses offered.

McGill students should note that although the PFSS is not a degree program, its 15 credits constitute a full single-term credit load that can be counted towards certain McGill degrees with the permission of program advisers.

Offered: Winter term

Location: Smithsonian Tropical Research Institute (STRI) in Panama

Enrolment Limit: 26 students

Fees: Students will be required to pay the additional costs associated with delivering the courses in the field. The cost of the program is approximately $5,300 CDN. This amount **does not** include airfare, tuition, insurance, or food. A $1,000 deposit is required and is non-refundable.

Quebec residents may be eligible for a financial subsidy from the Ministère de l'Éducation, du Loisir et du Sport (MELS), see section 15.4.3.2 "Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents".

Application Deadline: March 27, 2009 for January 2010 (Winter term of the academic year 2009-10)

Application Details: Students must submit a letter of intent, CV, and copy of their transcript to: Martine Dolmière, in the Faculty of Science, Dawson Hall, Room 408. See the website for details: www.mcgill.ca/pfss/application.

Prerequisites: HISP 218 Spanish Language Elementary or equivalent proficiency, and MATH 203 Principles of Statistics 1 or equivalent. A GPA of 3.00 and higher is recommended. The program is aimed at undergraduate students in their final year.

PANAMA FIELD STUDY SEMESTER
(15 credits)

Advising information: For Winter 2011, please note that SOCI 565 may not be offered.

Required Courses (9 credits)
BIOL 553 (3) Neotropical Environments
ENVR 451 (6) Research in Panama

Complementary Courses (6 credits)
one of the following sets:

Offered in Winter 2010 –
AGRI 550 (3) Sustained Tropical Agriculture
HIST 510 (3) Environmental History of Latin America (Field)

Offered in Winter 2011 –
GEOG 404 (3) Environmental Management 2
GEOG 498 (3) Humans in Tropical Environments
SOCI 565 (3) Social Change in Panama

15.3.5 Field Study Minor

Field Study Coordinator:
Martine Dolmière (martine.dolmiere@mcgill.ca)
Faculty of Science, Dawson Hall Room 408

Field Study Academic Advisor (Faculty of Science):
Wendy Brett (wendy.brett@mcgill.ca)

African Field Study Minor Advisor:
Professor Thom Meredith
(Website: www.mcgill.ca/africa/afss/minor)

Panama Field Study Minor Advisor:
Professor Catherine Potvin
(Website: www.mcgill.ca/pfss)

Students participating in any one of the Field Study Semesters i.e., the African Field Study Semester, the Barbados Field Study Semester or the Panama Field Study Semester may complete the 18 credit Minor in Field Study.

The minor consists of the 15 credits of the Field Study Semester plus three additional complementary credits approved by the Field Study Minor Advisor.

For students in the B.Sc. Liberal Program, the Minor in Field Study can serve as the breadth component.

15.4 Exchange Programs

15.4.1 Eligibility

Student exchange programs are open to McGill students of all nationalities. To participate, applicants must be currently registered as full-time, degree-seeking McGill students, meet the criteria of their faculty at McGill, and have a minimum CGPA of 3.0. Applicants must have completed at least one year of full-time study by the start of the exchange. Students can participate in exchanges for one term or for a full academic year (two terms).

The annual Study Abroad Fair will be held on Wednesday, October 7, 2009. Please check www.mcgill.ca/studyabroad for up-to-date information on the Study Abroad Fair.

15.4.2 Applying for an Exchange

Applications must be submitted on Minerva. Complete application details are found on the Student Exchanges and Study Abroad (SESA) website: www.mcgill.ca/studyabroad.

15.4.2.1 Deadlines

The deadline to submit the supporting documents for an application to participate in a student exchange for one or two terms of the 2010-2011 academic year is Monday, February 1, 2010. **Your Faculty Approval** deadline to participate in an exchange is at least five (5) business days prior to this deadline.

Detailed information on the application process and deadlines is contained on the Student Exchanges and Study Abroad (SESA) website: www.mcgill.ca/studyabroad.

15.4.2.2 Bilateral or CRÉPUQ

If a university appears on both the Bilateral and CRÉPUQ listings of exchange partners, you must apply under the bilateral agreement. Your two exchange destination choices must be from the same type of agreement, either bilateral or CRÉPUQ.

15.4.3 Awards and Financial Assistance

15.4.3.1 Travel Awards

A number of travel awards are available for eligible candidates. Information on available travel awards can be found on the Student Exchanges and Study Abroad (SESA) website: www.mcgill.ca/studyabroad. Questions may be directed to studentexchanges@mcgill.ca.

15.4.3.2 Quebec Ministère de l'Éducation, du Loisir et du Sport (MELS) Travel Awards for Quebec Residents

The Quebec Government has made awards available for Quebec residents (as defined by the rules established by the *Ministère de l'Éducation, du Loisir et du Sport* (MELS)) pursuing an Exchange or Study Abroad Program outside of the province of Quebec.

Undergraduate students must have completed 24 McGill credits with a minimum CGPA of 2.7 prior to the start of their Exchange or Study Abroad Program to be eligible to apply for the Award.

15.4.3.3 Universitas 21 Travel Awards

A limited number of Universitas 21 Travel Awards are available for McGill students who apply and are accepted to participate in a student exchange with one of McGill University's Universitas 21 partners.

15.4.3.4 McGill Scholarships and Awards

For students who are pursuing an approved program of study, renewable scholarships and awards may be retained for up to one year while on exchange. However, they will not be eligible for McGill's yearly in-course awards.

15.5 Financial Assistance

Students participating in an official McGill University exchange program are eligible to apply for government student assistance as a McGill student, but are not eligible for McGill Student Aid. Students who "study away on their own" are not eligible to receive government student loans through McGill because they are not registered at McGill. Students should verify with the institution they will be attending whether or not they will be eligible to receive government student assistance.

15.5.1 Transfer of Credits from Host Institution

Grades received from the host institution do not appear on the McGill transcript nor are they calculated in the McGill CGPA. The McGill transcript includes a notation of participation in an exchange, the number of transfer credits granted by McGill, and where applicable, McGill course exemptions.

The transfer of credits process must be initiated by the student immediately upon return from exchange with the faculty Student Affairs office, and be completed no later than four months after the exchange.

Before leaving the host institution, students should order two (2) copies of the official transcript for their files, and ensure that the institution sends an official version of the transcript to the Student Exchanges and Study Abroad Office at McGill.

15.5.2 Universitas 21

The Universitas 21 Consortium is an international network of leading research-intensive universities whose objective is to assist members' plans for internationalisation, particularly in facilitating student exchanges and short-term research visits. McGill University currently has bilateral student exchange agreements with the following institutions within the U21Consortium: National University of Singapore, Lund University, University of Birmingham, University of Auckland, University of Edinburgh, University of British Columbia, University of Hong Kong, University of Glasgow, University of New South Wales, University of Melbourne, University of Queensland, University of Nottingham, and University of Virginia.

15.5.3 The Killam Fellowships Program

McGill University participates in The Killam Fellowships Program which provides exceptional undergraduate students from universities in Canada and the United States with the opportunity to study in the neighbouring country for either one semester or for a full academic year. Established in 2002 through a partnership between the Foundation for Educational Exchange between Canada and the United States of America and the American Killam Trusts, the goal of the program is to increase mutual understanding between Canada and the United States through academic exchange.

15.5.4 Further Information and the Student Exchanges and Study Abroad (SESA) Service Desk

Additional details regarding study abroad, including application procedures, deadlines, eligibility criteria, travel awards, etc., are

on the Student Exchanges and Study Abroad (SESA) website: www.mcgill.ca/studyabroad.

The Student Exchanges and Study Abroad (SESA) Service Desk is located in:

James Administration Building, Room 206
845 Sherbrooke Street West
Montreal, Quebec, H3A 2T5
Telephone: 514-398-8342
Fax: 514-398-5268
Email: studentexchanges@mcgill.ca

15.6 Internships and Co-op Programs

For information on Internships and Co-op Programs, see section 3.7.1 "Internships and Co-op Programs".

15.7 Off-Campus Summer Programs

15.7.1 Peking University Summer Chinese Program

The Department of East Asian Studies offers transfer credits for three levels of Chinese language at Peking University in China. The courses run from May 11 to July 17, 2009.

Location: Beijing, China

Application Details: For inquiries about the program, please contact the program coordinator Bill Wang at 514-398-6743 or email pkusummerchinese.eas@mcgill.ca. Applications are available at www.mcgill.ca/eas/peking.

Courses:

First Level Chinese
Second Level Chinese
Third Level Chinese

15.7.2 McGill Summer Courses in Italy

The Department of Italian Studies at McGill University offers up to 12 credits of courses given at the Centro Linguistico Dante Alighieri in Florence, Italy, during the months of May, June and July, 2009.

Location: Florence, Italy

Application Deadline: April 3, 2009

Application Details: Applications and information are available at www.mcgill.ca/italian. Students must fill out the application form and contact either of the program coordinators, Ms. Vanna Fonsato or Dr. Enrica Quaroni by email at florence.italian@mcgill.ca **BEFORE** registering on Minerva.

Courses:

ARTH 367	(3)	Italian Renaissance Art 2 Not offered: Summer 2009
CLAS 348	(3)	Greek and Roman Topography
ITAL 206	(6)	Beginners' Italian Intensive
ITAL 216	(6)	Intermediate Italian Intensive
ITAL 306	(6)	Advanced Reading and Composition
ITAL 307	(3)	Topics in Italian Culture
ITAL 308	(3)	Business Italian 1
ITAL 309	(3)	Perspectives on Italy
POLI 339	(3)	Comparative Developed: Topics 1

15.7.3 Desautels Faculty of Management

Courses are given abroad in the Summer session and cover essentially the same material as the equivalent courses given in Montreal. They will, however, be heavily influenced by the local business environment. Courses are offered in various locations.

For the most up-to-date information concerning Summer Abroad courses, please visit the Minerva class schedule at www.mcgill.ca/minerva-students.

Application Details: For registration and/or advising, please contact the BCom Student Affairs Office at 514-398-4068.

15.8 Off-Campus Courses

15.8.1 Architecture

Course:
ARCH 324 (1) Sketching School 1
(Summer-Section 001 (20-Aug-2009/28-Aug-2009)) (Prerequisite: ARCH 218) An eight-day supervised field trip in the late summer to sketch places or things having specific visual characteristics. Students are required to include Sketching School 1 in the B.Sc.(Arch.) program.

Course:
ARCH 379 (3) Summer Course Abroad
(Summer-Section 001 (08-June-2009/03-July-2009)) (Prerequisite: ARCH 202 or permission of instructor) (Restriction: Departmental permission required) Studies in-situ of key buildings, landscapes and urban settings; techniques of graphic documentations, analysis of physical configuration, constructional details and present use. Excursions to neighbouring sites of architectural interest.

Course:
ARCH 519 (3) Field Course Abroad
(Summer-Section 001 (08-June-2009/03-July-2009)) (Prerequisite: ARCH 304 or permission of instructor) (Restrictions: Limited enrolment; departmental permission required) (Note: Excursions to neighbouring sites of architectural interest) Advanced and comprehensive studies in-situ of key buildings, landscapes and urban settings; techniques of graphic documentations, analysis of physical configuration, constructional details and present use.

15.8.2 Art History & Communication Studies

Course:
ARTH 367 (3) Italian Renaissance Art 2

Not Offered: Summer 2009

15.8.3 Biology

The Faculty of Science offers the following biology courses off-campus.

BIOL 240	(3)	Monteregian Flora
BIOL 331	(3)	Ecology/Behaviour Field Course
BIOL 334D1/D2	(3)	Applied Tropical Ecology
BIOL 335	(3)	Marine Mammals
BIOL 573	(3)	Vertebrate Palaeontology Field Course

15.8.4 Classics

Course:
CLAS 348 (3) Greek and Roman Topography

Topic for Summer 2009: The Fall of the Republic. Examination of the rapidly changing political and urban landscapes of Roman Italy in the age of Sulla and Julius Caesar, through the analysis of ancient texts, material evidence, and monuments and architecture. Course will include visits to museums and archaeological sites in Florence, Fiesole, Rome and Pompeii. For specific details about course content, please see Prof. M. Fronda, Department of History.

Offered: Section 001 (04-May-2009/29-May-2009)

Location: Florence, Italy

Application Deadline: April 3, 2009

Application Details: Applications and information are available at www.mcgill.ca/italian. Prior to registration on Minerva, students must contact Dr. E. Quaroni or Ms. V. Fonsato at florence.italian@mcgill.ca.

15.8.5 Earth & Planetary Sciences

Two-week field studies (May) in selected branches of the geosciences to examine processes in geology.

EPSC 231 (3) Field School 1
EPSC 331 (3) Field School 2
EPSC 341 (3) Field School 3

15.8.6 East Asian Studies

The Department of East Asian Studies offers transfer credits for three levels of Chinese language at Peking University in China. The courses run from May 11 to July 17, 2009.

Location: Beijing, China

Application Details: For inquiries about the program, please contact the program coordinator Bill Wang at 514-398-6743 or email pkusummerchinese.eas@mcgill.ca. Applications are available at www.mcgill.ca/eas/peking.

Courses:

First Level Chinese

Second Level Chinese

Third Level Chinese

15.8.7 Geography

The Faculty of Science offers the following geography courses off-campus.

GEOG 290 (1) Local Geographical Excursion
GEOG 495 (3) Field Studies - Physical Geography
GEOG 496 (3) Geographical Excursion
GEOG 499 (3) Subarctic Field Studies

15.8.8 Italian Studies

The Department of Italian Studies at McGill University offers up to 12 credits of courses given at the Centro Linguistico Dante Alighieri in Florence, Italy.

Courses:

ITAL 206 (6) Beginners' Italian Intensive
ITAL 216 (6) Intermediate Italian Intensive
ITAL 306 (6) Advanced Reading and Composition
ITAL 307* (3) Topics in Italian Culture
ITAL 308 (3) Business Italian 1
ITAL 309** (3) Perspectives on Italy

*** Topic for May 2009:** Discourses of Love in Renaissance Florence. Taught in English. For specific details on course content, please consult Prof. M. Soranzo, Department of Italian Studies.

**** Topic for May 2009:** Florence and the Shaping of the Modern Imagination. Taught in English. For specific details on course content, please consult Prof. R. Castro, School of Architecture.

Offered: Please consult Class Schedule on Minerva at www.mcgill.ca/courses.

Location: Florence, Italy

Application Deadline: April 3, 2009

Application Details: Applications and information are available at www.mcgill.ca/italian. Prior to registration on Minerva, students must contact Dr. E. Quaroni or Ms. V. Fonsato at florence.italian@mcgill.ca.

15.8.9 Music

Course:

MUAR 387 (3) The Opera

Not Offered: Summer 2009

15.8.10 Political Science

Course:

POLI 339 (3) Comparative Developed: Topics 1

Topic for Summer 2009: Can the European Welfare State Survive? Exploration of the welfare state in Europe: its origins, evolution, and recent challenges. The first half of the course will look at the historical emergence of the welfare state, including the evolution of the role of the state in Europe; while the second half will focus on the retrenchment of the welfare state, the role of the European Union, and the new demographic and fiscal challenges. The Italian case will also be explored in comparative context, and relevant site visits are planned. For specific details about course content, please consult Prof. M. Brawley and Prof. A. Maioni, Department of Political Science.

Offered: Section 001 (04-May-2009/29-May-2009)

Location: Florence, Italy

Application Deadline: April 3, 2009

Application Details: Applications and information are available at www.mcgill.ca/italian. Prior to registration on Minerva, students must contact Dr. E. Quaroni or Ms. V. Fonsato at florence.italian@mcgill.ca.

Course Information, Regulations and Descriptions

Index of Courses by Subject Code and Faculty

Course Information and Regulations, page C-3

Course Numbering..... C-3
Multi-term Courses..... C-3
Course Terminology..... C-3
First-Year Seminars..... C-4
Faculty/School-Specific Information..... C-4
Course Symbols..... C-4

Agricultural and Environmental Sciences, page C-7

AEBI-Biology C-7
AECH-Chemistry C-7
AEHM-English C-8
AEMA-Mathematics C-8
AEPH-Physics C-9
AGEC-Agricultural Economics..... C-9
AGRI-Agriculture..... C-10
ANSC-Animal Science..... C-11
BINF-Bioinformatics..... C-13
BREE-Bioresource Engineering..... C-13
BTEC-Biotechnology..... C-15
CELL-Genetics..... C-16
ENTO-Entomology..... C-16
ENVB-Environmental Biology..... C-16
FDSC-Food Science..... C-17
LSCI-Life Sciences..... C-18
MICR-Microbiology C-19
NRSC-Natural Resource Sciences..... C-19
NUTR-Nutrition and Dietetics..... C-20
PARA-Parasitology..... C-23
PLNT-Plant Science..... C-23
SOIL-Soil Science..... C-24
WILD-Resource Development..... C-25
WOOD-Woodland Resources..... C-26

Faculty of Arts, page C-27

AFRI-African Studies..... C-27
ANTH-Anthropology..... C-27
ARLE-Arts Legacy..... C-32
ARTH-Art History..... C-32
CANS-Canadian Studies..... C-35
CATH-Catholic Studies..... C-36
CLAS-Classics..... C-36
COMS-Communication Studies..... C-38
EAPR-English for Academic Purposes..... C-39
EAST-Asian Language & Literature..... C-39
ECON-Economics C-44
ENGL-English C-48
ESLN-English as a Second Language..... C-53
FREN-French C-54
FRSL-French as a Second Language..... C-57
GERM-German C-59
HISP-Hispanic Studies C-61
HIST-History..... C-63
HMST-Humanistic Studies..... C-73
HPSC-Hist & Phil of Science..... C-74
HSEL-Health Science Electives..... C-74
INTD-International Development..... C-74
ISLA-Islamic Studies..... C-74
ITAL-Italian C-76
JWST-Jewish Studies..... C-79
LACS-Latin American & Caribbean St..... C-82
LING-Linguistics..... C-83
MEST-Middle East Studies..... C-84
MUAR-Music-Arts Faculty..... C-84
NAST-North American Studies..... C-85
PHIL-Philosophy..... C-85
PHWR-Philosophy & Western Religions..... C-89
POLI-Political Science..... C-89
QCST-Quebec Studies..... C-95
RUSS-Russian C-95
SDST-Sexual Diversity Studies..... C-97
SOCI-Sociology C-97
SSMD-Social Studies of Medicine..... C-102
SWRK-Social Work..... C-102
WMST-Women's Studies..... C-104

Interfaculty, B.A. & Sc., page C-106

BASC-Arts & Science..... C-106
COGS-Cognitive Science..... C-106

Faculty of Education, page C-107

EDEA-Arts Education..... C-107
EDEC-Curriculum and Instruction..... C-108
EDEE-Elementary Education..... C-110
EDEM-Admin & Policy Studies in Ed..... C-112
EDER-Religious Studies..... C-112
EDES-Secondary Education..... C-113
EDET-Vocational Education..... C-113
EDFC-Bachelor of Ed Core Program..... C-114
EDFE-Student Teaching..... C-114
EDFM-Education Field Montreal..... C-115
EDKP-Kinesiology&Physical Education..... C-115
EDPC-Ed Psych & Couns (Counselling)..... C-118
EDPE-Ed Psych & Couns (Psychology)..... C-119
EDPI-Ed Psych & Couns (Inclusive)..... C-119
EDPT-Ed Psych & Couns (Media)..... C-120
EDSL-Education in Second Languages..... C-120

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.

‡ Professional Practice (Stage) in Dietetics involving special prerequisites

✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

† Denotes courses not available as Education electives.

❒ Denotes courses with limited enrolment.

● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EDUM-Education University of MTL..... C-122

Faculty of Engineering, page C-124

ARCH-Architecture..... C-124
BMDE-Biomedical Engineering..... C-126
CHEE-Chemical Engineering..... C-127
CIVE-Civil Engineering..... C-129
ECSE-Electrical Engineering..... C-132
FACC-Faculty Course..... C-140
MECH-Mechanical Engineering..... C-140
MIME-Mining & Materials Engineering..... C-144
MPMC-McGill/Poly Mining Coop..... C-149
URBP-Urban Planning..... C-150

McGill School of Environment, page C-151

ENVR-Environment..... C-151

Desautels Faculty of Management, page C-153

ACCT-Accounting..... C-153
BUSA-Business Admin..... C-153
FINE-Finance..... C-154
INDR-Industrial Relations..... C-155
INSY-Information Systems..... C-156
MGCR-Management Core..... C-157
MGPO-Management Policy..... C-157
MGSC-Management Science..... C-158
MRKT-Marketing..... C-159
ORGB-Organizational Behaviour..... C-159

Schulich School of Music, page C-161

MUCO-Composition..... C-161
MUCT-Choral Techniques..... C-161
MUEN-Ensemble..... C-162
MUGT-General Music Techniques..... C-163
MUHL-Music History and Literature..... C-163
MUIN-Practical Instrument..... C-165
MUIT-Instrumental Techniques..... C-166
MUJZ-Jazz Studies..... C-167
MUMT-Music Technology..... C-168
MUPD-Music Professional Development..... C-169
MUPG-Performance..... C-169
MUPP-Performance Practice..... C-170
MUSP-Musicianship..... C-170
MUSR-Sound Recording..... C-171
MUTH-Music Theory and Analysis..... C-171

Faculty of Religious Studies, page C-174

RELG-Religious Studies..... C-174

Faculty of Science, page C-180

ANAT-Anatomy & Cell Biology..... C-180
ATOC-Atmospheric & Oceanic Sciences..... C-181
BIOC-Biochemistry..... C-182
BIOL-Biology..... C-184
BIOT-Biotechnology..... C-189
CHEM-Chemistry..... C-189
COMP-Computer Science..... C-194
EPSC-Earth & Planetary Sciences..... C-198
ESYS-Earth System Science..... C-201
EXMD-Experimental Medicine..... C-201
FIGS-Freshman Interest Groups..... C-202
FSCI-Faculty of Science..... C-202
GEOG-Geography..... C-202
MATH-Mathematics & Statistics..... C-207
MIMM-Microbiology and Immun..... C-214
NEUR-Neurology and Neurosurgery..... C-215
NSCI-Neuroscience..... C-215
PATH-Pathology..... C-216
PHAR-Pharmacology and Therapeutics..... C-216
PHGY-Physiology..... C-217
PHYS-Physics..... C-219
PSYC-Psychology..... C-222
PSYT-Psychiatry..... C-227
REDM-Redpath Museum..... C-227

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.

‡ Professional Practice (Stage) in Dietetics involving special prerequisites

✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

† Denotes courses not available as Education electives.

❒ Denotes courses with limited enrolment.

● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

COURSE INFORMATION, REGULATIONS AND DESCRIPTIONS

1 Search Tools

Course listing search: Click on www.mcgill.ca/courses/listing_search to search for descriptions of all courses and the term when they are offered.

Course keyword search: Click on www.mcgill.ca/courses/keyword_search to search for courses using specific keywords in the free-form field below the term selection.

Class Schedule: Click on Class Schedule to search by term for course sections offered. This includes class times, locations and instructors.

2 Course Information and Regulations

Students are advised to refer also to the General Information and Regulations section of this Calendar, in particular "Registration", section 3.3 and "Student Records", section 3.5.

The University reserves the right to make changes without prior notice to the information contained in this publication, including the revision or cancellation of particular courses or programs.

At the time this Calendar was published, new courses and modifications to some existing courses were under consideration. Students preparing to register are advised to consult Class Schedule on the web at www.mcgill.ca/courses for the most up-to-date information on courses to be offered in 2009-10.

Not all courses listed are offered every year.

2.1 Course Numbering

Each McGill course is assigned a unique seven-character course "number".

The first four characters (Subject Code) refer to the unit offering the course.

These codes were implemented in September 2002, replacing the three-number Teaching Unit Codes previously used. A complete list of Teaching Unit Codes and their Subject Code equivalents can be found on the web at www.mcgill.ca/student-records/transcripts.

The three numbers following the Subject Code refer to the course itself, with the first of these indicating the level of the course.

- Courses numbered at the 100, 200, 300, and 400 levels are intended for undergraduate students. In most programs courses at the 300 level and 400 level are normally taken in the student's last two years.
- Courses at the 500 level are intended for graduate students, but may also be open to qualified senior undergraduate students.
- Courses at the 600 and 700 level are intended for graduate students only.

Two additional characters (D1, D2, N1, N2, J1, J2, J3) at the end of the seven-character course number identifies multi-term courses.

2.2 Multi-term Courses

Most courses at McGill are single term (Fall or Winter or Summer) courses with final grades issued and any credits earned recorded at the end of that term. Single term courses are identified by a seven-character course number.

A unit may, however, decide that the material to be presented cannot be divided into single term courses or it is preferable that the work to be done is carried out over two, or three, terms. Under such circumstances, courses are identified by a two-character extension of the course number.

In some cases, the same course may be offered in various ways: as a single term and/or in one or more multi-term versions. The course content and credit weight is equivalent in all modes, the only difference being the scheduling, and students cannot obtain credit for more than one version.

Courses with numbers ending in D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for the same section of both the D1 and D2 components. When registering for a Fall term D1 course on Minerva, the student will automatically be registered for the Winter term D2 portion. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms, e.g., Fall 2009 and Winter 2010.

Courses with numbers ending in N1 and N2 are taught in two non-consecutive terms (Winter and Fall). Students must register for the same section of both the N1 and N2 components. No credit will be given unless both components (N1 and N2) are successfully completed within a twelve (12) month period.

Courses with numbers ending in J1, J2 and J3 are taught over three consecutive terms. Students must register for the same section of all three components (J1, J2, J3). No credit will be given unless all three components are successfully completed.

IMPORTANT CONDITIONS FOR MULTI-TERM COURSES

1. **Students must be registered for each component of the multi-term course. Students must ensure that they are registered in the same section in each term of the multi-term course.**
2. **Students must successfully complete each component in sequence as set out in the multi-term course. Credit is granted only at the end of the multi-term course; no credit is given for partial completion.**

2.3 Course Terminology

Prerequisite: Course A is prerequisite to course B if a satisfactory pass in course A is required for admission to course B.

Corequisite: Course A is corequisite to course B if course A must be taken concurrently with (or may have been taken prior to) course B.

Credits: The credit weight of each course is indicated in parentheses beside the course title. For D1 and D2 courses the credit weight is indicated after the course number. For further information refer to section 3.5.2 "Credit System".

COURSE NOMENCLATURE IN PROGRAM DESCRIPTIONS:

Required Courses: Courses that must be completed to fulfil the requirements of a major, minor, etc., unless the student receives exemptions. Students have no choices among required courses.

Complementary Courses: A set of alternative courses that can be taken to fulfil the requirements of a major, minor, etc. Students choose a specified number of courses from the set.

Elective Courses: Courses that do not count toward the fulfillment of the requirements of a major, minor, etc. They are often, but need not be, selected from outside a student's program of study. Some restrictions may apply, but students have the most choice in selecting elective courses. Some faculties also permit students to take elective courses using the satisfactory/unsatisfactory option. Consult your faculty regulations concerning elective courses.

2.4 First-Year Seminars

First-Year Seminars (FYS) are limited-enrolment credit courses offered by the Faculties of Arts and Science to students in their first year of undergraduate study at McGill, i.e., newly admitted students in U0 or U1. Students in any faculty can enrol in an FYS, subject to the conditions and/or restrictions of the program in which they are registered. Students may take only one FYS.

FYS classes are limited to a maximum of 25 students and are designed to provide closer interaction with the professor and better working relations with peers than are available in large introductory courses. The seminars endeavour to teach the latest scholarly developments and expose participants to advanced research methods. Registration is on a first-come, first-served basis.

For a listing of First-Year Seminars, see Faculty of Arts, section 6.12.1 "First-Year Seminars", and Faculty of Science, section 14.5.2.1 "Registration for First-Year Seminars".

2.5 Faculty/School-Specific Information

All students **must** comply with the regulations and requirements contained in their Faculty section of this Calendar.

Agricultural and Environmental Sciences
Students should note that there are no supplemental examinations in Agricultural and Environmental Sciences, and that the final examination period timetable for the term is posted before the commencement of classes.

Arts
All Arts courses have limited enrolment.

Term(s) offered (Fall, Winter, Summer) may appear after the course credit weight to indicate when a course would **normally** be taught.

For Faculty specific program and course Information, refer to:
section 6.3.5 "Program Requirements",
section 6.3.6 "Course Requirements",
section 6.5.2 "Course Registration".

Education
Some courses will be available in the evenings only, through the Centre for Continuing Education, or will be offered during the Summer term.

Students should give particular notice to prerequisite and corequisite courses and registration for Field Experience courses.

Engineering
Most courses offered by the Faculty of Engineering are limited to Engineering students only. Non-Engineering students should obtain permission from the Associate Dean of their Faculty, and the Faculty Student Adviser in the Faculty of Engineering Student Affairs Office, to register for Engineering courses.

A limited number of School of Architecture (ARCH) courses are open to students not registered in the School. Please refer to individual course descriptions.

The average division of time for a course is indicated in hours in the course listing after the course credit. For example, (3) (3-0-6) indicates a three-credit course consisting of three lecture hours per week, no other contact hours and six hours of personal study per week.

Management
Management students should give particular notice to: section 11.4 "Grading and Credit", section 11.5 "BCom Program Credit Structure" and, especially for students new to the program, section 11.7 "Management Core".

Science
All Science courses have limited enrolment.

Term(s) offered (Fall, Winter, Summer) may appear after the course credit weight to indicate when a course would **normally** be taught.

For Faculty specific program and course Information, refer to:
section 14.3.5 "Program Requirements",
section 14.3.6 "Course Requirements",
section 14.5.2 "Course Registration".

2.6 Course Symbols

The symbols listed below may appear in front of courses described in this Calendar. When used, they represent the following information:

★ Denotes courses taught only in alternate years.

♦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

▭ Denotes courses with limited enrolment.

Faculties of Arts and Science symbol:

● Denotes courses not offered in 2009-10.

Faculty of Education symbols:

† Denotes courses not available as Education electives.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

✻ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

School of Dietetics and Human Nutrition symbol:

‡ Professional Practice (Stage) in Dietetics involving special prerequisites.

Please consult the Class Schedule on the web at www.mcgill.ca/courses for the most up-to-date information about courses that are being offered in a given term.

by Subject Code

ACCT-Accounting..... C-153
AEBI-Biology C-7
AECH-Chemistry C-7
AEHM-English C-8
AEMA-Mathematics C-8
AEPH-Physics C-9
AFRI-African Studies..... C-27
AGEC-Agricultural Economics..... C-9
AGRI-Agriculture..... C-10
ANAT-Anatomy & Cell Biology..... C-180
ANSC-Animal Science..... C-11
ANTH-Anthropology..... C-27
ARCH-Architecture..... C-124
ARLE-Arts Legacy..... C-32
ARTH-Art History..... C-32
ATOC-Atmospheric & Oceanic Sciences..... C-181
BASC-Arts & Science..... C-106
BINF-Bioinformatics..... C-13
BIOC-Biochemistry..... C-182
BIOL-Biology C-184
BIOT-Biotechnology..... C-189
BMDE-Biomedical Engineering..... C-126
BREE-Bioresource Engineering..... C-13
BTEC-Biotechnology..... C-15
BUSA-Business Admin..... C-153
CANS-Canadian Studies..... C-35
CATH-Catholic Studies..... C-36
CELL-Genetics..... C-16
CHEE-Chemical Engineering..... C-127
CHEM-Chemistry..... C-189
CIVE-Civil Engineering..... C-129
CLAS-Classics..... C-36
COGS-Cognitive Science..... C-106
COMP-Computer Science C-194
COMS-Communication Studies..... C-38
EAPR-English for Academic Purposes..... C-39
EAST-Asian Language & Literature..... C-39
ECON-Economics C-44
ECSE-Electrical Engineering..... C-132
EDEA-Arts Education..... C-107
EDEC-Curriculum and Instruction..... C-108
EDEE-Elementary Education..... C-110
EDEM-Admin & Policy Studies in Ed..... C-112
EDER-Religious Studies..... C-112
EDES-Secondary Education..... C-113
EDET-Vocational Education..... C-113
EDFC-Bachelor of Ed Core Program..... C-114
EDFE-Student Teaching..... C-114
EDFM-Education Field Montreal..... C-115
EDKP-Kinesiology&Physical Education..... C-115
EDPC-Ed Psych & Couns (Counselling)..... C-118
EDPE-Ed Psych & Couns (Psychology)..... C-119
EDPI-Ed Psych & Couns (Inclusive)..... C-119
EDPT-Ed Psych & Couns (Media)..... C-120
EDSL-Education in Second Languages..... C-120
EDUM-Education University of MTL..... C-122
ENGL-English C-48
ENTO-Entomology..... C-16
ENVB-Environmental Biology..... C-16
ENVR-Environment..... C-151
EPSC-Earth & Planetary Sciences..... C-198
ESLN-English as a Second Language..... C-53
ESYS-Earth System Science..... C-201
EXMD-Experimental Medicine..... C-201
FACC-Faculty Course..... C-140
FDSC-Food Science..... C-17
FIGS-Freshman Interest Groups..... C-202
FINE-Finance..... C-154
FREN-French C-54
FRSL-French as a Second Language..... C-57
FSCI-Faculty of Science..... C-202
GEOG-Geography..... C-202
GERM-German C-59
HISP-Hispanic Studies C-61
HIST-History..... C-63
HMST-Humanistic Studies..... C-73
HPSC-Hist & Phil of Science..... C-74
HSEL-Health Science Electives..... C-74
INDR-Industrial Relations..... C-155
INSY-Information Systems..... C-156
INTD-International Development..... C-74
ISLA-Islamic Studies..... C-74
ITAL-Italian C-76
JWST-Jewish Studies..... C-79
LACS-Latin American & Caribbean St..... C-82
LING-Linguistics..... C-83
LSCI-Life Sciences..... C-18
MATH-Mathematics & Statistics C-207
MECH-Mechanical Engineering..... C-140
MEST-Middle East Studies..... C-84
MGCR-Management Core..... C-157
MGPO-Management Policy..... C-157
MGSC-Management Science..... C-158
MICR-Microbiology C-19
MIME-Mining & Materials Engineering..... C-144
MIMM-Microbiology and Immun C-214
MPMC-McGill/Poly Mining Coop..... C-149
MRKT-Marketing..... C-159
MUAR-Music-Arts Faculty..... C-84
MUCO-Composition..... C-161

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.

‡ Professional Practice (Stage) in Dietetics involving special prerequisites

✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

† Denotes courses not available as Education electives.

❒ Denotes courses with limited enrolment.

● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUCT-Choral Techniques..... C-161
MUEN-Ensemble..... C-162
MUGT-General Music Techniques..... C-163
MUHL-Music History and Literature..... C-163
MUIN-Practical Instrument..... C-165
MUIT-Instrumental Techniques..... C-166
MUJZ-Jazz Studies..... C-167
MUMT-Music Technology..... C-168
MUPD-Music Professional Development..... C-169
MUPG-Performance..... C-169
MUPP-Performance Practice..... C-170
MUSP-Musicianship..... C-170
MUSR-Sound Recording..... C-171
MUTH-Music Theory and Analysis..... C-171
NAST-North American Studies..... C-85
NEUR-Neurology and Neurosurgery..... C-215
NRSC-Natural Resource Sciences..... C-19
NSCI-Neuroscience..... C-215
NUTR-Nutrition and Dietetics..... C-20
ORGB-Organizational Behaviour..... C-159
PARA-Parasitology..... C-23
PATH-Pathology..... C-216
PHAR-Pharmacology and Therapeutics..... C-216
PHGY-Physiology..... C-217
PHIL-Philosophy..... C-85
PHWR-Philosophy & Western Religions..... C-89
PHYS-Physics..... C-219
PLNT-Plant Science..... C-23
POLI-Political Science..... C-89
PSYC-Psychology..... C-222
PSYT-Psychiatry..... C-227
QCST-Quebec Studies..... C-95
REDM-Redpath Museum..... C-227
RELG-Religious Studies..... C-174
RUSS-Russian C-95
SDST-Sexual Diversity Studies..... C-97
SOCI-Sociology C-97
SOIL-Soil Science..... C-24
SSMD-Social Studies of Medicine..... C-102
SWRK-Social Work..... C-102
URBP-Urban Planning..... C-150
WILD-Resource Development..... C-25
WMST-Women's Studies..... C-104
WOOD-Woodland Resources..... C-26

Agricultural and Environmental Sciences

AEBI-Biology

Offered by: Parasitology, Natural Resource Sciences, Plant Science

AEBI 120 General Biology.
(3) (Fall) (2 lectures and one 3-hour lab) (Restriction: Not open to students who have passed CEGEP objective 00UK or equivalent (formerly Biology 301)) An introduction to the structure, function and adaptation of plants and animals in the biosphere.

AEBI 210 Organisms 1.
(3) (Restriction(s): Not open to students who have taken PLNT 201 or PLNT 211) (2 hour lecture and 3 hour lab) The biology of plants and plant-based systems in managed and natural terrestrial environments. The interactions between autotrophs and soil organisms and selected groups of animals with close ecological and evolutionary connections with plants (e.g., herbivores and pollinators) will be explored in lecture and laboratory.

AEBI 211 Organisms 2.
(3) (Winter) (Restriction: Not open to students who have taken WILD 200) Introduction to the biology, physiology, structure and function of heterotrophs and their interactions with other organisms. This course will focus on animals in terrestrial, freshwater and marine environments. Topics include bioenergetics and functional metabolism, adaptations to environments, animal-animal, animal-plant, and animal-pathogen interactions.

AEBI 212 Evolution and Phylogeny.
(3) (Winter) (Restriction: Not open to students who have taken WILD 212.) A phylogenetic-based overview of the tree of life and examination of relationships between major taxa, from bacteria and archaea to eukaryotes. Evolution will be discussed via topics including: evolution by natural selection, neo-Darwinism and alternatives, myths and misconceptions in evolution, species and speciation.

AEBI 421 Tropical Horticultural Ecology.
(3) (Corequisite(s): AEBI 423, AEBI 425, AEBI 427) (Restriction: Restricted to students that are participating in the Barbados Interdisciplinary Tropical Studies Field Semester) A comprehensive survey of the major fruit, vegetable, turf, and ornamental crops grown in Barbados. Effect of cultural practices, environment, pests and pathogens, social and touristic activities, and importation of horticultural produce on local horticulture.

AEBI 423 Sustainable Land Use.
(3) (Corequisite(s): AEBI 421, AEBI 425, AEBI 427) (Restriction: Restricted to students that are participating in the Barbados Interdisciplinary Tropical Studies Field Semester) Management, preservation, and utilization of forage crops in sustainable tropical environments; examination of their value as livestock feed in terms of nutritional composition and impact on animal performance; land use issues as it pertains to forage and animal production in insular environments.

AEBI 425 Tropical Energy and Food.
(3) (Corequisite(s): AEBI421, AEBI 423 and AEB1427.) (Restriction: Restricted to students that are participating in the Barbados Interdisciplinary Tropical Studies Field Semester) Tropical biofuel crops, conversion processes and final products, particularly energy and greenhouse gas balances and bionutraceuticals. Topics include effects of process extraction during refining on biofuel economics, the food versus fuel debate and impact of biofuels and bioproducts on tropical agricultural economics.

AEBI 427 Barbados Interdisciplinary Project.
(6) (Corequisite(s): AEBI 421, AEBI 423 and AEBI 425) (Restriction(s): Restricted to students that are participating in the Barbados Interdisciplinary Tropical Studies Field Semester) The planning of projects and research activities related to tropical food, nutrition, or energy at the local, regional, or national scale in Barbados. Projects and activities designed in consultation with university instructors, government, NGO, or private partners, and prepared by teams of 2-4 students working cooperatively with these mentors.

AEBI 451 Research Project 1.
(3) (Fall and Winter) (Prerequisite(s): AEHM 205 and permission of instructor.) (Restriction: Not open to students who have taken MICR 481.) (Enrolment is limited by availability of research project supervisors. Students should make arrangements with a willing supervisor, and the proposed supervisor and project are subject to approval. Recommended for students in their final year (U3).) (Minimum 3.0 CGPA) A research project on a topic relevant to the fields of Environmental Biology or Life Sciences. This course is intended for senior undergraduates.

AEBI 452 Research Project 2.
(3) (Fall and Winter) (Prerequisite: AEBI 451) (Restriction(s): Enrolment is limited by availability of research project supervisors. Students should make arrangements with a supervisor; the proposed supervisor and project are subject to approval. Not open to students who have taken MICR 482.) Continuation of the project begun in AEBI 451 on a topic relevant to the fields of environmental biology or life sciences.

AEBI 491 Scientific Communication.
(1) (Winter) (Prerequisite: AEHM 205) (Restriction(s): Not open to students who have taken NRSC 491 or NRSC 492 or NRSC 391) Students will research and present a seminar on an approved topic, with the goal of developing their research and oral presentation skills. Presentations will include elements of the experimental science method (goals, hypotheses, methods, results, interpretations) and detailed coverage of at least one experiment.

AECH-Chemistry

Offered by: Bioresource Engineering

AECH 110 General Chemistry 1.
(4) (Fall) (3 lectures, one 3 hour lab, and one tutorial hour) (Restriction: Note open to students who have taken FDSC 110.) The course will be a study of the fundamental principles of atomic structure, valence theory and the periodic table.

AECH 111 General Chemistry 2.
(4) (Winter) (3 lectures, one 3 hour lab, and one tutorial hour) (Prerequisite(s): FDSC 110 or AECH 110) (Restriction: Not open to students who have taken FDSC 111.) Bonding theories and major functional groups such as hydrocarbons, alcohols, amines, carbonyl compounds and their derivatives. Organic chemistry related to biochemistry including amino acids, proteins, enzymes, carbohydrates and lipids. Introduction to various laboratory techniques such as purification distillation, re-crystallization and extraction.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

AEHM-English

Offered by: Agricultural & Env.Sc.-Dean

AEHM 205 Science Literacy.
(3) (Prerequisite: Students required to pass an English literacy pre-test administered by course instructors.) Development of language and information literacy. Problem-based approach using science topics from specializations offered by the Faculty will be central to skill development. The course includes how to research and compose work in scientific format and will encourage a reader-oriented style.

AEHM 300 ESL: High Intermediate 1.
(3) (3 hours) (Prerequisite: placement test) (Restrictions: open to full-time, non-anglophone students. Not eligible for ESL courses are: 1. non-anglophone students who, for a period of more than four years, have attended secondary institutions (high school and CEGEP) where the primary language of instruction was English, and 2. students who have taken university-level courses judged to be equivalent to the McGill courses AEHM 300 and ESLN 300; AEHM 301 and ESLN 301. These courses are equivalent and mutually exclusive.) (Students too weak in English for AEHM 300 should inquire about the ESLN 200 and ESLN 201 courses offered on the Downtown Campus by the Faculty of Arts.) Improves proficiency of general writing skills while developing reading, oral and aural skills. Focuses on the structure of the English language and the process required to produce coherent short papers. Emphasis on the English of food, agriculture, and the environment.

AEHM 301 ESL: High Intermediate 2.
(3) (3 hours) (Prerequisite: AEHM 300 or placement test) (Restrictions: open to full-time, non-anglophone students. Not eligible for ESL courses are: 1. non-anglophone students who, for a period of more than four years, have attended secondary institutions (high school and CEGEP) where the primary language of instruction was English, and 2. students who have taken university-level courses judged to be equivalent to the McGill courses AEHM 300 and ESLN 300; AEHM 301 and ESLN 301. These courses are equivalent and mutually exclusive.) (Students too weak in English for AEHM 300 should inquire about the ESLN 200 and ESLN 201 courses offered on the Downtown Campus by the Faculty of Arts.) A continuation of AEHM 300. Further improves proficiency of general writing skills while developing reading, oral and aural skills. Focuses on the structure of the English language and the process required to produce coherent short papers. Emphasis on the English of food, agriculture, and the environment.

AEHM 330 Academic and Scientific Writing.
(3) (3 hours) (Prerequisite: entrance test.) The object of the course is to enable students who have previously mastered the basic elements of written English to produce well-written, well-researched, and well-documented scientific papers for an academic audience.

AEMA-Mathematics

Offered by: Parasitology, Bioresource Engineering, Natural Resource Sciences, Animal Science, Plant Science

AEMA 100 Precalculus Mathematics.
(3) (Summer) (Note: This course is given during a three to four week period prior to commencement of the normal Fall semester.) A review of fundamentals in: algebra concepts, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, graphs and equations, trigonometry, analytic trigonometry, systems of linear equations, and an introduction to sequences and series. This course does not count as credit towards students' degree program.

AEMA 101 Calculus 1.
(3) (3 lectures) (Prerequisite: a course in functions) A review of functions and graphs. Limits, continuity, derivatives. Differentiation of elementary functions. Anti-differentiation. Applications.

AEMA 102 Calculus 2.
(4) (3 lectures) (Prerequisite: Calculus 1 or equivalent) Integration, the indefinite and definite integral. Trapezoidal and Simpson's Rule approximations for the integral. Applications to areas between curves, distance, volume, length of a curve, work, area of a surface of revolution, average values, moments, etc. Improper integrals and infinite series.

AEMA 202 Intermediate Calculus.
(3) (Fall) (3 lectures and 1 conference) (Restrictions: Not open to students who have taken MATH 222) (Prerequisites: BREE 103 and AEMA 102 or equivalent CEGEP objectives 00UP and 00UQ or permission of instructor) Partial differentiation; multiple integrals; vector calculus; infinite series; and introduction to the use of computer-based mathematical tools in applications.

AEMA 305 Differential Equations.
(3) (Winter) (Restrictions: Not open to students who have taken MATH 315) (Prerequisite: AEMA 202 or equivalent) First and second order differential equations, Laplace transforms, numerical solutions, systems of differential equations, series solutions, applications to biological, chemical and engineering systems, use of computer-based mathematical tools.

AEMA 310 Statistical Methods 1.
(3) (Two 1.5-hour lectures and one 2-hour lab) Measures of central tendency and dispersion; binomial and Poisson distributions; normal, chi-square, Student's t and Fisher-Snedecor F distributions; estimation and hypothesis testing; simple linear regression and correlation; analysis of variance for simple experimental designs.

AEMA 403 Environmetrics Stage.
(3) (Limited enrolment: Registration by application - Deadline December 15; the first seven applications received will have priority) (Prerequisite: Permission of the instructor based on satisfactory completion of the U2 year of the Environmetrics Domain in the McGill School of Environment) Summer stage of at least four weeks, including a report. Provides students with professional experience in statistical analyses of environmental data. Can be undertaken at federal or provincial research stations and university research laboratories.

AEMA 406 Quantitative Methods: Ecology.
(3) (Prerequisite(s): AEMA 310 and ENVB 305) (Restriction(s): Not open to students who have taken AEMA 306) Advanced concepts in theoretical and applied quantitative ecology. Topics include: community matrices, modeling populations and community dynamics, use of null models in ecology, biodiversity assessment and measurement, ordination and multivariate statistics, use of information criterion and bayesian statistics.

✶AEMA 411 Experimental Designs 01.
(3) (Two 1.5-hour lectures) (Prerequisite: AEMA 310 or equivalent) (Offered in alternate years with AEMA 414) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) General principles of experimental design, split-plot designs, spatial heterogeneity and experimental design, incomplete block designs and unbalanced designs, analysis of repeated measures, multivariate and modified univariate analyses of variance, central composite designs.

✶AEMA 414 Temporal and Spatial Statistics 01.
(3) (Two 1.5-hour lectures) (Prerequisite: AEMA 310 or equivalent) (Offered in alternate years with AEMA 411) Temporal statistics: analysis in the time domain, Box-Jenkins forecasting methodology, analysis in the frequency domain, periodogram analysis. Spatial statistics: mapping, autocorrelogram analysis, geostatistics. Statistical inference with autocorrelated sample data.

AEPH-Physics

Offered by: Bioresource Engineering

AEPH 110 Preparatory Physics.
(3) (Note: This course is given during a three to four week period prior to commencement of the normal Fall semester.) An introduction to properties of matter, heat and temperature, light, magnetism, electric circuits, optics and kinematics. This course does not count as credit towards students' degree program.

AEPH 112 Introductory Physics 1.
(4) (Fall) (3 lecture hours, 2 lab hours, 2 tutorial hours) (Prerequisite: AEMA 100 (or MATH 112) and AEPH 110, or equivalents, or permission of instructor) (Corequisite: AEMA 101 (or MATH 139) or higher level calculus course or CEGEP objective 00UN, or permission of instructor) (Restriction: Not open to students who have taken PHYS 101 or PHYS 131 or AEPH 113 or CEGEP objective 00UR or equivalent. Not open to students in Bioresource Engineering.) Accelerated motion. Newton's Laws. Force, work and energy, power; momentum. Conservation principles. Circular motion. Simple harmonic motion. Waves and sound.

AEPH 113 Physics 1.
(4) (3 lectures, one 2-hour lab and tutorial) (Prerequisite: Precalculus Mathematics AEMA 100 or equivalent. Preparatory Physics AEPH 110 or equivalent) (Corequisite: AEMA 101) (Note: Not open to students who have taken AEPH 112, PHYS 101 or PHYS 131, and open to students in Bioresource Engineering) The basic laws and principles of Newtonian mechanics - oscillations and waves. Includes calculus-based applications.

AEPH 114 Introductory Physics 2.
(4) (Winter) (3 lecture hours, 2 lab hours, 2 tutorial hours) (Prerequisite: AEPH 112 or AEPH 113 or PHYS 101 or PHYS 131 or CEGEP objective 00UR or equivalents, or permission of instructor) (Corequisite: AEMA 102 (or MATH 141 or higher level calculus course) or CEGEP objective 00UP, or permission of instructor.) (Restriction: Not open to students who have taken PHYS 102 or PHYS 142 or AEPH 115 or CEGEP objective 00US or equivalent. Not open to students in Bioresource Engineering.) Electric and magnetic properties of matter: electrostatics, electric currents, the link between electric and magnetic phenomena, geometrical optics, interference diffraction.

AEPH 115 Physics 2.
(4) (3 lectures, one 2-hour lab and tutorial) (Prerequisites: AEPH 113, AEMA 101) (Corequisite: AEMA 102) (Note: Not open to students who have taken AEPH 114, PHYS 102 or PHYS 142, and open only to students in Bioresource Engineering) The basic laws of electricity and magnetism - geometrical and physical optics. Includes calculus-based applications.

AGEC-Agricultural Economics

Offered by: Natural Resource Sciences, Agricultural Economics

AGEC 200 Principles of Microeconomics.
(3) (Fall) (3 lectures) The field of economics as it relates to the activities of individual consumers, firms and organizations. Emphasis is on the application of economic principles and concepts to everyday decision making and to the analysis of current economic issues.

✶AGEC 201 Principles of Macroeconomics.
(3) (Winter) (3 lectures) (Prerequisite: AGEC 200 or equivalent) The overall economic system, how it works, and the instruments used to solve social problems. Emphasis will be on decision-making involving the entire economic system and segments of it.

AGEC 231 Economic Systems of Agriculture.
(3) (Winter) (3 lectures) (Prerequisite: AGEC 200 or equivalent) The structure and organization of Canada's agriculture-food system, the operation, financing, linkages, and functions of its components. Focus to be on management of the various components and the entire system, types of problems confronted now and in the future.

AGEC 242 Management Theories and Practices.
(3) (Fall) (3 lectures) An introduction to contemporary management theories and practices in organizations of the food sector.

AGEC 320 Intermediate Microeconomic Theory.
(3) (Winter) (3 lectures) (Prerequisite: AGEC 200 or equivalent) An intermediate theory course in agricultural economics, dealing with economic concepts as applied to agricultural production and cost functions. Includes theory and application of linear programming as related to production decisions.

✶AGEC 330 Agriculture and Food Markets.
(3) (Fall) (Prerequisite: AGEC 200 or equivalent) (Restriction: Not open to students who have taken AGEC 440) Nature and organization of agricultural and food markets as economic institutions, including the application of economic theory to problems within the agri-food marketing chain. Spatial and temporal price relationships, and the role of market structure.

AGEC 332 Farm Management and Finance.
(3) (Fall) (Prerequisite: AGEC 200 or equivalent) (Restriction: Not open to students who have taken AGEC 331 or AGEC 350) Managing and financing a farm business. Topics include: the decision making process, farm management and economic concepts, the analysis of financial statements, farm planning and budgeting, input management, investment analysis, risk in financial management, the acquisition and cost of capital.

AGEC 333 Resource Economics.
(3) (Fall) (Prerequisites: AGEC 200 or equivalent) The role of resources in the environment, use of resources, and management of economic resources within the firm or organization. Problem-solving, case studies involving private and public decision-making in organizations are utilized.

AGEC 343 Accounting and Cost Control.
(3) (Fall) (3 lectures) An introduction to the basic principles and concepts of responsibility accounting and cost control, analysis and utilization of financial statements and control system data for decision making.

✶AGEC 425 Applied Econometrics.
(3) (Fall) (3 lectures) (Prerequisites: AEMA 310, AGEC 200 and AGEC 201 or equivalents) The theory and application of econometrics to empirical issues in agriculture and environment. Diagnosis and treatment of standard violations of the assumptions underlying ordinary least squares.

AGEC 430 Agriculture, Food and Resource Policy.
(3) (Winter) (3 lectures) (Prerequisites: AGEC 200 or equivalent) Examination of North American and international agriculture, food and resource policies, policy instruments, programs and their implications. Economic analysis applied to the principles, procedures and objectives of various policy actions affecting agriculture, and the environment.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

AGEC 442 Economics of International Agricultural Development.
(3) (Winter) (3 lectures) (Prerequisites: AGEC 200 or AGEC 201 or equivalent) The course deals with economic aspects of international development with emphasis on the role of food, agriculture and the resource sector in the economy of developing countries. Topics will include world food analysis, development project analysis and policies for sustainable development. Development case studies will be used.

✶AGEC 450 Agriculture Business Management.
(3) (Winter) (3 lectures) (Prerequisites: AGEC 230 and AEMA 310) Management of operations in agribusiness firms. The use of computer models to make decisions on output mix, facility location, expansion, inventory management and production and strategy.

AGEC 491 Research & Methodology.
(3) (Fall) (3 lectures) (Prerequisites: AGEC 201 or equivalent, and AGEC 320) Conceptual and philosophical foundations of research methodology, and the procedural aspects of planning, designing and conducting research in applied economics.

AGEC 492 Special Topics in Agricultural Economics 01.
(3) (Fall, Winter) (Prerequisite: AGEC 201 or equivalent) Students will pursue topics that are not otherwise available in formal courses. An individual course of study will be followed under the supervision of a member of the staff qualified in the appropriate discipline or area.

AGEC 493 Special Topics in Agricultural Economics 02.
(3) Presentation and discussion of current problems in agricultural economics by staff and/or special guests. This course is offered on an irregular basis under special circumstances.

AGRI-Agriculture

Offered by: Bioresource Engineering, Natural Resource Sciences, Animal Science, Food Science & Agr-Chemistry, Plant Science, Agricultural & Env.Sc.-Dean

AGRI 195 Freshman Seminar 1.
(0.5) (Fall) (Restriction: Open only to Freshman Students. Not open to students who have taken BREE 187) Members of the Faculty and/or Student Services will present seminars on resources available to help students develop the requisite skills to facilitate their transition into university life.

AGRI 196 Freshman Seminar 2.
(0.5) (Winter) (Restriction: Freshman students) Member of the Faculty will present seminars on topical issues about their area of research.

AGRI 210 Agro-Ecological History.
(3) (3 lectures) Introduction to the environmental consequences of agriculture through time, relating the cultural diversity of agronomic practices to regionally varied ecological processes.

AGRI 215 Agro-Ecosystems Field Course.
(3) (Restriction: Not open to students who have taken PLNT 215.) Through case studies and field trips, students will examine the problems and constraints within the Canadian agro-ecosystem, including the interrelationships among food production, the environment, agricultural policy and social issues. Research in this field of study will also be introduced.

AGRI 220 Professional Practice Seminar 1.
(0.5) Experiences and responsibilities of Agrologists; legal and ethical aspects of the profession.

AGRI 295 Undergraduate Seminar 1.
(0.5) (Restriction(s): Open only to U1 students. Not open to students who have taken AGRI 195 or BREE 187) Members of the Faculty and/or Student Services will present seminars on resources available to help students develop the requisite skills to facilitate their transition into university life.

AGRI 296 Undergraduate Seminar 2.
(0.5) (Restriction(s): Open only to U1 students. Not open to students who have taken AGRI 196 or BREE 188) Members of the Faculty will present seminars on topical issues about their area of research.

✶AGRI 305 Barbados Agro-Ecosystems.
(3) Complexities affecting sustainable agriculture of a small island nation. Social, economic and physical factors that influence environmental choices. Includes lectures at Macdonald campus and a 12-day stay at Bellairs, Barbados.

AGRI 310 Internship in Agriculture/Environment.
(3) (Restriction: Not open to students who have taken AGRI 201D1,D2.) Internship on working farms or in other appropriate businesses of the agri-food/environment industries.

AGRI 330 Agricultural Legislation.
(1) (Restriction(s): Not open to students who have taken AGRI 220,AGRI 221, AGRI 320, AGRI 321, AGRI 420, AGRI 421.) Canadian and provincial laws and regulations relating to agriculture.

AGRI 340 Principles of Ecological Agriculture.
(3) (3 lectures and one 2-hour seminar) (Restriction: Not open to students who have taken AGRI 250) Focus on low-input, sustainable, and organic agriculture: the farm as an ecosystem; complex system theory; practical examples of soil management, pest control, integrated crop and livestock production, and marketing systems.

AGRI 341 Ecological Agriculture Systems.
(3) (2 lectures and 1 conference) (Restriction: Not open to students who have taken AGRI 430) An overview and presentation of alternative agricultural production systems including low-input, organic, biodynamic, community supported agriculture, the agroecosystem concept, historical overview, ecological basis, key characteristics and functioning, impact of policies, and the transition process.

AGRI 410D1 (3), AGRI 410D2 (3) Agrology Internship.
(Restriction: Not open to students who have taken AGRI 301D1,D2.) Professional internship (stage) under the supervision of a practicing agrologist.

AGRI 411 International Agriculture.
(3) (Winter) (3 lectures and 1 conference) A study of the climate, soils and major economic plant and animal species in tropical and sub-tropical regions; cropping and agro-forestry systems; pest and disease problems; soil and water management; environmental, health and nutrition, and economic issues in rural development; energy and technology for developing countries; the role of international aid and development agencies; case studies on various aspects of food and agricultural systems in developing countries will be presented.

AGRI 420 Professional Practice Seminar 5.
(0.5) (This course is restricted to students who were admitted prior to 200909) Experiences and responsibilities of Agrologists; legal and ethical aspects of the profession.

AGRI 421 Professional Practice Seminar 6.
(0.5) Experiences and responsibilities of Agrologists; legal and ethical aspects of the profession.

AGRI 430 Professional Practice in Agrology.
(2) (Restriction(s): Not open to students who have taken AGRI 221, AGRI 320; AGRI 321; AGRI 420; AGRI 421) Experiences and responsibilities of agrologists; legal and ethical aspects of the profession; communication and client relationships.

AGRI 435 Soil and Water Quality Management.
(3) (Fall) (3 lectures and one 3-hour lab) Management of soil and water systems for sustainability. Cause of soil degradation, surface and groundwater contamination by agricultural chemicals and toxic pollutants. Human health and safety concerns. Water-table management. Soil and water conservation techniques will be examined with an emphasis on methods of prediction and best management practices.

AGRI 452 Water Resources in Barbados.
(3) (Corequisites: None.) (Restrictions: Enrolment in full "Barbados Field Study Semester". Not open to students who have taken CIVE 452.) Physical environment challenges, centered on water, being faced by an island nation. Guest speakers, field study tours and laboratory tests. Private, government and NGO institutional context of conservation strategies, and water quantity and quality analyses for water management specific to Barbados.

AGRI 480 Special Topics 1.
(1)

AGRI 481 Special Topics 2.
(2)

AGRI 482 Special Topics 3.
(3)

AGRI 490 Agri-Food Industry Project.
(3) Interdisciplinary team project in the agri-food industry.

AGRI 491D1 (1.5), AGRI 491D2 (1.5) Co-op Experience.
(Students must register for both AGRI 491D1 and AGRI 491D2.) (No credit will be given for this course unless both AGRI 491D1 and AGRI 491D2 are successfully completed in consecutive terms) A co-op experience program of at least 12 weeks duration. Students will be exposed to the main areas of operation of their employer. The cooperating employer and the Instructor (or designate) will develop an individualized co-op experience for each student. Students will be supervised by staff of their employer who will be in contact with the instructor (or designate). A site visit by the Instructor (or designate), a report by the student's employer and a final written and oral report by the student will form the basis for evaluation.

AGRI 493 International Project Management.
(3) Principles and practice related to management of agriculture, nutrition and environmental projects within an international context. Case-studies and workshops drawing on expertise of development professionals from government and the private sector address techniques and resources for successful planning, implementation and evaluation within a multi-sectoral framework.

AGRI 495 Seminar and Assignment 1.
(1) (Restriction: Not open to students registered in, or who have taken AGRI 495D1, AGRI 495D2, AGRI 495N1 or AGRI 495N2) Preparation, presentation and discussion of reports upon approved agricultural subjects chosen in consultation with staff members involved in the subject concerned.

AGRI 496 Seminar and Assignment 2.
(1) (Restriction: Not open to students registered in, or who have taken AGRI 495D1, AGRI 495D2, AGRI 495N1 or AGRI 495N2) Preparation, presentation and discussion of reports upon approved agricultural subjects chosen in consultation with staff members involved in the subject concerned.

✶AGRI 510 Professional Practice.
(3) (Restriction: Course restricted to senior undergraduate and graduate students.) The ethical issues that face a professional in the workplace; professional ethics and deontology, professional responsibilities as related to the laws of labour, health, safety and risks to the environment, risk management and communication.

AGRI 519 Sustainable Development Plans.
(6) (Restrictions: Enrolment in full "Barbados Field Study Semester". Not open to students who have taken CIVE 519 or URBP 519.) Geared for solving real-world environmental problems related to water at the local, regional and international scale in Barbados. Projects to be designed by instructors in consultation with university, government and NGO partners and to be conducted by teams of 2 to 4 students in collaboration with them.

✶AGRI 550 Sustained Tropical Agriculture.
(3) (Prerequisites: HISP 218 or equivalent; MATH 203 or AEMA 310 or equivalent) (Restriction: Restricted Enrolment. Location in Panama. Student must be registered for a full semester of studies in Panama) Contrast theory and practice in defining agricultural environmental "challenges" in the Neotropics. Indigenous and appropriate technological means of mitigation. Soil management and erosion, water scarcity, water over-abundance, and water quality. Explore agro-ecosystem protection via field trips and project designs. Institutional context of conservation strategies, NGO links, and public participation.

ANSC-Animal Science

Offered by: Animal Science

ANSC 234 Biochemistry 2.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 211 or LSCI 211) Metabolism in humans and domestic animals. The chemistry of alimentary digestion, absorption, transport, intermediary metabolism and excretion.

ANSC 250 Principles of Animal Science.
(3) (Fall) (3 lectures and one 2-hour lab) Introduction to the scientific principles underlying the livestock and poultry industries. Emphasis will be placed on the breeding, physiology and nutrition of animals raised for the production of food and fibre.

ANSC 251 Comparative Anatomy.
(3) (Winter) (3 lectures and one 3-hour lab) Study of the macroscopic anatomy of mammals based on detailed dissection of the dog. Comparison with other domestic species will be emphasized.

ANSC 301 Principles of Animal Breeding.
(3) (Winter) (3 lectures and one 2-hour lab) (Prerequisite: AEMA 310 or equivalent) The qualitative and quantitative aspects of genetics as they apply to the economic improvement of domestic mammals and birds. Topics include: animal domestication, animal cytology, Mendelian traits of economic importance, principles of population genetics, statistical tools to describe populations, environmental effects, selection and mating systems.

ANSC 303 Farm Livestock Internship.
(2) (Fall or Winter) (Prerequisite: ANSC 250 (or equivalent, or permission)) Practical experience in the day-to-day management of a major livestock species (dairy, swine, poultry, or specific combination) on the Macdonald Campus Farm. Interaction with personnel and training in the operations of a farm-animal enterprise.

ANSC 312 Animal Health and Disease.
(3) (Winter) (3 lectures and one 2-hour conference) An introduction to the pathogenesis and control of diseases in farm animals. Immune response and other protective mechanisms. Implications of animal diseases and drug therapy for product safety and public health.

ANSC 323 Mammalian Physiology.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisite: AEBI 202 or LSCI 202 or permission of instructor) A study of the organization, functions and regulation of various organ systems in mammals. The nervous, endocrine, muscular, cardiovascular, respiratory, urinary, digestive and reproductive systems are discussed.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ANSC 324 Developmental Biology and Reproduction.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisites: FDSC 211 or LSCI 211 and ANSC 323) Focus on the hormonal, cellular and molecular aspects of reproduction and development (gametogenesis, folliculogenesis, fertilization, embryonic and foetal development, parturition, lactation period, periods before and after puberty). Emphasis on underlying cellular mechanisms and their regulation by hormones and the environment.

ANSC 326 Fundamentals of Population Genetics.
(3) (Fall) (Prerequisites: AEMA 310 or equivalent or permission of instructor and CELL 204 or LSCI 204 or equivalent or permission of instructor.) Population genetics mechanisms in mammals, birds and plant. Factors influencing gene, genotype, and phenotypic frequencies. Effects of different types of selection, Hardy-Weinberg, linkage and recombination, polymorphisms and heterozygosity, population size, random drift and inbreeding on gene and genotype frequencies. Relationship between quantitative genetic parameters and gene frequencies.

ANSC 330 Fundamentals of Nutrition.
(3) (Fall) (3 lectures) (Prerequisite(s): FDSC 211 or LSCI 211 and ANSC 234 (ANSC 234 pre-req applies to students in B.Sc. Nutritional Sciences only).) A discussion of the nutrients; water, carbohydrates, lipids, proteins, minerals and vitamins, with particular emphasis on their functions in and essentially for the animal organism.

ANSC 400 Eukaryotic Cells and Viruses.
(3) (Winter) (Prerequisites: CELL 204 or LSCI 204) (Restrictions: Not open to students who have taken PARA 400) The basic principles of molecular biology and the underlying molecular basis for various methodologies in molecular biology are covered. The molecular genetic basis for viral infections and tumorigenesis will be covered as examples of the use of molecular genetic approaches to address biological problems.

ANSC 420 Animal Biotechnology.
(3) (Fall) (Prerequisites: AEBI 202 or LSCI 202 and MICR 230 or LSCI 230) Applications of animal biotechnology in agriculture, biomedicine and environmental preservation, including culture, manipulation and transformation of somatic cells, isolation of stem cells, reproductive biotechnologies, animal cloning by nuclear transplantation, production of transgenic animals, and cell and gene therapies.

ANSC 424 Metabolic Endocrinology.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: ANSC 323) A detailed study of the endocrine system and its role in the maintenance of homeostasis in higher vertebrates, including the endocrine regulation of energy balance.

ANSC 433 Animal Nutrition.
(3) (Winter) (3 lectures and one 1-hour lab) (Prerequisites: ANSC 250 and ANSC 330) Critical discussion of nutrient utilization by farm animals, an assessment of nutritive value of feeds. Recent developments in nutritional manipulation are discussed.

ANSC 451 Dairy and Beef Production Management.
(3) (Winter) (Prerequisite: ANSC 250 - Principles of Animal Science, or permission of instructor.) (Restrictions: Not open to students having taken ANSC 450 or ANSC 452. Restricted to U2 or higher.) Overview of the Canadian Dairy and Beef industries with emphasis on products, environment, management systems, reproductive technologies, health, genetic improvement, automation, information recording and use of housing facilities and equipment. Field trips to dairy and beef farms as well as processing units included for illustration and application of concepts.

ANSC 455 Special Topics: Animal Science.
(3) (Fall or Winter) Topics that are not otherwise available in formal courses. Investigation of a particular topic will be carried out under the supervision of a staff member who has expertise in the area of study chosen by the student.

ANSC 457 Special Topics 2.
(3) (Fall or Winter) Special topics in animal science.

ANSC 458 Swine and Poultry Production.
(3) (Fall) (Prerequisite: ANSC 250 - Principles of Animal Science, or permission of instructor.) (Restrictions: Not open to students having taken ANSC 454 or ANSC 456. Restricted to U2 or higher.) Application and integration of biological principles of genetics, physiology, anatomy, nutrition, and health of poultry and swine production systems in Canada. Major factors and practices affecting productivity at the different stages of swine and poultry production. Field trips to farms and related enterprises.

ANSC 490 Project.
(3) (Fall or Winter) A project to be completed under the supervision of a staff member of the Department of Animal Science. An agreement between student and the involved staff member must be reached prior to registration.

ANSC 495 Seminar 1.
(1) (Restriction: Not open to students who have taken ANSC 495D1/D2 or ANSC N1/N2.) Preparation, presentation and discussion of critical reviews.

ANSC 496 Seminar 2.
(1) (Restriction: Not open to students who have taken ANSC 495D1/D2 or ANSC N1/N2.) Preparation, presentation and discussion of critical reviews.

ANSC 504 Population Genetics.
(3) (Fall) (3 lectures) Considerations of the basic principles of Mendelian genetics dealing with the genetic properties of populations and extension to the simultaneous segregation of genes at many loci, polygenic inheritance and an introduction to quantitative genetics, including mechanisms of transmission, segregation, linkages between genes and the effect of natural and artificial selection.

ANSC 506 Advanced Animal Biotechnology.
(3) (Fall) (Prerequisites: AEBI 202 or LSCI 202 and ANSC 400.) New concepts and applications of animal biotechnology in agriculture, biomedicine, environmental preservation.

ANSC 508 Tools in Animal Biotechnology.
(3) (Fall) (Restriction: Permission of instructor.) Essential laboratory techniques in animal biotechnology: extraction of nucleic acids, PCR technology, gel electrophoresis, construction of gene expression vectors, transformation of bacterial and mammalian cells and monitoring gene expression using reporter genes.

ANSC 551 Carbohydrate and Lipid Metabolism.
(3) (Winter) (3 lectures) Comparative aspects of nutrition and metabolism of carbohydrate and lipid from the cellular level through the multi-organ of the whole organism. Main topics will include biothermodynamics, calorimetry, cellular metabolism and functions of carbohydrate and lipid, digestion, absorption and utilization of dietary carbohydrate and lipid.

ANSC 552 Protein Metabolism and Nutrition.
(3) (Fall) (3 lectures) Comparative aspects of nutrition and metabolism of amino acids and proteins from the cellular level on through the multisystem operation of the whole organism. Main topics include cellular metabolism and functions of amino acids and proteins, digestion, absorption and utilization of dietary protein. Comparison between farm animals and humans.

ANSC 560 Biology of Lactation.
(3) (Winter) (Restriction: Not open to students who have taken ANSC 460.) An interdisciplinary approach to the study of mammary development, the onset of lactation and its cessation, comparing the differences in mammalian species in mammary development from embryological, pre- and post-pubertal and pre- and post-partum aspects. Lactation at the cellular and biochemical levels.

ANSC 565 Applied Information Systems.
(3) (Winter) (3 lectures and one 2-hour lab) Introduction to concepts of an Information System and subsequent application to various scenarios in agriculture. Industry analysis in terms of users, goals, available data/information, communication, delivery structure, decision making, feedback, exploitation of technology and possible improvements using the Internet. Individual case studies and familiarisation with cutting-edge computer applications.

BINF-Bioinformatics

Offered by: Parasitology, Plant Science

BINF 301 Introduction to Bioinformatics.
(3) (Prerequisite(s): LSCI 202 or LSCI 204, and ANSC 326) Introduces analysis of DNA, RNA and protein sequences using computer software. Emphasis on implementation of molecular evolution theory for algorithms to make predictions of sequence function and infer the evolutionary history of sequences. Assessing analysis reliability and methods to improve efficiency of computer algorithms and their implications are discussed.

BINF 511 Bioinformatics for Genomics.
(3) (Prerequisite: Understanding of cell and molecular biology (equivalent to a cell or molecular biology course) or permission from instructor.) Bioinformatics methods and reasoning in relation to genomics, proteomics and metabolomics strategies with an emphasis on functional genomics data. The course will cover introduction to UNIX, Perl programming, data processing and integration, file parsing, relational database design and implementation, angled towards solutions relevant for genomics.

BREE-Bioresource Engineering

Offered by: Bioresource Engineering

BREE 103 Linear Algebra.
(3) (3 lectures and 1 conference) (Restriction: Not open to students who have taken Math 133 or CEGEP objective 00UQ or equivalent) (Prerequisite: AEMA 100 or equivalent course in functions/precalculus) Vectors: equality and inequality, geometric representation, polar form, addition, unit vectors, dot product, cross product, triple scaler and vector products, use of vectors in 3-D. Matrices: definition, equality and inequality, addition, multiplication, null matrix, identity matrix, triangular and diagonal matrices, determinants, matrix inverse, matrix applications. Introduction to computer-based mathematical tools.

BREE 187 Freshman Seminar 1.
(0.5) (Restrictions: Open to Freshman intending to enrol in B.Eng. Bioresources Engineering Major.) (Not open to students who have taken ABEN 187.) Members of the Faculty and/or Student Services will present seminars on resources available to help students develop the requisite skills to facilitate their transition into university life.

BREE 188 Freshman Seminar 2.
(0.5) (Restrictions: Open to Freshman intending to enrol in B.Eng. Bioresources Engineering Major. Not open to students who have taken ABEN 188.) Departmental seminar series.

BREE 205 Engineering Design 1.
(3) (Restriction: Not open to students who have taken ABEN 205.) Engineering philosophy and the role of the bioresource engineer in society; introduction to engineering analysis and design; the role of the engineer in the design, construction, and operation of bio-based facilities and industries and the environment.

BREE 210 Mechanical Analysis & Design.
(3) (3 lectures and 2 hours lab or problems) (Restriction: Not open to students who have taken ABEN 210.) Non-concurrent force systems; analysis of simple trusses and multiforce frames; friction, shearing forces and bending moments in beams and frames; centres of gravity; solution of problems by energy methods.

BREE 214 Geomatics.
(3) (2 lectures and one 3-hour lab) (Restriction: Not open to students who have taken ABEN 214.) The engineer's level and the theodolite are used to perform benchmark circuits, profile levelling, topographic maps and straight line extensions. A total station, computer programs and use of GPS are introduced.

BREE 216 Bioresource Engineering Materials.
(3) (2 lectures and one 2-hour lab) Introduction to the composition and mechanical constitution of materials used in bioresource engineering, including metals, plastics, concrete, wood, composite, plant and food materials. Crystal structure, alloys, phase diagrams, stresses and strains, elasticity, plasticity, yield, fracture, ductility, heat treatments, cold work, corrosion, composite materials, concrete chemistry, polymers.

BREE 217 Hydrology and Water Resources.
(3) (3 lectures, one 2 hour lab) (Restriction: Not open to students who have taken ABEN 217.) Measurements and analysis of components of the water cycle. Precipitation, evaporation, infiltration and groundwater. Analysis of hydrologic data. Hydrograph theory. Hydrologic estimations for design of water control projects; flood control and reservoir routing. Integrated watershed management and water conservation. Water management systems for environmental protection.

BREE 252 Computing for Engineers.
(3) (3 lectures and one 2-hour lab) (Restriction: Not open to students who have taken ABEN 252.) A user level computer programming course in Fortran-90 language. The pros and cons of computerization, differences between mainframe and microcomputers, network basics, discussion of the use of Fortran-90 and C languages to solve engineering problems, electronic spreadsheet analysis and the use of other software packages will be studied from an engineering point of view.

BREE 301 Biothermodynamics.
(3) (3 lectures and one 2-hour lab) (Restriction: Not open to students who have taken ABEN 301.) Classical thermodynamic analysis of pure and simple compressible systems. The course covers the first and second laws of thermodynamics. It deals with basic concepts of thermodynamics and thermochemistry in biological systems.

BREE 305 Fluid Mechanics.
(3) (3 lectures and one 2-hour lab or problems) (Prerequisites: BREE 210, AEMA 202) (Restriction: Not open to students who have taken ABEN 305.) Properties of fluids; fluid statics; principles of flow of incompressible and compressible fluids; dimensional analysis boundary layers; conduit and open channel systems; simple applications to turbo machinery.

BREE 312 Electric Circuits and Machines.
(3) (3 lectures and one 2-hour lab or problems) (Prerequisite: AEMA 305 (formerly AEMA 205).) (Restriction: Not open to students who have taken ABEN 312.) General circuit laws and d.c. circuits; electromagnetic circuits; inductance and capacitance, natural and forced response of circuits; analysis of single phase and three phase networks; transformers, AC and DC motors/generators.

BREE 314 Agri-Food Buildings.
(3) (3 lectures and 2-hour lab) (Restriction: Not open to students who have taken ABEN 314.) Analysis and design of structures to house animals and plants and to process and store animal and plant products. Introduction to environmental control systems and animal waste management.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

BREE 315 Design of Machines.
(3) (3 lectures, 2 hours problems) (Prerequisite: BREE 341 (formerly ABEN 341)) (Restriction: Not open to students who have taken ABEN 315.) Design of shafting, bearings, gear, belt and chain drives, clutches, brakes, vibrations, fasteners, welded joints, frames. Principles and practices of Engineering Drawing will be adhered to in laboratory submissions.

BREE 319 Engineering Mathematics.
(3) (3 lectures, 2-hour lab, conference) (Prerequisite: AEMA 305 or equivalent and BREE 252) (Restriction: Not open to students who have taken ABEN 319.) Advanced topics in engineering mathematics, including special functions, orthogonal functions and Fourier series, boundary value problems in various coordinate systems, integral transforms, partial differential equations and introduction to complex variable theory. The use of computer-based mathematical tools will be an integral part of the course.

BREE 322 Organic Waste Management.
(3) (2 lectures and one 2-hour lab) (Restriction: Not open to students who have taken ABEN 322.) An introduction to engineering aspects of handling, storage and treatment of all biological and food industry wastes. Design criteria will be elaborated and related to characteristics of wastes. Physical, chemical and biological treatment systems.

BREE 324 Elements of Food Engineering.
(3) (3 lectures) (Pre/Co-requisite: FDSC 330) (Restriction: Not open to students in the B.Eng.(Bioresource) program) (Restriction: Not open to students who have taken ABEN 324.) A course in basic food engineering for non-engineering students, covering heat transfer, mass and energy balances, food process unit operations, material transport/ steam/refrigeration systems.

BREE 325 Food Process Engineering.
(3) (3 lectures and one 3-hour lab) (Restriction: Not open to students who have taken ABEN 325.) Heat and mass transfer, enthalpy and mass balances, sterilizing, freezing, fluid flow, pipes, steam, refrigeration, pumps and valves.

BREE 327 Bio-Environmental Engineering.
(3) (Restrictions: U2 students and above. Not open to students who have taken ABEN 305.) Introduction to principles of bio-engineering in solving environmental problems related to the domains of water, soil and air; the capability of each domain to absorb, recycle or treat contaminants.

BREE 341 Mechanics of Materials.
(3) (3 lectures and one 3-hour lab) (Prerequisite: BREE 210 (formerly ABEN 210)) (Restriction: Not open to students who have taken ABEN 341.) Stress, strain, resilience, elastic and plastic properties of materials; bending moment and shear force diagrams; bending and shear stress; deflections; simple, fixed and continuous beams, torsion and helical springs, reinforced concrete beams; columns, bending and direct stress; general case of plane stress; Mohr's circle.

BREE 412 Machinery Systems Engineering.
(3) (3 lectures and one 3-hour lab) (Restriction: Not open to students who have taken ABEN 412.) Study and analysis of machines for tillage, harvesting, crop processing and handling. Field tests, load studies, design requirements; design of machines and components for agricultural applications.

BREE 416 Engineering for Land Development.
(3) (3 lectures and one 2-hour lab or design problems) (Prerequisite: BREE 217 (formerly ABEN 217)) (Restriction: Not open to students who have taken ABEN 416.) The engineering aspects of soil and water conservation, irrigation, water conveyance structures and canals, use of geosynthetics for soil protection, seepage and uplift. Students will produce an integrated development project.

BREE 418 Soil Mechanics and Foundations.
(3) (3 lectures and one 3-hour lab) (Prerequisite: BREE 341 (formerly ABEN 341)) (Restriction: Not open to students who have taken ABEN 418.) The exploration of subsoils, strength theories, granular and cohesive soils, foundation design, settlement calculation, consolidation, slope stability, Atterberg limits, triaxial testing, direct shear testing, compaction, soil freezing, frost heaving.

BREE 419 Structural Design.
(3) (3 lectures and one 3-hour lab or design problems) (Prerequisite: BREE 341 (formerly ABEN 341)) (Restriction: Not open to students who have taken ABEN 419.) Structural Design in steel and timber; application of complete design procedures to working stress design; plastic design for ultimate loading.

BREE 423 Biological Material Properties.
(3) Relationships between composition, structure and properties of biological materials. Measurement methods and use of mechanical, thermal, electromagnetic, chemical and functional properties in the design of new applications and product development.

BREE 481 Undergraduate Seminar 1.
(0.5) (Restrictions: Not open to students who have taken ABEN 491D/N or ABEN 481.) Attendance and participation in departmental seminars.

BREE 482 Undergraduate Seminar 2.
(0.5) (Restrictions: Not open to students who have taken ABEN 492D/N or ABEN 482.) Attendance and participation in departmental seminars.

BREE 483 Undergraduate Seminar 3.
(0.5) (Restrictions: Not open to students who have taken ABEN 493D/N or ABEN 483.) Attendance and participation in departmental seminars.

BREE 484 Undergraduate Seminar 4.
(0.5) (Restriction: Not open to students who have taken ABEN 484.) Attendance and participation in departmental seminars.

BREE 485 Undergraduate Seminar 5.
(0.5) (Restriction: Not open to students who have taken ABEN 485.) Attendance and participation in departmental seminars.

BREE 486 Undergraduate Seminar 6.
(0.5) (Restriction: Not open to students who have taken ABEN 486.) Attendance and participation in departmental seminars.

BREE 490 Engineering Design 2.
(3) (1 lecture) (Prerequisites: CHEE 315 or MECH 346, BREE 205.) (Restriction: Not open to students who have taken ABEN 490.) The student is expected to develop a professional design project proposal with due considerations to executive summary, synthesis, methodology, milestones, budget, etc.

BREE 495 Engineering Design 3.
(3) (1 lecture) (Prerequisite: BREE 490 (formerly ABEN 490)) (Restriction: Not open to students who have taken ABEN 490.) The student is expected to implement, physically or virtually, the project proposed in the Design 1 course. The student is expected to present project outcome, in both written and oral forms and learn to be critical about their own work and those of others.

BREE 497 Environmental Design Project.
(3) (Prerequisite(s): BREE 205 and BREE 327) Independent study for design and experimental work on an environmental topic chosen in consultation between the student and Departmental staff.

BREE 501 Simulation and Modelling.
(3) (Restrictions: U3 students and above. Not open to students who have taken ABEN 612 or ABEN 501.) Modelling, physical and virtual models of linear, chaotic and stochastic systems, simulation techniques and methods for static and dynamic models, steady and unsteady state. Examples from various areas such as machine design, population dynamics, food processing, biological control, farm management, ecological system design. Mathematics and computer oriented - students must be familiar with microcomputer operation.

BREE 502 Drainage/Irrigation Engineering.
(3) (Prerequisite: BREE 217 (formerly ABEN 217)) (Restrictions: U3 students and above. Not open to students who have taken ABEN 611 or ABEN 502.) Benefits and importance of drainage; types of drainage systems; design and construction of main, surface and subsurface drainage systems; drainage materials. Crop water requirements; evapotranspiration models; design and layout of surface, sprinkler and drip irrigation systems; pipe hydraulics; pumps.

BREE 504 Instrumentation and Control.
(3) (3 lectures and one 2-hour lab) (Prerequisite (Undergraduate): BREE 312 (formerly ABEN 312) or ECSE 281) (Restriction: Not open to students who have taken ABEN 504.) Principles and operation of instrument systems used for measurement and control in agricultural processes and research.

BREE 506 Advances in Drainage Management.
(3) (3 weeks intensive course) (Restriction: Not open to students who have taken ABEN 506.) Land drainage in relation to soils and crops. Design of regional drainage systems, stability of ditches, ice problems. Design of subsurface drainage systems. Theories of flow into drain tubes. Hydraulics of wells. Drainage of irrigated lands. Water table control.

BREE 509 Hydrologic Systems and Modelling.
(3) (3 hour lectures) (Restriction: Not open to students who have taken ABEN 509.) Use of deterministic and stochastic models to analyze components of the hydrologic cycle on agricultural and forested watersheds, floods frequency analysis, hydrograph analysis, infiltration, runoff, overland flow, flood routing, erosion and sediment transport. Effects of land-use changes and farm and recreational water management systems on the hydrologic regime.

BREE 510 Watershed Systems Engineering.
(3) (3-1-5) (Restrictions: U3 students or above.) (Note: Case studies and a project.) An examination and application of methodologies, tools and algorithms used in environmental systems engineering with an emphasis on allocation of resources within a watershed. Skills addressed include systematic evaluation of alternatives, identification of tradeoffs and assessment of the degree of optimality of design or alternatives.

BREE 512 Soil Cutting and Tillage.
(3) (2 lectures and one 2-hour lab) (Prerequisite (Undergraduate): BREE 341 (formerly ABEN 341)) (Restriction: Not open to students who have taken ABEN 512.) Soil mechanics applied to cutting, tillage and drain installation tools. Soil cutting forces for two and three dimensional implements. Soil loosening, inversion, sorting and manipulation. Selection of traction machines to match soil cutting and tillage requirements. Depth and grade control systems. Analysis of drainage machines, wheel trenchers, chain trenchers and trenchless plows.

BREE 515 Soil Hydrologic Modelling.
(3) (3 lectures and one 3-hour lab) (Restriction: Not open to students who have taken ABEN 515.) A review of computer simulation models for designing subsurface drainage systems. Use of CAD systems for designing and drafting drainage plans.

BREE 518 Bio-Treatment of Wastes.
(3) (One 3 hour lecture) (Restriction: Not open to students who have taken ABEN 518.) Special topics concerning control of pollution agents from the agricultural industry; odour control, agricultural waste treatment including biological digestion, flocculants, land disposal and sedimentation, pesticide transport.

BREE 519 Advanced Food Engineering.
(3) (3 lectures and one 2-hour lab) (Prerequisites: BREE 325 (formerly ABEN 325) and MECH 426, or permission of instructor) (Restriction: Not open to students who have taken ABEN 519.) Advanced topics in food engineering. Concepts of mathematical modeling and research methodologies in food engineering. Topics include heat and mass transfer in food systems, packaging and distribution of food products, thermal and non-thermal processing, rheology and kinetics of food transformations.

BREE 520 Food, Fibre and Fuel Elements.
(3) (Prerequisite: BREE 327) Analysis and design incorporating the four elements required by organisms and biomass for food, fibre and fuel production (air, earth, energy, and water). Special emphasis will be placed on the demands and requirements of engineering systems to control these elements and allow optimal growth in semi-controlled and completely controlled environments.

BREE 525 Climate Control for Buildings.
(3) (3 lectures and one 3-hour lab) (Prerequisite: BREE 301 (formerly ABEN 301)) (Restriction: U3 students or above. Not open to students who have taken ABEN 525.) The analyses of heat and water vapour transfer through the structure of buildings are used to design heating, ventilation and refrigeration systems. Heat conduction and convection as well as radiation are included in the analysis of heat transfer. Ventilation systems are designed for livestock shelters, produce storages and greenhouses.

BREE 530 Fermentation Engineering.
(3) (3 lectures and one 3-hour lab) (Prerequisite (Undergraduate): BREE 325 (formerly ABEN 325) or equivalent) (Graduate courses available to senior undergraduates with permission of the instructor) (Restriction: Not open to students who have taken ABEN 530.) Advanced topics in food and fermentation engineering are covered, including brewing, bioreactor design and control and microbial kinetics.

BREE 531 Post-Harvest Drying.
(3) (Restrictions: U3 students or above. Not open to students who have taken ABEN 621 or ABEN 531.) Heat and moisture transfer with respect to drying of agricultural commodities; techniques of enhancement of heat and mass transfer; drying efficiency and scale-up problems.

BREE 532 Post-Harvest Storage.
(3) (Restrictions: Not open to students who have taken ABEN 622 or ABEN 532.) Active, semi-passive and passive storage systems; environmental control systems; post-harvest physiology and pathogenicity; quality assessment and control methodology; economic aspects of long-term storage.

BREE 533 Water Quality Management.
(3) (Restriction: Not open to students who have taken BREE 625 (formerly ABEN 625).) Management of water quality for sustainability. Cause of soil degradation, surface and groundwater contamination by agricultural chemicals and toxic pollutants. Screening and mechanistic models. Human health and safety concerns. Water table management. Soil and water conservation techniques will be examined with an emphasis on methods of prediction and best management practices.

BTEC-Biotechnology

Offered by: Parasitology, Plant Science

BTEC 306 Experiments in Biotechnology.
(3) (Prerequisite(s): AEBI 202 or LSCI 202 and CELL 204 or LSCI 204 or permission of instructor.) (Restriction(s): Not open to students who have taken AEBI 306.) Practical laboratory-based research experience. Techniques in cellular and molecular biology, designing experiments and developing skills in interpretation and communication of experimental results.

BTEC 501 Bioinformatics.
(3) (2 lectures and 1 tutorial per week) This course introduces the application of computer software for analysis of biological sequence information. An emphasis is placed on the biological theory behind analytical techniques, the algorithms used and methods of developing a statistical framework for various types of analysis.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

BTEC 502 Biotechnology Ethics and Society.
(3) (Restriction: U3 and over.) Examination of particular social and ethical challenges posed by modern biotechnology such as benefit sharing, informed consent in the research setting, access to medical care worldwide, environmental safety and biodiversity and the ethical challenges posed by patenting life.

BTEC 535 Functional Genomics in Model Organisms.
(3) (Prerequisite: 300-level course in genetics, molecular biology, biochemistry or permission of instructor.) (Restriction: Limited to 30 students.) An overview of strategies used to understand the function of genes, especially those identified through genome sequencing and bioinformatics. Use of model organisms that have proved particularly valuable for this purpose.

BTEC 555 Structural Bioinformatics.
(3) (Prerequisite: 300-level undergraduate course in molecular biology, biochemistry or permission of instructor.) Fundamentals of protein structure and the application of tools for structure determination, how protein structure allows us to understand the complex biological functions, and how knowledge of protein structure can contribute to drug discovery.

CELL-Genetics

Offered by: Plant Science

✶CELL 500 Techniques Plant Molecular Genetics.
(3) Plant biotechnology, recombinant DNA techniques, transgenic plant generation (genetically modified plants) as well as gene and gene product analysis.

✶CELL 501 Plant Molecular Biology and Genetics.
(3) Photosynthesis, plant development, plant genome mutagenesis and analysis, and plant stress are discussed. Journal articles and reviews on all aspects of plant molecular biology and genetics.

ENTO-Entomology

Offered by: Natural Resource Sciences

ENTO 330 Insect Biology.
(3) (Fall) (2 lectures and one 2-hour lab) (Restriction: Not open to students who have taken NRSC 330) Insect structure and function, development and specialization; ecology and behavior; diversity, evolution and classification of insect orders and common families; pest management.

✶ENTO 336 Economic Entomology.
(3) (Fall) (Prerequisites: WILD 200 (formerly AEBI 200) or AEBI 211 or ENTO 330) Comparison of the economic impact of insect pests in agricultural crops and forests with the social and economic value of insects. Principles of pest management theory, emphasizing insect monitoring, sampling, and economic decision levels.

ENTO 340 Field Entomology.
(3) (Summer) A field course and project about arthropod taxonomy, field methods and experimental design in entomology. Includes natural history observation, and experimental approaches to arthropod population and community ecology.

ENTO 350 Insect Biology and Control.
(3) (Winter) (3 hours lecture) (Prerequisite: BIOL 205 or permission of instructor) (Restriction: Not open to students who have taken or are taking ENTO 330 or BIOL 350) (Note: Offered on the downtown campus. This course is also offered as BIOL 350 in the Fall term.) Introduction to insect structure, physiology, biochemistry, development, systematics, evolution, ecology and control. Stress on interrelationships and integrated pest control.

ENTO 352 Control of Insect Pests.
(3) (Winter) (Restriction: Not open to students who have previously taken ENTO 452) (3 lectures) Modern concepts of integrated control techniques and principles of insect pest management, with emphasis on biological control (use of predators, parasites and pathogens against pest insects), population monitoring, and manipulation of environmental, behavioral and physiological factors in the pest's way of life. Physical, cultural, and genetic controls and an introduction to the use of non-toxic biochemical controls (attractants, repellents, pheromones, antimetabolites).

✶ENTO 440 Insect Diversity.
(3) (Fall) (1 lecture, 1 lab and project) (Prerequisite: ENTO 330 or permission of instructor) (Restriction: Not open to students who have taken ENTO 425) Ecology, evolution and systematics of insects and their relatives. Classification and phylogeny of selected insect families; use of diagnostic characters and taxonomic keys. Ecological interactions at an individual, population and community level with emphasis on diversity patterns in space and time.

ENTO 446 Apiculture.
(3) Theory and practice of beekeeping. Social insects; development of social behaviour; co-evolution of flowering plants and social insects; life and behaviour of honeybees; insect pollination; honey production; properties of honey; practical beekeeping. Demonstrations and written assignments essential.

✶ENTO 515 Parasitoid Behavioural Ecology.
(3) (Winter) (Prerequisite: ENTO 330 (formerly NRSC 330) or equivalent) (Restriction: Not open to students who have taken NRSC 515) The origin and diversity of parasitoid species will be presented. Aspects of behavioural ecology that pertain to host selection, optimal allocation of progeny and sex and host-parasitoid interactions are examined. The importance of these processes is discussed in a biological control perspective.

ENTO 520 Insect Physiology.
(3) (Winter) (Prerequisite: Permission of instructor) (Restriction: Not open to students who have taken NRSC 520) Organismal approach to insects, emphasizing the physiology and development, and the physiological relations of insects to their environment.

✶ENTO 535 Aquatic Entomology.
(3) (Winter) Diversity, biology, ecology and recognition of the main groups of aquatic insects.

ENTO 550 Veterinary and Medical Entomology.
(3) (Winter) (Prerequisite: Permission of instructor) (Restriction: Not open to students who have taken NRSC 550) Environmental aspects of veterinary and medical entomology. An advanced course dealing with the biology and ecology of insects and acarines as aetiological agents and vectors of disease, and their control. Integrated approaches to problem solving.

ENVB-Environmental Biology

Offered by: Natural Resource Sciences

ENVB 210 The Biophysical Environment.
(3) (Fall) (Restriction: Not open to students who have taken SOIL 210) With reference to the ecosystems in the St Lawrence lowlands, the principles and processes governing climate-landform-water-soil-vegetation systems and their interactions will be examined in lecture and laboratory. Emphasis on the natural environment as an integrated system.

ENVB 222 St. Lawrence Ecosystems.
(3) (Fall) Integrative field course about the biological diversity and ecology of terrestrial and aquatic ecosystems within St Lawrence lowlands and adjacent realms. Natural history and systematics of regional flora and fauna and interactions between organisms and their physical environment. Fundamentals of ecosystem and landscape ecology.

ENVB 301 Meteorology.
(3) (Fall) (Restriction: Not open to students who have taken NRSC 201) The physical processes underlying weather. Topics include: the atmosphere - its properties (structure and motion), and thermodynamics (stability, heat and moisture); clouds and precipitation; air masses and fronts; mid-latitude weather systems and severe weather.

ENVB 305 Population & Community Ecology.
(3) (Winter) (Restriction: Not open to students who have taken WILD 205) Interactions between organisms and their environment; historical and current perspectives in applied and theoretical population and community ecology. Principles of population dynamics, feedback loops, and population regulation. Development and structure of communities; competition, predation and food web dynamics. Biodiversity science in theory and

practice.

✶ENVB 313 Phylogeny and Biogeography.
(3) (Fall) (Prerequisite: AEBI 212 or WILD 212) (Restriction: Not open to students who have taken WILD 313) Phylogeny reconstruction; principles of systematics; predictive power of phylogenetic trees; theory and principles of biogeography; historical biogeography of plants and animals; role of abiotic and biotic factors in shaping distributions.

✶ENVB 315 Science of Inland Waters.
(3) (Fall) (Restriction: Not open to students who have taken NRSC 315.) Nature and history of limnology; divisions of inland waters; properties of fresh water; habitats; zones; nutrient cycles; biota; adaptations; seasonal variation; distributions; pollution; succession and evolution of fresh water environments. Includes field excursions.

ENVB 410 Ecosystem Ecology.
(3) (Fall) (Prerequisite(s): ENVB 222, AEMA 310 or Permission of instructor) (Restriction: Not open to students who have taken WOOD 410) Biotic and abiotic processes that control the flows of energy, nutrients and water through ecosystems; emergent system properties; approaches to analyzing complex systems. Labs include collection and multivariate analysis of field data.

ENVB 415 Ecosystem Management.
(3) (Fall) (Prerequisites: BREE 327 and WILD 205 or ENVB 305) Through the examination of cases studies presented in a modular format, students will be exposed to a variety of ecosystem processes. Choice of components, interactions and type of management to achieve desired endpoints will be discussed.

FDSC-Food Science

Offered by: Parasitology, Food Science & Agr-Chemistry

FDSC 200 Introduction to Food Science.
(3) (Fall) (3 lectures) This course enables one to gain an appreciation of the scope of food science as a discipline. Topics include introductions to chemistry, processing, packaging, analysis, microbiology, product development, sensory evaluation and quality control as they relate to food science.

FDSC 213 Analytical Chemistry 1.
(3) (Fall) (3 lectures and one 3-hour lab) Theoretical aspects of wet chemical techniques including gravimetric and volumetric analyses, redoximetry, and separation techniques.

FDSC 230 Organic Chemistry.
(4) (Fall or Winter) (3 lectures and one 3-hour lab) Atomic and molecular structure, modern concepts of bonding, overview of functional groups, conformational analysis, stereochemistry, mechanisms and reactions of aliphatic compounds.

FDSC 233 Physical Chemistry.
(3) (Winter) (3 lectures) Introduction to kinetic theory, thermodynamics, properties of liquids and solids, chemical equilibrium and the law of mass action, phase rule, properties of solutions, chemical kinetics.

FDSC 251 Food Chemistry 1.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 211 or LSCI 211) A study of the chemistry and functionality of the major components comprising food systems, such as water, proteins, carbohydrates and lipids. The relationship of these components to food stability will be studied in terms of degradative reactions and processing.

FDSC 300 Principles of Food Analysis 1.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 251 or permission of instructor.) (Corequisite: FDSC 251 or permission of instructor.) The fundamentals of food analysis are presented with the emphasis on the major components of foods. Topics include: food components, sampling, method selection, official methods, proximate analysis, moisture, protein, fat, ash, fiber, carbohydrates, vitamins and nutraceutical compounds.

FDSC 305 Food Chemistry 2.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 251) A study of the chemistry and functionality of the minor components comprising food systems, such as enzymes, anthocyanins, carotenoids, additives, vitamins and essential oils. The relationship of these components to food stability in terms of degradative reactions and processing.

FDSC 310 Post Harvest Fruit and Vegetable Technology.
(3) (Fall) (3 lectures and one 3-hour lab) The post harvest chemistry and physiology of horticultural crops as they affect quality and marketability, handling methods pre and post harvest, principles and practices in cooling, storage, transportation and packaging.

FDSC 315 Separation Techniques in Food Analysis 1.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 300 or permission of instructor.) A detailed treatment on the principal chromotographic and electrophoretic techniques that are associated with the analysis of carbohydrate, lipid, protein constituents of food.

FDSC 319 Food Commodities.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 251 or permission of instructor) The relationship between the chemistry of food constituents present in common commodities, such as milk, meat, eggs, cereals, oilseeds etc. and the common processing technologies associated with their transformation into stable food products.

FDSC 330 Food Processing.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 251) The principles and practices of food processing with an emphasis on canning, freezing, and dehydration. A survey of the newer methods of food preservation such as irradiation, reverse osmosis etc.

FDSC 334 Analysis of Food Toxins and Toxicants.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 213 or permission of instructor.) Toxins and toxicant residues in food including heavy metals, persistant organic pollutants (POPS) and microbial toxins are explored from an analytical perspective; new methods and strategies of analysis are emphasized.

FDSC 400 Food Packaging.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisite: FDSC 305) An integrated approach to the materials used for the packaging of food products, considering the physical, chemical and functional characteristics of such materials and their utility, relative to the chemistry of the food system they are designed to enclose and preserve.

✥FDSC 405 Product Development.
(3) (Winter) (3 lectures and one 3-hour lab) (Pre-/Co-requisite: FDSC 305) The chemical, technological and procedural aspects of product development. An understanding of the role and functionality of food ingredients such as acidulants, phosphates, modified starches, gums, emulsifiers, food additives and other functional components in relation to the formulation of food products.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✥ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

FDSC 410 Flavour Chemistry.
(3) (Winter) (3 lectures) (Prerequisite: FDSC 305) The chemistry of the flavour constituents of foods, synthesis, modification, extraction and use.

FDSC 425 Principles of Quality Assurance.
(3) (Winter) (3 lectures) (Prerequisite: AEMA 310) The principles and practices required for the development, maintenance and monitoring of systems for food quality and food safety. The concepts and practices of Hazard Analysis Critical Control Point; ISO 9000; Total Quality Management; Statistical Sampling Plans, Statistical Process Control; Tools of Quality; Government Regulations.

FDSC 442 Food Microbiology.
(3) (Fall) (Prerequisites: MICR 230 or LSCI 230 or permission of instructor.) (Restriction: Not open to students who have completed MICR 442.) Topics in Food Microbiology including an overview of the natural flora and microbiological spoilage of food products, methods of control and shelf-life extension, methods of detection and control food-borne pathogens and the use of suitable microorganisms in the production of a variety of food products.

FDSC 480 Industrial Stage/Food.
(12) (Summer) (Note: Open to students who have a minimum of 60 credits in the Double Major Food Science/Nutrition Science or permission of department.) Stage with an approved host organization in the food industry.

✥FDSC 490 Research Project 1.
(3) (Fall or Winter) A course designed to give final year undergraduate students research experience.

✥FDSC 491 Research Project 2.
(3) (Fall or Winter) (Pre-/Co-requisite: FDSC 490.) (Restriction: Registration by Department permission only.) A laboratory research project.

FDSC 495D1 (1.5), FDSC 495D2 (1.5) Food Science Seminar.
(Fall) (2 lectures) (Students must register for both FDSC 495D1 and FDSC 495D2.) (No credit will be given for this course unless both FDSC 495D1 and FDSC 495D2 are successfully completed in consecutive terms) Two 20-minute presentations (1 per term) on an assigned or selected topic. The purpose is to research a subject and present to a peer audience the essence of the subject investigated. Development of presentation and communication skills at a professional level is stressed and rapport with the industry will be established through guest speakers.

FDSC 495N1 (1.5), FDSC 495N2 (1.5) Food Science Seminar.
(Winter) (Students must also register for FDSC 495N2) (No credit will be given for this course unless both FDSC 495N1 and FDSC 495N2 are successfully completed in a twelve month period) Two 20-minute presentations (1 per term) on an assigned or selected topic. The purpose is to research a subject and present to a peer audience the essence of the subject investigated. Development of presentation and communication skills at a professional level is stressed and rapport with the industry will be established through guest speakers.

FDSC 497 Professional Seminar: Food.
(1.5) (Fall or Winter) (Note: Open to students who have completed a minimum of 75 credits in the dual degree/concurrent program in Food Science/Nutritional Science or permission of Department.) A capstone course which requires a student to research a topic relevant to an industrial aspect of Food Science, prepare a report and communicate that information to a peer audience in a succinct and professional manner.

✶FDSC 515 Enzyme Thermodynamics/Kinetics.
(3) (Winter) (Prerequisites: FDSC 211 or LSCI 211 and FDSC 233 or instructor's permission) (Course offered in even years. Check with Graduate adviser.) Selected advanced topics on the biophysical and kinetic aspects of enzymatic reactions, particularly the fundamentals and applications of laws of biothermodynamics, biochemical equilibrium, electrochemistry and biochemical kinetics as related to the enzymatic reactions.

✶FDSC 519 Advanced Food Processing.
(3) (Winter) (3 lectures) (Prerequisite: FDSC 330) (Course offered in even years. Check with Graduate advisor.) Advanced technologies associated with food processing studied in more detail. Topics include food irradiation, reverse osmosis, super critical fluid extraction and extrusion.

✶FDSC 520 Biophysical Chemistry of Food.
(3) (Fall) (3 lectures) (Prerequisite: FDSC 233) (Course offered in odd years (check with Graduate Advisor) This course will cover recent advances in the application of spectroscopic techniques, including infrared, Raman, near-infrared, circular dichroism, and fluorescence spectroscopy, to the study of biomolecules of relevance to food. Particular emphasis will be placed on the molecular basis of structure-function and structure-functionality relationships.

✶FDSC 530 Advanced Analytical Chemistry.
(3) (Winter) (3 lectures) (Prerequisite: FDSC 213) (Course offered in odd years (check with Graduate Advisor) Selected instrumental methodologies including advances in automated chromatography, wide band NMR, chemical sensors, and the application of other spectroscopic techniques to the analysis of food constituents.

✶FDSC 535 Food Biotechnology.
(3) (Fall) (3 lectures) (Prerequisites: MICR 230 or LSCI 230) (Course offered in odd years.) Developments in biotechnology as it relates to food production and processing concerning traditional food fermentations as well as novel food biotechnology enzymes, ingredients, genetic engineering, plant tissue culture and developments for microbiological and food analysis.

✶FDSC 536 Food Traceability.
(3) (Winter) (Prerequisite: FDSC 425 or by Instructor's permission.) (Course offered in odd years.) Concepts and processes associated with the identification, tracking and tracing food forward and backward through the food continuum.

✶FDSC 537 Nutraceutical Chemistry.
(3) (Fall) (Prerequisites: FDSC 211 or LSCI 211, FDSC 230 and FDSC 233 or instructor's permission.) (Course offered in even years.) The origin, classification, mechanism of action and chemical properties of potential and established nutraceutical compounds and their applications in functional foods.

FDSC 538 Food Science in Perspective.
(3) (Fall) (Restriction: Not open to students with an undergraduate degree in Food Science or currently majoring in Food Science. Open to U3 students and above.) Food industry, food properties, nutritive aspects, quality factors, and key preservation processes, with self-study linking these elements directly to specific commodities and product groups, their characteristics, chemistry and distinct manufacturing processes.

LSCI-Life Sciences

Offered by: Parasitology, Natural Resource Sciences, Plant Science

LSCI 202 Molecular Cell Biology.
(3) (Prerequisites: FDSC 211 or LSCI 211) (Restriction(s): Not open to students who have taken AEBI 202) Organization and function of intracellular organelles in eukaryotic cells. Mechanisms of membrane transport. Protein sorting and vesicular transport. Cytoskeleton. DNA and chromosome structure. DNA replication. Mechanisms of RNA and protein synthesis. Control of gene expression. Cell cycle and the control of cell division. Mechanisms of cell communication and signal transduction. Apoptosis. Neuronal signaling.

LSCI 204 Genetics.
(3) (Restriction: Not open to students who have taken CELL 204.) (Prerequisites: FDSCI 211 or LSCI 211) The course integrates classical, molecular and population genetics of animals, plants, bacteria and viruses. The aim is to understand the flow of genetic information within a cell, within families and in populations. Emphasis will be placed on problem solving based learning. The laboratory exercises will emphasize the interpretation of genetic experimental data.

LSCI 211 Biochemistry 1.
(3) (Restriction(s): Not open to students who have taken FDSC 211) Biochemistry of carbohydrates, lipids, proteins, nucleic acids; enzymes and coenzymes. Introduction to intermediary metabolism.

LSCI 230 Introductory Microbiology.
(3) (Winter) (Restriction: Not open to students who have taken MICR 230.) The occurrence and importance of microorganisms (especially bacteria) in the biosphere. Principles governing growth, death and metabolic activities of microorganisms. An introduction to the microbiology of soil, water, plants, food, man and animals.

MICR-Microbiology

Offered by: Natural Resource Sciences

✶MICR 300 Microbial Physiology Laboratory.
(3) (Fall) (Prerequisites: MICR 230 or LSCI 230) (Restriction: Not open to students who have taken MICR 200.) Application of microbiological techniques relating to physiology, culturing, and characterization of microorganisms. Topics include bacterial growth curves, bacterial metabolic requirements, enzymatic assays.

MICR 311 Microbiology Seminar 1.
(1) (Fall and Winter) (Prerequisite: MICR 230 or LSCI 230) Introductory seminar on a selected topic in microbiology.

MICR 331 Microbial Ecology.
(3) (Winter) (Restriction: Not open to students who have successfully completed NRSC 331) The ecology of microorganisms, primarily bacteria and archaea, and their roles in biogeochemical cycles will be discussed. Microbial interactions with the environment, plants, animals and other microbes emphasizing the underlying genetics and physiology. Diversity, evolution (microbial phylogenetics) and the application of molecular biology in microbial ecology.

✶MICR 338 Bacterial Molecular Genetics.
(3) (Fall) (Prerequisites: FDSC 211 or LSCI 211 and CELL 204 or LSCI 204) (Restriction: Not open to students who have successfully completed NRSC 338.) Basic bacterial genetics, DNA damage and repair, mutagenesis, gene cloning, mapping and regulation, molecular biology. Laboratory sessions will provide the student with practical experience in the genetic manipulation of microbes and in molecular biology techniques.

✶MICR 341 Mechanisms of Pathogenicity.
(3) (Fall) (3 lectures, one 3-hour lab) (Prerequisite: MICR 230 or LSCI 230) A study of the means by which bacteria cause disease in animals and humans. Includes response of host to invading bacteria, bacterial attachment and penetration processes, and modes of actions of exotoxins and endotoxins.

MICR 412 Microbiology Seminar 2.
(1) (Fall and Winter) (Prerequisite: MICR 311.) Advanced seminar on a selected topic in microbiology.

✶MICR 450 Environmental Microbiology.
(3) (Winter) (Prerequisites: MICR 230 or LSCI 230) Focus on microbes in the environment. Topics include extreme environments, polar microbiology, biotechnology and bioremediation. Emphasis will be on population studies based upon molecular biological methods.

MICR 492 Research Project 1.
(2) (Fall and Winter) (Restrictions: Not open to students who have successfully completed MICRO 492D,N. Instructor's approval required.) A research project involving laboratory work. Preparation of a project progress report and a literature review pertinent to the research area.

MICR 493 Research Project 2.
(3) (Fall and Winter) (Restrictions: Not open to students who have successfully completed MICRO 492D,N. Instructor's approval required.) A continuation of the project begun in MICR 492. Laboratory work, preparation of a project report and journal article, and an oral presentation.

MICR 495 Seminar 1.
(1) (Fall and Winter) (Restriction: Instructor's approval required.) Presentation on a selected topic.

MICR 496 Seminar 2.
(2) (Fall and Winter) (Restrictions: Not open to students who have successfully completed MICR 495,D, N. Instructor's approval required) Advanced presentation on a selected topic.

NRSC-Natural Resource Sciences

Offered by: Natural Resource Sciences

✶NRSC 221 Environment and Health.
(3) (Restriction: Not open to students who are taking or have taken GEOG 221.) (Note: This course is also offered as GEOG 221. Students enrolled in main campus programs register as GEOG 221; students enrolled in Macdonald campus programs register as NRSC 221.) Introduction to physical and social environments as factors contributing to the production of human health, with emphasis on the physical properties of the atmospheric environment as they interact with diverse human populations in urban settings.

NRSC 300 Natural History of East Africa.
(3) (Winter) (Restriction: Limited to students in AFSS) (Corequisite: ANTH 315) Introduction to natural features and ecological interactions involving flora and fauna of East Africa. A science context course taking advantage of the biological opportunities presented by habitats at various locations, examining conservation issues related to these situations.

NRSC 333 Pollution and Bioremediation.
(3) (Fall) (3 lectures) (Restriction: Not open to students who have taken WILD 333) The environmental contaminants which cause pollution; sources, amounts and transport of pollutants in water, air and soil; waste management.

✶NRSC 340 Global Perspectives on Food.
(3) (Winter) (3 lectures) (Prerequisite: A 200-level course in food science, food resources or dietetics, or permission of instructor.) Issues of community and global change in relation to environment and the production of food. Contrasts between developed and developing countries will highlight impacts of colonialism, political structures, and cultural systems related to gender, class and ethnicity.

NRSC 370 Special Topics 01.
(1) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

NRSC 371 Special Topics 02.
(1) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

NRSC 372 Special Topics 03.
(2) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

NRSC 373 Special Topics 04.
(2) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

NRSC 374 Special Topics 05.
(3) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

NRSC 375 Special Topics 06.
(3) (Fall and Winter) (Restriction: Departmental approval required.) Students will pursue topics that are not otherwise available in formal courses. An individualized course of studies will be followed under the supervision of a member of staff qualified in the appropriate discipline or area.

NRSC 382 Ecological Monitoring and Analysis.
(3) (Summer) Students use a variety of methods to sample physical, biological and human systems, to analyse and interpret these data to assess ecosystem health. Methods include GIS, population sampling, land use, resource and biodiversity mapping.

NRSC 383 Land Use: Redesign and Planning.
(3) (Summer) (Prerequisite: 24 credits of university training in a field relating to the environment, including one course in statistics, AEMA 310, or equivalent, or permission of instructor) Issues related to historical and modern land use, environmental impacts, current structures of governance. Needs assessment, and the redesign of human systems of organization and decision making according to ecological principles. Land use in peri-urban and rural settings, and the use of participatory action research.

NRSC 384 Field Research Project.
(3) (Summer) (Prerequisite: 24 credits of university training in a field relating to the environment, including one course in statistics, AEMA 310, or equivalent, or permission of instructor) Small group field research project.

NRSC 405 Natural History of East Africa.
(3) (Corequisite(s): ANTH/GEOG 451, NRSC/BIOL 452) (Restriction(s): Not open to students who have taken NRSC 300 or GEOG 300. Not open to students taking REDM 405.) Integrated study of African landforms, geologic history, climate, environments, biota, water resources and human influences, fostering a thorough understanding of the East African landscape and its inhabitants. Lectures, discussions on selected topics, use of museum resources and field studies will develop powers of observation, identification and enquiry.

NRSC 430 GIS for Natural Resource Management.
(3) (Fall) (Prerequisites: At least one environmental science course and one ecology course or permission of instructor) (Restriction: U2 students and above. Not open to students who have taken GEOG 201, 306 or 307 or BREE/ABEN 430. Limited to 32 students.) Applications of Geographic Information Systems (GIS) and spatial analysis techniques to the presentation and analysis of ecological information, including sources and capture of spatial data; characterizing, transforming, displaying spatial data; and spatial analysis to solve resource management problems.

NRSC 437 Assessing Environmental Impact.
(3) (Winter) (2 lectures) (Restriction: Not open to students who have taken WILD 437) (Restrictions: U2 students and above) Theories and procedures of assessing environmental impact. An examination of the environmental impact of existing programs and projects to examine their accuracy in predicting consequences and attenuating undesirable effects.

NRSC 451 Research in Ecology and Development In Africa.
(3) (Not open to students who have taken or are taking BIOL 451. Open to U2 or later students in the African Field Study Semester (AFSS).) (Corequisites: ANTH or GEOG 451 Society & Development in Africa) Development of observation and independent inquiry skills through: 1) participation in short-term project modules in collaboration with existing researchers; 2) participation in interdisciplinary team research on topics selected to allow comparative analysis of field sites; 3) active and systematic observation, documentation, and integration of field experience in ecology and development issues.

NRSC 497 Research Project 1.
(2) (Fall and Winter) (Restriction: Not open to students who have taken NRSC 496 D,N or NRSC 497 D,N) (Fall and Winter) Independent research project in consultation with a faculty supervisor. Selection of a research problem, formulation of hypotheses and objectives, research design and a comprehensive review of the pertinent literature.

NRSC 498 Research Project 2.
(3) (Fall and Winter) (Restriction: Not open to students who have taken NRSC 496 D,N or NRSC 497 D,N) (Prerequisite: NRSC 497) Continuation of the independent research project begun in NRSC 497. Data collection and analysis, testing of hypotheses, discussion of results.

✶NRSC 510 Agricultural Micrometeorology.
(3) (Fall) (3 lectures) (Restriction: Not open to students who have taken AEPH 510) Interaction between plant communities and the atmosphere. The physical processes governing the transfer of heat, mass and momentum as they relate to research and production in agricultural and environmental systems. Experimental techniques for measuring fluxes of heat, water-vapour, CO2 and natural and man-made pollutants.

NRSC 512 Water: Ethics, Law and Policy.
(3) (Fall) The various legal expressions of the relationship between humanity and water such as those grounded in markets, basic rights, First Nations traditions, utilitarianism and cost/benefit analysis. Public, private and international law, and intergovernmental institutions relevant to the protection and management of water resources.

NRSC 514 Freshwater Ecosystems.
(3) (Fall) Origin, diversity, structure, function and evolution of freshwater ecosystems; fauna, flora and biotic communities of freshwater habitats; indicator organisms; biotic indices; human impact on freshwater ecosystems.

✶NRSC 540 Socio-Cultural Issues in Water.
(3) (Winter) (Prerequisite: A 300- or 400-level course in water or permission of instructor.) (3-hour seminar) Discussion of current debates and problems related to water, especially in developing countries. Topics include: gender relations and health in the context of cultural and economic systems, and the impacts of new technologies, market structures and population growth.

NUTR-Nutrition and Dietetics

Offered by: Dietetics & Human Nutrition

NUTR 200 Contemporary Nutrition.
(3) (Summer) (Restriction: Not open for credit to students with a biology or chemistry course in their program, or to students registered in the School of Dietetics and Human Nutrition, or to students who take NUTR 207.) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Provides students without a biology/chemistry background with the fundamental tools to critically assess nutrition related information, to evaluate their own diets, and to implement healthy changes. Emphasis is on current issues and maximizing health and disease prevention at different stages of the lifecycle.

NUTR 207 Nutrition and Health.
(3) (Fall) (3 lectures) (Corequisites: AEBI202 or CEGEP Objective 00XU or FDSC230 or CEGEP Objective 00XV) (Restriction: Not open to students who take NUTR 200 or EDKP 292) (Restriction: Science students in physical science and psychology programs who wish to take this course should see the Arts and Science Student Affairs Office for permission to register.) Provides students who have a basic biology/chemistry background with the fundamental information on how macronutrients, vitamins and minerals are metabolized in the body, followed by application to evaluate current issues of maximizing health and disease prevention at different stages of

the lifecycle.

‡ **NUTR 208 Stage in Dietetics 1.**
(1) (Winter) (Prerequisites: all Required courses in Term 1 of the Dietetics Major.) (Corequisites: All Required courses in Term 2 of the Dietetics Major) (Restriction: Dietetics Major or Special Students (professional credentialing)) Introduction to the dietetics profession; principles and policies in food and nutrition essential to entry-level dietetics experiences; practice in dietary interviewing, problem solving and report writing related to Level 1 Professional Practice placements.

‡ **NUTR 209 Professional Practice Stage 1B.**
(3) (Summer) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Directed, supervised experiences in nutrition services and food service operations management; integration into the professional team.

NUTR 214 Food Fundamentals.
(3) (Fall) (2 lectures and one 4-hour lab) (Prerequisite: FDSC 230 or corequisite with instructor's permission.) (Corequisites: FDSC 211 or LSCI 211) Study of composition, structure and chemical and physical properties of foods. To understand the scientific principals underlying chemical and physical phenomena that occur during the preparation of food. Laboratory emphasis on developing skills in handling and preparing food, and food assessment by sensory evaluation.

NUTR 217 Application: Food Fundamentals.
(3) (Winter) (2 lectures and one 4-hour lab) (Prerequisite: NUTR 214) A more intensive study of food and complex food mixtures, including their chemical and physical properties. Learning how to control the changes that take place during the preparation of food to obtain palatable, nutritious and safe food. An introduction to culturally determined food habits. Laboratory emphasis on acquiring new knowledge and application to basic food preparation and cooking principles.

NUTR 301 Psychology.
(3) (Fall) (2 lectures and 1 conference) A study of the general characteristics of physical, social, emotional and intellectual development, the psychology of learning, and the growth and development of personality.

NUTR 307 Human Nutrition.
(3) (Fall) (Corequisite(s): ANSC 234 or BIOC 311, and PHGY 202 or PHGY 210 or ANSC 323 or NUTR 207) (3 lecture hours and 1 tutorial/conference hour.) Nutrition in human health and disease from the molecular to the organismal level. Nutrigenomics, the impact of genotype on nutrient metabolism, health and disease risk, and the role of nutrients in metabolic regulation.

‡ **NUTR 310 Stage in Dietetics 2A.**
(1) (Winter) (One 2-hour conference/week) Human food intake assessment and evaluation will be practiced including modules on dietary interviewing, nutrition education teaching plans and documentation for the medical record. Practical aspects of health and food service administration will be addressed.

‡ **NUTR 311 Stage in Dietetics 2B.**
(5) (Summer) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Two interrelated modules of directed experience in normal and clinical nutrition and foodservice management, in health care settings and the private sector.

NUTR 322 Applied Sciences Communication.
(2) (Fall) (2 lectures, 1 lab) (Prerequisite: Completion of 15 credits in a B.Sc. program) The principles and techniques of communicating applied sciences to individuals and groups in both the professional and public milieu. Effective public speaking and group interaction techniques. Communication materials selection, development, use, and evaluation. Writing for the media. Balancing risk and reason in communicating scientific findings.

NUTR 337 Nutrition Through Life.
(3) (Winter) (3 lectures, 1 conference) (Prerequisite: ANSC 330 or NUTR 307) Emphasis on applied quantitative aspects of human nutrition. Nutrient utilization, evaluation and requirements, as related to dietary standards.

NUTR 344 Clinical Nutrition 1.
(4) (Winter) (Two 2-hour lectures) (Prerequisite: ANSC 323.) (Corequisite: NUTR 337.) Clinical nutrition assessment and dietary modification of pathological conditions including hypertension, lipid disorders and cardiovascular disease, obesity, diverticulosis, cancer, COPD, anorexia nervosa and bulimia.

NUTR 345 Food Service Systems Management.
(2) (Fall) (Prerequisite: NUTR 209.) An introductory course applying the principles of organizational management within the healthcare foodservice industry. Emphasis on understanding standards of quality control, customer relations and sanitation. Budget preparation, scheduling and cost control as well as menu preparation, recipe standardization and costing.

NUTR 346 Quantity Food Production.
(2) (Winter) (Prerequisite: NUTR 345) Quantity food planning, costing, and evaluation. Laboratory experience with quantity food production following principles of food sanitation and safety, food quality and cost-evaluation.

NUTR 403 Nutrition in Society.
(3) (Fall) (3 hour conference) (Prerequisite: NUTR 337) Sociocultural and economic influences on food choice and behaviour; health promotion and disease prevention through nutrition, particularly in high risk populations; the interaction of changing environment, food availability and quality as they affect health.

‡ **NUTR 409 Stage in Dietetics 3.**
(8) (Winter: 10 weeks) Four interrelated modules of directed experience in clinical nutrition, foodservice management, normal nutrition education and community nutrition, in health care settings and the private sector.

NUTR 420 Toxicology and Health Risks.
(3) (Fall) (3 lectures) (Prerequisites: FDSC 211 or LSCI 211, BIOL 201 or BIOC 212) (Restriction: This course is not open to students who have taken NUTR 361) Basic principles of toxicology, health effects of exposure to environmental contaminants such as heavy metals, pesticides and radionuclides and ingestion of food toxicants such as food additives and preservatives; natural toxins in plants and marine foods, human health, ecosystem health, safety evaluation, risk assessment, and current Canadian regulations.

NUTR 430 Directed Studies: Dietetics and Nutrition 1.
(3) (Fall and Winter) An individualized course of study in dietetics/human nutrition under the supervision of a staff member with expertise on a topic not otherwise available in a formal course. A written agreement between student and staff member must be made before registration and filed with the Program Coordinator.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

NUTR 431 Directed Studies: Dietetics and Nutrition 2.
(3) (Fall or Winter) An individualized course of study in dietetics/human nutrition under the supervision of a staff member with expertise on a topic not otherwise available in a formal course. A written agreement between student and staff member must be made before registration and filed with the Program Coordinator.

NUTR 431D1 (1.5), NUTR 431D2 (1.5) Directed Studies: Dietetics and Nutrition 2.
(Students must register for both NUTR 431D1 and NUTR 431D2.) (No credit will be given for this course unless both NUTR 431D1 and NUTR 431D2 are successfully completed in consecutive terms) (NUTR 431D1 and NUTR 431D2 together are equivalent to NUTR 431) An individualized course of study in dietetics/human nutrition under the supervision of a staff member with expertise on a topic not otherwise available in a formal course. A written agreement between student and staff member must be made before registration and filed with the Program Coordinator.

NUTR 432 Directed Studies: Dietetics and Nutrition 3.
(3) (Fall and Winter) An individualized course of study in dietetics/human nutrition under the supervision of a staff member with expertise on a topic not otherwise available in a formal course. A written agreement between student and staff member must be made before registration and filed with the Program Coordinator.

NUTR 433 Directed Studies: Dietetics and Nutrition 4.
(5) (Fall or Winter or Summer) (Limited enrolment) (Prerequisite: registration in NUTR 409 or equivalent.) (Restriction: students in the Dietetics Major or documentation of requirement for professional registration) An individualized course of study in dietetics and human nutrition not available through other courses in the School. Emphasis will be placed on application of foods and nutrition knowledge, analytic and synthesis skills, and time management. A written agreement between student and instructor must be made before registration. A "C" grade is required to pass the course.

NUTR 436 Nutritional Assessment.
(2) (Winter) (Prerequisite: NUTR 337) (2 lectures) An intense 4-week course focused on resolving clinically based case studies. The objectives: to develop skills in clinical problem solving, learn principles and methods for assessing the nutritional status of patients and to become skilled at interpreting clinical data relevant to assessing nutritional status and prognosis of hospitalized patients.

NUTR 438 Interviewing and Counselling.
(2) (Winter) (Two 2-hour conferences) (Prerequisite: NUTR 344 and NUTR 311) Theories of behaviour change. Techniques and skills as applicable to the dietitian's role as communicator, interviewer, counsellor, educator, motivator and nutrition behaviour change specialist.

NUTR 445 Clinical Nutrition 2.
(5) (Fall) (Two 2.5-hour lectures) (Prerequisite: NUTR 344 and ANSC 424) Clinical nutrition intervention for gastrointestinal and liver disease, hypermetabolic states, diabetes mellitis, renal disease and inborn errors of metabolism, enteral/parenteral nutrition management.

NUTR 446 Applied Human Resources.
(3) (Fall) (3 lectures, 1 conference) (Prerequisite: AGEC 242) The management of people at work. Employee development and the leadership role. The nature of collective bargaining, the role of unions and management.

NUTR 450 Research Methods: Human Nutrition.
(3) (Fall) (2 lectures, 3 hours research, 4 hours other) (Prerequisite: NUTR 337 and AEMA 310 or BIOL 373) Introduction to methods of clinical, community, international, and laboratory-based nutrition research. Lectures, readings and assignments will cover basic research concepts. Students undertake a computer directed literature search and analysis.

NUTR 451 Analysis of Nutrition Data.
(3) (Fall) (Prerequisite: NUTR 337.) (Corequisite: NUTR 450) An applied course in analysis and interpretation of nutrition data sets. Introduction to specialized dietary and anthropometric computer programs. Written and oral presentation of results.

NUTR 480 Industrial Stage/Nutrition.
(12) (Note: Open to students who have a minimum of 60 credits in the Double Major Food Science/Nutritional Science or permission of department.) Stage with an approved host organization in the nutrition product industry.

NUTR 497 Professional Seminar: Nutrition.
(1.5) (Note: Open to students who have completed a minimum of 75 credits in the dual degree/concurrent program in Food Science/Nutritional Science or permission of Department.) A capstone course which requires a student to research a topic relevant to an industrial aspect of Nutritional Science, prepare a report and communicate that information to a peer audience in a succinct and professional manner.

NUTR 500 Independent Study 1.
(3) (An approved course outline must be on file in the School's office prior to registration.) (Prerequisite: Permission of Instructor and Director of the School) An individualized course to allow students to undertake projects in library, laboratory, or field study.

NUTR 501 Nutrition in Developing Countries.
(3) (Fall) (2 lectures and one seminar) (Prerequisite: For undergraduate students, consent of instructor required) This course will cover the major nutritional problems in developing countries. The focus will be on nutrition and health and emphasize young children and other vulnerable groups. The role of diet and disease for each major nutritional problem will be discussed.

NUTR 502 Independent Study 2.
(3) (An approved course outline must be on file in the School's office prior to registration.) (Prerequisite: Permission of Instructor and Director of the School) An individualized course to allow students to undertake projects in library, laboratory, or field study.

NUTR 503 Bioenergetics and the Lifespan.
(3) (Fall) (Prerequisites: Undergraduate Basic Biochemistry (3 credits), Undergraduate Mammalian Physiology (EDKP 331 or PHGY 202 or PHGY 210 or ANSC 323), Undergraduate Introductory Nutrition (EDKP 392 or NUTR 207 or NUTR 307).) Multidisciplinary approach that integrates principles of bioenergetics with nutrition through the lifespan.

‡ **NUTR 510 Professional Practice - Stage 4.**

(14) (Fall: 16 weeks) (Prerequisite: NUTR 409) (Restriction: Undergraduate registration is restricted to students in the Dietetics Major, CGPA greater than, or equal to 2.50) Interrelated modules of directed experience in clinical nutrition, foodservice management, nutrition education and community nutrition, in health care setting and in the private sector.

NUTR 511 Nutrition and Behaviour.
(3) (2 lectures and one seminar) (Prerequisite: NUTR 445 for undergraduate students or consent of instructor) Discussion of knowledge in the area of nutrition and behaviour through lectures and critical review of recent literature; to discuss the theories and controversies associated with relevant topics; to understand the limitations of our knowledge. Topics such as diet and brain biochemistry, stress, feeding behaviour and affective disorders will be included.

NUTR 512 Herbs, Foods and Phytochemicals.
(3) (3 lectures and a project) (Prerequisites (Undergraduate): FDSC 211 or LSCI 211 or BIOL 201 or BIOC 212) An overview of the use of herbal medicines and food phytochemicals and the benefits and risks of their consumption. The physiological basis for activity and the assessment of toxicity will be presented. Current practices relating to the regulation, commercialization and promotion of herbs and phytochemicals will be considered.

NUTR 513 Credentialing in Dietetics.
(3) (Prerequisite: Permission of instructor.) (Restriction: Not open to students who have taken NUTR 611.) Theoretical and practical integration of knowledge and skills required during graduate professional practice. Includes clinical assessment and nutritional monitoring techniques, analysis of interviewing and counseling situations, and application of management information systems and quality assurance procedures.

NUTR 545 Clinical Nutrition 2.
(5) (Fall) (Two 2.5-hour lectures) (Prerequisite: NUTR 344 and ANSC 424) (Note open to students who have taken NUTR 445) Clinical nutrition intervention for gastrointestinal and liver disease, hypermetabolic states, diabetes mellitis, renal disease and inborn errors of metabolism, enteral/parenteral nutrition management.

NUTR 551 Analysis of Nutrition Data.
(3) (Fall) (Prerequisite: NUTR 337.) (Corequisite: NUTR 450.) (Restriction: Not open to students who have taken NUTR 451.) An applied course in analysis and interpretation of nutrition data sets. Introduction to specialized dietary and anthropometric computer programs. Written and oral presentation of results.

PARA-Parasitology

Offered by: Parasitology

PARA 410 Environment and Infection.
(3) (2 lectures per week) (Prerequisite: BIOL 111 or AEBI 120 or equivalent) Infectious pathogens of humans and animals and their impact on the global environment are considered. The central tenet is that infectious pathogens are environmental risk factors. The course considers their impact on the human condition and juxtaposes the impact of control and treatment measures and environmental change.

PARA 438 Immunology.
(3) (3 lectures per week) (Prerequisites: AEBI 202 or LSCI 202 or permission of instructor) An in-depth analysis of the principles of cellular and molecular immunology. The emphasis of the course is on host defense against infection and on diseases caused by abnormal immune responses.

PARA 515 Water, Health and Sanitation.
(3) The origin and types of water contaminants including live organisms, infectious agents and chemicals of agricultural and industrial origins. Conventional and new technological developments to eliminate water pollutants. Comparisons of water, health and sanitation between industrialized and developing countries.

PLNT-Plant Science

Offered by: Plant Science

PLNT 203 Economic Botany.
(3) Study of plants which are useful or harmful to humans, their origins and history, botanical relationships, chemical constituents which make them economically important; their roles in prehistoric and modern cultures and civilization and possible impact in the future.

PLNT 211 Principles of Plant Science.
(3) (3 lectures and one 2-hour lab) A study of major world crop species with emphasis on their adaptation and distribution in relation to the economic botany of the plants.

PLNT 221 Introduction to Fungi.
(1) (Four 4-hour field labs, given during the second 4 weeks of semester) (Second 4 weeks of term only) Field and laboratory survey of local representatives of the major groups of fungi, including edible and poisonous mushrooms. The role of each group in terrestrial and aquatic ecological niches will be studied with respect to saprophytism, parasitism and symbiosis. Economic importance of fungi in medicine and biotechnology will be introduced.

PLNT 300 Cropping Systems.
(3) (3 lectures and one 3-hour lab) (Prerequisite: PLNT 211) Application of plant science and soil science to production of agronomic and horticultural crops. Use and sustainability of fertilization, weed control, crop rotation, tillage, drainage and irrigation practices.

PLNT 302 Forage Crops and Pastures.
(3) (Prerequisites: PLNT 201 or AEBI 210 or AEBI 211 or WILD 200) (Restriction: Not open to students who have taken PLNT 331.) Ecology, management, and physiology of forage crops with emphasis on establishment, growth, maintenance, harvesting, and preservation; value as livestock feed in terms of nutritional composition and role in environmental conservation.

PLNT 304 Biology of Fungi.
(3) (3 lectures and one 3-hour lab) This course describes the various groups of fungi and explores in depth their biology and physiology, their ecological niches and the role in various ecosystems and their benefits and uses in industry and biotechnology.

PLNT 305 Plant Pathology.
(3) (3 lectures and one 3-hour lab) The theory and concepts of plant pathology, including the disease cycle, infection, symptoms, resistance, epidemiology and control. The biology and taxonomy of pathogens will be studied, including fungi, bacteria, viruses and nematodes. Techniques of inoculation, isolation of pathogens from diseased plants, disease diagnosis and pathogen identification will be demonstrated.

PLNT 307 Vegetable Production.
(3) (Prerequisites: PLNT 201 or AEBI 210, PLNT 300) (Restrictions: Not open to students who have taken PLNT 341, PLNT 342, PLNT 343, PLNT 344, PLNT 345 or PLNT 348.) Vegetable production with emphasis on cultural considerations, harvest, and handling of selected vegetable crops; integrates principles of plant growth and vegetable physiology into conventional and ecological vegetable production schemes.

PLNT 310 Plant Propagation.
(3) (3 lectures and one 3-hour lab) Principles and practical aspects of plant propagation are examined. The course consists of two parts. The first third deals with sexual propagation; the production, processing storage certification and analysis of seeds. The remaining two-thirds deals with vegetative propagation; cutting, budding, grafting, layering, and tissue culture.

✶PLNT 312 Urban Horticulture.
(3) Selection, use and care of plants in urban environments for the benefit of urban populations: landscape design, turf and green space management, green roofs, design and management of community gardens.

✶PLNT 315 Herbs and Medicinal Plants.
(3) (Prerequisite: AEBI 210 or PLNT 201 or permission of instructor.) Biochemistry and ecophysiology of the active ingredients in medicinal plants. Links between cultivation practices and plant compounds. The effect of propagation and environmental factors on active compounds are examined using greenhouse experiments, followed by quantification of active ingredients by analytical techniques and analysis of bioactivity.

✶PLNT 321 Fruit Production.
(3) (3 credits; 3 lectures and 1 3-hr lab) (Prerequisite: AEBI 210 or PLNT 211 and PLNT 300) Botany, physiology and management practices of the major temperate-zone fruit crops. Includes field work, laboratory experimentation and field trips.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

✶PLNT 322 Greenhouse Management.
(3) (3 lectures and one 3-hour lab) Greenhouse design and operation, including environmental regulation, fertilization and pest management. Focus will be on the production of major floricultural and vegetable crops.

PLNT 331 Grains and Biofuel Crops.
(3) (3 lectures and one 3-hour lab period) (Prerequisite: PLNT 211 or AEBI 210, and PLNT 300) A study of economically important crops produced for dietary or biofuel utilization; historical development, botany, distribution and adaptation, cultural practices and factors that affect the utilization of crop products. Laboratories emphasize morphological study of major energy producing field crop species

PLNT 353 Plant Structure and Function.
(3) (2 lectures and one 3-hour lab) (Prerequisites: PLNT 201 or AEBI 210 and FDSC 211 or LSCI 211) The general anatomy and physiology of vascular plants with emphasis on the cells, tissues, organs, chemical components of plants and the physiological processes associated with their function.

PLNT 358 Flowering Plant Diversity.
(3) (2 lectures, one 3-hour lab, plus a 4-day field week held the week preceding the start of classes) (Prerequisites: PLNT 201 or AEBI 210 or ENVR 202 or permission of instructor) Principles of classification and identification of flowering plants and ferns, with emphasis on 35 major families of flowering plants and the habitats in which they grow.

PLNT 361 Pest Management and the Environment.
(3) (3 lectures) Pests, pest impacts on the global food system and strategies for pest management. Pest management methods, models and programs, and how to reduce pest management impacts on the environment.

✶PLNT 421 Landscape Plant Materials.
(3) (2 lectures and one 3-hour lab) (Prerequisites: PLNT 211 or PLNT 201 or AEBI 201.) A study of the major types of woody and herbaceous ornamental plants used in landscaping and how the landscaping industry uses plants to improve the environment. Laboratory includes a specimen collection of landscape plants widely used in Québec.

✶PLNT 424 Cellular Regulation.
(3) (Prerequisites: FDSC 211 or LSCI 211, AEBI 202 or LSCI 202 or permission of the instructor.) An overview of the cellular mechanisms used by prokaryotes and eukaryotes to regulate biosynthetic pathways. Topics covered range from control of gene transcription to the regulation of enzyme activity to the role of signal transduction pathways in the control of metabolic flux through cellular pathways.

PLNT 426 Plant Ecophysiology.
(3) Investigates of the complex interactions between plants and their environment, focusing on the mechanisms underlying plant physiological processes. Plasticity of plants to their ecological environment; topics include phytoremediation, plant stress responses, plant-symbiosis and plant-insect interactions.

PLNT 430 Plant Disease Epidemiology.
(3) (Prerequisite(s): PLNT 305 or equivalent) (Restriction(s): Not recommended for U1 students) (Graduate students registering for PLNT 636 will attend theory classes of PLNT430 and in addition they will participate in a journal club.) Concepts and systems approach to plant disease epidemiology. Factors influencing pathogen development in plants. Quantification of disease progress. Modeling the effect of host, pathogen and environment on the rate of disease progress. Plant disease detection methods, forecasting systems and management. Integrated disease management. Projects on modeling and comparative epidemiology.

PLNT 434 Weed Biology and Control.
(3) (3 lectures and one 3-hour lab) (Prerequisite: PLNT 201 or AEBI 210) A study of the biology of undesirable vegetation as related to the principles of prevention and physical, biological, managerial and chemical control. Emphasis on the environmental impact of the different methods of weed control.

PLNT 435 Plant Breeding.
(3) (Prerequisites: PLNT 201 or AEBI 210 and CELL 204 or LSCI 204) (Restriction: Not open to students who have taken PLNT 535.) Principles and practices of plant breeding, including reproduction of crop plants; plant hybridization; sources of genetic variation; selection methods used for self- and cross-pollinated crops and for clonally reproduced crops; breeding for diseases and pest resistance; applications of biotechnology in plant breeding.

PLNT 450 Special Topics: Plant Science.
(2) A course of independent study by the student with the guidance of a professor of recognized competence in the area of the chosen topic.

PLNT 451 Special Topics: Plant Science 2.
(3) A course of independent study by the student with the guidance of a professor of recognized competence in the area of the chosen topic.

PLNT 458 Flowering Plant Systematics.
(3) (1 lecture plus one 3-hour lab plus required summer plant collection) (Prerequisite: PLNT 358 or BIOL 358 or permission of instructor) Principles and methods of phylogenetic analysis of flowering plants with emphasis on new classification systems resulting from analysis of DNA sequence data. Laboratory sessions will focus on 40 temperate and tropical families not covered in PLNT 358 as well as on identification techniques for difficult plant families.

PLNT 460 Plant Ecology.
(3) (3 lectures and one 3-hour lab) (Prerequisite: AEMA 310 or permission of instructor.) Theory and practice of plant ecology with an emphasis on the interaction between patterns and ecological processes and the dynamics, conservation and management of plant populations and communities over a range of temporal and spatial scales.

PLNT 489 Project Planning and Proposal.
(1) (Restriction: Not open to students who have taken PLNT 490D1, PLNT 490D2, PLNT 490N1 or PLNT 490N2.) Preparation of a literature review and research plan for the project course (PLNT 490).

PLNT 490 Research Project.
(2) (Prerequisite: PLNT 489) (Restriction: Not open to students who have taken PLNT 490D1, PLNT 490D2, PLNT 490N1 or PLNT 490N2.) Directed study on approved research project requiring both oral and written presentation.

PLNT 495 Seminar 1.
(1) (Restriction: Not open to students registered in, or who have taken PLNT 495D1, PLNT 495D2, PLNT 495N1 or PLNT 495N2) .

PLNT 496 Seminar 2.
(1) .

PLNT 520 Plant-Microbe Interactions.
(3) (Restriction: Not open to students who have taken PLNT 600.)

PLNT 525 Advanced Micropropagation.
(3) (One 3-hour lecture) A detailed study of the principles and techniques of plant micro propagation. Includes lectures, laboratories, discussion sessions and visits to local laboratories. Evaluation is based on contribution to discussions, laboratory reports and an individualized project.

SOIL-Soil Science

Offered by: Natural Resource Sciences

SOIL 300 Geosystems.
(3) (Winter) (Prerequisites: SOIL 210 or ENVB 210 or permission of instructor) (Restriction: Not open to students who have taken SOIL 200) Interactions between Earth's various geologic systems and how these interactions lead to mineral and rock formation. Geomorphic processes and how various landforms are created by the interactions at the Earth's surface between the various geologic systems.

SOIL 315 Soil Fertility and Fertilizer Use.
(3) (Fall) (3 lectures and one lab) (Prerequisites: SOIL 210 or ENVB 210 or permission of instructor) Plant nutrients in the soil, influence of soil properties on nutrient absorption and plant growth, use of organic and inorganic fertilizers.

✶SOIL 326 Soils in a Changing Environment.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisite: A previous course in soil science, geography, geology or permission of instructor.) Soil processes responsible for soil formation will be studied and the impact of changes to the physical and chemical environment will be discussed.

✶SOIL 331 Soil Physics.
(3) (Winter) (3 lectures and one 3-hour lab) Soil structure; fluxes of water, heat, gases and solids in soils; physical properties and plant growth; applications to soil dynamics.

✶SOIL 335 Soil Ecology and Management.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisites: SOIL 210 or ENVB 210) The physical and chemical environment of soil organisms; survey of soil microflora and fauna; processes and optimal agronomic systems of management consistent with the goals of ecological agriculture.

SOIL 342 Organic Soil Fertilization.
(3) (Fall) (web-based course (offered online)) The need for using organic fertilizers to produce certified organic crops. Soil biology, nutrient requirements and fertilizers for organic crops; nutrient management and the soil foodweb; biocontrol opportunities.

✶SOIL 445 Agroenvironmental Fertilizer Use.
(3) (Winter) (Prerequisite: SOIL 315.) A sustainable, agroenvironmental approach to nutrient management planning at the farm scale, consistent with guidelines and laws governing fertilizer use in Quebec and other jurisdictions.

✶SOIL 510 Environmental Soil Chemistry.
(3) (Winter) (Prerequisite(s): A course in Soil Science or permission of instructor) (Restriction: Not open to students who have taken SOIL 410.) Soil chemical principles are presented in a series of problem sets covering basic concepts as well as applications to environmental and agricultural situations.

SOIL 521 Soil Microbiology and Biochemistry.
(3) (Winter) (Restriction: Not open to students who have taken NRSC 521) Soil environments, soil microorganisms and their function in the biogeochemical cycles of C, N, P and S. Basics of soil bioremediation.

WILD-Resource Development

Offered by: Parasitology, Natural Resource Sciences

WILD 307 Natural History of Vertebrates.
(3) (Fall) (Lectures and modules) (Restriction: Not open to students who have taken ZOOL 307) Review of higher taxonomic groups of vertebrates and prochordates, emphasizing diagnostic characters evolution and distribution.

WILD 311 Ethology.
(3) (Winter) (2 lectures, one 3-hour lab) (Restriction: Not open to students who have taken ZOOL 311) Invertebrate and vertebrate behaviour; innate behaviour, learning, motivation, agonistic behaviour, rhythms, social organization, mating systems and communication.

WILD 350 Mammalogy.
(3) (Winter) (2 lectures and one 3-hour lab) (Prerequisites: WILD 200 (formerly AEBI 200) and WILD 307 (formerly ZOOL 307)) This course focuses on the evolution, classification, ecology and behaviour of mammals and relations between humans and mammals. Also structure, systematics and identification of local and world mammals, as well as field methods will be emphasized.

WILD 375 Issues: Environmental Sciences.
(3) (Winter) (3 lectures) Principles and trends in global ecology as they pertain to agricultural and natural ecosystems and the impact of environmental change on food production.

✶WILD 382 Fish and Wildlife Propagation.
(3) (Fall) (2 lectures and field trips) (Enrollment limited to 20) An overview of the care and reproduction of wildlife species in captivity for commercial, scientific, conservation, and educational purposes through field trips, lectures, and class discussions.

WILD 401 Fisheries and Wildlife Management.
(4) (Fall) (3 lectures, one 2-hour lab and one week field laboratory prior to fall term) (Prerequisite: PLNT 358) Principles of fisheries and wildlife management are considered and current practices of research and management are discussed.

WILD 410 Wildlife Ecology.
(3) (Winter) (3 hours of lectures per week) (Prerequisites: WILD 205 (formerly AEBI 205) or ENVB 305 or permission) Ecological processes and theories in animal populations. Interrelationships among biological processes, biotic and abiotic factors, and life history strategies. Topics include population dynamics, optimization strategies, predation, habitat selection, risks and decision making, and social behaviour. Application of problem-solving approach to wildlife ecology through individual and group work.

WILD 415 Conservation Law.
(2) (Fall) (2 lectures) A study of the various federal, provincial and municipal laws affecting wildlife habitat. Topics include: laws to protect wild birds and animals; the regulation of hunting; legal protection of trees and flowers, sanctuaries, reserves, parks; techniques of acquiring and financing desirable land, property owner rights.

WILD 420 Ornithology.
(3) (Fall and Winter) (3 lectures and occasional field trips) (Prerequisite: WILD 307 (formerly ZOOL 307) or permission of instructor) (This course is scheduled for video-conferencing.) Taxonomic relationships and evolution of birds are outlined. Reproduction, migration and population processes of North American birds are examined.

WILD 421 Wildlife Conservation.
(3) (Winter) (3 lectures) (Restriction: Not open to students who have taken NRSC 421.) Study of current controversial issues focusing on wildlife conservation. Topics include: animal rights, exotic species, ecotourism, urban wildlife, multi-use of national parks, harvesting of wildlife, biological controls, and endangered species.

WILD 424 Parasitology.
(3) (Winter) (2 lectures and one 3-hour lab) (Restriction: Not open to students who have taken WILD 424 (formerly ZOOL 424).) Systematics, morphology, biology and ecology of parasitic protozoa, flatworms, roundworms and arthropods with emphasis on economically and medically important species.

✶WILD 475 Desert Ecology.
(3) (Winter) (Field course) (Prerequisites: PLNT 460, WILD 307 (formerly ZOOL 307), WILD 420) (Enrolment limited to 20) This course deals with adaptations to heat and drought. Representative areas of Coastal Bend, Chihuahuan and Sonoran deserts are visited over a two-week period. In the third week, emphasis is on the high desert and historical and cultural aspects of desert life observed in at the Mesa Verde cliff dwellings. A pre-trip analysis of an area to be visited and field notes are the principal bases of evaluation. Students must bear transportation costs.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

WOOD-Woodland Resources

Offered by: Natural Resource Sciences

✶WOOD 300 Urban Forests and Trees.
(3) (Fall) (3 lectures and one 3-hour lab) (Prerequisites: PLNT 201 or AEBI 210 and SOIL 210 or ENVB 210) The effects of environmental factors such as soil fertility, soil contamination and compaction, extremes of temperature and air pollutants on trees and forests growing in an urban environment, and means to increase their tolerance will be discussed. Emphasis in the laboratory will be on diagnosis and solving of tree problems in urban environments.

✶WOOD 420 Environmental Issues: Forestry.
(3) (Winter) (3 lectures and one 2-hour tutorial) (Prerequisites: PLNT 201 or AEBI 210 and SOIL 210 or ENVB 210 or permission of instructor) The science behind current environmental issues relating to forests including the effects of management on productivity and biodiversity, conservation of old-growth forests and endangered species, pesticide use, and industrial pollution. The role of scientific knowledge, relative to social and economic forces, in forest resource decision-making is discussed.

WOOD 441 Integrated Forest Management.
(3) (Winter) (3 lectures and one 3-hour lab) (Prerequisites: WILD 205 (formerly AEBI 205) or ENVB 305 or permission of instructor) The study of silviculture and silvics and their application to forest management to sustain the production of wood and other resources such as wildlife, water and landscape in natural forests and rural environments (agroforestry). Acquisition of practical skills in forest survey and computer simulation of forest growth.

Faculty of Arts

AFRI-African Studies

Offered by: Arts - Dean's Office

AFRI 401 Swahili Language and Culture.
(3) (Note: Priority to students in the African Studies Program and/or participants of the Canadian Field Studies in Africa program and to students with a demonstrable need related to internship or research. Approval by African Studies Program Adviser required.) Basic knowledge of the Swahili language and culture with emphasis on handling circumstances that might be encountered in field research: everyday conversation, developing aural and oral skills and mastering basic grammar rules, understanding cultural norms and practices, issues of culture sensitivity and appropriateness.

AFRI 480 Special Topics 01.
(3) (Prerequisite: the completion of all available courses relevant to the topic, and permission of the instructor and Program Adviser prior to registration) Supervised reading in advanced special topics in African Studies under the direction of a member of staff.

AFRI 481 Special Topics 02.
(3) (Prerequisite: the completion of all available courses relevant to the topic, and permission of the instructor and Program Adviser prior to registration) Supervised reading in advanced special topics in African Studies under the direction of a member of staff.

AFRI 499 Arts Internships: African Studies.
(3) (Note: U-2 and U-3 students in good standing, normally after completing 30 credits of a 90-credit program or 45 credits of a 96-120 credit program, a minimum CGPA of 2.7, and permission from the departmental Internship Adviser. This course will normally not fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

AFRI 598 Research Seminar in African Studies.
(3) (Prerequisite: an introductory course in any of the disciplines studying Africa) (Restriction: Open to final year Program students, and to others by permission of Program Adviser) An interdisciplinary research seminar on topics of common interest to staff and students of the African Studies Program. As part of their contribution, students will prepare a research paper under the supervision of one or more members of staff.

ANTH-Anthropology

Offered by: Anthropology

ANTH 201 Prehistoric Archaeology.
(3) (Fall) Examination of the origin of cultural behaviour and culture as an adaptive mechanism from the earliest times to the rise of the first civilizations in the Old and New Worlds. The implications of these data concerning the nature of humans and their future development will be considered.

ANTH 202 Comparative Cultures.
(3) (Fall) An introduction to different cultures and societies. Aspects of social life, such as economics, gender, family, kinship, politics and beliefs are explored in diverse settings. Different social systems such as those centered on foraging, farming, and urbanism are illustrated and compared.

● **ANTH 203 Human Evolution.**
(3) (Winter) An examination of evolutionary theory and the fossil and archaeological record for human origins, emphasizing the interaction between physical and cultural evolution. The use of primate behaviour in reconstructing early human behaviour. The origin and meaning of human variation.

ANTH 204 Anthropology of Meaning.
(3) (Winter) Through the analysis of language, symbols and cultural constructions of meaning, this course explores how people in different societies make sense of their world, and the ways in which they organise that knowledge, and how ideologies represent the different interests present in a society.

ANTH 206 Environment and Culture.
(3) (Fall) Introduction to ecological anthropology, focusing on social and cultural adaptations to different environments, human impact on the environment, cultural constructions of the environment, management of common resources, and conflict over the use of resources.

● **ANTH 207 Ethnography Through Film.**
(3) This course will investigate and discuss cultural systems, patterns, and differences, and the ways in which they are observed, visually represented, and communicated by anthropologists using film and video. The visual representation of cultures will be critically evaluated by asking questions about perspective, authenticity, ethnographic authority and ethics.

ANTH 208 Evolutionary Anthropology.
(3) (Winter) The basic elements and mechanisms of evolutionary theory; the place of evolutionary theory in anthropology, including social anthropology, archaeology, physical anthropology and anthropological linguistics. Emphasis on the debates in each sub-discipline in which evolutionary theory has played an important role.

● **ANTH 209 Anthropology of Religion.**
(3) (Fall) Nature and function of religion in culture. Systems of belief; the interpretation of ritual. Religion and symbolism. The relation of religion to social organization. Religious change and social movements.

ANTH 212 Anthropology of Development.
(3) (Winter) Processes of developmental change, as they affect small communities in the Third World and in unindustrialized parts of developed countries. Problems of technological change, political integration, population growth, industrialization, urban growth, social services, infrastructure and economic dependency.

● **ANTH 214 Violence, Warfare, Culture.**
(3) (Fall) Cultural diversity and comparative perspectives on violence and warfare; sociological, political, materialist, psychological, and ideological explanations of conflict. Examines historical and contemporary cases of warfare in state and pre-state societies; 'ethnic', civil, nationalist secessionist and genocidal forms of conflicts; processes of conflict avoidance and resolution, peace-making and -keeping.

ANTH 222 Legal Anthropology.
(3) (Winter) Exploration of dispute resolutions and means of social cohesion in various societies of the world. Themes: dichotomy between law and custom, local definitions of justice and rights, forms of conflict resolution, access to justice, gender and law, universality of human rights, legal pluralism.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ANTH 227 Medical Anthropology.
(3) (Fall) Beliefs and practices concerning sickness and healing are examined in a variety of Western and non-Western settings. Special attention is given to cultural constructions of the body and to theories of disease causation and healing efficacy. Topics include international health, medical pluralism, transcultural psychiatry, and demography.

ANTH 301 Nomadic Pastoralists.
(3) (Fall) (Prerequisite: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 212) Variations in herding systems over a wide range of habitats and involving a variety of species of domestic livestock. Comparative perspectives on the prehistory of pastoral systems, on the ideologies, cultures, and social and economic systems of nomadic pastoralists. Relations with non-pastoralists and the effects of change and development will also be examined.

● **ANTH 302 New Horizons in Medical Anthropology.**
(3) (Winter) (Prerequisite: ANTH 227) (Restriction: Anthropology program students.) Using recent ethnographies as textual material, this course will cover theoretical and methodological developments in medical anthropology since the early 1990's. Topics include a reconsideration of the relationship between culture and biology, medical pluralism revisited, globalization and health and disease, and social implications of new biomedical technologies.

● **ANTH 303 Ethnographies of Post-socialism.**
(3) (Fall) (Prerequisites: ANTH 202 and one other 200-level anthropology course, U2 standing or above, or permission of instructor.) Understanding postsocialism through engagement with ethnography that explores how markets interact with political rule, social forms, and the production of cultural values across different geographies and histories. This course focuses primarily on the former Soviet Union, East Germany, and China.

ANTH 304 Chinese culture in ethnography and film.
(3) (Fall) (Prerequisites: ANTH 202 or 204 or 209 and another 200 level anthro course, U2 standing or above, or permission of the instructor.) (Restriction: U2 standing or above.) Uses both ethnography and film to examine 20Ih century Chinese society and popular culture in the context of the revolution and its aftermath.

● **ANTH 305 Arctic Prehistory.**
(3) (Prerequisite: ANTH 201.) (Restriction: Not open to students who have taken ANTH 319.) Comparative study of prehistoric Arctic hunter-gatherer cultures in Northern Canada, Alaska, Greenland and eastern Siberia. Emphasis will be placed on interpretation of cultural continuity and change in the context of contemporary hunter-gatherer theory.

● **ANTH 306 Native Peoples' History in Canada.**
(3) (Prerequisites: HIST 202 or HIST 203 or ANTH 202 or ANTH 205 or ANTH 206, or permission of instructor) A survey of the Canadian policies that impinged on native societies from the fur trade to W.W. II, and the native peoples' responses, looking at their involvement in the fur trade, the emergence of the Métis, types of resistance, economic diversification, development of associations, and cultural distinctiveness.

● **ANTH 307 Andean Prehistory.**
(3) (Winter) (Prerequisites: ANTH 201 and 1 other course in Social/Cultural Anthropology or permission of instructor) (Restriction: Students must be U2 or U3 standing.) Questions related to social inequality, ritual practice, monumental space, and urban landscapes within the context of the Pre-Columbian Andes and sections on the Inkas, as well as earlier groups, such as the Nazca, Wari, Moche, Tiwanaku, and Chimu.

● **ANTH 308 Political Anthropology 01.**
(3) (Fall) (Prerequisite: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 212, or permission of instructor) The study of political systems and political processes. Conflict and its resolution. The emphasis of the course will be on local-level politics and non-industrial societies.

● **ANTH 309 Prehistory of Northern Europe.**
(3) (Fall) (Prerequisite: ANTH 201.) Survey of the prehistory of northern Europe from the end of the last glaciation to the early iron age.

● **ANTH 311 Primate Behaviour and Ecology.**
(3) (Fall) (Prerequisite: Any 200 level course in a social or biological science.) Critical evaluation of theories concerning primate behaviour with emphasis on the importance of ecological factors in framing behaviour, including mating behaviour, parent care, social structures, communication, as well as various forms of social interaction such as dominance, territoriality and aggressive expression.

● **ANTH 312 Zooarchaeology.**
(3) (Winter) (Prerequisites: ANTH 201 and Honours/Major status in Anthropology) A systematic investigation into current methodological and theoretical concerns in archaeological faunal analysis. Topics to be examined include sampling and quantification, butchery, seasonality, subsistence, taphonomy, and paleoecology.

● **ANTH 313 Early Civilizations.**
(3) (Winter) (Prerequisite: ANTH 201 or ANTH 202) Comparison of similarities and differences in the economic, social, political institutions and the religious beliefs and values of the ancient Egyptians, Sumerians, Shang Chinese, Aztecs, Classic Mayas, Inkas, and precolonial Yorubas. Extent to which cross-cultural regularities and historically-specific factors have shaped their development.

● **ANTH 314 Psychological Anthropology 01.**
(3) (Fall) (Prerequisite: Any Anthropology course) (Restriction: Not open to students who have taken ANTH 214) A survey of current theories and methods employed in psychological anthropology. Some areas considered are: cross-cultural studies of socialization and personality development; cultural factors in mental illness; individual adaptations to rapid socio-cultural change.

● **ANTH 315 Society/Culture: East Africa.**
(3) (Winter) (Restriction: Open only to students in the Study in Africa program, a full-term field study program in East Africa) Overview of the history, languages and cultures of the region. Examination of the social institutions, cultural patterns, subsistence practices and environmental settings of major social groups, including hunter-foragers, fishers, pastoralists, agro-pastoralists, and cultivators. Discussion of current theoretical and ethnological issues in the study of culture and social change.

● **ANTH 317 Prehistory of North America.**
(3) (Fall) (Prerequisites: ANTH 201 or 203 or equivalent.) Peopling of the New World; cultural adaptations of grasslands, woodland, desert and maritime environments; factors that favoured the shifts in subsistence activities, settlement patterns and social organization.

ANTH 318 Globalization and Religion.
(3) (Winter) (Prerequisite: U2 standing or above and ANTH 209, or ANTH 204, or ANTH 355 or ANTH 352 or RELG 207) The interactions between religion and the economic, social and cultural transformations of globalization: relations between globalization and contemporary religious practice, meaning, and influence at personal and collective levels.

● **ANTH 319 Inka Archaeology & Ethnohistory.**
(3) (Winter) (Prerequisite: ANTH 201 or ANTH 202 or HISP 225 or permission of instructor.) In-depth study of material and symbolic manifestations of power and identity in the Pre-Columbian Inka state, drawing on both archaeological and ethnohistoric sources.

ANTH 320 Social Evolution.
(3) (Fall) (Prerequisites: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 208, and Honours/Major/Minor status in Anthropology, or permission of instructor.) The evolution of human social organization, with a focus on pre-industrial societies (hunter-gatherers, small-scale sedentary societies, complex chiefdoms and small scale states).

ANTH 322 Social Change in Modern Africa.
(3) (Fall) (Prerequisite: ANTH 202, or ANTH 204, or ANTH 205, or ANTH 206, or ANTH 209, or ANTH 212, or ANTH 227 or permission of instructor) The impact of colonialism on African societies; changing families, religion, arts; political and economic transformation; migration, urbanization, new social categories; social stratification; the social setting of independence and neo-colonialism; continuity, stagnation, and progressive change.

ANTH 323 Anthropology of Things.
(3) (Fall) (Prerequisite(s): any 200-level anthropology course or permission of instructor.) The study of material culture and the ethnography of objects and technologies. Commodity fetishism, semiotics, anthropology of sensory perception. Ethnographies of things, machines and other apparata.

ANTH 326 Peoples of Central and South America.
(3) (Fall) (Prerequisites: ANTH 202 or 204 or 205 or 206 or 209 or 212 or permission of instructor) Enthnographic survey of the peoples of Central and South America and discussion of some of the major ethnological issues/themes including the present political situation of the native peoples.

● **ANTH 327 Peoples of South Asia.**
(3) (Fall) (Prerequisite: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 212, or permission of instructor) An exploration of the dominant social institutions, cultural themes and perspectives, and psychological patterns found in India and greater South Asia.

ANTH 329 Modern Chinese Society and Change.
(3) (Winter) (Prerequisites: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 212, or East Asian Studies Honours/Major, or permission of instructor) 20th and 21st century Chinese economic, social and cultural changes and continuities. Topics include rural development, revolution and reform policies, gender and households, family planning, minorities, urbanization, and human rights.

ANTH 330 Traditional Whaling Societies.
(3) (Winter) (Prerequisite(s): ANTH201 or ANTH202 or ANTH 203 or permission of instructor) (Restriction(s): Restricted to Anthropology Honours, Major and Minor Program students.) The investigation of similarities and diversity of prehistoric and historic small-scale whaling societies. Examples will be drawn from throughout the world, including, but not limited to, East Asia, Northwest Coast, Arctic, North Atlantic and Northern Europe societies.

● **ANTH 331 Prehistory of East Asia.**
(3) (Fall) (Prerequisite: ANTH 201 or permission of instructor) Comparative study of prehistoric hunting and gathering cultures in China, Japan, Korea, Mongolia and Eastern Siberia; origins and dispersal of food production; cultural processes leading to the rise of literate civilizations in certain regions of East Asia.

● **ANTH 333 Class and Ethnicity.**
(3) (Prerequisite: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 212, or permission of instructor) Social, economic, political, symbolic and ideological aspects of ethnicity. Development of ethnic groups. Interplay between social class and ethnicity.

● **ANTH 335 Ancient Egyptian Civilization.**
(3) (Winter) (Prerequisite: ANTH 201, or ANTH 202, or permission of instructor) A study of changing ecological, economic, social, political, and religious factors influencing the development of ancient Egyptian civilization from prehistoric times to the early Christian era. The unique characteristics of Egyptian civilization are compared to the structural features common to all early civilizations.

ANTH 338 Native Peoples of North America.
(3) (Fall) (Prerequisite: ANTH 202, or ANTH 204, or ANTH 205, or ANTH 206, or ANTH 209, or ANTH 212, or GEOG 336, or permission of instructor) Ethnographic survey of Native cultures in North America. Conditions arising from European colonization and their social, economic and political impact. Contemporary situation of indigenous peoples.

ANTH 339 Ecological Anthropology.
(3) (Winter) (Prerequisite: ANTH 204, or ANTH 206, or SOCI 328, or GEOG 300 or ENVR 201, or ENVR 203, or permission of instructor) Intensive study of theories and cases in ecological anthropology. Theories are examined and tested through comparative case-study analysis. Cultural constructions of "nature" and "environment" are compared and analyzed. Systems of resource management and conflicts over the use of resources are studied in depth.

ANTH 340 Middle Eastern Society and Culture.
(3) (Winter) (Prerequisite: U2 or U3 standing; and ANTH 202, or ANTH 204, or ANTH 205, or ANTH 206, or ANTH 209, or ANTH 212, or ANTH 227, or permission of instructor.) Exploration of daily life, culture and society in the Middle East, through examination of ethnographic accounts.

● **ANTH 341 Women in Cross-cultural Perspective.**
(3) (Fall) (Prerequisites: ANTH 202 or ANTH 205, or ANTH 206, or ANTH 342, or Women's Studies Minor, or permission of instructor) A wide range of anthropological studies are examined and compared, along with theoretical models regarding changes in women's positions. The impact of colonialism, women and social change, and problems of women in developing societies are examined.

● **ANTH 342 Gender, Inequality and the State.**
(3) (Winter) (Prerequisite: ANTH 202, or ANTH 205, or ANTH 206, or ANTH 341, or Women's Studies Minor, or permission of instructor) Comparative studies of gender in stratified societies: Asia, the Mid-East, Latin and North America. Economic, political and social manifestations of gender inequality. Oppressive and egalitarian ideologies. State and institutional policies on gender, and male-female strategies. Sexual apartheid and integration.

● **ANTH 344 Quantitative Approaches to Anthropology.**
(3) (Fall) (Prerequisite: ANTH 201 or ANTH 202 or ANTH 205 or permission of instructor.) (Restriction: Limited to students in Anthropology programs.) A non-statistics course designed to understand and critically evaluate quantitatively based arguments encountered in the literature of all branches of Anthropology.

ANTH 345 Prehistory of Africa.
(3) (Winter) Archaeological evidence for the evolution of culture in Africa from the beginning of the Paleolithic through the Iron Age, including changes in economic, social and political organization as reflected in selected archaeological sites.

● **ANTH 348 Early Prehistory: New World.**
(3) (Winter) (Prerequisite: ANTH 201 or ANTH 203, or permission of instructor) Consideration of major issues regarding the initial arrival(s) of human groups in the New World, and their subsequent adaptation to the changing environmental conditions at the end of the Ice Age.

ANTH 352 History of Anthropological Theory.
(3) (Fall) (Prerequisites: one 200-level anthropology course and one other anthropology course at any level) (Restriction: Honours, Joint Honours, Major and Minor students in Anthropology, U2 standing or above) Exploration in the history of anthropological theory; schools, controversies, intellectual history, sociology of knowledge.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ANTH 355 Theories of Culture and Society.
(3) (Winter) (Prerequisites: one 200-level anthropology course and one other anthropology course at any level) (Restriction: Honours, Joint Honours, Major and Minor students in Anthropology, U2 standing or above) Contributions to contemporary anthropological theory; theoretical paradigms and debates; forms of anthropological explanation; the role of theory in the practice of anthropology; concepts of society, culture and structure; cultural evolution and relativity; interpretive anthropology, post-modernism.

ANTH 357 Archaeological Methods.
(3) (Fall) (Prerequisite: ANTH 201 and one other course in archaeology) (Restriction: Honours, Joint Honours and Major students in Anthropology, U2 standing or above) The collection of materials in field investigations and their analysis to yield cultural information. The processes of inference and reconstruction in archaeological interpretation.

ANTH 358 The Process of Anthropological Research.
(3) (Fall) (Prerequisites: one 200-level anthropology course and one other anthropology course at any level) (Restriction: Honours, Joint Honours, Major and Minor students in Anthropology, U2 standing or above) The nature of anthropological research as evidenced in monographs and articles; processes of concept formation and interpretation of data; the problem of objectivity.

ANTH 359 History of Archaeological Theory.
(3) (Winter) (Prerequisite: ANTH 201 or ANTH 203, and one additional course in archaeology, or permission of instructor) A systematic investigation of the theories that have guided the interpretation of prehistoric archaeological data since the Middle Ages; the relationship between these theories and theoretical developments in the other social sciences.

ANTH 380 Special Topic 1.
(3) (Fall) (Prerequisite: Permission of instructor) Supervised reading in special topics under the direction of a member of the staff.

ANTH 381 Special Topic 2.
(3) (Winter) (Prerequisite: Permission of instructor) Supervised reading in special topics under the direction of a member of the staff.

ANTH 382 Special Topic 3.
(3) (Fall) (Prerequisite: Permission of instructor) Supervised reading in special topics under the direction of a member of the staff.

ANTH 383 Special Topic 4.
(3) (Winter) (Prerequisite: Permission of instructor) Supervised reading in special topics under the direction of a member of the staff.

ANTH 401 Comparative Anthropology.
(3) (Fall) (Prerequisite: Two 300-level anthropology courses or permission of instructor) (Restriction: U3 students in Anthropology) Past use of comparative anthropology and potential future use.

● **ANTH 402 Topics in Ethnography 1.**
(3) (Fall) (Restriction: U3 students in Anthropology or permission of instructor) An exploration of selected ethnographic case material. Investigation of a regional literature or survey of significant contributions to ethnography or examination of an ethnological issue.

● **ANTH 403 Current Issues in Archaeology.**
(3) (Winter) (Prerequisite: ANTH 357 or preferably ANTH 359, or permission of instructor) Current issues in archaeological interpretation, in particular, those relating to processual and postprocessual archaeology.

● **ANTH 405 Topics in Ethnography 2.**
(3) (Winter) (Prerequisite: One 300-Level Anthropology course) (Restriction: U3 students in Anthropology or permission of instructor) An exploration of selected ethnographic case material. Investigation of a regional literature, or survey of significant recent contributions to ethnography, or examination of a current ethnological issue.

ANTH 407 Anthropology of the Body.
(3) (Winter) (Prerequisite: ANTH 227 and Honours/Major/Minor status in Anthropology or permission of instructor) This course will survey theoretical approaches used over the past 100 years, and then focus on contemporary debates using case studies. The nature/culture mind/ body, subject/object, self/other dichotomies central to most work of the body will be problematized.

ANTH 411 Primate Studies & Conservation.
(3) (Winter) (Prerequisite: One course in Anthropology, Geography or Environmental Studies, Introductory Biology, or permission of the instructor.) (Restriction: Students must have completed at least two full semesters at their home university. Only open to students in the Canadian Field Studies in Africa program.) Open only to students in the Canadian Field Studies in Africa Program. Critical evaluation of theories in primate behaviour, ecology, and conservation that emphasizes direct observations, research design, and developing field methods.

● **ANTH 412 Topics: Anthropological Theory.**
(3) (Winter) (Restriction: U3 students in Anthropology and ANTH 355 or permission of instructor) A concentrated examination of selected theoretical literature. A current theoretical issue will be examined, or the work of a major anthropological theorist or school will be explored and assessed.

● **ANTH 413 Gender in Archaeology.**
(3) (Fall) (Prerequisite: ANTH 201 or ANTH 331 or ANTH 345 or ANTH 347 or ANTH 348 or permission of instructor) Relationship between the structure of the archaeological discipline and construction of gender roles in past human societies; division of tasks between men and women in subsistence activities, organization of the household and kin groups; and creation of power and prestige in a larger community.

ANTH 416 Environment/Development: Africa.
(3) (Winter) (Restriction: Open only to students in the Study in Africa program, a full-term field study program in East Africa) (Prerequisite: One prior course in Anthropology, Geography or Environmental Studies) Open only to students in the Study in Africa Program. Study of environmental effects of development in East Africa, especially due to changes in traditional land tenure and resource use across diverse ecosystems. Models, policies and cases of pastoralist, agricultural, fishing, wildlife and tourist development will be examined, across savanna, desert, forest, highland and coastal environments.

● **ANTH 418 Environment and Development.**
(3) (Fall) (Prerequisite: ANTH 339, or ANTH 349, or SOCI 328, or GEOG 300, or GEOG 302, or permission of instructor) Advanced study of the environmental crisis in developing and advanced industrial nations, with emphasis on the social and cultural dimensions of natural resource management and environmental change. Each year, the seminar will focus on a particular set of issues, delineated by type of resource, geographic region, or analytical problem.

ANTH 419 Archaeology of Hunter-Gatherers.
(3) (Winter) (Prerequisite: ANTH 357 or permission of instructor) A systematic investigation into current theoretical and methodological concerns in hunter-gatherer archaeology. Examples will be drawn from around the world.

● **ANTH 420 Lithic Technology and Analysis.**
(3) (Winter) A survey of current literature on the analysis of stone tools and laboratory sessions illustrating how they were produced and used. Topics to be covered include: fracture mechanics; manufacturing techniques; typological systems; experimental replication; identification of tool functions through microscopic analysis of use-wear.

ANTH 422 Contemporary Latin American Culture & Society.
(3) (Winter) (Prerequisites: ANTH 355, or ANTH 352, or HISP 226, or permission of the instructor.) (Restriction: U3 students.) Themes central to the culture and society of contemporary Latin America and the Caribbean, including globalization, questions of race and ethnicity, (post)modernity, social movements, constructions of gender and sexuality, and national and diasporic identities.

ANTH 423 Mind, Brain and Psychopathology.
(3) (Fall) (Prerequisites: ANTH 227 and Honours/Major/Minor status in Anthropology or Minor Concentration in Social Studies of Medicine or permission of instructor) (Restrictions: U3 students in Anthropology or Social Studies of Medicine. Not open to students who have taken ANTH 443 under this topic.) Evolutionary origins of the human mind and the 'social brain', and the psychopathologies that are said to provide access to this evolutionary history, through the perspective of the anthropology of science and psychiatry.

● **ANTH 430 Symbolic Anthropology 01.**
(3) (Fall) (Prerequisite: ANTH 204, or ANTH 355, or permission of instructor) Advanced topics in the use of symbolic theory within anthropology, including culturology and structuralism; the use of semiotic models of society, the relation of structure to process, culture to praxis, and ideology to society; the relevance of epistemology, phenomenology and linguistic philosophy for the study of socio-cultural phenomena.

● **ANTH 431 Problems in East Asian Archaeology.**
(3) (Prerequisite: ANTH 331 or permission of instructor) Critical examination of major issues in East Asian archaeology. Focus may change from year to year. Possible topics include: origins and evolution of Asian population; processes of plant domestication; development of complex societies based on hunting-gathering-fishing; and rise of civilizations and state formation in China, Japan, and Korea.

ANTH 436 North American Native Peoples.
(3) (Winter) (Prerequisite: ANTH 338, or ANTH 336, or permission of instructor) A detailed examination of selected contemporary problems.

ANTH 438 Topics in Medical Anthropology.
(3) (Fall) (Prerequisite: ANTH 227 or permission of instructor) Conceptions of health and illness and the form and meaning that illness take are reflections of a particular social and cultural context. Examination of the metaphoric use of the body, comparative approaches to healing, and the relationship of healing systems to the political and economic order and to development.

ANTH 440 Cognitive Anthropology.
(3) (Fall) (Prerequisite, two of the following: ANTH 204, ANTH 314, ANTH 352, ANTH 355, or ANTH 430, or permission of instructor.) The problem of knowledge; the nature of perception; the concept of mind; the relation between thought and language. The concept of meaning: communication, interpretation and symbolism. Social aspects of cognition; ideology.

● **ANTH 443 Medical Anthropological Theory.**
(3) (Fall) (Prerequisites: ANTH 227 and Honours/Major/Minor status in Anthropology or permission of instructor.) This course is intended to provide a comprehensive survey of the literature that constitutes the theoretical and conceptual core of medical anthropology. Emphasis is given to (1) the ethnographic sources of these ideas, (2) their epistemology, and (3) their methodological implications.

ANTH 451 Research in Society and Development in Africa.
(3) (Winter) (Prerequisite: Open to U2 or later students in the AFSS.) (Corequisite: NRSC 452.) (Restriction: Open only to AFSS students during the year of participation in the field. Not open to students who have taken GEOG 451.) Open only to AFSS students during the year of participation in the field. Not open to student who have taken GEOG 451. Instruction focuses on three goals: 1) existing research in selected core thematic areas, 2) participating in interdisciplinary team research, 3) developing powers of observation and independent inquiry. Students will be expected to develop research activities and interdisciplinary perspectives, and to become conversant with advances in local research in their field.

ANTH 460 Archaeological Field Studies.
(3) (Fall) (Prerequisites: ANTH 201 and ANTH 357) (Restriction: Anthropology Majors; students must be in U2, entering U3) Individual study in an archaeological field setting under staff supervision. Requirements consist of a) research proposal outlining objectives, methodology, and adherence to ethical code of archaeological research, b) field investigations, and c) project report. The project must be arranged with a supervisor before registration.

ANTH 461 Research Techniques.
(3) (Winter) (Prerequisite: ANTH 358 or permission of instructor) (Restriction: U3 student only) Field techniques, interviewing, participant observation, projective, and other testing techniques such as genealogies and life histories, problems of field work, rapport, contact, role definition, culture shock, etc.

ANTH 480 Special Topic 5.
(3) (Fall) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 481 Special Topic 6.
(3) (Winter) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 482 Special Topic 7.
(3) (Fall) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 483 Special Topic 8.
(3) (Winter) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 484 Special Topic 9.
(3) (Fall) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 485 Special Topic 10.
(3) (Winter) (Prerequisite: Completion of all available courses relevant to the topic and consent of the instructor) Supervised reading in advanced special topics under direction of a member of staff.

ANTH 490 Honours Thesis 1.
(6) (Fall) (Prerequisites: U3 Honours status and permission of instructor) Supervised reading and preparation of a research report under the direction of a member of staff.

ANTH 491 Honours Thesis 2.
(6) (Winter) (Prerequisites: U3 Honours status and permission of instructor) Supervised reading and preparation of a research report under the direction of a member of staff.

ANTH 492 Honours Thesis.
(6) (Prerequisites: U3 Honours status and permission of instructor) Supervised reading and preparation of a research report under the direction of a member of staff.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ANTH 492D1 (3), ANTH 492D2 (3) Honours Thesis.
(Fall) (Students must register for both ANTH 492D1 and ANTH 492D2.) (No credit will be given for this course unless both ANTH 492D1 and ANTH 492D2 are successfully completed in consecutive terms) (ANTH 492D1 and ANTH 492D2 together are equivalent to ANTH 492) Supervised reading and preparation of a research report under the direction of a member of staff.

ANTH 492N1 (3), ANTH 492N2 (3) Honours Thesis.
(Winter) (Students must also register for ANTH 492N2) (No credit will be given for this course unless both ANTH 492N1 and ANTH 492N2 are successfully completed in a twelve month period) (ANTH 492N1 and ANTH 492N2 together are equivalent to ANTH 492) Supervised reading and preparation of a research report under the direction of a member of staff.

ANTH 499 Internship: Anthropology.
(3) (Fall and Winter) (Prerequisite: Permission of the departmental Internship Advisor.) (Restriction: Open to U2 and U3 students normally after completing 30 credits of a 90 credit degree program or 45 credits of a 69-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will normally not fulfill program requirements for seminar or 400- level courses.) Internship with an approved host institution or organization.

● **ANTH 500 Chinese Diversity and Diaspora.**
(3) (Winter) (Restrictions: Reserved for U3 Anthropology undergraduate students or graduate students, any other students by permission of instructor.) (Enrolment Limit: 25 students.) Explores ethnic diversity within mainland China, as well as the diversity of Chinese cultures of diaspora, living outside the mainland, often as minorities subject to other dominant cultures.

ANTH 502 Social Life of Death.
(3) (Fall) Theoretical and methodological approaches o f attitudes, beliefs, and ritual practices surrounding death and mortuary practices. Topics covered include material manifestations o f status and identity; symbolic dimensions of dead bodies; ancestors, kinship, and kingship; emotions, mourning, and memory; and ritual violence.

ANTH 503 Production of the Past.
(3) (Winter) (Prerequisite(s): U3 or permission of instructor) The study of the past in cultural anthropology. Representations of the past, colonialism, nationalism, heritage, dominant and subaltern narratives. Silences and violence in the making of the past.

● **ANTH 511 Computational Approaches to Prehistory.**
(3) (Winter) (Prerequisites: ANTH 357 or ANTH 359.) (Restriction: Restricted to U3 and graduate students in the Anthropology Department.) Covers the application of computational methods to archaeological problems and the modeling and simulation of prehistoric populations.

ANTH 512 Political Ecology.
(3) (Winter) Historical, theoretical and methodological development of political ecology as a field of inquiry on the interactions between society and environment, in the context of conflicts over natural resources.

● **ANTH 522 Issues in Biological Anthropology.**
(3) Recent developments in biological anthropology, such as the evolution of social systems in primates, foraging strategies, and emerging infectious diseases.

ANTH 540 Topics in Anthropological Theory.
(3) (Winter) (Restriction: This course is restricted to U3 Honours students in the Anthropology Department or permission of the instructor.) Examination and discussion of topics of current theoretical interest.

● **ANTH 551 Advanced Topics: Archaeological Research.**
(3) (Fall) Examination and discussion of topics of current theoretical or methodological interest in archaeology. Topics will be announced at the beginning of term.

● **ANTH 555 Advanced Topics in Ethnology.**
(3) (Winter) (Restriction: Honours students at the U3 level in the Anthropology Department or with permission of instructor) Examination and discussion of topics of current theoretical or methodological interest in ethnology. Topics will be announced at the beginning of term.

● **ANTH 575 Concepts of Race.**
(3) (Winter) (Prerequisites: ANTH 201, or ANTH 202, or ANTH 203, and ANTH 352 or ANTH 359.) (Restriction: U3 students and graduate students in Anthropology programs.) Examination of the evolution of the idea of race within anthropology, and the impact which the discipline's debates have had on society.

ARLE-Arts Legacy

Offered by: Arts - Dean's Office

ARLE 101 Ancient Worlds.
(6) (Corequisite: ARLE 102.) (Restriction: Freshmen with U0 status.) Study of the ancient worlds, emphasizing social, political, intellectual, scientific and aesthetic innovations in ancient Greek, Roman and Chinese civilizations. Key texts are examined through lectures, seminars and tutorials, complemented by a performance module in literary, artistic, musical and architectural creativity.

ARLE 102 Medieval Mediterranean Worlds.
(6) (Corequisite: ARLE 101.) (Restriction: Freshmen with U0 status. Freshmen who have passed ARLE 101.) Study of the distinct yet interacting Christian, Judaic and Islamic cultures of the "Middle" Ages. Emphasis on social, political, intellectual, scientific and aesthetic innovations in the worlds surrounding the Mediterranean Sea. Key texts are examined, complemented by a performance module in literary, artistic, musical and architectural creativity.

ARLE 103 Early Modern Atlantic Worlds.
(6) (Prerequisites: ARLE 101, ARLE 102.) (Corequisite: ARLE 104.) (Restriction: Freshmen with U0 status. Students who have passed ARLE 101 & ARLE 102.) Study of social, political, intellectual, scientific and aesthetic innovations, examining the transatlantic worlds of Early modern Europe and the Americas. Key texts are examined through lectures, seminars and tutorials, complemented by a performance module in literary, artistic, musical and architectural creativity.

ARLE 104 Global Modern Worlds.
(6) (Prerequisites: ARLE 102, ARLE 102.) (Corequisite: ARLE 103.) (Restriction: Freshmen with U0 status. Freshmen who have passed ARLE 101, ARLE 102 & ARLE 103.) Study of the emergence and multiple forms of modernity, emphasizing social, political, intellectual, scientific and aesthetic innovations in Europe and North America, and the developing world of Africa, Asia and America. Key texts are examined, complemented by a performance module in literary, artistic, musical and architectural creativity.

ARTH-Art History

Offered by: Art History & Communication St

● **ARTH 201 Introduction to Art History 2.**

(3) (Restriction: Not open to students in Art History programs; or students who have taken ARTH 200 prior to Fall 1991.) An introductory survey of the major figures, monuments and movements in Western painting, sculpture and architecture from the 15th century to the present. The underlying goal of course is to develop the student's awareness of the relation of form to content in a work of art.

ARTH 204 Introduction to Medieval Art and Architecture.
(3) Surveys the arts from late Antiquity to the fourteenth century in Western Europe. Focuses on the body and space to introduce artistic and architectural concepts, practices, and styles from the late Roman, Byzantine and Carolingian empires to monastic and royal patronage of the French Kings.

ARTH 205 Introduction to Modern Art.
(3) (Restriction: Not open to students who have taken ARTH 337 or ARTH 338) The course is an introduction to the modern period in art history which begins around 1750. It examines the development in both painting and sculpture and relates to changes in the social and political climate of the times.

ARTH 207 Early Modern Art (1400-1700).
(3) Survey of the visual culture of early modern Europe (1400-1700), including selected works in their historical context and explore the uses of visual forms in the formation of identities across various social spheres and geographical locations.

ARTH 209 Introduction to Ancient Art and Architecture.
(3) Survey of ancient art and architecture: pre-historic Europe, ancient Egypt, Greece and Rome. Focus is on issues of political power, gender, sexuality, race, the formation of individual and group identities, and the relation between the body and social space.

● **ARTH 215 Introduction to East Asian Art.**
(3) (Restriction: Not open to students taking or who have taken EAST 215.) Introductory survey of some of the major developments in the visual arts of Japan, China, and Korea. Emphasis will be placed on the diversity of artistic traditions in East Asia and the intersections among these traditions.

ARTH 223 Introduction to Italian Renaissance Art.
(3) Surveys artistic production in Italy from the new urban institutions of the communes to the demise of the Florentine republic (c. 1250-1512). Introduces art historical concepts through an exploration of the uses if visual imagery to forge civic, religious, political, and social identities.

ARTH 226 European Art and Architecture of the 18th Century.
(3) Limited enrolment; ticket required. An examination of painting and sculpture from circa 1700-1800. Emphasis is placed on major artists and trends from the Rococo to Neo-classicism discussed in the context of the intellectual history of the 18th century.

ARTH 300 Canadian Art to 1914.
(3) Canadian art from the pre-contact period through the colonial and nation-building centuries until the onset of the First World War. Emphasis will be placed on the diverse cultural influences that have been brought into contact in Canada.

● **ARTH 301 Canadian Art 1914 - Present.**
(3) (Restriction: Not open to students who have taken 123-225) Canadian art from early 20th century formulations of national identity through the regional, national, and international movements that define Canadian Modernism, Postmodernism, to new trends emerging in the 21st century.

● **ARTH 302 Aspects of Canadian Art.**
(3) An examination of selected subjects relevant to a specific period of art in Canada.

ARTH 305 Methods in Art History 01.
(3) (Prerequisite: Any 200-level Art History course, or by permission of the instructor.) (Restriction: Not open to students who have taken ARTH 203.) An introduction to the main methodologies used in the analysis of the work of art: formalism, iconography/iconology, semiotics, structuralism, post-structuralism, deconstruction, psychoanalysis, Marxism, feminism and postcolonialism.

● **ARTH 310 Postcolonialism.**
(3) Examines selected art historians who respond to postcolonial theorists and analyse how paintings, sculpture, buildings, and visual culture participated in or resisted European imperialism in the nineteenth and twentieth centuries.

● **ARTH 314 The Medieval City.**
(3) Towns and cities in the Middle Ages as architectural entities, their urban planning and development; main building types, profane and ecclesiastical: castle, defence works, town halls, houses, cathedrals, churches and monasteries; the role architecture played in forming a society.

● **ARTH 320 Seventeeth Century Art of Court and Church.**
(3) (Restriction: Not open to students who have taken 123-334D) Seventeenth century Italian, Spanish, French, Flemish and British art in connection with aristocratic and courtly interests, monarchial power and the aims of the post-Reformation church.

ARTH 321 Visual Culture of the Dutch Republic.
(3) (Restriction: Not open to students who have taken 123-334D) Examination of the functions of visual culture in merchant capitalist society, and the changing status of art, artists and patrons after the Protestant reformation. A wide range of visual imagery (from Rembrandt and Vermeer to popular culture) will be linked with 17th-century economic, historic, religious, colonial, scientific and literary developments.

● **ARTH 323 Realism and Impressionism.**
(3) The course is an investigation into Realism and Impressionism, the principal artistic movements between ca. 1840 - 1880.

● **ARTH 324 High Renaissance Art in Italy.**
(3) (Restriction: Not open to students who have taken 123-224) The work of the masters of the Italian High Renaissance will be treated in depth. Emphasis will also be placed on the intricate relationship of the art of the period to contemporary religious and intellectual issues and political controversies.

● **ARTH 325 Visual Culture Renaissance Venice.**
(3) (Prerequisite: one 200-level Art History course recommended, or by permission of the instructor.) Distinctive visual culture in the context of Venice's singular topography and reputation for licentiousness and toleration.

ARTH 326 Print Culture and the City.
(3) (Prerequisite: one 200-level Art History course or by permission of the instructor.) Positing a dynamic relationship between print culture and social experience, the course focuses on new forms and uses for printed imagery in the context of urban life before the electronic age.

● **ARTH 332 Italian Renaissance Architecture.**
(3) The Italian architecture of the 15th and 16th centuries witnessed a revival of architectural forms from Roman antiquity. According to their different social as well as political status, the centres of Italy - Florence, Rome, Venice, Mantua etc. - developed individual approaches in dealing with the reception of classical forms which was to influence the architecture of Europe.

● **ARTH 333 Italian Baroque Architecture.**
(3) (Restriction: Not open to students who have taken 123-333D) Italian architecture in the 17th and 18th centuries. While the development of ecclesiastical architecture will form the main focus of this course, palace building and urban planning will also receive their due attention. One additional aspect will be the reception of Italian Baroque Architecture in Central and Western Europe. Architectural design is studied in the context of contemporary painting, sculpture and theories of art.

● **ARTH 334 Eighteenth Century European Art.**
(3) A study of European painting and sculpture within the climate of social, economic, philosophical and political change in 18th-century Europe. The focus is on France, Italy, Germany and England from the last days of the Baroque to the Age of Revolution.

● **ARTH 335 Art in the Age of Revolution.**
(3) The course deals primarily with European painting from the late 18th to the middle of the 19th century. Emphasis is placed on the relation of art to the political, social and intellectual transformations of the time. Major figures, such as David, Goya, Canova, Friedrich and Delacroix are considered.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ARTH 336 Art Now.
(3) (Prerequisite: One 200-level Art History course or by permission of the instructor.) Recent art practices from the 1980's to the present - installation art, new media arts (video, digital and internet art), recent developments in performance, photography, and painting. Introduces students to the key fields of research of current art: postmodernism, representation, visuality, identity, embodiment, sexuality, memory, (bio)technology, intermedia, and globalization.

● **ARTH 337 Modern Painting and Sculpture, Post-Impress to WWI.**
(3) (Restriction: Not open to students who have taken 123-337D) The beginnings of modern art in Europe. Major figures and movements from Cézanne to Picasso are considered.

ARTH 338 Modern Art and Theory: WWI - WWII.
(3) (Prerequisite: one 200-level Art History course recommended, or by permission of the instructor.) (Restriction: Not open to students who have taken 123-337D) An examination of the historical avant-garde (dada, soviet constructionism, and surrealism), Duchamp, and abstraction up to Abstract Expressionism. Examines how post-WWI art practices negotiate the intertwining of aesthetics and revolution, art and mass culture, modernism and modernity, imagined and material space, gender and sexuality, horizontality and verticality.

● **ARTH 339 Critical Issues - Contemporary Art.**
(3) (Prerequisite: one 200-level Art History course recommended, or by permission of the instructor.) A critical examination of contemporary art from Abstract Expressionism to Pop art, Minimalism, Conceptual art, Land art, and Body art. Focuses on the development and critique of modernism, the dematerialization or art, the blurring of art and popular culture, the artist as shaman, temporality, and aesthetic redefinitions of subjectivity.

● **ARTH 340 The Gothic Cathedral.**
(3) Prerequisite: reading knowledge of French.) An introduction to the Gothic cathedral: architecture, sculpture, and stained glass. Also considered is its genesis, its construction and its historical environment. Although main emphasis will be on French cathedrals of the 12th and 13th centuries, their development in England, Germany and Spain will also be represented.

● **ARTH 347 19th Century Architecture.**
(3) The historicism of the 19th century in Europe and North America gives with its reception of several different styles - medieval as well as classical - an important insight into the meaning of architectural form, the creation of an architectural language and its use in a politically and economically rapidly changing society.

ARTH 351 Vision and Visuality in Art History.
(3) An interdisciplinary investigation on how works of art construct the visual experience and on how they are received by the viewer.

● **ARTH 352 Feminism in Art and Art History.**
(3) A consideration of the impact of feminism on recent art history, focusing on the examination of gender constructions in art and theory.

ARTH 353 Selected Topics in Art History 1.
(3) (F09) The Visual Culture of Crime Study of a special field in the History of Art and Architecture taught by a visiting scholar.

ARTH 354 Selected Topics Art History 2.
(3) (F09) Topic: TBA Study of a special field in the History of Art and Communications.

ARTH 356 Modern & Contemporary Chinese Art.
(3) (Restrictions: Not open to students taking or who have taken EAST 356.) Examination of modern Chinese art and visual culture from the 1920's to the present. Emphasis will be placed on the formation of the artistic avant-garde in the 20th century and its relation to socialist and post-socialist mass culture.

● **ARTH 357 Early Chinese Art.**
(3) (Prerequisite: One 200-level Art History or East Asian Studies course, or by permission of instructor.) (Restriction: Not open to students taking or who have taken EAST 357.) Survey of Chinese art and visual culture during the pre-imperial and early imperial periods (1500BCE-900CE). A wide range of visual images and media (painting, architecture, inscription, funerary art) will be examined in the historical context of the rise and development of the empire.

● **ARTH 358 Later Chinese Art (960-1911).**
(3) (Prerequisites: One 200-level Art History or East Asian Studies course, or by permission of Instructor.) (Restriction: Not open to students taking or who have taken EAST 355) Survey of art and visual culture in later imperial China from Sorlg to Qing dynasties. A broad range of media (e.g. painting, calligraphy, print, architecture) will be examined to explore the development of literati aesthetics and its intersections with the arts of the court, the temple, and the marketplace.

ARTH 360 Photography and Art.
(3) The course provides an introduction to the history of photography while considering its relation to major movements in the history of painting from the time of the invention of photography, in 1839, to the present day.

● **ARTH 365 Studies in Later Medieval Art.**
(3)

● **ARTH 367 Italian Renaissance Art 2.**
(3) (This course will be given in Florence, Italy, as part of McGill's Summer Study in Italy Program. For specific details about the course content, please consult Prof. B. Wilson, Dept. of Art History and Communication.) Exploring art history of Renaissance Florence, focusing on the role played by the Medici in fostering the arts as patrons. Study of the development of Florentine art and architecture against complex social and economic forces that shaped humanist culture and Renaissance taste.

● **ARTH 379 Studies: Modern Art and Theoretical Problems 02.**
(3)

ARTH 400 Selected Methods in Art History.
(3) (Prerequisites: ARTH 208, ARTH 305.) (Required for Honours students, students must have completed ARTH 208 and ARTH 305 before taking ARTH 400, or with special permission of the department.) (Restriction: Not open to students who have taken ARTH 500.) A seminar course dealing with methodological issues in Art History.

ARTH 401 Honours Research Paper.
(3) (Prerequisite: At least 6 credits in Art History at the 300 level.) (Corequisite: ARTH 400.) (Restrictions: For Honours and Joint Honours Art History students only.) An Honours research paper written in consultation with an academic advisor.

● **ARTH 406 German Architecture.**
(3) (Prerequisite: At least one 300-level course in architectural history.) (Restriction: Not open to students who have taken ARTH 345.) The German architectural tradition from the early Middle Ages to the present, the impact neighbouring countries had on its development, and the influence it exercised on them. The construction of an imperial tradition, and its use (and abuse) by different political systems.

● **ARTH 415 Late Medieval & Renaissance Architecture in Northern Europe.**
(3) This course is to show the diversity of architectural practice in France, England, Germany and Central Europe from 1400 to 1600, covering ecclesiastical and secular architecture. The stylistic spectrum ranges from late Gothic over the reception of forms of the Italian Renaissance, to the revival of late Gothic forms, reaching its climax around 1600.

● **ARTH 420 Selected Topics in Art and Architecture 1.**
(3) An advanced study of selected topics in the History of Art and Architecture.

ARTH 421 Selected Topics in Art and Architecture 2.
(3) (F09) Topic: TBA

ARTH 422 Selected Topics in Art and Architecture 3.
(3) (F09) Topic: TBA

● **ARTH 435 Early Modern Visual Culture.**
(3) (Prerequisite: one 300-level Art History course recommended, or by permission of the instructor.) Selected topics in early modern visual culture (c. 1500-1750).

ARTH 447 Independent Research Course.
(3) (Prerequisite: permission of instructor.)

ARTH 457 Brushwork in Chinese Painting.
(3) (Prerequisite: At least one EAST or ARTH course or permission of instructor.) (Restriction: Not open to students taking or who have taken EAST 457.) The seminar takes an in-depth look at the function and meaning of the brushwork in traditional Chinese painting. Analysis of paintings will be combined to close readings of theoretical texts in translation.

●**ARTH 473 Studies in 17th and Early 18th Century Art 04.**
(3)

●**ARTH 474 Studies in Later 18th and 19th Century Art 03.**
(3)

ARTH 490 Museum Internship.
(3) The Museum Internship is intended to provide direct exposure to museum collections and practical experience in the museum setting for students interested in museum professions. Individually designed in consultation with the professor in charge of internships and the appropriate personnel at one of the Montreal museums.

CANS-Canadian Studies

Offered by: Institute for Study of Canada

CANS 200 Introduction to the Study of Canada.
(3) An overview of approaches to the study of Canada, including economic, political, historical and cultural dimensions.

CANS 202 Canadian Cultures: Context and Issues.
(3) (Prerequisite: ability to read French) A survey course which traces the history of Canadian cultures from the middle of the 19th century to the present. It surveys the diversity of Canadian cultural identities through literature, drama, art and the mass media. The course features guest lecturers. Some course material will be in French.

CANS 300 Topics in Canadian Studies 1.
(3) (Prerequisite: CANS 200 or permission of instructor) In Fall 2009 the topic is Canadian Music. An interdisciplinary course on a Canadian Studies topic.

CANS 301 Topics in Canadian Studies 2.
(3) (Prerequisite: CANS 200 or permission of instructor) The topic in fall/09 is Anti-Racism and Activism in Canada. An interdisciplinary course on a Canadian Studies topic.

CANS 303 Topics in Canadian Studies 3.
(3) (Prerequisite: CANS 200 or permission of instructor) In Fall 2009 the topic is Geography of Canada. An interdisciplinary course on a Canadian Studies topic.

●**CANS 304 Nationalism in Canada.**
(3) (Restriction: Not open to students who have taken or are taking CANS 300, CANS 301, or CANS 303.) Canadian experience of nationalism over the past two centuries.

CANS 305 Canadian Modernity.
(3) Forms of modernity in Canada, including modem technology, communications, and aesthetics, and their convergence with nationalism.

CANS 306 Issues in Native Studies.
(3) (Restrictions: Not open to students who have taken or are taking CANS 300, CANS 301, or CANS 303.) Past and present achievements and concerns within Native societies across Canada.

CANS 307 Canada in the World.
(3) The Fall 2009 topic is Islam in Canada. Canada's interaction with other countries and regions.

●**CANS 308 Sex and Gender in Canada.**
(3) Sex and gender in Canada in the past and the present.

●**CANS 401 Canadian Studies Seminar 1.**
(3) (Topic will vary from year to year depending on staff interests.) (Prerequisite: CANS 200 or permission of instructor) An interdisciplinary seminar on a Canadian Studies topic.

●**CANS 402 Canadian Studies Seminar 2.**
(3) (Prerequisite: CANS 200 or permission of instructor) An interdisciplinary seminar on a Canadian Studies topic.

CANS 403 Canadian Material Culture.
(3) (Restriction: U2 and U3 students.) Exhibitions that address Canadian history and contemporary identities through material culture, art, and other media, including the place of material culture in everyday life, through personal collections, and unconventional exhibition spaces.

CANS 404 Canadian Studies Seminar 4.
(3) (Prerequisite: CANS 200 or permission of instructor) In Winter 2010 the topic is Canadian Ethnic Studies. An interdisciplinary seminar on a Canadian Studies topic.

CANS 405 Canadian Studies Seminar 5.
(3) (Prerequisite: CANS 200 or permission of instructor) In Winter 2010 the topic is the Politics of Regionalism in An interdisciplinary seminar on a Canadian Studies topic.

●**CANS 406 Canadian Studies Seminar 6.**
(3) (Prerequisite: CANS 200 or permission of instructor.) An interdisciplinary seminar on a Canadian Studies topic.

CANS 407 Regions of Canada.
(3) (Prerequisite: CANS 200 or permission of instructor) In Fall 2009 the topic is the Canadian North. Canadian regionalism and its manifestations in literature and the media, as well as in social and public policy, focusing on one region in Canada.

CANS 408 Individual Reading Course.
(3) (Restrictions: Reserved for final-year students enrolled in the Canadian Studies major or minor concentration. Permission must be obtained from the Canadian Studies advisor and from the supervising professor before registration.) Supervised reading on an explicitly multidisciplinary topic under the direction of a professor working in the field of Canadian Studies.

CANS 409 Canadian Studies Seminar 9.
(3) (Prerequisite: CANS 200 or permission of instructor) The Fall 2009 topic is Health Care in Canada. An interdisciplinary seminar on a Canadian Studies topic.

CANS 410 Canadian Studies Seminar 10.
(3) (Topic will vary from year to year depending on staff interests.) (Prerequisite: CANS 200 or permission of instructor.) The topic for Winter 2010 is the Origins and Evolution An interdisciplinary seminar on a Canadian Studies topic.

●**CANS 412 Canada and Americas Seminar.**
(3) (Prerequisites: Cans 200 or permission of the Instructor) Canada and the Americas.

CANS 413 Canada and Quebec Seminar.
(3) (Prerequisites: Cans 200 or permission of the Instructor) (Note: A reading knowledge of French is required) Comparison of Canada and Quebec.

CANS 480 Honours Thesis 1.
(3) (Restriction: Students in the Honours Program in Canadian Studies.) Supervised research for and preparation of the Honours Thesis Proposal.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

CANS 481 Honours Thesis 2.
(3) (Prerequisite: CANS 480.) (Restriction: Students in the Honours Program in Canadian Studies.) Supervised writing of Honours thesis.

CANS 492 Joint Honours Thesis.
(3) (Restriction: Open to students in the Joint Honours Program.) Honours thesis research to be carried out under the supervision of a faculty member.

CANS 492D1 (1.5), CANS 492D2 (1.5) Joint Honours Thesis.
(Restriction: Open to students in the Joint Honours Program.) (Students must register for both CANS 492D1 and CANS 492D2.) (No credit will be given for this course unless both CANS 492D1 and CANS 492D2 are successfully completed in consecutive terms) (CANS 492D1 and CANS 492D2 together are equivalent to CANS 492) Honours thesis research to be carried out under the supervision of a faculty member.

CANS 499 Internship - Canadian Studies.
(3) (Open to U2 and U3 students after completing CANS 200, 30 credits of a 90 degree or 45 credits of a 96-120 credit degree, and a minimum CGPA of 3.0. Students may register in the Fall or Winter semester for Summer internships.) (Prerequisites: CANS 200 and permission of program Director) Internship with an approved host institution or organization.

CANS 501 Interdisciplinarity & Canadian Studies.
(3) (Prerequisite: For undergraduate students CANS 200 or permission of instructor.) (Restriction: Course will be restricted to final year students and graduate students.) An interdisciplinary seminar in Canadian studies.

CATH-Catholic Studies

Offered by: Arts - Dean's Office

CATH 200 Introduction to Catholicism.
(3) (Fall) An interdisciplinary study of the Roman Catholic tradition in its changing contexts. Traces major themes in the Catholic tradition. Emphasis will vary from year to year on spiritual, intellectual, institutional, cultural and historical dimensions.

CATH 310 Catholic Intellectual Traditions.
(3) (Prerequisites: CATH 200, RELG 320, or permission of instructor) This course examines Catholic intellectual perspectives, schools of thought, and major thinkers, with focus on topics such as God, faith and reason, the human person, history, culture and community. Will also examine the interaction between Catholicism and other perspectives and traditions.

●**CATH 315 Catholicism and Moral Culture.**
(3) (Prerequisite: CATH 200, or permission of instructor) A critical examination of theological and philosophical perspectives which inform contemporary Catholic moral thinking. This course explores the interplay of the evolving body of Catholic moral teaching with other developments and debates in ethics.

CATH 320 Scripture and Catholicism.
(3) (Prerequisite: CATH 200, or permission of instructor) The role of Scripture in Roman Catholic thought and culture. Topics include Catholic perspectives on the interpretation of Scripture, debates about the role of Scripture in Catholic theology, and the incorporation of Scripture into popular Catholic cultures.

CATH 325 The Religious Sense.
(3) (Restriction: Not open to those who have taken 190-370A in 2001-02 or CATH 370 in 2002-03.) An inquiry into what constitutes the religious sense, from a Catholic perspective; the relationship between reason, moral certainty and the religious sense; reasonable and unreasonable positions and concrete strategies before the ultimate questions concerning existence; freedom and responsibility, using literature, music and film.

●**CATH 340 Catholic Social Thought.**
(3) (Prerequisite: CATH 200, or permission of instructor) Explores Catholic social and political thought from a comparative perspective. Topics may include the Church-State distinction, subsidiary, the common good, pluralism, the Catholic human rights revolution, natural law and the international order, Christian Democracy and the relationship between Catholicism, liberalism and communitarianism.

●**CATH 370 Topics in Catholic Studies.**
(3)

CATH 460 Catholic Studies Seminar.
(3) (Prerequisite: CATH 200, or permission of instructor) A research seminar on a major theme and/or thinker. The seminar will evolve around primary source materials.

CLAS-Classics

Offered by: History

CLAS 200 Introduction to Ancient Greek Literature.
(3) Survey of ancient Greek literature in translation from Homer to Second Sophistic, covering the key genres and texts of the Archaic, Classical, Hellenistic and Imperial eras. The material to be discussed includes Archaic epic, lyric and elegy; Classical tragedy, comedy and historiography; Hellenistic poetry, and literature of the Roman Imperial period.

●**CLAS 202 Greek Civilization: Classical.**
(3) The civilization of the Golden Age of Greece and the formation of the Classical Tradition, with some attention to its transmission to the Romans. Texts will be read in translation.

CLAS 203 Greek Mythology.
(3) A survey of the myths and legends of Ancient Greece.

CLAS 208 Roman Literature and Society.
(3) Life and society in the Roman Empire as reflected in contemporary authors of varying genres (epic, history, philosophy, satire and the novel).

●**CLAS 210 Introductory Latin 1.**
(6) (Summer) A course for beginners.

CLAS 210D1 (3), CLAS 210D2 (3) Introductory Latin 1.
(Students must register for both CLAS 210D1 and CLAS 210D2) (No credit will be given for this course unless both CLAS 210D1 and CLAS 210D2 are successfully completed in consecutive terms) (CLAS 210D1 and CLAS 210D2 together are equivalent to CLAS 210) A course for beginners.

CLAS 212 Introductory Latin 2.
(3) (Winter) (Restriction: Permission of instructor required) A refresher course. Review of grammar and syntax; reading of simple sentences and connected passages.

CLAS 220D1 (3), CLAS 220D2 (3) Introductory Ancient Greek.
(Students must register for both CLAS 220D1 and CLAS 220D2.) (No credit will be given for this course unless both CLAS 220D1 and CLAS 220D2 are successfully completed in consecutive terms) A course for beginners.

CLAS 230D1 (3), CLAS 230D2 (3) Introductory Modern Greek.
(Restriction: Not open to students who have taken CLAS 236, CLAS 237 or CLAS 238.) (Students must register for both CLAS 230D1 and CLAS 230D2.) (No credit will be given for this course unless both CLAS 230D1 and CLAS 230D2 are successfully completed in consecutive terms) A course for beginners.

●**CLAS 300 Greek Drama and the Theatre.**
(3) A study of the Greek dramatists, both tragic and comic, in the light of their plays, with special emphasis on the theatrical techniques of the authors and the means of production in the Greek theatre.

●**CLAS 309 The Greek and Roman Novel.**
(3) A study of the ancient novel, including Petronius, The Satyricon, Apuleius, The Golden Ass and Longus, Daphnis and Chloe.

CLAS 310 Reading Latin.
(3) (Prerequisite: CLAS 210 or permission of instructor) Morphology, syntax, and vocabulary of the language.

●**CLAS 311 Catullus/Ovid.**
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department)

●**CLAS 312 Intermediate Latin: Poetry.**
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department)

●**CLAS 313 Intermediate Latin: Cicero.**
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department)

CLAS 314 Intermediate Latin: Historians.
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department)

●**CLAS 315 Intermediate Latin: Selections.**
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department)

●**CLAS 316 Intermediate Latin: Medieval.**
(3) (Prerequisite: CLAS 210 or CLAS 211 or CLAS 212 or permission of the Department) Selection.

CLAS 320 Reading Ancient Greek.
(3) (Prerequisite: CLAS 220 or permission of instructor, minimum grade for prerequisite is B+) Exhaustive review of basic grammar. Further development of vocabulary, syntax, and style through close readings of selected texts focusing on classical Attic prose.

●**CLAS 321 Intermediate Greek: Plato/Xenophon.**
(3) (Prerequisite: CLAS 220 or permission of the instructor)

●**CLAS 322 Intermediate Greek: Orators.**
(3) (Prerequisite: CLAS 220 or permission of the instructor)

●**CLAS 323 Intermediate Greek: Homer.**
(3) (Prerequisite: CLAS 220 or permission of the instructor) (Selections)

CLAS 324 Intermediate Greek: Poetry.
(3) (Prerequisite: CLAS 220 or permission of the instructor)

●**CLAS 325 Intermediate Greek: Later Prose.**
(3) (Prerequisite: CLAS 220 or permission of the instructor)

●**CLAS 326 Intermediate Greek: Selections.**
(3) (Prerequisite: CLAS 220 or permission of instructor)

CLAS 331 Intermediate Modern Greek Language.
(3) (Prerequisite: CLAS 230 or CLAS 235 or CLAS 237 or permission of the instructor) Competence in the language at the intermediate level through the study of grammar, vocabulary and derivatives. Excerpts in prose and poetry introducing the civilization of modern Greece.

CLAS 332 The Modern Greek Novel.
(3) (Prerequisite: CLAS 220 or permission of instructor)

●**CLAS 333 Modern Greek Poetry.**
(3) (Prerequisite: CLAS 230 or permission of the instructor) Selected works of 20th Century Greek poets - Kavafy, Seferis, Elytis, and others.

CLAS 335 Language and Civilization/Modern Greece 2.
(3) (Prerequisites: CLAS 237 or permission of the instructor) A continuation of CLAS 331.

●**CLAS 347 Special Topics in Classics.**
(3)

●**CLAS 348 Greek and Roman Topography.**
(3) (Summer) (Prerequisite(s): One of CLAS 200, CLAS 203, CLAS 208, HIST 205, HIST 231, or permission of instructor) (This course taught in Italy - please refer to www.mcgill.ca/italian - deadline April 3, 2009) Selected physical sites, monuments and locales of the ancient Greek and Roman World using the evidence of archaeology, history and literature. Sites will vary yearly, and may include cities, cult and burial precincts, sanctuaries, battlefields and places of memory and literary inspiration.

●**CLAS 370 Women in Greek Drama.**
(3) Each of four Greek tragedies (e.g. Oedipus, Antigone, Bacchae, Medea) analyzed along with its modern interpretations. The heroines of fiction as related to real Greek women by comparing myth transformation in tragedy with documentary material.

●**CLAS 380 Ancient Greek Religion.**
(3) (Prerequisite: CLAS 203 or HIST 205 or permission of instructor.) Focuses on the history of Greek religion in the Classical Period. Particular attention will be paid to the Greek concept of divinity, local pantheons, civic festival calendars, the topography of myth and ritual, ideas concerning the afterlife, mystery cults, oracles and games and the literary representations of religion.

CLAS 404 Classical Tradition.
(3) (Prerequisite: 3 credits in Classics or related courses; or permission of instructor) Some episodes from the long history of the transmission and reception of the Classics in later times. Students will choose periods or times for special study.

●**CLAS 411 Advanced Latin: Epic.**
(3) (Prerequisites: 9 credits of Intermediate Latin or permission of instructor) The reading of selected texts in Roman Epic Poetry in the original Latin.

●**CLAS 413 Advanced Latin: Satire.**
(3) (Prerequisite: 9 credits of Intermediate Latin or permission of instructor) The reading of selected texts in Roman Satire Poetry in the original Latin.

CLAS 414 Advanced Latin: History.
(3) (Prerequisite: 9 credits of Intermediate Latin or permission of instructor) The reading of selected texts in Roman History Prose in the original Latin.

●**CLAS 416 Advanced Latin: Philosophy.**
(3) (Prerequisite: 9 credits of Intermediate Latin or permission of instructor) The reading of selected texts in Roman Philosophy Prose in the original Latin.

CLAS 418 Advanced Latin: Special Topics.
(3) (Prerequisite: 6 credits of intermediate Latin or permission of the instructor) (Note: All ancient texts will be read in the original) Themes in Roman literature, culture, and history.

●**CLAS 423 Advanced Ancient Greek: Drama.**
(3) (Prerequisite: 9 credits of Intermediate Ancient Greek or permission of instructor) The reading of selected texts in Greek Drama Poetry in the original Ancient Greek.

CLAS 424 Advanced Greek: History.
(3) (Prerequisites: 9 credits of Intermediate Ancient Greek or permission of instructor) The reading of selected texts in Greek History Prose in the original Ancient Greek.

●**CLAS 425 Advanced Greek: Oratory.**
(3) (Prerequisite: 9 credits of Intermediate Greek or permission of instructor) The reading of selected texts in Greek Oratory Prose in the original Ancient Greek.

●**CLAS 426 Advanced Greek: Philosophy.**
(3) (Prerequisite: 9 credits of Intermediate Ancient Greek or permission of instructor) The reading of selected texts in Greek Philosophy Prose in the original Ancient Greek.

●**CLAS 427 Advanced Ancient Greek: Documents.**
(3) (Prerequisite: 6 credits of intermediate Latin or permission of the instructor, minimum grade for prerequisite is B+.) A reading of ancient Greek epigraphical (inscriptional) or papyrological sources. Textual criticism and interpretation of selected literary and non-literary ancient Greek texts and documents written on stone, metal, terracotta, wood, bone, or papyrus.

●**CLAS 428 Advanced Ancient Greek: Special Topics.**
(3) (Prerequisite: 6 credits of intermediate Latin or permission of the instructor, minimum grade for prerequisite is B+) (Note: All ancient texts will be read in the original) Themes in ancient Greek literature, culture, and history.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**CLAS 449 Seminar: Natural Law.**
(3) (Prerequisite: a relevant course in political or legal philosophy or in ancient history) The origin, development and criticism of theories of natural law in the Greek and Roman thinkers. Attention will be paid to the influence of these theorists on conceptions of natural law in the modern world. Original sources to be read in translation.

●**CLAS 484 Classical Ideas.**
(3)

CLAS 490 Greek and Roman Historiography.
(3) (Prerequisite: 3 credits in Classics at the 300 level or up or permission of instructor.) Seminar on the works of the Greek and Roman historians (in translation) who founded a new literary genre for the exploration of past and present events; interpretation of their approaches towards history and theories for their study.

CLAS 515D1 (3), CLAS 515D2 (3) Latin Authors and Texts.
(Prerequisite (Undergraduate): 9 credits in Intermediate Latin or equivalent) (Restriction: Honours and Graduate students) (Students must register for both CLAS 515D1 and CLAS 515D2.) (No credit will be given for this course unless both CLAS 515D1 and CLAS 515D2 are successfully completed in consecutive terms) Completion of a Reading List in Latin, with Faculty supervision, to be tested by written examination.

CLAS 525D1 (3), CLAS 525D2 (3) Ancient Greek Authors & Texts.
(Prerequisite (Undergraduate): 9 credits in Intermediate Greek or equivalent) (Restriction: Honours and Graduate students) (Students must register for both CLAS 525D1 and CLAS 525D2.) (No credit will be given for this course unless both CLAS 525D1 and CLAS 525D2 are successfully completed in consecutive terms) Completion of a Reading List in Greek, with Faculty supervision, to be tested by written examination.

COMS-Communication Studies

Offered by: Art History & Communication St

COMS 200 History of Communication.
(3) (Restriction: Not open to students who have ENGC 200.) The social and cultural implications of major developments in communications from prehistory to the electronic era. Thematic and conceptual introduction to the underlying media technologies and to some key issues and practices of historical thinking about their role in society.

COMS 210 Introduction to Communication Studies.
(3) (Restriction: Not open to students who have taken ENGL 278) The social and cultural implications of media. Surveys theory and case studies relevant key issues such as the ownership, structure and governance of media industries; the significance of emergent media technologies; and the roles of media as cultural forms and practices.

COMS 230 Communication and Democracy.
(3) Introduction to investigation of the relationship between communication, media practices and democracy. Examines the role of media and communication in existing and emerging democratic contexts, and the challenges of constructing and maintaining a democratic media and communication environment on the domestic and international levels.

COMS 300 Media and Modernity in the 20th Century.
(3) (Prerequisite: 3 credits at the 200-level in a COMS course, or permission of the instructor.) An overview of the growth and impact of 20th century media such as radio, television, cinema and the mass-circulation press; their role in shaping the technological, socio-political and aesthetic dimensions of urban modernity.

COMS 310 Media and Feminist Studies.
(3) (Prerequisite: COMS 210 or permission of instructor.) Introduction to feminist studies of the media. Impact of feminist and queer theory on media studies; current issues about gender in the media. Emphasis will be placed on critical analysis of media representations of gender in relation to other social differences, such as race, class and sexuality.

●**COMS 320 Media and Empire.**
(3) (Prerequisite: one 200-level COMS course, or permission of the instructor.) The relationship between mass media and empire-building, as well as the role of mass and alternative media in anti-imperialism movements. Topics may include: Print technologies and the British Empire; shipping technologies, industrialization and the slave trade; new media and the anti-war and anti-globalization movements.

●**COMS 330 Media in Cultural Life.**
(3) (Prerequisite: 3 credits of COMS coursework at the 200-level, or permission of the instructor.) Introduction to a range of theories and qualitative methods in communication studies for the critical analysis of media practices in cultural life.

COMS 340 New Media.
(3) (Prerequisite: 3 credits at the 200-level in a COMS course, or permission of the Instructor) Critical analysis of new media from cultural, philosophical, technological and institutional perspectives.

●**COMS 350 Sound Culture.**
(3) (Prerequisite: 3 credits at the 200-level in a COMS course, or permission of the Instructor) Analysis of sound culture, including sonic and audiovisual media, sound art and architecture, sound in everyday life, sonic institutions and theoretical accounts of the role of sound in communication.

COMS 361 Selected Topics Communication Studies 1.
(3) (Prerequisite(s): 3 credits at the 200-level in a COMS course, or permission of the Instructor) (Topic will change depending upon term and instructor) (F09) Topic: TBA Study of a special field in media theory.

COMS 362 Selected Topics Communication Studies 2.
(3) (Prerequisite(s): 3 credits at the 200-level in a COMS course or permission of the Instructor.) (Topic will change depending upon term and instructor) (F09) Topic: The Visual Culture of Crime. Study of a special field of critical inquiry into media and/or technological practices.

COMS 400 Critical Theory Seminar.
(3) (Prerequisite: COMS 210 and a 300-level COMS course, or permission of the instructor.) The tradition of critical social theory as it has influenced the field of media and communication studies. Strains of critical theory studies may include: Marxism; the Frankfurt school; poststructuralism, deconstruction and postmodernism; feminism; cultural studies, postcolonialism and critical race theory.

●**COMS 410 Cultures in Visualization.**
(3) (Prerequisites: COMS 210, and a 300-level COMS course or permission of instructor.) Analysis of imaging technologies in their cultural contexts. Focus on different traditions of visual representation through the investigation of artistic and scientific visualization practices.

COMS 425 Urban Culture & Everyday Life.
(3) (Prerequisite(s):3 credits at the 200-level in a COMS course and 3 credits at the 300-Level in a COMS course, or permission of the Instructor.) Explores how popular and artistic cultural texts interrogate the dimensions of urban culture that shape everyday life, such as transnationalization/ globalization; gentrification, migration and other displacements; the proliferation of mobile media and communication technologies; and the political mobilization of fear and anxiety about violence and terrorism.

COMS 490 History and Theory of Media.
(3) (Prerequisites: COMS 210, 3 additional credits in a 300-level COMS course, or permission of instructor.) (F09) Topic: TBA Emergent themes in media history and media theory, and their application to current issues in communications studies.

COMS 491 Media, Communication & Culture.
(3) (Prerequisites: COMS 210, 3 additional credits in a 300-level COMS course, or permission of instructor.) (F09) Topic: TBA Emergent themes and issues in cultural approaches to media and communication studies.

COMS 492 Power, Difference and Justice.
(3) (Prerequisites: COMS 210, 3 additional credits in a 300-level COMS course, or permission of instructor.) (F09) Topic: Affect Theory: Identity, Affinity, Sociality. Media systems and their role in social relations of power and difference that are maintained and challenged through communication practices.

●**COMS 495 Directed Reading.**
(3) (3 credits at the 200-level and 3 credits at the 300-level in COMS courses and permission of the instructor) Directed reading in a specialized area of communication studies to be undertaken with the guidance of an instructor with relevant expertise in the area.

●**COMS 497 Independent Study.**
(3) (3 credits at the 200-level and 3 credits at the 300-level in COMS courses and permission of the instructor) Independent study of a particular topic in communication studies taken under the supervision of an instructor with relevant expertise in the area.

●**COMS 510 Canadian Broadcasting Policy.**
(3) (Course intended for senior undergraduates and graduate students with a specialized interest in Canadian broadcasting policy.) (Prerequisites: 3 credits of COMS coursework at the 200-level, 3 credits of COMS coursework at the 300 or 400-level, or permission of instructor.) Key issues in the history and evolution of radio, television and new media in Canada. The legislative and regulatory framework of Canadian broadcasting, the relationship between public and privately-owned media, the emergence of new media, and the efforts of interest groups to influence the direction of the Canadian media system.

●**COMS 521 Communications in History.**
(3) North American communication studies have undergone five discernible changes in the definition and focus of the field. The major "schools" of thought to be covered are the Chicago and Lazarsfeld heritages, the institutionalization of communication science in the academy, and the post-modern period.

●**COMS 541 Cultural Industries.**
(3) The convergence of computerized technologies and cultural industries and how these have produced entire new forms of cultural expression in film, TV, and the Internet.

●**COMS 560 Communications and Development.**
(3)

EAPR-English for Academic Purposes

Offered by: English&French Language Centre

✶**EAPR 250 Research Essay & Rhetoric.**
(3) (3 hours) (Intended for native speakers of English. For students in all years and faculties.) (Entrance test: Short essay first day of class.) (Restrictions: Not open to students who have taken or are taking ESLN 500. Not open to students who have taken EFRL 250.) (Students who complete EAPR 250 may not subsequently take for credit an Effective Communication course offered by the Faculty of Education) Principles and use of academic research and genres, rhetorical strategies, and general editing skills.

EAST-Asian Language & Literature

Offered by: East Asian Studies

EAST 211 Introduction: East Asian Culture: China.
(3) This course provides a critical introduction to central themes in Chinese culture. The course will also examine the changing representations of the Chinese cultural tradition in the West. Readings will include original sources in translation from the fields of literature, philosophy, religion, and cultural history.

EAST 212 Introduction: East Asian Culture: Japan.
(3) An introduction to Japan which presents various aspects of Japanese literature, culture, history, religions, philosophy and society.

EAST 213 Introduction: East Asian Culture: Korea.
(3) This course provides a critical introduction to central themes in Korean culture, including Korean literature, religions, philosophy, and socio-economic formations.

●**EAST 214 Japanese Animation & New Media.**
(3) Animation and new media in Japan, with an emphasis on postwar developments.

●**EAST 215 Introduction to East Asian Art.**
(3) (Restriction: Not open to students taking or who have taken ARTH 215.) Introductory survey of some of the major developments in the visual arts of Japan, China, and Korea. Emphasis will be placed on the diversity of artistic traditions in East Asia and the intersections among these traditions.

●**EAST 216 Chinese Action Film.**
(3) (Note: Course is given in English.) The study of the Chinese-language action film, with an emphasis on Mainland, Hong Kong and Taiwan cinemas. Topics will include: the historical development of martial arts film, the relation between traditional Chinese art forms and action film, and the formation of transnational cinemas and audiences.

●**EAST 220 First Level Korean.**
(9) (Summer) Introduction to the basic structures of the standard Korean language. The aim of this course is to give students a basic knowledge of the Korean language. Special emphasis is put on handling everyday conversation, reading and writing short texts, and mastering basic grammar rules.

EAST 220D1 (4.5), EAST 220D2 (4.5) First Level Korean.
(Students must register for both EAST 220D1 and EAST 220D2.) (No credit will be given for this course unless both EAST 220D1 and EAST 220D2 are successfully completed in consecutive terms) (EAST 220D1 and EAST 220D2 together are equivalent to EAST 220) Introduction to the basic structures of the standard Korean language. The aim of this course is to give students a basic knowledge of the Korean language. Special emphasis is put on handling everyday conversation, reading and writing short texts, and mastering basic grammar rules.

●**EAST 230 First Level Chinese.**
(9) (Summer - Section 001 (01-May-2009/14-Jul-2009)) (Requires departmental approval.) Introduction to the basic structures of Mandarin Chinese, Pin-yin romanization and 750 characters for reading and writing. Emphasis on developing aural and oral skills through communication games and interaction activities. Animated films are used as part of teaching materials.

EAST 230D1 (4.5), EAST 230D2 (4.5) First Level Chinese.
(Requires departmental approval.) (Students must register for both EAST 230D1 and EAST 230D2.) (No credit will be given for this course unless both EAST 230D1 and EAST 230D2 are successfully completed in consecutive terms) (EAST 230D1 and EAST 230D2 together are equivalent to EAST 230) Introduction to the basic structures of Mandarin Chinese, Pin-yin romanization and 750 characters for reading and writing. Emphasis on developing aural and oral skills through communication games and interaction activities. Animated films

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

are used as part of teaching materials.

●EAST 240 First Level Japanese.
(9) (Summer - Section 001 (01-May-2009/14-Jul-2009)) (Requires departmental approval.) Introduction to the basic grammar and sentence patterns of the Japanese language in both oral and written forms. In reading and writing skills students will be introduced to katakana, hiragana and kanji.

EAST 240D1 (4.5), EAST 240D2 (4.5) First Level Japanese.
(Requires Departmental approval) (Students must register for both EAST 240D1 and EAST 240D2.) (No credit will be given for this course unless both EAST 240D1 and EAST 240D2 are successfully completed in consecutive terms) (EAST 240D1 and EAST 240D2 together are equivalent to EAST 240) Introduction to the basic grammar and sentence patterns of the Japanese language in both oral and written forms. In reading and writing skills students will be introduced to katakana, hiragana and kanji.

EAST 303 Current Topics: Chinese Studies 1.
(3) (Fall) (Restriction: Departmental approval required) Consideration of important issues in Chinese Studies. Content of the course will vary from year to year.

EAST 304 Current Topics: Chinese Studies 2.
(3) (Winter) (Restriction: Departmental approval required) Consideration of important issues in Chinese Studies. Content of the course will vary from year to year.

EAST 305 Current Topics: Japanese Studies 1.
(3) (Fall) (Restriction: Departmental approval required) Consideration of important issues in Japanese studies. The content of the course will vary from year to year.

EAST 306 Current Topics: Japanese Studies 2.
(3) (Winter) (Restriction: Departmental approval required) Consideration of important issues in Japanese studies. The content of the course will vary from year to year.

EAST 307 Topics: Chinese Language and Literature 1.
(3) (Fall) (Prerequisite: EAST 211 or permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Chinese literature and/or language. The content of the course may vary from year to year.

EAST 308 Topics: Chinese Language and Literature 2.
(3) (Winter) (Prerequisite: EAST 211 or permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Chinese literature and/or language. The content of the course may vary from year to year.

EAST 313 Current Topics: Korean Studies 1.
(3) (Fall) (Restriction: Departmental approval required.) Consideration of important issues in Korean Studies. Content of the course will vary from year to year.

EAST 314 Current Topics: Korean Studies 2.
(3) (Winter) (Restriction: Departmental approval required) Consideration of important issues in Korean Studies. Content of the course will vary from year to year.

●EAST 320 Second Level Korean.
(9) (Summer) (Prerequisite: EAST 220 or equivalent) The aim of this course is to give students a fluent speaking ability in daily conversation, advanced grammar knowledge, improved reading and writing skills. Special emphasis is put on the efficient use of grammar, enrichment of vocabulary, and mastering useful expressions encountered in everyday life.

EAST 320D1 (4.5), EAST 320D2 (4.5) Second Level Korean.
(Prerequisite: EAST 220 or equivalent) (Students must register for both EAST 320D1 and EAST 320D2.) (No credit will be given for this course unless both EAST 320D1 and EAST 320D2 are successfully completed in consecutive terms) (EAST 320D1 and EAST 320D2 together are equivalent to EAST 320) The aim of this course is to give students a fluent speaking ability in daily conversation, advanced grammar knowledge, improved reading and writing skills. Special emphasis is put on the efficient use of grammar, enrichment of vocabulary, and mastering useful expressions encountered in everyday life.

●EAST 330 Second Level Chinese.
(9) (Summer) (Prerequisite: Chinese EAST 230 or equivalent or permission of the instructor) The same communicative approach as in EAST 230 is used to develop aural and oral skills on daily topics. In addition to textbooks, Chinese films on videotapes will be incorporated as teaching materials.

EAST 330D1 (4.5), EAST 330D2 (4.5) Second Level Chinese.
(Prerequisite: EAST 230 or equivalent or permission of the instructor) (Students must register for both EAST 330D1 and EAST 330D2.) (No credit will be given for this course unless both EAST 330D1 and EAST 330D2 are successfully completed in consecutive terms) (EAST 330D1 and EAST 330D2 together are equivalent to EAST 330) The same communicative approach as in EAST 230 is used to develop aural and oral skills on daily topics. In addition to textbooks, Chinese films on videotapes will be incorporated as teaching materials.

●EAST 340 Second Level Japanese.
(9) (Summer) (Prerequisite: Japanese EAST 240 or equivalent or permission of instructor.) Continuation of the study of oral and written Japanese.

EAST 340D1 (4.5), EAST 340D2 (4.5) Second Level Japanese.
(Prerequisite: EAST 240 or equivalent or permission of instructor) (Restriction: Departmental approval required) (Students must register for both EAST 340D1 and EAST 340D2.) (No credit will be given for this course unless both EAST 340D1 and EAST 340D2 are successfully completed in consecutive terms) (EAST 340D1 and EAST 340D2 together are equivalent to EAST 340) Continuation of the study of oral and written Japanese.

EAST 350 Gender and Sexuality in Chinese Literature.
(3) (Prerequisite: EAST 211 or permission of instructor.) (Note: Readings in English translation.) Gender and sexuality in modern and/or premodern Chinese literature with emphasis on representation of gender relations, notions of masculinity and femininity, morality and sexuality. Readings from fiction, drama, poetry, and/or other genres are approached from a variety of critical perspectives.

●EAST 351 Women Writers of China.
(3) (Core course for the Women's Studies program) (Prerequisite: EAST 211 or permission of instructor.) A study of fiction, drama, and poetry by women writers in imperial, modern, and/or contemporary China.

EAST 352 Critical Approaches to Chinese Literature.
(3) (Prerequisite: EAST 211.) This course will examine traditional and/or modern genres of Chinese literature with a focus on different forms of Chinese and Western literary analysis.

●EAST 353 Approaches to Chinese Cinema.
(3) (Prerequisite: EAST 211.) Development of Chinese film in the 20th century, with an emphasis on both critical approaches to film as well as film history.

●EAST 354 Taoist and Buddhist Apocalypses.
(3) Visions of the end of the world in Medieval Chinese Buddhist and Taoist literature will be contrasted with Western apocalyptic materials. The course will trace the development of Buddhism and Taoism in China, focusing on millennarian movements, soteriology, public worship, and ritual.

EAST 356 Modern & Contemporary Chinese Art.
(3) (Restriction: Not open to students taking or who have taken ARTH 356.) Examination of modern Chinese art and visual culture from the 1920's to the present. Emphasis will be placed on the formation of the artistic avant-garde in the 20th century and its relation to socialist and post-socialist mass culture.

●EAST 357 Early Chinese Art.
(3) (Prerequisite: One 200-level Art History or East Asian Studies course, or by permission of instructor.) (Restriction: Not open to students taking or who have taken ARTH 357.) Survey of Chinese art and visual culture during the pre-imperial and early imperial periods (1500BCE-900CE). A wide range of visual images and media (painting, architecture, inscription, funerary art) will be examined in the historical context of the rise and development of the empire.

●**EAST 358 Later Chinese Art (960-1911).**
(3) (Prerequisites: One 200-level Art History or East Asian Studies course, or by permission of Instructor.) (Restriction: Not open to students taking or who have taken ARTH 355.) Survey of art and visual culture in later imperial China from Song to Qing dynasties. A broad range of media (e.g. painting, calligraphy, print, architecture) will be examined to explore the development of literati aesthetics and its intersections with the arts of the court, the temple, and the marketplace.

●**EAST 362 Japanese Cinema.**
(3) This course will study the development of film in Japan during the 20th century with a particular focus on the analysis of film form, genres and history.

EAST 363 Aesthetics and Politics of Vision Premodern Japan.
(3) (Prerequisite: EAST 212 or permission of instructor) This course examines cultural production in early and medieval Japan, focusing on calligraphy, painting, picture scrolls, gestures and their relation to textual production. Readings explore various classic texts, taboos against seeing and narrative modes of cognition.

EAST 364 Mass Culture and Postwar Japan.
(3) (Prerequisite: Any introductory course in literature or cultural studies, or permission of instructor) This course addresses a number of analytic approaches to mass culture in order to examine the culture industry of post-war Japan. Emphasis on narrative strategies in popular or consumer fiction and on the problems of marginalized writers.

EAST 370 History of Sexuality in Japan.
(3) Social and cultural history of sexuality in Japan. Possible topics include pre-modern sexuality and relations to court, religion and anthropology; pre-modern sex and gender relations; modern sexuality and gender identities; sexuality and the rise of science; relation to nationalism; feminism and queer movements.

EAST 385 Society and Community in Korea.
(3) This course will analyze topics in colonial and contemporary Korean life with a focus on the social institutions of family, school and workplace.

●**EAST 390 The Chinese Family in History.**
(3) (Prerequisite: EAST 211 or HIST 208 or HIST 218 or permission of the instructor.) Exploration of the Chinese family in history both as an institution - in its religious, legal, economic, political aspects - and as a lived reality.

●**EAST 420 Third Level Korean 1.**
(3) (Restriction: Not open to students who have taken or are taking EAST 420D1/D2.) grammar, enhancing written and oral comprehension and improving writing and speaking skills.

●**EAST 421 Third Level Korean 2.**
(3) (Prerequisite: EAST 420 or equivalent or permission of instructor.) (Restriction: Not open to students who have taken or are taking EAST 420D1/D2.) Advanced grammar, enhancing written and oral comprehension and improving writing and speaking skills.

●**EAST 430 Third Level Chinese.**
(6) (Summer) (Prerequisite: EAST 330 or equivalent or permission of instructor) A communicative approach will be used to provide students with skills to communicate in various situations, express their ideas and feelings, and discuss various aspects of culture and life in China and in Canada. Teaching materials include Chinese movies on videotape and slides depicting Chinese life and culture.

EAST 430D1 (3), EAST 430D2 (3) Third Level Chinese.
(Prerequisite: EAST 330 or equivalent or permission of instructor) (Students must register for both EAST 430D1 and EAST 430D2.) (No credit will be given for this course unless both EAST 430D1 and EAST 430D2 are successfully completed in consecutive terms) (EAST 430D1 and EAST 430D2 together are equivalent to EAST 430) A communicative approach will be used to provide students with skills to communicate in various situations, express their ideas and feelings, and discuss various aspects of culture and life in China and in Canada. Teaching materials include Chinese movies on videotape and slides depicting Chinese life and culture.

●**EAST 440 Third Level Japanese.**
(6) More advanced study of the Japanese language. Emphasis will be placed on reading.

EAST 440D1 (3), EAST 440D2 (3) Third Level Japanese.
(Prerequisite: EAST 340 or equivalent or permission of instructor) (Students must register for both EAST 440D1 and EAST 440D2.) (No credit will be given for this course unless both EAST 440D1 and EAST 440D2 are successfully completed in consecutive terms) More advanced study of the Japanese language. Emphasis will be placed on reading.

EAST 453 Topics: Chinese Literature.
(3) (Prerequisite: A 300-level course in any literature.) Advanced seminar in selected genres, themes and issues in Chinese literature.

EAST 454 Topics: Chinese Cinema.
(3) (Prerequisites: EAST 353, a 300-level film studies course, or permission of the instructor.) Advanced seminar in selected themes and issues in Chinese film.

●**EAST 456 Chinese Drama and Popular Culture.**
(3) (Prerequisite: EAST 211 or permission of instructor) This course will examine the regional background of popular culture in Late Imperial China, focusing on the development of distinct traditions of regional drama. The levels of texts and audiences and the social and ritual contexts of theatrical performance in pre-modern China will also be considered.

EAST 457 Brushwork in Chinese Painting.
(3) (Prerequisite: At least one EAST or ARTH course or permission of instructor.) (Restriction: Not open to students taking or who have taken ARTH 457.) The seminar takes an in-depth look at the function and meaning of the brushwork in traditional Chinese painting. Analysis of paintings will be combined to close readings of theoretical texts in translation.

EAST 461 Inventing Modern Japanese Novel.
(3) (Prerequisite: Any course in literature or cultural studies above the introductory level, or permission of instructor) An examination of the modern Japanese novel as a form which both affirms and resists the form of the European novel. Readings explore the particular problems of the Japanese novel in the context of modernization, westernization, and colonialism.

EAST 462 Japan in Asia.
(3) (Prerequisite: Any East Asian Studies course above the introductory level, or permission of the instructor) This course introduces theories of cultural interaction, interpellation, and intertexuality in order to reconsider Japanese modes of reception and selection of Chinese texts and technologies. Readings range from early Japanese to 20th century texts. Readings in translation.

EAST 464 Image, Text, Performance.
(3) (Prerequisite: Any East Asian Studies course above the introductory level, or permission of the instructor) Drawing on theoretical approaches from a variety of media studies, including cinema, performance and performativity, and elsewhere, this course looks at cultural production in premodern and modern Japan. Topics to be addressed range from calligraphy and

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

writing, to theatre, and film.

●**EAST 466 Feminism and Japan.**
(3) (Prerequisite: Any East Asian Studies course above the introductory level, or permission of instructor) Seminar dealing with issues relating to gender, the feminine, especially in the context of Japan. The course will draw on a range of theoretical frameworks, and may include the analysis of literature, film, art and popular culture.

EAST 467 Topics: Japanese Cinema.
(3) (Prerequisites: EAST 214, EAST 362 or permission of the instructor.) Topics in the study of Japanese cinema.

●**EAST 490 Confucius and the Classics.**
(3) (Prerequisite: EAST 211 or HIST 208 or HIST 218 or permission of instructor.) This course will examine the Five Classics and their relation to the figure of Confucius. It will survey various interpretations of Confucius and the Classics and the role these played in various periods of Chinese history.

EAST 491 Tutorial: East Asian Languages and Literatures 1.
(3) (Fall) (Restriction: Departmental approval required) Advanced reading course in language or literature.

EAST 492 Tutorial: East Asian Languages and Literatures 2.
(3) (Winter) (Restriction: Departmental approval required) Advanced reading course in language or literature.

EAST 493 Special Topics: East Asian Studies 1.
(3) (Fall) (Prerequisite: Any EAST course at the 300-level or above or permission of instructor) (Restriction: Departmental approval required) Advanced reading course under supervision of instructor on certain aspects of East Asian Studies. Topics will vary from year to year.

EAST 494 Special Topics: East Asian Studies 2.
(3) (Winter) (Prerequisite: Any EAST course at the 300-level or above or permission of instructor) (Restriction: Departmental approval required) Advanced reading course under supervision of instructor on certain aspects of East Asian Studies. Topics will vary from year to year.

EAST 495 Joint Honours Thesis: East Asian Studies.
(3) Supervised reading and preparation of an Honours thesis under the direction of a member of staff.

EAST 495D1 (1.5), EAST 495D2 (1.5) Joint Honours Thesis: East Asian Studies.
(Prerequisite: U3 Joint Honours status and permission of instructor) (Restriction: Departmental approval required) (Students must register for both EAST 495D1 and EAST 495D2.) (No credit will be given for this course unless both EAST 495D1 and EAST 495D2 are successfully completed in consecutive terms) Supervised reading and preparation of an Honours thesis under the direction of a member of staff.

EAST 495N1 (1.5), EAST 495N2 (1.5) Joint Honours Thesis: East Asian Studies.
(Restriction: Departmental approval required) (Students must also register for EAST 495N2) (No credit will be given for this course unless both EAST 495N1 and EAST 495N2 are successfully completed in a twelve month period) Supervised reading and preparation of an Honours thesis under the direction of a member of staff.

EAST 498D1 (3), EAST 498D2 (3) Honours Thesis: East Asian Studies.
(Prerequisite: U3 Honours status and permission of the instructor) (Restriction: Departmental approval required) (Students must register for both EAST 498D1 and EAST 498D2.) (No credit will be given for this course unless both EAST 498D1 and EAST 498D2 are successfully completed in consecutive terms) Supervised reading and preparation of an Honours thesis under the direction of a member of staff.

EAST 498N1 (3), EAST 498N2 (3) Honours Thesis: East Asian Studies.
(Restriction: Departmental approval required) (Students must also register for EAST 498N2) (No credit will be given for this course unless both EAST 498N1 and EAST 498N2 are successfully completed in a twelve month period) Supervised reading and preparation of an Honours thesis under the direction of a member of staff.

EAST 499 Internship: East Asian Studies.
(3) (Restriction: Open to U2 and U3 students with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will not normally fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

EAST 501 Advanced Topics in Japanese Studies 1.
(3) (Fall) (Prerequisite (Undergraduate): permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Japanese culture and society.

EAST 502 Advanced Topics in Japanese Studies 2.
(3) (Winter) (Prerequisite (Undergraduate): permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Japanese culture and society.

EAST 503 Advanced Topics in Chinese Studies 1.
(3) (Fall) (Prerequisite (Undergraduate): permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Chinese culture and society.

EAST 504 Advanced Topics in Chinese Studies 2.
(3) (Winter) (Prerequisite (Undergraduate): permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Chinese culture and society.

EAST 515 Seminar: Beyond Orientalism.
(3) (Prerequisite (Undergraduate): any EAS course at the 300-level or above or permission of instructor) Examines the cultural stakes and ethical implications of applying Western European models of understanding to East Asian societies. Provides background on interdisciplinary debates around "otherness", "cultural appropriation", and "postcolonialism", focusing on their history within East Asian Studies and their impact on that field's methodological assumptions, self-definition, and institutional practices.

●**EAST 520 Fourth Level Korean 1.**
(3) (Prerequisite: EAST 421 or permission of instructor.) (Restriction: Not open to students who have taken or are taking EAST 520D1/D2.) Continuation of EAST 421 (Third Level Korean 2) with more emphasis on writing and reading skills.

●**EAST 521 Fourth Level Korean 2.**
(3) (Prerequisite: EAST 520 or equivalent or permission of instructor.) (Restriction: Not open to student who have taken or are taking EAST 520D1/D2.) Continuation of EAST 520. The main focus and the course organization remain the same with more advanced content.

●**EAST 530 Fourth Level Chinese.**
(6) (Summer) (Prerequisite (Undergraduate): EAST 430 or equivalent) Development of skills required to conduct academic discussions in oral as well as in written forms. Teaching materials include original texts from Chinese newspapers, Chinese literature and videos.

EAST 530D1 (3), EAST 530D2 (3) Fourth Level Chinese.
(Prerequisite (Undergraduate): EAST 430 or equivalent) (Students must register for both EAST 530D1 and EAST 530D2.) (No credit will be given for this course unless both EAST 530D1 and EAST 530D2 are successfully completed in consecutive terms) (EAST 530D1 and EAST 530D2 together are equivalent to EAST 530) Development of skills required to conduct academic discussions in oral as well as in written forms. Teaching materials include original texts from Chinese newspapers, Chinese literature and videos.

EAST 533 Classical Chinese 1.
(3) (Prerequisite: EAST 330 or equivalent.) (Restriction: Not open to students who have taken EAST 433.) An introduction to the grammar and syntax of classical Chinese. Readings are selected from well-known Confucian and Taoist classics, and philosophical and historical writings from premodern China.

EAST 534 Classical Chinese 2.
(3) (Prerequisite: EAST 330 or equivalent.) (Restriction: Not open to students who have taken EAST 434.) Continuation of EAST 533 at a more advanced level.

●**EAST 535 Chinese for Business 1.**
(3) (Prerequisite: EAST 330 or equivalent or permission of instructor) This course aims to provide advanced students of Chinese with training in the terminology and syntax necessary for business communications. Topics will include many different aspects of business negotiations, such as price negotiation, methods of payment, etc.

●**EAST 536 Chinese for Business 2.**
(3) (Prerequisite: EAST 535 or equivalent or permission of instructor) This course is a continuation of EAST 535. It is designed to further develop students' linguistic competence for business communication, and to provide students with some knowledge on China's trade policies as well as on different methods of trading with China.

●**EAST 537D1 (3), EAST 537D2 (3) China Today Through Translation.**
(Prerequisite (Undergraduate): students with native or near native proficiency may register directly, other students require permission of instructor) (Restriction: Not open to students who have taken EAST 437) (Students must register for both EAST 537D1 and EAST 537D2.) (No credit will be given for this course unless both EAST 537D1 and EAST 537D2 are successfully completed in consecutive terms) A course to develop practical translation skills and understanding of contemporary China, focusing on Sino-Canadian and multi-lateral political, cultural and trade issues. Interpretive skills will be enhanced through translation exercises and discussion in class. Course materials include original documents and videos from the business communications and other fields.

EAST 540D1 (3), EAST 540D2 (3) Fourth Level Japanese.
(Prerequisite (Undergraduate): EAST 440 or equivalent or permission of instructor) (Students must register for both EAST 540D1 and EAST 540D2.) (No credit will be given for this course unless both EAST 540D1 and EAST 540D2 are successfully completed in consecutive terms) Advanced study of Japanese, with emphasis on reading Japanese newspapers. Classes will be conducted entirely in Japanese.

●**EAST 543 Classical Japanese 1.**
(3) (Prerequisite (Undergraduate): EAST 440 or permission of instructor) The course will offer an introduction to the grammar and syntax of classical Japanese. Readings of well-known pre-modern writings.

●**EAST 544 Classical Japanese 2.**
(3) (Prerequisite (Undergraduate): EAST 543 or permission of instructor) The grammar and syntax of classical Japanese. Readings in well-known writings of pre-modern Japan.

EAST 546 Advanced Reading: Japanese.
(3) (Prerequisite: EAST 440 or permission of instructor.) (Restriction: Departmental approval required) in-depth reading and analysis of advanced Japanese texts. Readings will be selected from a variety of prose genres ranging from fiction to journalistic writing.

EAST 547 Advanced Translation in Japanese.
(3) (Prerequisite (Undergraduate): EAST 440 or equivalent or permission of the instructor) (Restriction: Departmental approval required) Translation of Japanese texts into English or French. Materials will be selected from a variety of prose genres ranging from fiction to journalistic writing.

●**EAST 550 Classical Chinese Poetry Themes and Genres.**
(3) (Prerequisite (Undergraduate): EAST 433 or permission of instructor) A study of major themes and genres of classical Chinese poetry from its beginnings to the Yuan dynasty (14th century), with emphasis on critical analysis of text and context. Readings of poems in the original.

EAST 551 Technologies of Self in Early China.
(3) (Prerequisite (Undergraduate): One advanced course in EAS or permission of the instructor) Readings on self-cultivation drawn from Confucian, Legalist, and Taoist philosophic texts of early China (5th-2nd centuries B.C.) in translation will be compared with historical and archaeological materials on the evolving construction of the "individual" in Chinese social structure, military organization, political and ritual codes.

●**EAST 552 The Yijing (Book of Changes).**
(3) (Prerequisite: Any 300-level or above EAST course or permission of instructor.) (Note: No prior knowledge of Chinese required.) In-depth examination of the Yijing, known in the West as the Book of Changes. The course will combine a close reading of this pivotal text and its numerous commentaries with a social and cultural analysis of the diverse functions it fulfilled through Chinese history - philosophical, political, religious, aesthetic and cosmological.

●**EAST 556 Advanced Reading in Chinese.**
(3) (Prerequisite: EAST 430 or permission of instructor) (Restriction: Departmental approval required) In-depth reading and analysis of advanced Chinese texts. Readings will be selected from variety of prose genres ranging from fiction to journalistic writing.

EAST 557 Advanced Translation: Chinese.
(3) (Prerequisite: EAST 430 or equivalent or permission of instructor) (Restriction: Departmental approval required) Translation of Chinese texts into English or French. Materials will be selected from a variety of prose genres ranging from fiction to journalistic writing.

EAST 559 Advanced Topics: Chinese Literature.
(3) (Prerequisite (Undergraduate): one advanced course in EAST or permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Chinese literature. The content of the course may vary from year to year, ranging from contemporary to modern to pre-modern literature.

●**EAST 562 Japanese Literary Theory and Practice.**
(3) (Prerequisite (Undergraduate): Any course in EAS above the 200-level and at least a year of an East Asian Language, or permission of instructor) This course examines Japanese theories of literary production and practice with an emphasis on 20th century thought.

EAST 563 Images, Ideograms, Aesthetics.
(3) (Prerequisite (Undergraduate): EAST 320 or EAST 330 or EAST 340 or equivalent, or permission of instructor) This course explores theories and usage of ideograms and images in Asian texts, both modern and premodern.

●**EAST 564 Structures of Modernity: Japan.**
(3) (Prerequisite (Undergraduate): Any East Asian Studies course above the introductory level, or permission of the instructor) This course explores relations between some of the principal sites which structure the experience of "modernity" in Japan (and elsewhere) - from bodies and cities, to the urban context in general. Along with general approaches (e.g. the idea of everyday life; questions of time), specific topics may include speed, music, architecture, crime, etc.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EAST 569 Advanced Topics: Japanese Literature.
(3) (Prerequisite: one advanced course in EAS or permission of instructor) (Restriction: Departmental approval required) Consideration of selected topics and aspects of Japanese literature. The content of the course may vary from year to year from contemporary to modern to pre-modern literature.

EAST 576 Advanced Reading in Korean.
(3) (Prerequisite: EAST 420 or permission of instructor) (Restriction: Departmental approval required) In-depth reading and analysis of advanced Korean texts. Readings will be selected from a variety of prose genres ranging from fiction to journalistic writing.

EAST 577 Advanced Translation: Korean.
(3) (Prerequisite: EAST 420 or permission of instructor.) (Restriction: Departmental approval required) Translation of Korean texts into English or French. Materials will be selected from a variety of prose genres ranging from fiction to journalistic writing.

EAST 582 Japanese Culture and Society.
(3) Course will be taught by Vincent Mizra

ECON-Economics

Offered by: Economics

●**ECON 199 FYS: Aspects of Globalization.**
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) A guided discussion of the many and varied aspects of economic globalization.

ECON 205 An Introduction to Political Economy.
(3) (Restriction: Not open to students who have taken 154-205D) (Restriction: This course does not count for credit toward the Major or Honours degree in Economics) A critical study of the insights to be gained through economic analysis of a number of problems of broad interest. The focus will be on the application of economics to issues of public policy.

ECON 208 Microeconomic Analysis and Applications.
(3) (Summer - Section 001 (04-May-2009/03-Jun-2009)) (Restriction: Not open to students who have taken or are taking ECON 230 or ECON 250) A university-level introduction to demand and supply, consumer behaviour, production theory, market structures and income distribution theory.

ECON 209 Macroeconomic Analysis and Applications.
(3) (Summer - Section 001 (04-Jun-2009/07-Jul-2009)) (Prerequisites: ECON 208 or permission of the instructor) (Restriction: Not open to students who have taken or are taking ECON 330 or ECON 352) A university-level introduction to national income determination, money and banking, inflation, unemployment and economic policy.

●**ECON 219 Current Economic Problems: Topics.**
(3) (This course will also be of interest to students outside of Economics) This course will deal with topical issues of importance to the Canadian economy.

●**ECON 221 Economic History.**
(3) (Corequisites: ECON 208 and ECON 209 or ECON 230D1/D2 or ECON 250D1/D2.) (Restrictions: Not open to students who have taken ECON 201 or ECON 221D1/D2.) Survey of economic development. The evolution of economic institutions and the process of economic growth. Topics include demographic change, agrarian institutions, financial and industrial organization, technological change and the expansion of trade and markets.

●**ECON 223 Political Economy of Trade Policy.**
(3) (Prerequisite: ECON 208) The course introduces students to the economics of international trade, what constitutes good trade policy, and how trade policy is decided. The course examines Canadian trade policy since 1945, including the GATT, Auto Pact, the FTA and NAFTA, and concludes with special topics in trade policy.

ECON 225 Economics of the Environment.
(3) (Restriction: Not open to students who have taken 154-325 or 154-425) A study of the application of economic theory to questions of environmental policy. Particular attention will be given to the measurement and regulation of pollution, congestion and waste and other environmental aspects of specific economies.

●**ECON 227 Economic Statistics.**
(6) (Summer - Section 001 (04-May-2009/26-Jun-2009)) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Distributions, averages, dispersions, sampling, testing, estimation, correlation, regression, index numbers, trends and seasonals.

ECON 227D1 (3), ECON 227D2 (3) Economic Statistics.
(Students must register for both ECON 227D1 and ECON 227D2.) (No credit will be given for this course unless both ECON 227D1 and ECON 227D2 are successfully completed in consecutive terms) (ECON 227D1 and ECON 227D2 together are equivalent to ECON 227) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Distributions, averages, dispersions, sampling, testing, estimation, correlation, regression, index numbers, trends and seasonals.

ECON 230D1 (3), ECON 230D2 (3) Microeconomic Theory.
(Students must register for both ECON 230D1 and ECON 230D2.) (No credit will be given for this course unless both ECON 230D1 and ECON 230D2 are successfully completed in consecutive terms) The introductory course for Economics Major students in microeconomic theory. In depth and critical presentation of the theory of consumer behaviour, theory of production and cost curves, theory of the firm, theory of distribution, welfare economics and the theory of general equilibrium.

ECON 250D1 (3), ECON 250D2 (3) Introduction to Economic Theory: Honours.
(MATH 139 and MATH 141 are corequisites) (Students must register for both ECON 250D1 and ECON 250D2.) (No credit will be given for this course unless both ECON 250D1 and ECON 250D2 are successfully completed in consecutive terms) An intermediate level microeconomics course. Includes theory of exchange, theory of consumer behaviour, theory of production and cost curves, theory of the firm, theory of distribution; general equilibrium and welfare economics. The assumptions underlying the traditional neo-classical approach to economic theory will be carefully specified.

ECON 257D1 (3), ECON 257D2 (3) Economic Statistics - Honours.
(Corequisites: MATH 141 and MATH 133 and ECON 250) (Restriction: Not open to students who have taken 154-357 or are taking ECON 217 or ECON 227.) (Students must register for both ECON 257D1 and ECON 257D2.) (No credit will be given for this course unless both ECON 257D1 and ECON 257D2 are successfully completed in consecutive terms) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Stochastic phenomena; probability and frequency distributions, introduction to probability theory. Statistical inference about proportions, means and variances; analysis of variance; nonparametric statistics; index numbers and time series; economic forecasting; regression and correlation analysis; introduction to general linear models, its uses and limitations; uses and misuses of statistics.

ECON 295 Macroeconomic Policy.
(3) (Corequisite: MGCR 293) (Restriction: For B.Com. students) (Restriction: Not open to students who have taken or are taking ECON 330 or ECON 352) (Continuing Education: requirement for CMA, CGA, I.C.B., the EA of AACI, and the CRA) (Continuing Education: not open to full-time day students) This applied macroeconomics course focuses on current and recurrent macroeconomic issues important in understanding the public policy environment in which firms make their decisions. Topics include national accounts; national

income determination; economic growth and fluctuations; money, monetary policy and financial markets; international trade and finance.

●**ECON 301 Economics of the Arts.**
(3) (Prerequisites: ECON 208 or MGCR 293 or ECON 230D1/ECON 230D2 or ECON 250D1/ECON 250D2) Economic analysis of performing and visual arts, the nature of contracts and of markets in arts. Public policy issues, globalization and trade in cultural goods and services.

ECON 302D1 (3), ECON 302D2 (3) Money and Banking.
(Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) (Students must register for both ECON 302D1 and ECON 302D2.) (No credit will be given for this course unless both ECON 302D1 and ECON 302D2 are successfully completed in consecutive terms) (ECON 302D1 and ECON 302D2 together are equivalent to ECON 302) Principles of money, banking and central banking covering the nature of money, measurement of money supply, determination of quantity of money; sources of bank funds, uses of bank funds, nature of central banking, monetary policy and the international payments system.

●**ECON 303 Canadian Economic Policy.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above.) (Restriction: Not open to students who have taken ECON 303D1/D2 or ECON 403.) Major theories of how economic policy is made and goes on to use economic tools of analysis to investigate selected policy problems of current interest.

●**ECON 305 Industrial Organization.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) (Restriction: Not open to students who have taken ECON 305) The course analyzes the structure, conduct, and performance of industries, particularly but not exclusively in Canada. Topics include effects of mergers, barriers to entry, product line and promotion policies, vertical integration, and R & D policies of firms.

ECON 306D1 (3), ECON 306D2 (3) Labour Economics and Institutions.
(Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) (Students must register for both ECON 306D1 and ECON 306D2.) (No credit will be given for this course unless both ECON 306D1 and ECON 306D2 are successfully completed in consecutive terms) Key features of the Canadian labour sector effects and its historical development are described. Economists' ideas about the labour sector are sketched. The labour sector of various public programs, unemployment, and the labour movement are examined. Much attention is given to the status of women in the labour sector.

●**ECON 308 Governmental Policy Towards Business.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) (Restriction: Not open to students who have taken 154-305D) Covers the major public policies toward business in Canada, such as competition policy, regulation, public ownership and privatization, industrial policies, and trade policies. Includes comparison with policies of other countries, especially the U.S. Readings will include some legal decisions.

●**ECON 310 Introduction to Behavioural Economics.**
(3) (Prerequisites: ECON 208 and a statistics course or permission of the instructor.) An introduction to economic decision-making in markets and strategic environments, including bounded rationality, individual decision-making under uncertainty, and behavioural game theory.

●**ECON 311 United States Economic Development.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) A survey of economic growth and institutional change in the United States. Emphasis will be placed on the use of analytical methods and categories and theories economists have developed for such studies.

ECON 313 Economic Development 1.
(3) (Prerequisite: ECON 208 and either ECON 209 or one development course.) (Restriction: Not open to students who have taken 154-313D.) Microeconomic theories of economic development and empirical evidence on population, labour, firms, poverty. Inequality and environment.

ECON 314 Economic Development 2.
(3) (Prerequisite: ECON 313) (Restriction: Not open to students who have taken 154-313D) Macroeconomic development issues, including theories of growth, public finance, debt, currency crises, corruption, structural adjustment, democracy and global economic organization.

ECON 316 The Underground Economy.
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) The origins, structure and operation of the "underground" sectors of modern economies around the world. Topics include the causes of black marketeering in Western economies; international contraband trade in guns and drugs; money laundering through the world financial system.

ECON 318 The Criminal Economy.
(3) (Prerequisite: ECON 316.) (Restriction: Departmental approval required) A seminar course focusing on the nature and operation of criminal enterprise in markets for goods, services and factors of production within advanced industrial economies. Topics include the debate over "organized" crime; the structure of the criminal firm; labour racketeering; and crime in the money and capital markets.

●**ECON 321 The Quebec Economy.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) A study of the economic development of Quebec and contemporary economic problems in the province. Topics include: economic history since 1900; industrial structure, trade and foreign ownership; unemployment, poverty, and the labour market; government finance and federal-provincial economic relations; independence and the economic program of the Parti Quebecois.

ECON 326 Ecological Economics.
(3) (Prerequisites: ECON 208 and ECON 209 or consent of instructor) Macroeconomic and structural aspects of the ecological crisis. A course in which subjects discussed include the conflict between economic growth and the laws of thermodynamics; the search for alternative economic indicators; the fossil fuels crisis; and "green" fiscal policy.

ECON 330D1 (3), ECON 330D2 (3) Macroeconomic Theory.
(Prerequisite: ECON 230 or ECON 250. If a student has already taken 154-200 or 154-203 and 154-204 or ECON 208 and ECON 209, it may be concurrently taken with ECON 230 with the permission of the instructor) (Students must register for both ECON 330D1 and ECON 330D2.) (No credit will be given for this course unless both ECON 330D1 and ECON 330D2 are successfully completed in consecutive terms) A review of basic economic concepts and tools with an in depth and critical presentation of the fundamental areas of macroeconomic theory. Topics include: the determination of output, employment and price level; money and banking and business cycles; stabilization policy; international finance and growth theory.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**ECON 331 Economic Development: Russia and USSR.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) Introduction to Russian and former Soviet economic development, structure, planning, management and performance. The former Soviet economy, attempted reforms, and the collapse of the U.S.S.R.

●**ECON 334 History of Economic Doctrines.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) The course surveys the development of economics, how the discipline and the thinking of economists evolved, and the significance of some of the analytical tools used.

●**ECON 335 The Japanese Economy.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) The first part of the course covers the economic institutions in, changing structure of, and public policies employed by the Japanese economy. The second part probes the economic "logic" of the Japanese capitalist system, explores its relationship to the ideas of Joseph Schumpeter, and makes comparisons with the American economy.

ECON 336 The Chinese Economy.
(3) (Prerequisites: ECON 208 and ECON 209 (or ECON 230D1/D2 or 250D1/D2).) Examination of the growth and transformation of the Chinese economy and the domestic and international implications.

ECON 337 Introductory Econometrics 1.
(3) (Prerequisite: a grade of 65% or better in ECON 227 or ECON 257 or ECON 317 or ECON 357 or an equivalent qualification in statistics. Familiarity with matrix algebra is highly recommended) The practical application of quantitative methods in statistical investigations.

ECON 338 Introductory Econometrics 2.
(3) (Prerequisite: ECON 337) Estimation and forecasting using simultaneous equation systems, dynamic simulation, time series analysis.

●**ECON 344 The International Economy 1830-1914.**
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) Examines the processes of economic growth and industrialization in Europe and their effect on the development of the world economy. Particular emphasis is placed on the economic history of major European nations and their overseas extensions. Topics include technological change, the demographic transition and the gold standard.

●**ECON 345 The International Economy since 1914.**
(3) (Prerequisites: ECON 208 and ECON 209, or MGCR 293 and ECON 295, or ECON 230D1/D2, or ECON 250D1/D2) Studies the history of economic adjustments in the 20th century, with particular reference to the industrialized countries. Topics include: the economic impact of WWI, the attempts to revive the international economy in the 1920s, the causes and consequences of the Great Depression of the 1930s, and the economic problems and subsequent economic boom following WWII.

ECON 347 Economics of Climate Change.
(3) (Prerequisites: ECON 208 and ECON 209 or those listed under Prerequisites above) The course focuses on the economic implications of, and problems posed by, predictions of global warming due to anthropogenic emissions of greenhouse gases. Attention is given to economic policies such as carbon taxes and tradeable emission permits and to the problems of displacing fossil fuels with new energy technologies.

●**ECON 348 Urban Economics.**
(3) (Prerequisite: ECON 208.) (Restriction: For U2 or U3 students only.) Economic explanations for the rise of cities; their economic benefits and externalities. Economic challenges to cities in the modern context. Examination of municipal policies and of economic, legal and political constraints on cities.

ECON 352D1 (3), ECON 352D2 (3) Macroeconomics-Honours.
(Prerequisite: ECON 250D1/ECON 250D2) (Corequisite: ECON 257D1) (Students must register for both ECON 352D1 and ECON 352D2) (No credit will be given for this course unless both ECON 352D1 and ECON 352D2 are successfully completed in consecutive terms) Basic macroeconomic theory, emphasizing the Classical and Keynesian ideas for the short-run determination of output, employment, interest rates and prices in the economy. Elements of international economics, money and banking and growth theory. The structure of the Canadian economy.

ECON 399 Internship: Economics.
(3) (Restriction: Open to U2 and U3 students with a minimum CGPA of 3.0 and permission of the departmental Internship Advisor. This course will not normally fulfill program requirements for honours, major or minor programs. A letter from a supervisor at the institution must attest to the successful completion of the student's tenure. The topic must fall within the student's program in economics and have the prior approval of a faculty member in the department.) Internship with an approved host institution or organization.

ECON 405 Natural Resource Economics.
(3) (Prerequisite: ECON 230 or ECON 250) Topics include: Malthusian and Ricardian Scarcity; optimal depletion of renewable and non-renewable resources; exploration, risk and industry structure, and current resources, rent and taxation. Current public policies applied to the resource industries, particularly those of a regulatory nature.

●**ECON 406 Topics in Economic Policy.**
(3) (Prerequisites: ECON 230 or ECON 250 and one of ECON 227, ECON 257) Selected policy issues are investigated using economic theory. For details on topics covered in the current year, consult the instructor.

ECON 408 Public Sector Economics 1.
(3) (Prerequisite: ECON 230D1/D2 or 250D1/D2 or permission of the instructor.) Theoretical and empirical economic analysis of the public sector with an emphasis on public goods and government spending. Study of Canadian institutions in international perspective.

ECON 409 Public Sector Economics 2.
(3) (Prerequisite: Econ 408 or permission of the instructor) (Restriction: Not open to students who have taken ECON 408 D1/D2) Theoretical and empirical economic analysis of the public sector with an emphasis on taxation. Study of Canadian institutions in international perspective.

●**ECON 410 Economic Development: Selected World Area.**
(3) (Prerequisites: ECON 230 or ECON 250 and one semester of economic development) An advanced course in the economic development of this region with emphasis on the legacy of history and the interaction of political and economic factors in the analysis of the crisis of the 1980s.

ECON 411 Economic Development: A World Area.
(3) (Prerequisites: ECON 230 or ECON 250 and one semester of economic development) An advanced course in the economic development of a pre-designated underdeveloped country or a group of countries.

●**ECON 416 Topics in Economic Development 2.**
(3) (Prerequisite: ECON 230 or ECON 250 or permission of the instructor) This course gives students a broad overview of the economics of developing countries. The course covers micro and macro topics, with particular emphasis on the economic analysis at the micro level.

ECON 420 Topics in Economic Theory.
(3) (Prerequisite: ECON 230 or ECON 250) The course discusses selected topics in micro or macroeconomic theory at an advanced level. Possible topics include welfare economics, general equilibrium, theories of firms, consumer behaviour, intertemporal choice, uncertainty, game theory, etc.

●**ECON 423D1 (3), ECON 423D2 (3) International Trade and Finance.**
(Prerequisite: ECON 230D1/ECON 230D2 or ECON 250D1/ECON 250D2.) (Corequisite: ECON 330D1 or ECON 352D1.) (Students must register for both ECON 423D1 and ECON 423D2.) (No credit will be given for this course unless both ECON 423D1 and ECON 423D2 are successfully completed in consecutive terms) Theoretical and policy approach to the study of international economic relations. Topics examined include: trade theory; tariff theory; trade and growth; balance of payments; adjustment; international monetary system.

ECON 426 Labour Economics.
(3) (Prerequisite: ECON 230D1/D2 or ECON 250D1/D2 or ECON 306D1/D2.) The determinants of labour supply, demand and the structure of earnings are considered. The economic effects of government policies, such as minimum wage laws, unemployment insurance, welfare and training programs and subsidies to higher education are analyzed. A rigorous theoretical and "hands on" empirical approach is emphasized.

●**ECON 434 Current Economic Problems.**
(3) (Prerequisite: ECON 230 or ECON 250.) (Corequisite: ECON 330 or ECON 352) A discussion of contemporary economic problems. Topics will reflect economic issues of current interest.

ECON 440 Health Economics.
(3) (Prerequisites: ECON 208 and ECON 227 or comparable courses or consent of the instructor) The organization and performance of Canada's health care system are examined from an economist's perspective. The system is described and its special features analyzed. Much attention is given to the role of government in the system and to financing arrangements for hospital and medical services. Current financial problems are discussed.

●**ECON 447 Economics of Information and Uncertainty.**
(3) (Prerequisite: ECON 230 or ECON 250) This course considers how uncertainty can be incorporated into the standard model of consumer and producer choice central to explaining or analysing a number of different economic phenomena. Topics include the information approach to explaining unemployment and problems in controlling health care costs.

ECON 450D1 (3), ECON 450D2 (3) Advanced Economic Theory - Honours.
(Prerequisites: ECON 250D1/ECON 250D2 and ECON 352D1/ECON 352D2) (Students must register for both ECON 450D1 and ECON 450D2.) (No credit will be given for this course unless both ECON 450D1 and ECON 450D2 are successfully completed in consecutive terms) Selected topics in economic theory from recent periodical and monograph literature.

●**ECON 451 Seminar in Economic History.**
(3) (Prerequisites: one of ECON 227, ECON 317, ECON 257 or ECON 357 and either ECON 330 or ECON 352) In this course economic theory is explicitly employed to elucidate issues in economic history. The topics will be announced at the beginning of the academic year.

ECON 453D1 (3), ECON 453D2 (3) International Economics - Honours.
(Prerequisites: ECON 250D1/ECON 250D2 and ECON 352D1/ECON 352D2) (Students must register for both ECON 453D1 and ECON 453D2.) (No credit will be given for this course unless both ECON 453D1 and ECON 453D2 are successfully completed in consecutive terms) The pure theory of trade; Ricardian, Hecksher-Ohlin-Samuelson models; tariff theory and policy; the Canadian balance of payments; balance of payments disequilibrium analysis and policy; the exchange rate, international monetary economics, international policy coordination.

●**ECON 459 Topics in Monetary Economics - Honours.**
(3) (Prerequisite: ECON 230 or ECON 250, and knowledge of calculus.) (Restriction: For Honours in Economics) (Restriction: Not open to students who have taken ECON 458) An advanced treatment of selected topics in monetary economics, including the theory and practice of monetary policy.

ECON 460 History of Thought 1 - Honours.
(3) (Prerequisite: ECON 250.) (Corequisite: ECON 352) The evolution of economic thought prior to the close of the 19th century, as reflected in the writings of prominent economists from the time of Adam Smith to the emergence of marginalism and neoclassical economics.

●**ECON 461 History of Thought 2 - Honours.**
(3) (Prerequisite: ECON 250.) (Corequisite: ECON 352) The evolution of economic thought in the 20th century, as reflected in the writings of prominent economists on equilibrium, dynamics, games, expectations, econometrics, industrial structure, economic policy and other primary areas of interest.

●**ECON 467D1 (3), ECON 467D2 (3) Econometrics - Honours.**
(Prerequisites: MATH 222 and ECON 257D1/ECON 257D2 or consent of instructor. MATH 223 is recommended, but not required as a prerequisite.) (Students must register for both ECON 467D1 and ECON 467D2.) (No credit will be given for this course unless both ECON 467D1 and ECON 467D2 are successfully completed in consecutive terms) Special emphasis on statistical tests of economic theories, the construction of econometric models, and problems in estimation methods.

ECON 468 Econometrics 1 - Honours.
(3) (Prerequisite(s): ECON 257D1/D2 or permission of the instructor.) (Restriction(s): Not open to students who have taken or are taking ECON 467D1/D2) The statistical basis of econometric modelling and treatment of the linear regression model; simple time series models; procedures for inference in linear cases; an introduction to methods for dealing with endogeneity and non-constant variance.

ECON 469 Econometrics 2 - Honours.
(3) (Prerequisite: ECON 468) (Restriction(s): Not open to students who have taken or are taking ECON 467D1/D2) Treatment of asymptotic theory and classical inferential procedures, an introduction to the bootstrap, maximum likelihood, non-linear models, mis-specification testing, non-stationarity and limited dependent variable models.

ECON 473 Income Distribution.
(3) (Prerequisite: ECON 230 or ECON 250. Equivalent of a full year course in statistics as the requirement applicable to Majors and Honours in economics, and calculus 1 and 2) Theory and measurement of income distribution, disparities and poverty. The course examines intertemporal dynamics affecting individuals and socioeconomic groups. The incidence of (costs and benefits from) fiscal and restrictive programmes, inflation and unemployment is evaluated.

ECON 480 Research Project.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Summer - Section 003 (08-Jul-2009/06-Aug-2009)) (Restrictions: Open to U3 students only. Students must complete a Research Project Registration Form, have it signed by the professor who has agreed to supervise the research project, countersigned by an advisor, and submit it to the Department Office in Leacock 443 prior to registering in this course. A student cannot take this course more than once for credit.) In this course students must undertake a research project under close supervision. They must also do such special reading and research as their advisers direct.

ECON 481 Research Project.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Summer - Section 003 (08-Jul-2009/06-Aug-2009)) (Restrictions: Open to U3 students only. Students must complete a Research Project Registration Form, have it signed by the professor who has agreed to supervise the research project, countersigned by an advisor, and submit it to the Department Office in Leacock 443 prior to registering in this course. A student cannot take this course more than once for credit.) In this course students must undertake a research project under close supervision. They must also do such special reading and research as their advisers direct.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**ECON 510 Experimental Economics.**
(3) (Prerequisites: ECON 230 or ECON 250 or permission of the instructor.) (Restrictions: For U3 students.) Experimental methodology, current topics in experimental economics, and market design.

●**ECON 525 Project Analysis.**
(3) (Restriction: Open to advanced undergraduate students. Prerequisite: ECON 250, ECON 352 or equivalent) A course in cost benefit analysis for graduate and advanced undergraduate students.

ECON 531 Historical Experience of Economic Development.
(3) (Prerequisite: ECON 230 or ECON 250 or equivalent.) (Restriction: Not open to students who have taken ECON 631.) Examination of historical patterns of economic development.

●**ECON 534 Pension Crisis.**
(3) The consequences of commitments made by governments in the area of old age pensions and the implications of the resulting tax burden. An international perspective will be adopted.

●**ECON 546 Game Theory.**
(3) (Prerequisite: ECON 230 or ECON 250) (Restriction: Not open to students who have taken ECON 446. Open to advanced undergraduate students) This course introduces students to game theory, the branch of the social sciences that focuses on the formal modelling and analysis of human interactions and strategic behaviour. Basic concepts in cooperative and non-cooperative games are applied to economic models.

●**ECON 567 Complex and Interactive Systems.**
(3) (Prerequisites: ECON 250, ECON 352) (Restrictions: For Honours and Graduate students in Economics. Permission of the instructor.) Behaviour in open (incomplete) economic systems as they relate to nonlinearities, chaos, adaptiveness, networks, externalities, dynamic competition, computable economics, simulation-driven analogies, disequilibrium dynamics, lock-in phenomena and path dependence, quasi-rationality with uncertainty and fuzzy constraints, evolutionary processes, genetic algorithms, etc.

ECON 577 Mathematical Economics 1.
(3) (Prerequisites: MATH 133, MATH 139 and MATH 141 or equivalent) A mathematical treatment of basic economic theory.

ENGL-English

Offered by: English

ENGL 100 English Literature and Composition.
(6) (Restriction: Course is open to Inuit students only.)

●**ENGL 100D1 (3), ENGL 100D2 (3) English Literature and Composition.**
(Students must register for both ENGL 100D1 and ENGL 100D2.) (No credit will be given for this course unless both ENGL 100D1 and ENGL 100D2 are successfully completed in consecutive terms) (ENGL 100D1 and ENGL 100D2 together are equivalent to ENGL 100)

●**ENGL 199 FYS: Literature and Democracy.**
(3) (Restriction: Open only to newly admitted students in U0 or U1. Students may take only one First Year Seminar. Students who register for more than one will be removed from all but one of them.) (Maximum 25)

●**ENGL 200 Survey of English Literature 1.**
(3) (Fall) (Restriction: Not open to students in English programs)

ENGL 201 Survey of English Literature 2.
(3) (Winter) (Prerequisite: ENGL 200 or permission of instructor) (Restriction: Not open to students in English programs)

ENGL 202 Departmental Survey of English Literature 1.
(3) (Fall) (Restriction: Limited to students in English programs only) (Restriction: Not open to students who have taken ENGL 200)

ENGL 203 Departmental Survey of English Literature 2.
(3) (Winter) (Prerequisite: ENGL 202 or permission of instructor.) (Restriction: Limited to students in English programs only) (Restriction: Not open to students who have taken ENGL 201)

●**ENGL 204 English Literature and the Bible.**
(3) This course will examine the literary dimensions of the Bible including structure, style, and meaning as well as its status as Sacred Book. The influence of the Bible-as-metatext on the secular literature of the West will be the focus of the discussion.

ENGL 215 Introduction to Shakespeare.
(3) (Fall) A study of a selection of plays, in their intellectual and theatrical context, with an emphasis on the interplay of text and performance.

✶ ● **ENGL 225 American Literature 1.**
(3) (Winter) A study of the literary works of earlier American writers.

✶**ENGL 226 American Literature 2.**
(3) (Winter) A study of the literary works of later American writers.

●**ENGL 227 American Literature 3.**
(3) A study of literary works which may be thematic or may deal with a special group of authors.

✶**ENGL 228 Canadian Literature 1.**
(3) (Fall) A chronological survey of Canadian literature, Part 1.

●**ENGL 229 Canadian Literature 2.**
(3) A chronological survey of Canadian literature, Part 2. A continuation of ENGL 228.

ENGL 230 Introduction to Theatre Studies.
(3) (Fall) An introduction to dramatic literature, text analysis, textual and performance theory, and theatre history.

●**ENGL 237 Introduction to Study of a Literary Form.**
(3) An introduction to literary study through a survey of a literary genre, mode, or form.

ENGL 269 Introduction to Performance.
(3) (Winter) (Restriction: Permission of instructor required.) The focus of this course is on the actor as communicator, and on those things (material, physical, and textual) which are inescapably central to the theatrical performance.

ENGL 275 Introduction to Cultural Studies.
(3) (Fall) (Required of all U1 Cultural Studies students) A survey of cultural studies, its history and subject matter, presenting key interpretive and analytic concepts, the aesthetic and political issues involved in the construction of sign systems, definitions of culture and cultural values conceptualized both as a way of life and as a set of actual practices and products.

ENGL 276 Methods of Cultural Analysis.
(3) (Winter) (Prerequisite: ENGL 275) A study of basic methodologies found in cultural studies, such as forms of historicism, Marxism, psychoanalysis, philosophical materialism, feminism, gender theory. Topics such as aesthetics and film theory, authorship and spectatorship, modernism and postmodernism will be considered. Examples to be drawn from film, television, popular culture, and traditional literature.

ENGL 277 Introduction to Film Studies.
(3) (Fall) (Restriction: Cultural Studies Major and Honours program students.) An introduction to key concepts in film studies. Exemplary works from the history of film will be studied to introduce students to such topics as the aesthetics of film; sound's production of meaning; film as narrative; film and genre; period and national cinemas; film's role in culture.

●**ENGL 279 Introduction to Film as Art.**
(3) An introduction to film aesthetics, with emphasis on narrative, style and genre throughout the history of cinema.

●**ENGL 280 Introduction to Film as Mass Medium.**
(3) (Students will be required to pay a screening fee.) An introduction to film's social, historical, and technological contexts, including its relationships to other mass media.

●**ENGL 297 Special Topics of Literary Study.**
(3) .

ENGL 301 Earlier 18th Century Novel.
(3) (Fall) Study of the English novel to c. 1750.

✶ ● **ENGL 302 Restoration and 18th C. English Literature 1.**
(3) (Winter) A study of the major writers of the late 17th and earlier 18th centuries.

✶ ● **ENGL 303 Restoration and 18th C. English Literature 2.**
(3) A study of the major writers of the later 18th century.

●**ENGL 304 Later Eighteenth Century Novel.**
(3)

●**ENGL 305 Renaissance English Literature 1.**
(3) (Winter) A study of major non-dramatic works of the earlier Renaissance in England.

●**ENGL 306 Theatre History: Medieval and Early Modern.**
(3) A survey of the dramatic forms and theatrical practices of late medieval and early modern theatre.

ENGL 307 Renaissance English Literature 2.
(3) (Winter) A study of major non-dramatic works of the later Renaissance in England.

●**ENGL 308 English Renaissance Drama 1.**
(3) An overview of some major authors and issues in English Renaissance Drama.

●**ENGL 309 English Renaissance Drama 2.**
(3) (Winter) An overview of some major authors and issues in English Renaissance Drama.

●**ENGL 310 Restoration and 18th Century Drama.**
(3) (Fall)

ENGL 311 Poetics.
(3) (Fall) (Restriction: Limited to students in English Major Concentration, Literature Option.) Discussion and application of basic critical tools for analysis of literature. Study of such features of poetry and prose fiction as prosody, diction, voice, tone, imagery, figurative language, point of view, narrative form, and character.

ENGL 314 20th Century Drama.
(3) (Winter) A study of selected representative works in modern drama and theatre.

●**ENGL 315 Shakespeare.**
(3) (Fall) A study of the major works of Shakespeare.

ENGL 316 Milton.
(3) (Fall)

ENGL 317 Theory of English Studies 1.
(3) (Winter) (Restriction: Limited to students in English Major and Honours Programs) Philosophical approaches.

●**ENGL 318 Theory of English Studies 2.**
(3) (Fall) (Restriction: Limited to students in English Major and Honours Programs) Socio-Historical approaches.

●**ENGL 319 Theory of English Studies 3.**
(3) (Restriction: Limited to students in English Major and Honours Programs) Issues in interpretation: authorship, performance, reception.

●**ENGL 320 Postcolonial Literature.**
(3) (Winter)

●**ENGL 321 Caribbean Fiction.**
(3)

ENGL 322 Theories of the Text.
(3) (Fall) (Restriction: Limited to students in English Major and Honours Programs.) A course focusing on textuality (as opposed to, say, intentionality and interpretation) and on how specific effects are made - how texts work and produce meaning, including rhetoric and form.

●**ENGL 323 20th Century American Poetry.**
(3) (Fall)

●**ENGL 324 20th Century American Prose.**
(3)

●**ENGL 325 Modern American Fiction.**
(3)

●**ENGL 326 19th Century American Prose.**
(3) (Fall) A study of some of the major prose writers of the 19th Century.

✶ ● **ENGL 327 Canadian Prose Fiction 1.**
(3) (Winter) A survey of Canadian prose fiction in English, from 19th century historical romance and realist fiction to the emergence of the modernist novel in the decades following the Second World War.

✶**ENGL 328 Development of Canadian Poetry 1.**
(3) (Winter) A survey of Canadian poetry in English from the 18th century to the end of the Second World War.

ENGL 329 English Novel: 19th Century 1.
(3) (Fall) A study of representative novelists of the earlier 19th century.

ENGL 330 English Novel: 19th Century 2.
(3) (Fall) A study of representative novelists of the later 19th century.

✶**ENGL 331 Literature Romantic Period 1.**
(3) A study of the major figures of the first generation of romantic writers, focusing on Blake, Wordsworth and Coleridge.

✶**ENGL 332 Literature Romantic Period 2.**
(3) (Fall) A study of the major figures of the second generation of romantic writers, focusing on Byron, Keats and Shelley.

✶**ENGL 333 Development of Canadian Poetry 2.**
(3) (Fall) A survey of Canadian poetry in English from the end of the Second World War to the present.

●**ENGL 334 Victorian Poetry.**
(3) (Winter) A study of the major Victorian poets.

ENGL 335 The 20th Century Novel 1.
(3) (Fall) The Novel from the last years of the 19th century to World War II.

ENGL 336 The 20th Century Novel 2.
(3) (Winter)

●**ENGL 337 Theme or Genre in Medieval Literature.**
(3) Study of a particular theme or genre of significance to the development of medieval literature.

●**ENGL 338 Short Story.**
(3)

✶ ● **ENGL 339 Canadian Prose Fiction 2.**
(3) A survey of contemporary Canadian prose fiction in English, from modernism to post-modernism and beyond.

●**ENGL 340 History of the English Language.**
(3)

●**ENGL 341 Canadian Radio and Television.**
(3) Histories of Canadian radio and television, with attention to the aesthetic, semiotic and generic developments of public and private broadcasting and cable channels, as well as aboriginal and multi-ethnic broadcasting.

ENGL 342 Introduction to Old English.
(3) (Fall) (Restriction: Not open to students who have taken ENGL 351.) An introduction to grammar and basic vocabulary in Old English.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**ENGL 343 Literature and Science 1.**
(3)

●**ENGL 345 Literature and Society.**
(3) An examination of issues relating to literature and its social contexts, such as implications of gender, race, ethnicity.

ENGL 346 Materiality and Sociology of Text.
(3) (Winter) (Restriction: Limited to students in English Major and Honours Programs.) Writing, printing, distribution, marketing, and placement within canon-making institutions; the influence of material forms of production and transmission on the creation and reception of literature, film, and theatre.

ENGL 347 Great Writings of Europe 1.
(3) (Fall) A study of selected texts that significantly enhance understanding of English literature.

ENGL 348 Great Writings of Europe 2.
(3) (Winter) A study of selected texts that significantly enhance understanding of English literature.

ENGL 349 English Literature and Folklore 1.
(3) (Winter) A study of representative texts from Beowulf to the late Renaissance period in relation to their background in folk tradition. A focus on the origin and development of folklore motifs.

●**ENGL 350 Studies in the History of Film 1.**
(3) Developments in proto-cinema and early cinema through the silent era.

●**ENGL 351 Studies in the History of Film 2.**
(3) Developments in the Hollywood Studio Era, including rivals, imitators, and alternatives.

ENGL 352 Theories of Difference.
(3) (Winter) (Restriction: Limited to students in English Major and Honours Programs.) Introduction to a selection of theories that have influenced thinking about difference across the humanities and social sciences, including gender, sexuality, race, class and hierarchical structures, language, religion, ethnicity, and personal identity.

●**ENGL 353 Interdisciplinary Approaches to Literary Research.**
(3) (Priority will be given to English Major/Honours students in second year of program) Examination of interdisciplinary connections between literary criticism and another discipline, such as anthropology, linguistics, history, philosophy or psychology, which has had significant impact on literary study.

ENGL 354 Sexuality and Representation.
(3) (Winter) (Priority will be given to English Major/Honours students in second year of program) Topics on representations of sexuality with reference to its cultural contexts.

ENGL 355 The Poetics of Performance.
(3) (Fall) (Restriction: Limited to students in the English Major Concentration, Drama and Theatre Option) This course, normally taken in tandem with ENGL 230, examines and tests theories of acting, directing, and design through scene work and practical exercises.

ENGL 356 Middle English.
(3) (Winter)

✶**ENGL 357 Chaucer - Canterbury Tales.**
(3) (Fall)

✶ ● **ENGL 358 Chaucer - Troilus and Criseyde.**
(3) (Winter)

ENGL 359 The Poetics of the Image.
(3) (Winter) (Restriction: Limited to students in the English Major Concentration, Cultural Studies Option) This course, normally taken in tandem with ENGL 276, examines contemporary debates about the aesthetic dimensions as well as social roles of pictorial, theatrical, cinematic, and other representations, the meanings, effects, and aesthetic significance of which depend on their having visually recognizable features.

ENGL 360 Literary Criticism.
(3) (Fall) (Prerequisite: at least 3 credits of ENGL 200, ENGL 201, ENGL 202, ENGL 203. Pre-/Co-requisite: ENGL 311. Required for but not restricted to Literature Honours students) Principles of literary criticism.

ENGL 361 Poetry of the 20th Century 1.
(3) (Winter) A critical survey of major British and North American poetry, c. 1890 - 1940.

●**ENGL 362 Poetry of the 20th Century 2.**
(3) (Prerequisite: ENGL 311) A critical survey of contemporary British and North American poetry, c. 1930 - 1980.

●**ENGL 363 Studies in the History of Film 3.**
(3) Developments in post-1958 cinema, from the European New Waves to contemporary global and independent cinemas.

●**ENGL 364 Creative Writing: Fiction 2.**
(3) (Restriction: Permission of instructor required.) Advanced seminar on writing prose fiction; admission subject to application, with writing sample.

ENGL 365 Costuming for the Theatre 1.
(3) (Fall) (Restriction: Permission of instructor required.) (Restriction: Not open to students enrolled in ENGL 368) Introduction to costume-making for the theatre, covering fabrics, textiles and costume decoration.

●**ENGL 366 Film Genre.**
(3) A discussion of an individual genre of cinema; concept of genre.

ENGL 367 Acting 2.
(3) (Fall) (Prerequisite: ENGL 269 and permission of instructor.) (Restriction: Not open to students who have taken 110-469D) The actor as analyzer of scripts and characters; textual analysis, practice in character development through improvisations, mask work and physical training.

ENGL 368 Stage Scenery and Lighting 1.
(3) (Fall) (Restriction: Permission of instructor required.) (Restriction: Not open to students enrolled in ENGL 365) An introduction to the technical aspects of stage settings and theatrical lighting.

●**ENGL 369 Creative Writing: Playwriting.**
(3) (Restriction: Permission of instructor required.)

●**ENGL 370 Theatre History: The Long Eighteenth Century.**
(3) A survey of dramatic forms and genres and theatrical practices from the Restoration through the 18th century to the Romantic period.

ENGL 371 Theatre History: 19th to 21st Centuries.
(3) (Winter) History of predominantly Western theatre practices from circa 1830 to the present.

ENGL 372 Stage Scenery and Lighting 2.
(3) (Winter) (Restriction: Not open to students enrolled in ENGL 377.)

ENGL 373 Voice and Speech 2.
(3)

●**ENGL 374 Film Movement or Period.**
(3) Study of a significant movement or period in film history.

ENGL 375 Interpretation Dramatic Text.
(3) (Fall) (Prerequisites: ENGL 230 and ENGL 269 or permission of the instructor) A study of the dramatic text as literature, and as a basis for theatre production. Emphasis on character and character development, on structure and motivational units, and on the visualization of the play in performance.

●**ENGL 376 Scene Study.**
(3)

ENGL 377 Costuming for the Theatre 2.
(3) (Winter) (Prerequisite: permission of instructor.) (Restriction: Not open to students enrolled in ENGL 372.) Advanced topics in costume-making for the theatre, including millinery, dyeing, costume breakdown, and silk painting techniques.

ENGL 378 Media and Culture.
(3) (Fall) (Prerequisite: ENGL 275) An introduction to the study of television and its distinctive aesthetic, generic, and discursive features.

ENGL 379 Film Theory.
(3) (Fall) Introduction to major schools in the historical development and current practice of film theory.

●**ENGL 380 Non-Fic Media: Cinema, Television, Radio**
(3) Historical, formal, and thematic analysis of non-fictional and documentary works within cinema, television, and radio.

●**ENGL 381 A Film-Maker 1.**
(3) (Winter) (Restriction: Limited to students in English Major programs) Introduction to the works, career, and legacy of a notable film-maker.

ENGL 382 International Cinema 1.
(3) A study of a significant national cinema, or a thematic, formal, and/or historical study of film in an international context.

ENGL 383 Studies in Communications 1.
(3) (Fall) (Restriction: Permission of instructor required) Studies in the relationships between the media and culture.

●**ENGL 384 Semiotics of Advertising.**
(3) Semiotic analysis of the ways in which advertisements mean and work. Relevant theories include those of de Saussure, Peirce, Eco, Barthes, and Freud.

ENGL 385 Topics in Literature and Film.
(3) (Winter) .

●**ENGL 386 Fans, Celebrities, Audiences.**
(3) (Fall) A study of celebrity, audience behaviour, and fan culture, including the symbolic function of the celebrity, the celebrity as 'text', and the interaction of fandom with the production of conventions and meaning in popular cultural forms.

●**ENGL 388 Studies in Popular Culture.**
(3) (Winter) History and development of important forms of popular culture. Topics may include traditional ballads; fairs; carnivals and popular festivity; material culture; popular fiction; mainstream television.

ENGL 389 Studies in Popular Culture.
(3) (Winter) History and development of important forms of popular culture.

●**ENGL 390 Political and Cultural Theory.**
(3) The intersection between theories of culture and theories of society.

ENGL 391 Special Topics: Cultural Studies 1.
(3) (Fall) Current issues in cultural studies. Topics will include contemporary debates on high culture and the literary canon, and the question of aesthetic value and aesthetic judgment.

ENGL 393 Canadian Cinema.
(3) (Fall) An examination of major developments in the history of cinema in Canada.

●**ENGL 394 Popular Literary Forms.**
(3) A popular literary author or genre, such as the romance novel, science fiction, the graphic novel, or cyberpunk.

●**ENGL 395 Cultural and Theatre Studies.**
(3) (Prerequisite: ENGL 275) The relationships between theatre and forms of popular culture, including but not limited to cinematic and televisual adaptations of theatrical works.

●**ENGL 397 Feminist Approaches to Cultural Studies.**
(3) Primarily European and North American feminist cultural theories and their application to the study of different textual and cultural practices; feminist critiques which investigate questions of voice, authorship, discourse, power, language, and the media.

●**ENGL 398 Psychoanalytic Approaches to Cultural Studies.**
(3) Various psychoanalytic approaches to cultural production and reception.

●**ENGL 400 Earlier English Renaissance.**
(3)

●**ENGL 401 Studies in the 17th Century.**
(3)

●**ENGL 403 Studies in the 18th Century.**
(3)

ENGL 404 Studies in 19th Century Literature 1.
(3) (Winter)

ENGL 405 Studies in 19th Century Literature 2.
(3) (Winter)

●**ENGL 407 The 20th Century.**
(3) (Winter)

ENGL 408 The 20th Century.
(3) (Fall)

ENGL 409 Studies in a Canadian Author.
(3) (Winter) (Prerequisite: previous work in Canadian Literature) Advanced study of a significant author in Canadian literature.

ENGL 410 Theme or Movement Canadian Literature.
(3) (Winter) (Prerequisite: previous work in Canadian Literature) Advanced study of a significant theme or movement in Canadian Literature.

ENGL 411 Studies in Canadian Fiction.
(3) (Fall) (Prerequisite: Permission of instructor, based on previous work in Canadian fiction) Advanced study of works of Canadian fiction.

ENGL 414 Studies in 20th Century Literature 1.
(3) (Winter)

●**ENGL 415 Studies in 20th Century Literature 2.**
(3)

ENGL 416 Studies in Shakespeare.
(3) (Winter)

ENGL 417 A Major English Poet.
(3) (Winter)

ENGL 418 A Major Modernist Writer.
(3) (Winter) Intensive study of a writer important for Modernism, such as James Joyce, T.S. Eliot, Ezra Pound, Gertrude Stein.

●**ENGL 419 Studies in 20th Century Literature.**
(3) (Fall)

●**ENGL 421 African Literature.**
(3) (Winter)

●**ENGL 422 Studies in 19th Century American Literature.**
(3) (Fall)

●**ENGL 423 Studies in 19th Century Literature.**
(3) (Whitman, Dickinson, Melville's Moby Dick, and Others)

●**ENGL 424 Irish Literature.**
(3) (Fall)

ENGL 430 Studies in Drama.
(3) (Fall)

ENGL 431 Studies in Drama.
(3) (Winter)

ENGL 434 Independent Theatre Project.
(3) (Fall and Winter) (This course will allow students to undertake special projects, frequently involving background readings, performances, and essays. This course is normally open only to Major or Honours students in the Department. Permission must be obtained from the Department before registration)

ENGL 437 Studies in Literary Form.
(3) (Winter)

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.

‡ Professional Practice (Stage) in Dietetics involving special prerequisites

✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

† Denotes courses not available as Education electives.

❒ Denotes courses with limited enrolment.

● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**ENGL 438 Studies in Literary Form.**
(3) Study of a specific literary form.

ENGL 440 First Nations and Inuit Literature and Media.
(3) (Winter) (Restrictions: Not open to students who have taken ENGL 415 or ENGL 419 as "Native Canadian Literature" or as "Inuit Literature".) An introduction to Inuit and First Nations literature and media in Canada, including oral literature and the development of aboriginal television and film.

●**ENGL 441 Special Topics in Canadian Cultural Studies.**
(3) Advanced study of a specific area of Canadian culture or Canadian cultural theory.

●**ENGL 443 Contemporary Women's Fiction.**
(3) Study of a theme or author in contemporary women's fiction.

●**ENGL 447 Crosscurrents/English Literature and European Literature 1.**
(3) (Winter)

●**ENGL 449 Studies in the Gothic.**
(3) Study of aspects of the Gothic in a variety of periods and media.

●**ENGL 450 Film Aesthetics.**
(3) Theories of the formal, stylistic, and expressive dimensions of film art.

●**ENGL 451 A Period in Cinema.**
(3) In-depth examination of a significant historical period in cinema's development, early silent era to present.

ENGL 452 Studies in Old English.
(3) (Winter) (Prerequisite: ENGL 351 or equivalent, or permission of the instructor) Study of an aspect of Old English Literature which presupposes a grounding in the language.

●**ENGL 454 Topics in Cultural Studies and Gender.**
(3) Current studies focusing on the gendered dimensions of cultural life, including the production and reception of mainstream, avant-garde, and alternative cultures.

ENGL 456 Middle English.
(3) (Fall)

●**ENGL 458 Theories of Text and Performance 1.**
(3) (Prerequisites: ENGL 230 and ENGL 269 or permission of instructor) This course provides an historical perspective on advanced theoretical problems affecting both dramatic texts and theatrical performance up to the 19th Century. The historical periods covered in this course may vary from year to year.

ENGL 459 Theories of Text and Performance 2.
(3) (Winter) (Prerequisites: ENGL 230 and ENGL 269 or permission of instructor) This course provides an historical perspective on advanced theoretical problems affecting both dramatic texts and theatrical performance starting from the 19th Century to the present. The historical periods covered in this course may vary from year to year.

●**ENGL 464 Creative Writing: Poetry.**
(3) (Prerequisite: permission of instructor.)

ENGL 465D1 (4.5), ENGL 465D2 (4.5) Theatre Laboratory.
(Prerequisites: ENGL 230, ENGL 269 and ENGL 367 or sufficient relevant experience in related drama courses or permission of the instructor.) (Students must register for both ENGL 465D1 and ENGL 465D2.) (No credit will be given for this course unless both ENGL 465D1 and ENGL 465D2 are successfully completed in consecutive terms)

●**ENGL 466D1 (3), ENGL 466D2 (3) Directing for the Theatre.**
(Fall and Winter) (Prerequisites: ENGL 230, ENGL 269 and permission of instructor.) (Students must register for both ENGL 466D1 and ENGL 466D2.) (No credit will be given for this course unless both ENGL 466D1 and ENGL 466D2 are successfully completed in consecutive terms) The direction of a theatrical performance: preparation, casting, rehearsal, and performance are the areas of concentration.

ENGL 467 Advanced Studies in Theatre History.
(3) (Winter) (Prerequisite: Students not registered in English programs require permission of instructor) Advanced study focused on a period or issue in Theatre history.

●**ENGL 469 Acting 3.**
(3) (Fall) (Prerequisite: ENGL 269 and permission of instructor.) (Restriction: Not open to students who have taken 110-469D.) Advanced training in acting involving study of some of the major European and North American acting theories and practices.

●**ENGL 472 Special Topics: Cultural Studies 2.**
(3) Advanced study of current issues in cultural studies.

●**ENGL 474 Advanced Practical Work Theatre 2.**
(3)

●**ENGL 476 Alternative Approaches to Media 1.**
(3) (Fall) (Workshop course. Departmental permission required) Study of alternative uses of contemporary media with particular emphasis on the forms of independent video and community television and their relationship to mainstream television and film.

●**ENGL 479 Philosophy of Film.**
(3) (Fall) Philosophical approaches to and topics in the study of cinema.

ENGL 480 Studies in History of Film 1.
(3)

ENGL 481 A Film-Maker 2.
(3) (Winter) (Restriction: Permission of instructor required) Special topics in the works, career, and legacy of a notable film-maker

ENGL 482 International Cinema 2.
(3) Intensive study of a particular tradition or movement in international cinema.

●**ENGL 484 Seminar in the Film.**
(3) (Restriction: Permission of instructor required) In-depth study of specific topics related to the film, which vary from year to year.

●**ENGL 485 Special Topics in Theatre History 1700-1900.**
(3) (Prerequisite: Students not registered in English programs require permission of instructor) A research seminar on selected topics in theatre history and theatre historiography.

●**ENGL 486 Special Topics in Theatre History After 1900.**
(3) (Fall) (Prerequisite: Students not registered in English programs require permission of instructor) A research seminar on selected topics in theatre history and theatre historiography.

●**ENGL 487 Cultural Icons.**
(3) (Fall) Advanced study of the formation and significance of iconic cultural figures.

●**ENGL 488 Special Topics / Communications and Mass Media 2.**
(3) (Prerequisite: permission of the instructor) (Restriction: Limited to students in English Major programs.) An advanced seminar in varying themes in communications for students in their final year of the Cultural Studies program.

●**ENGL 489 Culture and Critical Theory 1.**
(3) (Winter) Intensive study of advanced theoretical topics in the study of culture.

ENGL 490 Culture and Critical Theory 2.
(3) (Winter) Intensive study of advanced theoretical topics in the study of culture.

●**ENGL 491 Honours Essay.**
(6) (Fall and Winter)

ENGL 491D1 (3), ENGL 491D2 (3) Honours Essay.
(Fall and Winter) (Students must register for both ENGL 491D1 and ENGL 491D2.) (No credit will be given for this course unless both ENGL 491D1 and ENGL 491D2 are successfully completed in consecutive terms) (ENGL 491D1 and ENGL 491D2 together are equivalent to ENGL 491)

●**ENGL 492 Image and Text.**
(3) Study of the relationship between verbal and visual aspects of a range of cultural artifacts. Topics may include iconography; illuminated manuscripts; book illustrations; cartoons and caricature.

●**ENGL 493 Narrative Media.**
(3) Formal and historical approaches to narrative media, such as print, film, television, radio, and comics.

ENGL 495 Individual Reading Course.
(3) (Fall) (Intended for advanced and/or specialized work based on an extensive background in departmental studies. This course is normally not available to students who are not Majors or Honours students in the Department) By arrangement with individual instructor. Permission must be obtained from the Department before registration.

ENGL 496 Individual Reading Course.
(3) (Winter) (Intended for advanced and/or specialized work based on an extensive background in departmental studies. This course is normally not available to students who are not Majors or Honours students in the Department) By arrangement with individual instructor. Permission must be obtained from the Department before registration.

●**ENGL 497 Seminar in Cultural Studies.**
(3) (Fall) .

ENGL 498 Internship English.
(3) (Restrictions: Open to English Majors in U2 or U3) (Open to U-2 and U-3 English majors after they have completed 30 credits of a 90 credit program or 45 credits of a 96-120 credit program, with a minimum CGPA of 3.0, and permission of the Director of Undergraduate Studies in English. This course will not fulfill English program requirements. Students will normally register in the Fall semester for Summer internships.) Internship with an approved host institution or organization.

ENGL 500 Middle English.
(3) (Winter)

ENGL 501 16th Century.
(3) (Winter)

●**ENGL 502 17th Century.**
(3)

ENGL 503 18th Century.
(3) (Winter)

ENGL 504 19th Century.
(3) (Fall)

ENGL 505 20th Century.
(3) (Fall)

●**ENGL 516 Shakespeare.**
(3)

ENGL 525 American Literature.
(3) (Fall)

●**ENGL 527 Canadian Literature.**
(3) (Fall)

ENGL 528 Canadian Literature.
(3) (Fall)

●**ENGL 529D1 (1.5), ENGL 529D2 (1.5) Interdisciplinary Seminar - North American Studies.**
(Students must register for both ENGL 529D1 and ENGL 529D2.) (No credit will be given for this course unless both ENGL 529D1 and ENGL 529D2 are successfully completed in consecutive terms) (ENGL 529D1 and ENGL 529D2 together are equivalent to ENGL 529)

ENGL 530 Literary Forms.
(3) (Winter)

●**ENGL 531 Literary Forms.**
(3)

ENGL 533 Literary Movements.
(3) (Winter)

ENGL 535 Literary Themes.
(3) (Fall)

●**ENGL 540 Literary Theory 1.**
(3) (Winter)

●**ENGL 545 Topics in Literature & Society.**
(3) .

●**ENGL 553 Old English Literature.**
(3) (Winter) (Prerequisite (Undergraduate): ENGL 351)

●**ENGL 565 Medieval Drama Workshop.**
(3) .

●**ENGL 566 Special Studies in Drama 1.**
(3) (Winter)

●**ENGL 568 Topics in the Dramatic Form.**
(3) .

●**ENGL 585 Cultural Studies: Film.**
(3) (Fall) Advanced study of a specific topic in film.

ENGL 586 Cultural Studies: Other Media.
(3) (Fall) Advanced study of a specific topic in a medium or media other than film, such as television, advertising, radio, or the internet.

●**ENGL 587 Theoretical Approaches to Cultural Studies.**
(3) Advanced study of theoretical issues in and approaches to cultural studies.

ESLN-English as a Second Language

Offered by: English&French Language Centre

✶ ● **ESLN 150 English as a Second Language.**

(6) (Summer) (Classroom instruction, and language laboratory - when needed.) (Cours réguliers plus laboratoire de langue au besoin.) Designed to help students whose native tongue is not English and who have difficulty in a) understanding spoken English, b) speaking it, c) reading English text material, or d) writing assignments in English. Emphasis on writing skills in the high-intermediate and advanced sections. Conçu pour venir en aide aux étudiants dont la langue maternelle n'est pas l'anglais et qui ont de la difficulté dans les quatre compétences suivantes : a) compréhension de l'oral ; b) production orale; c) compréhension de l'écrit; ou d) rédaction. Ce cours se donne en salle de classe et au laboratoire de langue (au besoin). Dans les sections des niveaux intermédiaire et avancé, l'accent est mis sur la compétence à l'écrit.

●**ESLN 200 ESL: Academic English 1.**
(3) (3 hours) (Prerequisite: Placement test) (Restriction: Not open to students who have taken ESLN 201.) For students who have a basic knowledge of English. Focus is on developing writing skills: sentence structure; formal paragraphs; short essays. Independent learning strategies for vocabulary building, grammar, editing techniques, structuring an oral presentation and improving pronunciation.

●**ESLN 299 ESL: Academic English Seminar.**
(3) (Summer) (Restriction: Open only to students whose first language is not English and who are newly admitted at McGill (into Year 0 or Year 1) to a Bachelor program in the following fall. The course is designed to assist these new students integrate into the English language milieu at McGill. Classroom instruction, and language laboratory required: 5 hours per week (approximately) outside class time.) (Restriction: Ce cours s'adresse aux étudiants dont la langue maternelle n'est pas l'anglais et qui sont nouvellement admis (en première année d'université) à McGill à un programme de 1er cycle à l'automne suivant. Il est conçu pour faciliter leur intégration dans le milieu anglophone de McGill. Cours réguliers, et laboratoire de langue obligatoire; 5 heures par semaine en dehors des heures de cours.) With materials from across the curriculum the course prepares students to meet the expectations of the university

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

classroom: note taking and summary of lectures; paraphrase and summary of written and multimedia materials; oral and seminar presentations. Development of critical thinking, reading, writing, listening, and speaking skills and strategies. Au moyen de documents tirés de divers programmes offerts à McGill, ce cours prépare les étudiants aux exigences des cours universitaires : prendre des notes, faire des exposés oraux, résumer (cours magistraux, documents oraux, écrits et multimédias). Développement du raisonnement critique, lectures, écoutes, rédactions, habiletés et stratégies de communication.

ESLN 300 ESL: Academic English 2.
(3) (3 hours) (Prerequisite: ESLN 200 or ESLN 201 or placement test) (Restriction: Not open to students who have taken ESLN 301.) Open to students who have more than a basic knowledge of English. Focus is on developing writing skills: structuring an academic essay; expressing complex ideas; documenting sources. Independent learning strategies for vocabulary building, grammar, editing techniques; critical thinking and reading skills. Fundamentals of oral presentation including pronunciation skills.

ESLN 400 ESL: Essay & Critical Thinking.
(3) (3 hours) (Prerequisite: ESLN 300 or placement test.) (Restriction: Not open to students who have taken ESLN 401.) For the student whose English is at an advanced level. Critical thinking and reading applied to the whole writing process. Academic genres: summary, paraphrase, quotation, and critique. Review of writing mechanics. ESL diagnostic for advanced students.

ESLN 500 ESL: Research Essay and Rhetoric.
(3) (3 hours) (Prerequisite: Placement test or ESLN 400.) (Restriction: Not open to students who have taken or are taking EFRL 250.) For the near-native speaker of English. Principles and use of academic research, genres, rhetorical strategies, and editing skills.

ESLN 590 Writing for Graduate Students.
(3) (3 hours) (Restriction: open only to graduate students for whom English is a second language) Audience, purpose, organization and style of graduate-level academic writing. Mechanics. Editing. Textual analysis. Critical thinking. Genres: problem-solution, general-specific, process description, data commentary, article summary/critique. Student work-in-progress. ESL diagnosis-correction. Multiple drafts. Extensive feedback including audio-taped commentary and individual conferences.

FREN-French

Offered by: French Language & Literature

FREN 199 FYS: Littérature française.
(3) (Restriction: Ouvert aux seuls nouveaux étudiants de U0 ou de U1, qui ne peuvent s'inscrire qu'à un seul séminaire de première année (FYS). Les étudiants qui s'inscriraient à plus d'un de ces séminaires devront se retirer pour n'en conserver qu'un seul.) (Maximum de 25 étudiants) Étude d'une problématique littéraire à travers quelques textes importants de la francophonie.

FREN 201 Composition 1.
(3) (Fall) (Préalable : test. Effectifs contingentés. Autorisation départementale requise.) Révision grammaticale et enrichissement des moyens d'expression par la composition et l'étude de textes littéraires.

FREN 203 Composition 2.
(3) (Winter) (Préalable : FREN 201 ou test. Effectifs contingentés. Autorisation départementale requise.) Enrichissement de la langue, délimitation des faits d'expression; étude systématique des ressources expressives du français. Rédactions.

FREN 222 Littérature française : Introduction.
(3) Présentation d'un aperçu global de la littérature de langue française, de ses enjeux et des grandes préoccupations qui y ont cours. Initiation aux grands principes de la lecture littéraire et à l'utilisation des principaux outils de consultation et de recherche.

FREN 231 Linguistique française.
(3) Bref historique de la linguistique française de F. de Saussure à nos jours. Description linguistique du français moderne (éléments de phonologie, de phonétique normative, de lexicologie, de sémantique évolutive et synchronique, de syntaxe et de morphologie).

FREN 239 Stylistique comparée.
(3) (Préalable : test. Pas de préalable ni autorisation départementale pour la section hiver réservée aux étudiants de la Faculté d'éducation. Autorisation départementale requise. Effectifs contingentés. Priorité donnée aux étudiants inscrits dans les programmes de traduction.) Initiation aux principes de la traduction par une étude systématique des contrastes entre les structures linguistiques de l'anglais et du français. Une bonne connaissance des deux langues est nécessaire au départ.

● FREN 240 Atelier d'écriture poétique.
(3) Pratique des formes et des techniques de la création poétique.

FREN 244 Traduction 1.
(3) (Winter) (Préalable : FREN 239 ou test de classement. Autorisation départementale requise. Effectifs contingentés.) Exercices portant sur les éléments syntaxiques et lexicaux qui présentent des problèmes de traduction simples mais fréquents. Traduction de textes variés.

FREN 245 Grammaire avancée.
(3) (Préalable : test. Pas de préalable ni autorisation départementale pour la section hiver réservée aux étudiants de la Faculté d'éducation. Autorisation départementale requise.) Cours entièrement consacré à la révision systématique des principales difficultés de la langue française.

FREN 250 Littérature française avant 1800.
(3) (Fall) Introduction à la littérature française des origines à la fin du 18e siècle.

FREN 251 Littérature française depuis 1800.
(3) (Winter) Introduction à la littérature française des 19e et 20e siècles.

FREN 252 Littérature québécoise.
(3) (Fall) Introduction à la littérature québécoise des origines à nos jours.

✶ ● FREN 310 Cinéma français 1.
(3) Rétrospective du cinéma français depuis ses origines jusqu'à la Deuxième Guerre mondiale.

✶FREN 311 Cinéma français 2.
(3) Le cinéma français d'après-guerre.

FREN 315 Cinéma québécois.
(3) Étude thématique du cinéma québécois à travers ses principaux films.

●FREN 329 Civilisation québécoise.
(3) (Les étudiants qui ont suivi le cours 125-229 ne seront pas admis) Étude de différents aspects de la société québécoise (économique, politique, social, culturel) de 1867 à aujourd'hui.

FREN 333 Thème de littérature d'Ancien Régime.
(3) (Préalable : FREN 222) Cours à contenu variable sur la littérature française d'Ancien Régime (du moyen âge à 1800).

FREN 334 Analyse des textes littéraires.
(3) Ce cours aborde systématiquement les méthodes, notions et modèles théoriques susceptibles de s'appliquer à l'analyse descriptive des textes littéraires de genres et époques divers.

FREN 336 La langue française.
(3) (Les étudiants qui ont suivi les cours 125-236 ou 125-237 ne seront pas admis) Histoire de la langue française, du bas-latin à la langue moderne. Étude de l'évolution phonétique, syntaxique, sémantique. Étude de textes des différentes époques.

FREN 337 Analyse et interprétation littéraires.
(3) Initiation aux méthodes d'analyse et d'interprétation d'oeuvres de la littérature de langue française.

FREN 340 Atelier d'écriture narrative.
(3) Pratique des formes et des techniques de la narration littéraire (nouvelle, roman, récit).

FREN 346 Traduction 2.
(3) (Fall) (Préalable : FREN 244 ou test.) Stylistique comparée du français et de l'anglais; étude de procédés de traduction. Traduction de textes courts.

FREN 347 Terminologie générale.
(3) (Préalable : FREN 346 ou test.) Étude empirique des différents stades dans le travail du terminologue: collection de données, production de fiches terminologiques, recherches ponctuelles et thématiques. Les problèmes terminologiques de la traduction. Étude de problèmes pratiques posés par la terminologie bilingue ou multilingue et ses répercussions dans un domaine particulier des connaissances humaines.

FREN 349 Traduction 3.
(3) (Winter) (Préalable : FREN 346 ou test. Effectifs contingentés. Autorisation départementale requise.) Cours essentiellement pratique qui a pour but d'étudier les problèmes que pose la traduction dans des domaines divers.

FREN 355 Littérature du 20e siècle 1.
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française depuis 1900.

●**FREN 360 La littérature du 19e siècle 1.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 19e siècle.

●**FREN 362 La littérature du 17e siècle 1.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 17e siècle.

●**FREN 364 La littérature du 18e siècle 1.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 18e siècle.

FREN 366 Littérature de la Renaissance 1.
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 16e siècle.

FREN 372 Littérature québécoise 1.
(3) Étude d'ceuvres, d'auteurs ou de courants de la littérature québécoise des origines à nos jours.

FREN 374 Lectures 3.
(3) (Fall) (Restriction : Cours réservé aux étudiants du Département.) (Préalables : Option Lettres : FREN 251, FREN 353, FREN 396; Option Lettres et traduction : FREN 251, FREN 353. Cours conjoints : Option Lettres : FREN 252, FREN 397; Option Lettres et traduction : FREN 252) Littérature québécoise des origines à nos jours: lecture d'un choix de textes (30) d'après une liste proposée par le Département.

●**FREN 375 Théâtre québécois.**
(3) (Les étudiants qui ont suivi le cours 125-570 ne seront pas admis) Survol de l'activité théâtrale au Canada français depuis les origines. Étude de la production québécoise depuis 1945. Analyse formelle et socio-historique des oeuvres.

●**FREN 376 Correction et révision.**
(3) Principes et pratiques de la révision et de la correction de textes en vue de la publication.

●**FREN 377 Pratiques de l'édition littéraire.**
(3) Initiation aux techniques et aux règles de l'édition de textes littéraires.

●**FREN 380 Littérature de la francophonie.**
(3) Étude d'oeuvres, d'auteurs ou de thèmes importants de la littérature de langue française à l'extérieur de la France et du Québec.

●**FREN 382 Littérature québécoise 2.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature québécoise.

●**FREN 384 Le récit bref.**
(3) Analyse des techniques de composition des récits et des recueils. Étude de recueils de nouvelles d'expression française aux 19e et 20e siècles.

FREN 391 Doctrines et idées littéraires 2.
(3) Études des doctrines et des idées ayant orienté la littérature française du moyen âge au 18e siècle.

FREN 394 Théorie de la traduction.
(3) Survol des conceptions de la traduction depuis les «Belles Infidèles». Étude des principales théories qui ont marqué l'activité traduisante au 20e siècle. Étude des liens entre la théorie et la pratique. Lecture de textes et discussions.

FREN 397 Travaux pratiques 3.
(3) (Fall) (Préalables : FREN 251, FREN 353, FREN 396.) (Cours conjoints : FREN 374, FREN 252.) (Restriction : Cours réservé aux étudiants du Département de l'Option Lettres.) Étude détaillée de textes appartenant à la littérature québécoise des origines à nos jours.

FREN 431 Traduction 4.
(3) (Fall) (Restriction : Cours réservé aux étudiants des programmes de spécialisation, de double-spécialisation et de concentration majeure du DLLF.) (Préalable : FREN 349 ou test. Autorisation départementale requise.) Révision de textes, principes et pratiques de la révision unilingue et bilingue. Initiation au contrôle de la qualité. La profession de réviseur. Travaux pratiques.

●**FREN 433 Sémantique et lexicologie.**
(3) (Préalable : FREN 231 ou permission du professeur.) (Les étudiants qui ont suivi le cours 125-333 ne seront pas admis) Théories contemporaines de sémantique et de lexicologie. Notions de lexicographie. Changements sémantiques, idiotismes, néologismes, etc.

●**FREN 434 Sociolinguistique du français.**
(3) Éléments de sociolinguistique et leur application aux pays francophones. Rapports entre les aspects phonologiques, grammaticaux et lexicologiques du parler et le milieu social. Langues en contact, planification linguistique.

●**FREN 440 Atelier d'écriture dramatique.**
(3) (Effectifs contingentés.) Pratique des formes et des techniques de la création théâtrale et cinématographique.

●**FREN 441 Traduction français-anglais.**
(3) (Préalable : FREN 244 ou permission du professeur.) Traduction de textes généraux du français vers l'anglais.

●**FREN 443 Traduction littéraire.**
(3) (Préalable : FREN 431 ou permission du professeur.) Étude des problèmes pratiques que pose la transposition en français de qualité d'un texte originellement rédigé en anglais littéraire. Traduction de textes et discussion.

●**FREN 444 Théme de littérature moderne.**
(3) (Préalable : FREN 222) Cours à contenu variable portant sur la littérature française moderne (19e - 20e siècles).

●**FREN 450 Thème de littérature québécoise.**
(3) (Préalable : FREN 222) Cours à contenu variable portant sur la littérature québécoise.

●**FREN 453 Littérature du 20e siècle 2.**
(3) (Les étudiants qui ont suivi le cours FREN 351 ne seront pas admis.) Étude d'oeuvres, d'auteurs et de thèmes importants de la littérature française du 20e siècle.

●**FREN 454 Le théâtre au 20e siècle.**
(3) Introduction à la sémiotique théâtrale et étude de pièces contemporaines présentant des analogies avec les mouvements poétiques et artistiques de l'époque, dont le surréalisme, l'existentialisme, le théâtre de l'absurde.

FREN 455 La littérature médiévale 1.
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du moyen-âge (des origines au 15e siècle).

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**FREN 456 La littérature médiévale 2.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du moyen-âge (des origines au 15e siècle).

●**FREN 457 La littérature de la Renaissance 2.**
(3) (Les étudiants qui ont suivi le cours 125-367 ne seront pas admis) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 16e siècle.

●**FREN 458 La littérature du 17e siècle 2.**
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 17e siècle.

FREN 459 La littérature du 18e siècle 2.
(3) Étude d'ceuvres, d'auteurs ou de courants de la littérature française du 18e siècle.

●**FREN 461 Questions de littérature 1.**
(3) (Restriction : Cours réservé aux étudiants en Spécialisation du Département.) (Préalables : Options Lettres : FREN 251, FREN 353, FREN 396; Option Lettres et traduction : FREN 251, FREN 353.) Cours à contenu variable: un thème (auteur, genre, période, question, etc.) de littérature ou de civilisation française ou francophone.

FREN 464D1 (3), FREN 464D2 (3) Projet de recherche individuel.
(Fall) (Restriction : Cours réservé aux étudiants en dernière année de Spécialisation ou Double-Spécialisation. Autorisation departementale requise.) (Les étudiants doivent s'inscrire aux cours FREN 464D1 et FREN 464D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 464D1 et FREN 464D2 suivis en séquence.) Travail sur un sujet spécialisé de critique littéraire, de théorie, de traduction ou de création.

●**FREN 470 Poésie québécoise.**
(3) Évolution de la poésie et des idées poétiques au Québec du 19e siècle à nos jours: l'École de Québec, l'École de Montréal, la querelle de «l'exotisme», les courants modernistes, la «poésie du pays», la «nouvelle écriture». Étude de quelques textes marquants.

●**FREN 472 Questions de littérature 2.**
(3) (Préalables : Options Lettres : FREN 251, FREN 353, FREN 396; Option Lettres et traduction : FREN 251, FREN 353.) (Restriction : Cours réservé aux étudiants en Spécialisation du Département.) Cours à contenu variable: un thème (auteur, genre, période, question, etc.) de littérature ou de civilisation québécoise.

FREN 476 Le livre.
(3) Histoire du livre. Le livre dans le monde contemporain. La chaîne du livre, du manuscrit à l'oeuvre éditée.

●**FREN 480 Littérature québécoise contemporaine.**
(3) (Les étudiants qui ont suivi le cours 125-383 ne seront pas admis) Histoire de la littérature québécois récente ou actuelle. Étude d'oeuvres représentatives.

●**FREN 481 Littérature et Antiquité.**
(3) Le cours vise à préciser la fortune en France aux 16e et 17e siècles de quelques grands auteurs grecs et latins de l'Antiquité, en suivant l'évolution historique des interprétations. Initiation au maniement des bons dictionnaires et des ouvrages de références.

FREN 482 La littérature du 19e siècle 2.
(3) Étude d'oeuvres, d'auteurs ou de courants de la littérature française du 19e siècle.

●**FREN 483 Le roman depuis Sartre.**
(3) (Les étudiants qui ont suivi le cours 125-358 ne seront pas admis) Le roman d'après-guerre. Techniques de composition; relations entre l'univers imaginaire des romanciers et leur époque.

●**FREN 484 La littérature du 19e siècle 3.**
(3) (Restrictions : Permission du professeur. Les étudiants qui ont suivi le cours 125-356 ne seront pas admis.) Étude, à travers tout le 19e siècle, de thèmes ou de questions d'esthétique parmi les plus importants dans le développement de la littérature moderne.

●**FREN 485 Littérature française contemporaine.**
(3) Études d'ceuvres, d'auteurs ou de thèmes importants de la littérature française récente et actuelle.

●**FREN 486 L'Institution littéraire.**
(3) Introduction à la nouvelle histoire littéraire, ce cours explore les conditions socioculturelles qui rendent possibles le «champ littéraire» et la littérature dans une société. Le processus d'institutionnalisation inclut l'étude de la production de la littérature, sa diffusion, sa consommation, sa réception et ses formes de consécration.

●**FREN 487 L'essai québécois.**
(3) Étude du genre et de sa spécificité en regard de la littérature personnelle et du pamphlet. Analyse des aspects formels de l'essai et du contenu traité comme trajectoire de l'histoire des idées de 1840 à nos jours.

●**FREN 490 Théorie littéraire contemporaine.**
(3) (Winter) (Cours réservé aux étudiants de U2 et U3.) Étude des grands courants critiques et théoriques actuels et récents.

●**FREN 492 Histoire de la traduction.**
(3) Histoire des pratiques et des théories de la traduction de l'Antiquité à nos jours.

●**FREN 493 Critique et théorie 2.**
(3) (Fall) (Restriction : Cours réservé aux étudiants du Département.) (Préalables : Option Lettres : FREN 374, FREN 252, FREN 397; FREN 490, FREN 497; Option Lettres et traduction : FREN 374, FREN 252, FREN 490.) (Note: Not open to students who are taking or have taken FREN 493 prior to Fall 2006.) Étude de l'évolution récente de la critique et de la théorie.

FREN 494 Traduction spécialisée.
(3) (Préalable : FREN 431 ou permission du professeur.) Ce séminaire a pour but d'approfondir les connaissances dans une perspective d'exercice pratique de la traduction. Il ne s'agit pas de former les étudiants dans une langue de spécialité quelconque, mais plutôt de faciliter la compréhension de textes portant sur les différentes disciplines ou faisant intervenir les notions propres à celles-ci.

●**FREN 496 Doctrines et idées littéraires 2.**
(3) Études des doctrines et des idées ayant orienté la littérature française depuis le 19e siècle.

FREN 497 Travaux pratiques 4.
(3) (Winter) (Restriction : Cours réservé aux étudiants du Département de l'Option Lettres.) (Préalables : FREN 374, FREN 252, FREN 397. Cours conjoints : FREN 490.) Analyse descriptive des textes littéraires selon les méthodes, notions et modèles théoriques.

●**FREN 498 Questions de littérature 3.**
(3) (Restriction : Cours réservé aux étudiants en Spécialisation du Département.) (Préalables : Options Lettres : FREN 251, FREN 353, FREN 396; Option Lettres et traduction : FREN 251, FREN 353.) Cours à contenu variable: un thème de théorie ou de critique.

●**FREN 499 Questions de littérature 4.**
(3) (Restriction : Cours réservé aux étudiants en Spécialisation du Département.) (Cours à contenu variable: un thème de création littéraire) (Préalables : Options Lettres : FREN 251, FREN 353, FREN 396; Option Lettres et traduction : FREN 251, FREN 353.)

FREN 550 Lectures guidées 1.
(3) (Fall) (Restriction : Réservé aux étudiants du Département.) Lectures personnelles ayant pour but de permettre à l'étudiant de combler une lacune ou de satisfaire un intérêt personnel. Admission sur autorisation spéciale.

FREN 551 Lectures guidées 2.
(3) (Winter) Identique au précédent.

●**FREN 595 Séminaire avancé lettres française.**
(3) (Restrictions : Séminaire réservé aux étudiants de dernière année de Spécialisation ou Double-Spécialisation (Option Études et pratiques littéraires). Également ouvert aux étudiants de M.A.) Séminaire à contenu variable portant sur un thème de littérature française, québécoise ou francophone.

FREN 599 Stage en milieu de travail.
(3) (Ouvert aux étudiants de U3 avec une moyenne de 3,3 pour l'ensemble du programme, dans un programme de Spécialisation ou de Concentration majeure du Département; les trois crédits comptent parmi les crédits libres (" electives ") ; permission du comité des études requise. Pour les étudiants de M.A. ou de Ph.D., permission du comité des études de 2e et 3e cycles; à

noter que ces crédits ne peuvent pas compter comme crédits de programme de M.A. ou de Ph.D. Une description complète des exigences et des modalités du stage sera affichée sur le site web du Département. Ces exigences sont les suivantes : présentation par l'étudiant d'un projet de stage précisant quelle sera l'institution hôte et en quoi consistera le stage ; présentation par l'étudiant d'un compte rendu de son stage approuvé par un superviseur de l'institution hôte; et rédaction d'un travail universitaire sur un sujet relié au stage.) Stage en milieu de travail dans une institution ou organisation approuvée.

FRSL-French as a Second Language

Offered by: English&French Language Centre

●**FRSL 101 Beginners' French.**
(6) (Summer) (Language laboratory and oral practice with a French monitor) (Prerequisite: Placement test) (Restriction: Not open to students who have taken FRSL 201 or FRSL 205) A comprehensive introduction to basic vocabulary, grammatical structures and speech patterns of written and oral French for students in any degree program having no previous knowledge of French. Learning to communicate at a functional level in a French social milieu, short essays, cultural readings, mandatory lab practice and conversation class.

FRSL 101D1 (3), FRSL 101D2 (3) Beginners' French.
(3 hours, plus language laboratory and oral practice with a French monitor) (Prerequisite: Placement test) (Restriction: Not open to students who have taken FRSL 201 or FRSL 205) (Students must register for both FRSL 101D1 and FRSL 101D2.) (No credit will be given for this course unless both FRSL 101D1 and FRSL 101D2 are successfully completed in consecutive terms) (FRSL 101D1 and FRSL 101D2 together are equivalent to FRSL 101) A comprehensive introduction to basic vocabulary, grammatical structures and speech patterns of written and oral French for students in any degree program having no previous knowledge of French. Learning to communicate at a functional level in a French social milieu, short essays, cultural readings, mandatory lab practice and conversation class.

FRSL 103 Near Beginners' French.
(3) (Prerequisite: Placement test.) (Restriction: Not open to students who have taken or are taking FRSL 101 or FRSL 105.) (Note: For students in any degree program whose knowledge of French is insufficient to qualify for Elementary French. 3 credits, 3 hours, plus mandatory language laboratory. Not open to student who have grade 10 French or higher in Canada or equivalent (unless special permission is granted).) Refresher course for students who have had fewer than 80 hours of previous French instruction or who have had lower than Grade 10 in French in Canada (or equivalent). Instructions in basic vocabulary and grammar applied to oral/written French. Cultural texts, short essay, and practice of basic speech patterns.

FRSL 104 Corrective French Pronunciation.
(3) (Prerequisite: Placement test or Instructor's recommendation.) (Restrictions: Not open to students above Elementary level French. Not open to students with no previous knowledge of French.) (Note: 2 hours of oral work, 1 hour of language lab. The course may be taken concurrently with FRSL 101, 105, 206 / 207 / 208.) Introduction to French phonetics. Course designed for students who have some previous knowledge of French at a Beginner/Elementary level and need to work on pronunciation, auditory discrimination and oral expression in order to continue developing their French skills. Corrective phonetics. Intensive oral practice. Guided work in language lab.

FRSL 105 Intensive Beginners' French.
(6) (Fall) (6 hours, plus language laboratory and oral practice with a French monitor) (Prerequisite: Placement test) (Restriction: Not open to students who have taken FRSL 201 or FRSL 205 or FRSL 101) A comprehensive introduction to basic vocabulary, grammatical structures and speech patterns of written and oral French for students in any degree program having no previous knowledge of French. Learning to communicate at a functional level in a French social milieu, short essays, cultural readings, mandatory lab practice and conversation class.

FRSL 206 Elementary French.
(3) (Fall) (3 hours, plus language laboratory) (Prerequisite: Placement test) Equivalent to FRSL 207D1. Only with special permission of the Department.

●**FRSL 207 Elementary French 01.**
(6) (Summer) (Language laboratory) (Prerequisite: Placement test) (Restriction: Not open to students who have taken Grade 12 or 13 French in Canada, or equivalent) Review and further training in basic structures, with emphasis on oral expression and listening comprehension. Awareness of French culture developed through audio-visual material and selected readings.

FRSL 207D1 (3), FRSL 207D2 (3) Elementary French 01.
(3 hours, plus language laboratory) (Prerequisite: Placement test) (Restriction: Not open to students who have taken Grade 12 or 13 French in Canada, or equivalent) (Students must register for both FRSL 207D1 and FRSL 207D2.) (No credit will be given for this course unless both FRSL 207D1 and FRSL 207D2 are successfully completed in consecutive terms) (FRSL 207D1 and FRSL 207D2 together are equivalent to FRSL 207) Review and further training in basic structures, with emphasis on oral expression and listening comprehension. Awareness of French culture developed through audio-visual material and selected readings.

FRSL 208 Intensive Elementary French.
(6) (6 hours, plus language laboratory) (Prerequisite: Placement test) (Restriction: Not open to students who have taken Grade 12 or 13 French in Canada, or equivalent or FRSL 207) Review and further training in basic structures, with emphasis on oral expression and listening comprehension.

●**FRSL 211 Oral and Written French 1.**
(6) (Summer) (Language laboratory) (Prerequisite: Placement test. Open to students in any degree program having an elementary knowledge of French and to those who have completed FRSL 207) (Restriction: Not open to students from Québec) Language lab attendance required. Grammar review, comprehension, vocabulary development, selected readings and group discussions.

FRSL 211D1 (3), FRSL 211D2 (3) Oral and Written French 1.
(3 hours, plus language laboratory) (Prerequisite: Placement test. Open to students in any degree program having an elementary knowledge of French and to those who have completed FRSL 207) (Restriction: Not open to students from Québec) (Students must register for both FRSL 211D1 and FRSL 211D2.) (No credit will be given for this course unless both FRSL 211D1 and FRSL 211D2 are successfully completed in consecutive terms) (FRSL 211D1 and FRSL 211D2 together are equivalent to FRSL 211) Language lab attendance required. Grammar review, comprehension, vocabulary development, selected readings and group discussions.

FRSL 212 Oral and Written French 1.
(3) (Fall) (3 hours, plus language laboratory) (Prerequisite: Placement test) Equivalent to the first half of FRSL 211. Only with special permission of the Department.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

FRSL 215 Oral and Written French 1 - Intensive.
(6) (Fall) (6 hours, plus language laboratory) (Prerequisite: Placement test. Open to students in any degree program having an elementary knowledge of French and to those who have completed FRSL 207) (Restriction: Not open to students from Québec) Language lab attendance required. Grammar review, comprehension, vocabulary development, selected readings and group discussions.

FRSL 216 Découvrons Montréal en français.
(3) (3 hours) (Prerequisite: Placement test. Priority given to Freshman students) The course introduces students to various aspects of the French culture of the Montreal area through the exploration of pre-selected sites on the Internet. Students will do research and rallies on-line, followed by evaluated email exchanges, oral discussions, presentations in class, and field trips.

FRSL 302 Listening Comprehension and Oral Expression 1.
(3) (Fall) (3 hours, plus language laboratory) (Prerequisite: Placement test. For students who have reached a good standard in grammar and written French but who have difficulty in understanding spoken French and therefore cannot communicate effectively) Focus on oral discrimination, global comprehension and corrective phonetics.

FRSL 303 Listening Comprehension and Oral Expression 2.
(3) (Winter) (3 hours, plus language laboratory) (Prerequisite: Placement test. Continuation of course FRSL 302) Emphasis will be on the development of oral communication skills, laboratory exercises, vocabulary building, discussions.

● **FRSL 321 Oral and Written French 2.**
(6) (Summer) (Prerequisite: Placement test. For those having taken FRSL 211 or equivalent) Oral work involving discussion and exposés, cultural and literary readings, grammar review. Methodological component integrated in classwork and developed in frequent workshop sessions.

FRSL 321D1 (3), FRSL 321D2 (3) Oral and Written French 2.
(3 hours) (Prerequisite: Placement test. For those having taken FRSL 211 or equivalent) (Students must register for both FRSL 321D1 and FRSL 321D2.) (No credit will be given for this course unless both FRSL 321D1 and FRSL 321D2 are successfully completed in consecutive terms) (FRSL 321D1 and FRSL 321D2 together are equivalent to FRSL 321) Oral work involving discussion and exposés, cultural and literary readings, grammar review. Methodological component integrated in classwork and developed in frequent workshop sessions.

FRSL 322 Oral and Written French 2.
(3) (Fall) (3 hours) Equivalent to the first half of FRSL 321. Only with special permission of the Department.

FRSL 325 Oral and Written French 2 - Intensive.
(6) (Winter) (6 hours) (Prerequisite: Placement test. Priority to students who have taken FRSL 215) The program of FRSL 321 will be covered in one semester.

FRSL 326 Découvrons le Québec en français.
(3) (3 hours) (Prerequisite: Placement test. Priority given to Freshman students) (Course co-listed with Québec Studies.) An introduction to the history and culture of Québec.

FRSL 332 Intermediate French: Grammar 01.
(3) (Fall) (3 hours) (Prerequisite: Placement test. For those who have attained relative fluency but lack accuracy in speaking and writing) Grammar review, using both a theoretical and a practical approach. Reading materials, in addition to their cultural interest, are selected to illustrate grammatical usage, provide models of writing techniques and aid in vocabulary development.

FRSL 333 Intermediate French: Grammar 02.
(3) (Winter) (3 hours) (Prerequisite: FRSL 332 or Placement test) Second part of FRSL 332.

FRSL 407 Compréhension et expression orales.
(3) (Fall) (3 heures par semaine) (Préalable : test de classement. S'adresse aux étudiants qui ont déjà une bonne maîtrise du français écrit.) Identification des niveaux de langue et prononciation du français familier; amélioration de la compréhension auditive par l'écoute d'une variété de documents audio-visuels du Québec et d'ailleurs.

FRSL 408 Français oral: Textes et expressions.
(3) (3 heures par semaine) (Préalable : test de classement.) Suite du cours FRSL 407. Cours de perfectionnement de l'expression orale et écrite: amélioration de la production orale (intonation, débit, spontanéité); enrichissement du vocabulaire idiomatique relié à des fonctions socio-culturelles de la langue par le biais de techniques orales (jeux de rôles, discussions, simulations) et d'un journal.

● **FRSL 431 Français fonctionnel avancé.**
(6) (Summer) (Préalable : test de classement.) (Les étudiants qui ont suivi le cours FRSL 400, FRSL 402 ou FRSL 432 ne seront pas admis.) Destiné aux étudiants de niveau avancé qui veulent approfondir leurs connaissances lexicales, syntaxiques et culturelles afin de pouvoir exprimer avec clarté leurs opinions sur une variété de sujets. Par l'étude de journaux, revues et textes littéraires, les étudiants se familiariseront avec la réalité québécoise contemporaine.

FRSL 431D1 (3), FRSL 431D2 (3) Français fonctionnel avancé.
(3 heures par semaine) (Préalable : test de classement.) (Les étudiants qui ont suivi le cours FRSL 400, FRSL 402 ou FRSL 432 ne seront pas admis) (Students must register for both FRSL 431D1 and FRSL 431D2.) (No credit will be given for this course unless both FRSL 431D1 and FRSL 431D2 are successfully completed in consecutive terms) (FRSL 431D1 and FRSL 431D2 together are equivalent to FRSL 431) Destiné aux étudiants de niveau avancé qui veulent approfondir leurs connaissances lexicales, syntaxiques et culturelles afin de pouvoir exprimer avec clarté leurs opinions sur une variété de sujets. Par l'étude de journaux, revues et textes littéraires, les étudiants se familiariseront avec la réalité québécoise contemporaine.

FRSL 432 Français fonctionnel.
(3) (Fall) (3 heures par semaine) (Préalable : test de classement.) Première moitié du programme du cours FRSL 431. Seulement avec la permission spéciale du département.

FRSL 445 Français fonctionnel, écrit 1.
(3) (Fall) (3 heures par semaine) (Préalable : test de classement.) Destiné aux étudiants dont le français oral est d'un niveau fonctionnel, mais dont le français écrit est nettement inférieur. Travaux écrits hebdomadaires, analyse de textes divers, exercices et tests en classe. But: corriger l'orthographe, la grammaire et les anglicismes, enrichir le vocabulaire, améliorer l'expression écrite.

FRSL 446 Français fonctionnel, écrit 2.
(3) (Winter) (3 heures par semaine) (Préalable : test de classement.) (Prépare aux cours du Département de langue et littérature françaises. Même format que le cours FRSL 445, à un niveau plus avancé) Rédactions de types variés. But: améliorer le style, développer les compétences telles que l'organisation et la présentation d'arguments ou l'identification des registres de langue.

FRSL 449 Le Français des médias.
(3) (3 heures par semaine) (Préalable : test de classement.) Cours de perfectionnement mettant l'accent sur l'enrichissement de la langue à l'oral comme à l'écrit. Analyse d'émissions de télévision ou de radio et lecture d'articles de journaux ou de revues. Activités variées portant sur des sujets d'actualité (reportages, débats, etc.) qui reflètent la société et la culture du Québec d'aujourd'hui.

FRSL 455 Grammaire et création.
(3) (3 heures par semaine) (Préalable : test de classement.) Perspective analytique et approche inductive et visuelle se combinent pour permettre une meilleure maîtrise du code grammatical. L'étude de textes de niveau soutenu met en relief la richesse des ressources lexicales et stylistiques du français et rend accessible la création littéraire aux étudiants non francophones.

GERM-German

Offered by: German Studies

GERM 197 FYS: Images of Otherness.
(3) (Fall) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) (Given in English) The seminar examines images and narratives of the foreign, alien, and uncanny Other in major works of German literature, film, music, and art from Romanticism to the present. Works discussed include Wagner's Lohengrin, expressionist art, and texts by authors such as ETA Hoffmann, Kleist, Freud, Nietzsche, Kafka, and Thomas Mann.

GERM 200 German Language, Intensive Beginners'.
(6) (Winter) (6 hours, plus 1 hour laboratory) An intensive language course designed to develop communicative skills; covers the first level (GERM 202D1/GERM 202D2) in one term. Required for program students.

●**GERM 202 German Language, Beginners'.**
(6) (Summer) (6 hours, plus 1 hour laboratory) A comprehensive first level course designed to develop communicative skills.

GERM 202D1 (3), GERM 202D2 (3) German Language, Beginners'.
(Fall, Winter) (Students must register for both GERM 202D1 and GERM 202D2.) (No credit will be given for this course unless both GERM 202D1 and GERM 202D2 are successfully completed in consecutive terms) A comprehensive first level course designed to develop communicative skills.

●**GERM 203D1 (3), GERM 203D2 (3) German for Reading.**
(Fall, Winter) (Restriction: Not open to students who have taken or are taking beginning level courses.) (Students must register for both GERM 203D1 and GERM 203D2) (No credit will be given for this course unless both GERM 203D1 and GERM 203D2 are successfully completed in consecutive terms) Reading German.

GERM 259 Introduction to German Literature 1.
(3) (Fall) (Given in English) Introduction to the major authors, genres, and topics of German literature from the Middle Ages to the Age of Goethe, including the Nibelungenlied, Faust, classical tragedy, and the rise of the novel.

GERM 260 Introduction to German Literature 2.
(3) (Winter) (Given in English) Introduction to the major authors, genres, and topics of German literature from the 19th century to the present.

GERM 300 German Language Intensive Intermediate.
(6) (Fall) (6 hours, plus 1 hour laboratory) (Prerequisite: GERM 200 or GERM 202,202D1/D2 or equivalent, or permission of Department) (Required for program students) Continuation of GERM 200; covers the second level (GERM 307D1/GERM 307D2) in one term.

●**GERM 307 German Language - Intermediate.**
(6) (Summer) (6 hours) (Prerequisite: GERM 202 or GERM 200, or equivalent,or permission of Department) Review of grammar, further development of basic skills; literary and cultural readings.

GERM 307D1 (3), GERM 307D2 (3) German Language - Intermediate.
(Fall, Winter) (Prerequisite: GERM 200 or GERM 202, 202D1/D2, or equivalent, or permission of Department.) (Students must register for both GERM 307D1 and GERM 307D2.) (No credit will be given for this course unless both GERM 307D1 and GERM 307D2 are successfully completed in consecutive terms) Review of grammar, further development of basic skills; literary and cultural readings.

GERM 325 German Language - Intensive Advanced.
(6) (Fall or Winter) (6 hours) (Prerequisite: GERM 300 or GERM 307D1/D2, or equivalent, or permission of Department.) (Required for program students.) This course aims at developing post-intermediate proficiency in listening, speaking, reading, and writing skills, with emphasis on oral and written expression. Special attention is given to word formation and to the proper choice of grammatical structures, vocabulary, and phraseology.

●**GERM 330 Landeskunde.**
(3) (Winter) (Given in German) (Prerequisite: GERM 325 or equivalent, or permission of Department.) Introduction to images of modern Germany, perceptions and conceptions of Germany since the Second World War.

GERM 331 Germany after Reunification.
(3) (Winter) (Given in German) (Prerequisite: GERM 325 or equivalent, or permission of the Department) The events which led to the fall of the Berlin Wall, the reunification of Germany in 1990 and the changing cultural, social, political and economic landscape of the 'New Germany'. Highlighting issues of cultural and social politics, texts discussed include historical, literary and film material.

GERM 336 German Grammar Review.
(3) (Winter) (Given in German) This advanced-level course offers a comprehensive review of basic German grammar. The course can be taken concurrently with a language course at the third level.

●**GERM 341 Essay Writing.**
(3) (Fall) (Given in German) (Prerequisite: GERM 325 or equivalent, or permission of Department) This course is designed to further develop the writing skills of students having attained the 325-level. The rhetorical strategies of writing will be studied and analyzed with different text genres: letters, curriculum vitae, summaries, book reviews, expository and argumentative essays, minutes, feature stories, term papers, etc. Particular attention will be paid to argumentation, vocabulary, and style.

●**GERM 342 Translation.**
(3) (Fall) (Given in German) (Prerequisite: GERM 325 or equivalent, or permission of Department) An introductory course, emphasizing practice more than theory. It covers mainly written translation (from German into English), i.e. reading and writing, and teaches to analyze, and to manipulate, grammatical/syntactical structures and to get a sense of semantic accuracy. The course is designed to familiarize students with basic technical terminology and to enable them to observe, analyze and produce accurate and appropriate translations. Vocabulary building is not a main issue.

●**GERM 345 Business German 1.**
(3) (Fall) (Given in German) (Prerequisite: GERM 325 or equivalent, or permission of the Department) This course introduces students to the terminology and syntax of Business German in contrast with English to ensure a sound basis for business communication.

●**GERM 346 Business German 2.**
(3) (Winter) (Given in German) (Prerequisite: GERM 345 or equivalent, or permission of the Department) This course is designed to develop oral and written skills for competence in German for business communication as well as cross-cultural awareness by discussing current materials from various sources.

GERM 352 German Literature - 19th Century 3.
(3) (Winter) This course offers an introduction to the literary movements of Biedermeier, Junges Deutschland, Vormärz, Poetic Realism, and Naturalism in connection with the political and social developments in 19th century Germany. Tests by major authors such as Buchner, Heine and Fontane will be discussed.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**GERM 353 19th Century Literary Topics.**
(3) (Winter) (Given in German) (Prerequisite: GERM 325, or equivalent, or permission of the Department) Varying topics of 19th century literature.

●**GERM 354 Literary Approach to Song.**
(3) (Fall) (Prerequisite(s): No official prerequisite, but students should have GERM 307D1/D2 or equivalent.) (Given in English.) Examination of the original cultural/historical background of texts and their settings by composers such as Schubert, Schumann, Wagner, Mahler and the New Vienna School.

●**GERM 355 Nietzsche and Wagner.**
(3) (Fall) (Given in English) This course examines the relationship between the philosopher Friedrich Nietzsche and the composer Richard Wagner. It explores their intellectual kinship, their view of art, music, and philosophy in the context of Nietzsche's critique of modernity and decadence and analyzes the Third Reich's and Hollywood's appropriation of Nietzsche and Wagner.

GERM 357 German Culture in European Context.
(3) (Fall) (Prerequisite (s): A culture or literature course at the 200 or 300 level) (Course given in English) A comparative examination of selected moments in German literary, artistic and cultural history in relation to broader European movements; focus on influences, exchanges and dialogues across national boundaries.

●**GERM 358 Franz Kafka.**
(3) (Winter) (Given in English) This course will look at the works on Franz Kafka, a "classic" modernist author, in three characteristic genres: the story, the novel, and the short prose piece. A selection of Kafka's letters and diary entries as well as critical approaches to his work will also be studied.

●**GERM 359 Bertolt Brecht.**
(3) (Fall) (Given in English) This course provides an overview of Brecht's development as a dramatist and as a theorist, advocate and practitioner of a new form of theater. Attention will also be given to Brecht as a poet and to film versions of Brecht's works.

GERM 360 German Literature 1890 to 1918.
(3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) The course deals with various genres of literature and forms of culture associated with Naturalism and Expressionism from the turn of the century to the Weimar Republic. Writers studied may include: Hauptmann, Wedekind, Schnitzler, Heinrich Mann, Sternheim, Kaiser, Thomas Mann, Kafka, Rosa Luxemburg.

●**GERM 361 German Literature 1918 to 1945.**
(3) (Winter) (Given in German) (Prerequisite: Germ 325 or equivalent) The course deals with the culture, literature and society of the Weimar Republic and the period of the Third Reich and the Holocaust. Writers studied will include: Brecht, Seghers, Fleisser, Kästner, Tucholsky, Benn, Kolmar, and Lasker-Schüler.

●**GERM 362 20th Century Literature Topics.**
(3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) Introduction to selected topics and genres in twentieth century literature and culture.

●**GERM 363 German Postwar Literature.**
(3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) The course deals with the literature and culture of the Federal Republic of Germany, the former German Democratic Republic and unified Germany since 1945. It treats major authors and trends. Topics addressed include issues of nationalism and gender, multiculturalism, and other concerns of contemporary German society.

GERM 364 German Culture: Gender and Society.
(3) (Winter) (Given in English) In connection with notions of identity, nationhood, political change, and cultural difference, this course investigates concepts and issues of gender in contemporary German Society. The readings include critical essays and literary texts by writers, scholars, philosophers, journalists, politicians, and political activists.

●**GERM 365 Language of Media from Manuscript to Hypertext.**
(3) (Winter) (Given in English) The history of communications media and their impact on our language and thought discussions of literary works in a variety of media (book, radio, film, television, hypertext) by authors such as Goethe, Kafka, Borges, Brecht, Beckett, Sontag and DeLillo.

●**GERM 366 Postwar German Literature/Film.**
(3) (Fall) (Given in English) The course is a study of postwar German literature and film, focusing on the cinematic representation of literary texts. The emphasis is on the representation of German history in both media, on historical memory and gender relations.

GERM 367 Topics in German Thought.
(3) (Fall) (Given in English) A variety of issues significant to the development of German cultural and intellectual life.

●**GERM 368 Fin-de-Siècle Vienna.**
(3) (Prerequisite (s): A culture or literature course at the 200 or 300 level) (Course given in English) Interdisciplinary study of one of the formative periods of modern European culture; examination of literature, art, thought, culture and politics in Vienna around 1900.

●**GERM 369 German Cinema from 1895.**
(3) (Note: Given in English.) Historical survey of German film from 1895 to the present. Movements and periods covered include Wilhelmine cinema, expressionism, Nazi cinema, New German Cinema and post-wall film. Filmmakers include Fritz Lang, F.W. Murnau, Leni Riefenstahl, R.W. Fassbinder, Wim Wenders, Tom Tykwer and Fatih Akin.

●**GERM 370 Special Topics in German Film.**
(3) (Fall) (Note: Given in English) Intensive study of selected topics and periods in German film history.

●**GERM 380 18th Century German Literature.**
(3) (Winter) (Given in German) (Restriction: Not open to students who have taken GERM 380 and/or GERM 381) (Prerequisite: Germ 325 or equivalent) An introduction to German literature of the 18th century: Enlightenment and Sturm und Drang. The course will follow a socio-historical approach, i.e. it will attempt to delineate some of the relations that exist between the texts and their social, political, and cultural context.

●**GERM 382 Faust: Chapbook to Horror Film.**
(3) (Winter) (Given in English.) This course will explore why the story of a mathematician who sold his soul to the devil has remained one of the most enduring myths in western culture. Works discussed will include plays by Marlowe, Goethe, and Valery and films by Murnau, Kurosawa, and others.

GERM 397 Individual Reading Course 01.
(3) (Fall) Given solely at the discretion of the instructor.

GERM 398 Individual Reading Course 02.
(3) (Winter) Given solely at the discretion of the instructor.

●**GERM 400 Interdisciplinary Seminar: Contemporary German Studies.**
(3) (Winter) (Given in English) An interdisciplinary, team-taught seminar, for third-year students on a single topic or theme. Topics may vary from year to year.

●**GERM 412 Heroes, Lovers and Crusaders.**
(3) Representations of the hero in medieval German literature, his socio-political, cultural, and religious roles.

GERM 450 Classical Period in German Literature.
(3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) For the most part, the works of Goethe and Schiller are discussed.

●**GERM 451 German Romanticism.**
(3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) This course deals with German literary texts of the Romantic period, studied in their literary, historical, cultural and sociological context. References will be made to the other arts, in particular to music. Writers studied will include: Hoffmann, Eichendorff, Novalis, Hoffmann, Kleist, and Tieck.

●**GERM 455 Women of the Romantic Era.**
(3) (Fall) (Prerequisite: GERM 325 or equivalent.) (Course is given in German for advanced undergraduate program students.) This course places at its centre the life-worlds, biographies, and forms of self-expression by German women of the Romantic Era.

GERM 498 Individual Reading Course 04.
(3) (Winter) Given solely at the discretion of the instructor.

GERM 499 Internship: German Studies.
(3) (Fall or Winter) (Prerequisite: Permission of the departmental Internship Advisor.) (Open to U2 and U3 students after completing 30 credits of a 90 credit degree program or 45 credits of a 69-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course can only be taken as an elective course. German language proficiency required.) Internship with an approved host institution or organization.

GERM 570 Joint Honours Thesis.
(3) (Fall or Winter) (Restriction: For students in the Joint Honours Program only.)

GERM 575 Honours Thesis.
(6) (Fall or Winter) (Restriction: For students in the Honours Program only.)

●**GERM 580 Topics in 18th Century Literature.**
(3) (Prerequisite: GERM 325 or equivalent.) Topics in eighteenth-century German literature.

HISP-Hispanic Studies

Offered by: Hispanic Studies

●**HISP 202D1 (3), HISP 202D2 (3) Portuguese Language: Beginners'.**
(Fall, Winter) (4 hours weekly, including laboratory) (Restriction: Departmental approval required) (Restriction: beginners only) (Students must register for both HISP 202D1 and HISP 202D2.) (No credit will be given for this course unless both HISP 202D1 and HISP 202D2 are successfully completed in consecutive terms) A comprehensive first-year course in speaking, reading and writing. Selected readings in Portuguese and Brazilian literature.

●**HISP 204D1 (3), HISP 204D2 (3) Portuguese Language: Intermediate.**
(Fall, Winter) (Prerequisite: HISP 202D1/HISP 202D2 or equivalent) (Restriction: Departmental approval required) (Students must register for both HISP 204D1 and HISP 204D2.) (No credit will be given for this course unless both HISP 204D1 and HISP 204D2 are successfully completed in consecutive terms) Review of grammar. Practice in speaking and writing. Composition. Selected readings in Portuguese and Brazilian literature.

●**HISP 210 Spanish Language: Beginners'.**
(6) (Summer) (Restriction: Not open to students who have taken HISP 218 or equivalent) (7 hours weekly, including laboratory) A comprehensive first-level course focusing on all oral and written skills. An introduction to the fundamentals of Spanish grammar and syntax and to Hispanic culture.

HISP 210D1 (3), HISP 210D2 (3) Spanish Language: Beginners'.
(Fall, Winter) (4 hours weekly, including laboratory) (Restriction: Not open to students who have taken HISP 218 or equivalent. Preference will be given to students in their first year of university study. Students in or entering U3 may not pre-register for this course but will be admitted, as space allows, during the Fall registration period.) (Students must register for both HISP 210D1 and HISP 210D2.) (No credit will be given for this course unless both HISP 210D1 and HISP 210D2 are successfully completed in consecutive terms) (HISP 210D1 and HISP 210D2 together are equivalent to HISP 210) A comprehensive first-level course focusing on all oral and written skills. An introduction to the fundamentals of Spanish grammar and syntax and to Hispanic culture.

HISP 218 Spanish Language Intensive - Elementary.
(6) (Fall or Winter) (7 hours weekly, including laboratory) (Restriction: Not open to students who have taken HISP 210 or 210D1/D2 or equivalent.) (Preference will be given to students in their first year of university study. Students in or entering U3 may not pre-register for this course but will be admitted, as space allows, during the Fall registration period) A comprehensive first-level course focusing upon all oral and written skills. An introduction to the fundamentals of Spanish grammar and syntax and to Hispanic culture.

HISP 219 Spanish Language Intensive - Intermediate.
(6) (Summer) (7 hours weekly, including laboratory) (Prerequisite: HISP 210 or 210D1/D2 or HISP 218 or equivalent.) (Restriction: Departmental approval required) (Preference will be given to students in their first year of university study) (Restriction: Not open to students who have taken HISP 220D1/HISP 220D2 or equivalent) A thorough review of Spanish grammar with emphasis upon current usage. Enrichment of all language skills, with a goal of proficiency in written and oral communication, through readings in the literature and civilization of Spain and Spanish America.

HISP 220D1 (3), HISP 220D2 (3) Spanish Language: Intermediate.
(Fall, Winter) (Restriction: Not open to students who have taken HISP 219 or equivalent. Departmental approval required.) (Students must register for both HISP 220D1 and HISP 220D2.) (No credit will be given for this course unless both HISP 220D1 and HISP 220D2 are successfully completed in consecutive terms) A thorough review of Spanish grammar with emphasis upon current usage. Enrichment of all language skills, with a goal of proficiency in written and oral communication, through readings in the literature and civilization of Spain and Spanish America.

HISP 220D1 (3), HISP 220D2 (3) Spanish Language: Intermediate., HISP 220D2 (3) Spanish Language: Intermediate.
(Fall, Winter) (Restriction: Not open to students who have taken HISP 219 or equivalent. Departmental approval required.) (Students must register for both HISP 220D1 and HISP 220D2.) (No credit will be given for this course unless both HISP 220D1 and HISP 220D2 are successfully completed in consecutive terms) A thorough review of Spanish grammar with emphasis upon current usage. Enrichment of all language skills, with a goal of proficiency in written and oral communication, through readings in the literature and civilization of Spain and Spanish America.

HISP 225 Hispanic Civilization 1.
(3) (Fall) (Taught in English) A survey of historical and cultural elements which constitute the background of the Hispanic world up to the 18th century; a survey of the pre-Columbian indigenous civilizations (Aztec, Maya and Inca) and the conquest of America.

HISP 226 Hispanic Civilization 2.
(3) (Winter) (Taught in English) A survey of the constitution of the ideological and political structures of the Spanish Empire in both Europe and America until the Wars of Independence; a survey of the culture and history of the Hispanic people from the early 19th Century to the present.

HISP 241 Survey of Spanish Literature 1.
(3) (Fall) (Taught in Spanish) (Prerequisite: successful completion of HISP 220D1/D2, HISP 219 or equivalent) From the origins to the Golden Age through a study of representative works.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

HISP 242 Survey of Spanish Literature 2.
(3) (Winter) (Prerequisite: successful completion of HISP 219 or CEGEP course 607-401) (Corequisite: HISP 220D1/D2, or equivalent.) (Taught in Spanish) From the Golden Age to the modern period through a study of representative works.

HISP 243 Survey of Spanish-American Literature 1.
(3) (Fall) (Taught in Spanish) (Prerequisite: successful completion of HISP 220D1/HISP 220D2, HISP 219 or equivalent) From the Colonial period to Modernism through a study of representative works.

HISP 244 Survey of Spanish-American Literature 2.
(3) (Winter) (Taught in Spanish) (Prerequisite: HISP 220D1/HISP 220D2, HISP 219 or equivalent) From Modernism to the present through a study of representative works.

● **HISP 301 Hispanic Literature - English Translation 1.**
(3) (Winter) (Taught in English) A special topic in Spanish literature will be studied in English translation.

HISP 321 Spanish Literature - 18th Century.
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) A critical study of neo-classical drama and poetry; satirical prose; Jovellanos, Iriarte, Moratín and others.

HISP 324 20th Century Drama.
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Satirical drama and theatre of social protest. Literatura comprometida. García Lorca and Casona; Buero Vallejo, Sastre, Olmo, Muñiz, Arrabal and others.

● **HISP 326 Spanish Romanticism.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) The aesthetic and historical development of Romanticism, with special emphasis on lyric poetry and drama.

HISP 327 Literature of Ideas: Spain.
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Critical reading and discussion of works of outstanding thinkers as a key to understanding the development of social forces and institutions.

● **HISP 328 Literature of Ideas: Spanish America.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Critical reading and discussion of works of outstanding thinkers as a key to understanding the cultural development of a continent.

● **HISP 332 Spanish-American Literature of 19th Century.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) An intensive study of representative authors from the period of Independence to the advent of Modernism.

● **HISP 333 Spanish-American Drama.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) A study of the outstanding works of the theatre from the colonial period to the present, including pre-Columbian works.

● **HISP 350 The Generation of 1898.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) (Restriction: Not open to students who have taken HISP 349 or HISP 350 (prior to January 2005).) An examination of the cultural background of genre developments in prose, fiction, drama, and poetry by representative authors of the Generation of 1898 in Spain.

HISP 351 Spanish-American Novel 1.
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Critical reading and discussion of 20th century Spanish-American fiction writers.

● **HISP 352 Spanish-American Novel 2.**
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Critical reading and discussion of contemporary Spanish-American fiction writers.

● **HISP 356 Spanish-American Short Story.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Study of style, tendencies and types as reflected in the evolution of this genre, and seen against the background of a developing continent.

HISP 358 Women Writers Fiction Spanish-America.
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Social movements and literary tendencies, as reflected in the novels and short stories of representative authors of the 19th and 20th centuries, such as Gómez de Avellaneda, Matto de Turner, Brunet, Bombal, Levinson, and others.

HISP 437 Viceregal Spanish America.
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Selected topics in the historiography, literature and culture of Spanish America prior to Independence.

● **HISP 438 Topics: Spanish Literature.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Specific topics of interest in Spanish literature.

● **HISP 439 Topics: Spanish-American Literature.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Specific topics of interest in Spanish-American literature.

● **HISP 442 Modernismo.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) A study of the Modernist School of Spanish American authors.

● **HISP 442N1 (1.5), HISP 442N2 (1.5) Modernismo.**
(Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) (No credit will be given for this course unless both HISP 442N1 and HISP 442N2 are successfully completed in the same calendar year) (HISP 442N1 and HISP 442N2 together are equivalent to HISP 442) (Students must also register for HISP 442N2) See HISP 442 for course description.

HISP 451D1 (3), HISP 451D2 (3) Cervantes.
(Fall, Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) (Students must register for both HISP 451D1 and HISP 451D2.) (No credit will be given for this course unless both HISP 451D1 and HISP 451D2 are successfully completed in consecutive terms) A study of the complete Don Quijote, the Novelas ejemplares, the Entremeses and other theatrical works. Some account of outstanding critical works on Cervantes.

●**HISP 453 20th Century Spanish-American Poetry.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) A study of representative trends and authors (Darío, Martí, Huidobro, Mistral, Vallejo, Neruda, Paz).

HISP 454 Major Figures: Spanish Literature.
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Specific figures of interest in Spanish literature.

●**HISP 455 Major Figures: Spanish-American Literature.**
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) Specific figures of interest in Spanish-American literature.

●**HISP 458 Golden Age Literature: Renaissance.**
(3) (Fall) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) (Restriction: Not open to students who have taken HISP 421, 458 or 460 prior to September 2004) A comprehensive examination of the poetry, prose and drama of the Renaissance in Spain through representative authors.

HISP 460 Golden Age Literature: Baroque.
(3) (Winter) (Prerequisite: Successful completion of any Survey of Literature (HISP 241, HISP 242, HISP 243, HISP 244) or permission of the instructor. Note: Course taught in Spanish.) (Given in alternate years) (Restriction: Not open to students who have taken HISP 421, 458 or 460 prior to September 2004.) A comprehensive examination of the poetry, prose and drama of the Baroque period in Spain through representative authors.

HISP 470 Tutorial 01.
(3) (Fall)

HISP 471 Tutorial 02.
(3) (Winter)

HISP 490 Honours Thesis.
(6) (Winter) (Restriction: Reserved for Honours and Joint Honours students who will present their honours thesis on a theme in Hispanic Studies written under the direction of a member of staff during their final year of study) .

HISP 490D1 (3), HISP 490D2 (3) Honours Thesis.
(Fall, Winter) (Students must register for both HISP 490D1 and HISP 490D2.) (No credit will be given for this course unless both HISP 490D1 and HISP 490D2 are successfully completed in consecutive terms) (HISP 490D1 and HISP 490D2 together are equivalent to HISP 490)

HISP 499 Internship: Hispanic Studies.
(3) (Fall or Winter) (Prerequisite: Permission of the departmental Internship Advisor.) (Restriction: Open to U2 and U3 students after completing 30 credits of a 90 credit degree program or 45 credits of a 69-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will normally not fulfill program requirements for seminar or 400- level courses. Spanish language proficiency required.) Internship with an approved host institution or organization.

●**HISP 501 History of the Spanish Language.**
(3) (Taught in Spanish) (Prerequisite: Permission of the instructor) The development of Spanish from its beginnings to the Modern Period, including usage in Spanish America and Judeo-Spanish.

HIST-History

Offered by: History

●**HIST 194 FYS: Jewish Concepts of Others.**
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25.) (For first year students only.) A survey, using translated primary and selected secondary sources, of the ways in which Jews represented Christians from late antiquity to the present. Legal, liturgical, literary and other sources are examined with the focus on the Medieval and Early Modern periods.

HIST 195 FYS: Sources of World History.
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) (Restriction: For first year students only) An introduction to the constitutive intellectual traditions of world history.

HIST 197 FYS: Race in Latin America.
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) This seminar explores what it meant to be native, black, or white in Latin America from the colonial period to the present. It explores how conceptualisations of race and ethnicity shaped colonialism, social organisation, opportunities for mobility, visions of nationhood, and social movements.

HIST 198 FYS: Nation Building and Nationalism
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) An introduction to some of the major theories of nationalism; an exploration of the many varieties of nationalism and forms of nation-building; a particular focus on the historical background to three case studies of current interest: Yugoslavia, Ireland and Québec.

●**HIST 199 FYS: Medieval Women and Men.**
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) This course examines the life choices available to women and men of the Middle Ages: how opportunities and restrictions of medieval society affected personal autonomy, careers, and relations between the sexes. Topics include: sexuality, religious life, marriage, work. Emphasis on learning techniques for reading and writing about primary sources (in translation).

HIST 200 Introduction to African History.
(3) (Restriction: Not open to students who have taken 101-200D) This course stresses the interactions of the peoples of Africa with each other and with the worlds of Europe and Islam from the Iron Age to the European Conquest in 1880.

HIST 201 Modern African History.
(3) (Restriction: Not open to students who have taken 101-200D) While covering the general political history of Africa in the twentieth century, this course also explores such themes as health and disease, gender, and urbanization.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

HIST 202 Survey: Canada to 1867.
(3) (Fall) A survey of the development of Canada, from the pre-Columbian explorations until the Confederation period. Social, economic and political history will be examined in a general way.

HIST 203 Survey: Canada since 1867.
(3) (Summer) A survey of the development of Canada from Confederation to the present day. Social, economic and political history will be examined in a general way.

● **HIST 204 History of Great Britain to 1688.**
(3) A survey of the development of Britain from the Middle Ages to the Glorious Revolution. Emphasis on political changes, seen in relation to the economic, social and intellectual background.

● **HIST 205 Ancient Mediterranean History.**
(3) (Restriction: Not open to students who have taken HIST 209 prior to September 2006.) A survey of Mediterranean history from the Bronze Age until the 6th century AD, focusing on Greek and Roman civilization.

● **HIST 206 Africa and the Indian Ocean World.**
(3) Examines the rise and development of an Indian Ocean World "global" economy from the first millennium C.E. and Africa's role within it.

HIST 207 Jewish History: 400 B.C.E. to 1000.
(3) (Restrictions: Not open to students who have taken JWST 216) An overview of Jewish history from the period of Ezra and Nehemiah to the death of Hai Gaon, c. 1035. Focus on the experience of the Jews in Hellenistic and Islamic civilizations. Topics include Jewish sects, rabbinic literature in its various genres, the Karaite schism, and the rise of the Gaonate.

HIST 208 Introduction to East Asian History.
(3) (Restriction: Not open to students who have taken 101-208D) An introduction to the history of East Asian civilization from earliest times to 1600, with emphasis on China and Japan, including social, intellectual, and economic developments as well as political history.

HIST 211 American History to 1865.
(3) (Fall) Introduction to the history of colonial North America and the United States up to the Civil War, in their Atlantic context.

HIST 212 Science and Medicine in Canada.
(3) The social and intellectual history of science and medicine in Canada, from early exploration, through the rise of learned societies, universities and professional organizations, to the present age of big science and biotechnology.

● **HIST 213 World History, 1300-2000.**
(3) A thematic and comparative approach to world history, beginning with the rise of the Mongols in the thirteenth century, and ending with globalization in the late twentieth century. Trade diasporas, technology, disease and imperialism are the major themes addressed.

HIST 214 Introduction to European History.
(3) (Restriction: Not open to students who have taken 101-215D) The course covers European History from the Ancient Greeks to the first part of the seventeenth century. The object of the course is two-fold, to provide students with: 1) a number of essential canons of pre-modern history; 2) hands-on experience in the reading, interpretation and writing of history.

HIST 215 Modern European History.
(3) (Restriction: Not open to students who have taken 101-215D) A social, economic, political and cultural survey of European History from the early seventeenth century to the present.

● **HIST 216 History of Russia to 1801.**
(3) A survey of Russian history, from the origin of the Slavs to the establishment of the Kievan State, the coming of the Mongols, the emergence of Muscovy, and the rise of the Russian Empire.

HIST 218 Modern East Asian History.
(3) (Winter) An introduction to the history of China and Japan from the seventeenth century to the present, including modernization, nationalism, and the interaction of the two countries.

HIST 219 Jewish History: 1000 - 2000.
(3) The Jewish experience from the rise of the European centres to the present.

HIST 221 United States since 1865.
(3) (Winter) Examines the defining moments and movements in the U.S. since Reconstruction, including populism, progressivism, the World Wars, the New Deal, the Cold War, the sixties and its consequences. Emphasis on the political, social and ideological transformations that ensued.

● **HIST 224 Britain Since 1688.**
(3) (Prerequisites: HIST 204 or consent of instructor) A survey of the development of Britain from the Glorious Revolution to the present day. Emphasis on political, social, economic and intellectual change against a background of Britain's evolving imperial and world role.

● **HIST 225 History of France to 1789.**
(3) Survey of French society from the fall of the Roman Empire to the outbreak of the French Revolution. Emphasis on the construction of the French state in the medieval period, religious conflicts of the 16th century, social and economic structures under absolutism, intellectual and economic changes in the 18th century.

HIST 226 Eastern Europe in 20th Century.
(3) Introductory survey of east central and southeastern European history from the twilight of nineteenth-century imperialism to the most recent expansion of the European Union. Consideration will be given to the two world wars and their consequences; nationalism, fascism, and socialism; and the revolutions of 1989.

HIST 231 Archaeology of the Ancient World.
(3) A survey of the history of classical archaeology in the Graeco-Roman Mediterranean through the study of material evidence and literary texts.

● **HIST 236 Russia from 1801 to 1991.**
(3)

HIST 240 Modern History of Islamic Movements.
(3) Islamic revival in the Middle East which led to the rise of different versions of Islamic traditions and beliefs. Emphasis on the nature and character of leading nationalist and Islamic movements and their ideologues since the late 19th century.

HIST 249 Health and the Healer in Western History.
(3) (Restriction: Not open to students who took HIST 349 prior to Winter 2006.) (Note: Also available to first-year medical students in their options program.) The natural history of health and disease and the development of the healing arts, from antiquity to the beginning of modern times. The rise of "western" medicine. Health and healing as gradually evolving aspects of society and culture.

● **HIST 292 History and the Environment.**
(3) Sketch of the history of the material aspects of human interaction with the rest of nature. Included will be a historian's view of the social, technical, and ecological implications of the great variety of activities devised by our species. Though global in outlook, this course will emphasize the relevant historiography of France, England and North America.

● **HIST 300 Nationalisms in Canada.**
(3) (Prerequisite: HIST 203 or permission of instructor.) (Restriction: Not open to students who took CANS 300 (106-300A) before September 2002.) An historical explanation of the Canadian experience of nationalism from the Patriotes to the First Nation, with reference to politics, economics, iconography, ideology and multicultural experience.

HIST 301 U.S. Presidential Campaigning.
(3) (Prerequisite: any course in U.S. history or consent of instructor) The history of presidential campaigning in the U.S. will be considered against the backdrop of party change, technological development and the growth of American democracy.

HIST 302 International Relations History 1: 1750-1950.
(3) (Prerequisite: one course in post-1800 History or permission of instructor.) The history of international relations during the era of the four global wars, the expansion of the West in world affairs, the changes in the balance of power in Europe, the rise and fall of the colonial empires, and the ascendancy of

the flank powers, Russia and the United States.

HIST 303 History of Quebec.
(3) (Prerequisite: HIST 202/HIST 203) (The ability to read French is helpful but not mandatory) Covering Quebec history from New France to contemporary times, this course will include themes like ethnic relations, citizenship, gender and material culture. It is of particular interest to students in Education who foresee teaching about Quebec.

HIST 304 International Relations History 2: Cold War.
(3) (Prerequisite: HIST 302 or HIST 215 or a 20th C. history course or permission of instructor.) The history of the Cold War. Special attention will be paid to the different viewpoints and experiences of the Cold War participants by studying the historiography and archival materials released in the Eastern Block and Western World.

●**HIST 305 Ancient Warfare and Imperialism.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) (Restriction: Not open to students who have taken 101-305D. Not open to U0 students) Comparative study of ancient military history, warfare and imperial strategies.

HIST 306 East Central Europe Since 1944.
(3) (Prerequisite: HIST 215 or HIST 226 or permission of instructor) An examination of important problems in the postwar history of east central Europe. Topics include: the establishment of Communist regimes; Stalinism and de-Stalinization; everyday life under Communism; the Hungarian Revolution of 1956, the Prague Spring, and Solidarity; political opposition; culture; and the revolutions of 1989.

HIST 307 Jews in Poland.
(3) (Prerequisite: any course in Jewish history or East European History) (Restriction: Not open to students who have taken 101-307D) Analyses of primary sources (in translation) related to the social, economic and institutional history of the Jews in Poland and their place in the East European Jewish community. Topics include: the Jews during "The Flood" (1648 - 1667), the communal crisis of the late 17th century, the Frankist movement, and Hasidism.

●**HIST 308 Formation of Chinese Tradition.**
(3) (Restriction: Not open to students who have taken 101-308D) An examination of the multiple sources of the Chinese imperial system from the period of the neolithic culture interaction sphere to the fall of the Han dynasty in 220 C.E. Special attention is paid to socio-economic developments as well as to the evolution of philosophy, ideology, and social practice. The sequel to this course is HIST 358.

HIST 309 History of Latin America to 1825.
(3) (Fall) The social, cultural, and economic aspects of Latin America and the Caribbean in the colonial period. Topics include: pre-Columbian and hispanic cultures in conflict, plantation empires, and the transition to independence. The sequel to this course is HIST 360.

●**HIST 310 Knowledge and Atlantic Empire.**
(3) (Prerequisites: HIST 211 or permission of instructor.) The role of knowledge in British colonization and imperialism in the early modern Atlantic world. Explores the notion of an Atlantic "information order" (and its problems) by examining the politics of knowledge from England and Ireland to British America, and ultimately the early United States and British India.

●**HIST 311 The Gilded Age and The Progressive Era.**
(3) (Prerequisite: any course in U.S. history or consent of instructor) The social, economic, and political consequences of industrialization in the history of the United States between 1877 and 1914. Emphasis on the rise of mass production, urbanization, immigration, rural protest, the labour movement, social and political reform.

HIST 312 Hist of Consumption in Canada.
(3) (Prerequisite(s): HIST 202 or HIST 203 or permission of instructor.) History of consumption in Canada since 1600 in relation to subsistence and the early market; modern class and gender relationships; conceptions of citizenship.

●**HIST 313 Eastern Europe: 1740-1914.**
(3) (Prerequisite: A course in European history or permission of instructor.) History of the Habsburg Empire, Poland, and the Balkans from the accession of Maria Theresa to the Great War. Special consideration will be given to the Enlightenment, the partitions of Poland, the revolutions of 1848, the rise of nationalism, and fin-de-siècle society and culture.

●**HIST 314 Reformation in Britain & Ireland.**
(3) (Prerequisite: HIST 204 or HIST 214 or HIST 215 or permission of instructor.) Survey of British and Irish history from c. 1450 to 1660. Focus will be on the origins and consequences of the Protestant and Catholic Reformations of the Tudor and early Stuart dynasties. These religious changes will be approached from a variety of perspectives including political, social, intellectual, economic and religious history.

●**HIST 315 Themes in World History.**
(3) (Prerequisite: HIST 213 or Permission of Instructor.) Historical phenomena that transcend the boundaries of nation-status and contributed to the long-term development of globalization.

●**HIST 316 Russia: Revolutions 1905 and 1917.**
(3) (Prerequisite: A course in Russian, Soviet or European history) Reform and Revolutions: a comparison of the collapse of the Soviet Union in 1991 and of the Tsarist Empire and Provisional Government in 1917, with some discussion of the reforms that anticipated each cataclysm.

●**HIST 317 War and Society 2.**
(3) (Prerequisite: one general course in European history or HIST 305) (Restriction: Not open to students who have taken 101-305D. Not open to U0 students) The rise of permanent armies and navies, military institutions of Eastern Europe; Warfare from Wallenstein to Napoleon; emergence of the national army in Russia; the Western military tradition after Clausewitz, total War in the twentieth century.

●**HIST 318 History of Japan 1.**
(3) (Restriction: Not open to students who have taken 101-318D or 101-293A) A survey of Japanese history and culture from earliest times to the 17th century, this course aims to provide students with a broad understanding of important themes in Japanese history.

HIST 319 The Scientific Revolution.
(3) (Prerequisite: a 200-level course in early modern history, or a survey course in philosophy, or permission of the instructor) The shift from the medieval to the modern view of man's place in the universe that took place between Copernicus and Newton and its intellectual and social implications.

●**HIST 320 European Thought and Culture 1.**
(3) (Prerequisite: HIST 214 or HIST 215) (Restriction: Not open to students who have taken 101-320D) The cultural and intellectual history of Europe from the late Middle Ages to the to the 18th century traces the origins of the modern sense of self in popular culture and in the texts of Erasmus, Luther, Calvin, Descartes, Pascal, Voltaire and Rousseau.

●**HIST 321 European Thought and Culture 2.**
(3) (Prerequisite: HIST 320 or consent of the instructor) (Restriction: Not open to students who have taken 101-320D) A cultural and intellectual history of Europe from the French Revolution to the present which traces the origins of the modern sense of self in popular culture and in the texts of Goethe, Comte, Marx and Engels, Nietzsche, Dostoevsky.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

HIST 322 Canada: American Presence since 1939.
(3) (Prerequisite: HIST 202 and HIST 203 or consent of instructor) An examination of Canada's relationship with the United States in the modern era. Emphasis will be placed upon diplomatic, military, cultural, and economic facets of this relationship.

HIST 323 History and Sexuality 1.
(3) Antiquity to Early Modern Europe. The cultural meanings and social institutions that create the historical context for sexual behaviours. Possible topics include: Greek homosocial and homosexual culture; sex and citizenship; wives and concubines in the ancient world; Christianity and aestheticism; misogyny and gender in Medieval Europe; adultery and lineage.

● **HIST 324 History of Ireland.**
(3) A history of Ireland from the pre-Norman period to 1691. The emphasis will be placed on political developments, but these will be considered in the light of their social, economic and intellectual background.

● **HIST 325 Renaissance-Reformation Europe.**
(3) (Prerequisite: HIST 214 or permission of instructor) (Restriction: Not open to students who have taken 101-325D) An examination of Western Europe from the late 14th to the end of the 16th century. Topics will include the Renaissance, in and outside Italy, the Reformations, the religious wars of the 16th century and the Scientific Revolution.

HIST 326 Russia from 1905 to Present.
(3) (Prerequisite: one 200-level course in History or political theory) 20th Century Russia, with particular attention to the rise and fall of the Soviet regime, Gorbachev's Perestroika, and the problems and accomplishments of post-Soviet society under Yeltsin and Putin.

● **HIST 327 Jews in the Orbit of Islam.**
(3) (Prerequisite: HIST 207 and HIST 237 or consent of instructor) Overview of the history of the Jews in the Islamic world from 622 to the present. Emphasis on the classical period (to 1250), and on institutional and cultural themes. Comparative perspectives on the experience of Jews and other minorities under Islam.

● **HIST 328 China in Revolution 1: 1840-1921.**
(3) (Prerequisite: One previous course in Chinese or Asian history or permission of instructor) An examination of political, economic and social developments in China in the 19th century, a period when internal crises and Western imperialism wrought cataclysmic changes. Topics include the Opium War, the Taiping Rebellion, the Boxers, and the Republican Revolution. The sequel to this course is HIST 338.

● **HIST 330 Science in the Medieval West.**
(3) (Prerequisite: HIST 214 or HIST 380 or permission of instructor.) (Restriction: Not open to students who have taken HIST 356 prior to W06.) The history of ideas about the physical world and its content, the nature of scientific thinking, and the possibilities of human intervention in the natural world held in Western Europe in the Middle Ages (ca. AD300-1500), with particular attention to their social, intellectual, cultural and religious context.

● **HIST 331 The United States Between the Wars.**
(3) (Prerequisite: A course in U.S. history or permission of instructor.) The history of the United States from the Great War to the end of the 1940s. Social change and conflict, political conservatism, economic prosperity and the culture of consumption during the 1920s; the consequences of the Great Depression and the New Deal.

● **HIST 332 Constitutional History: Canada - 1867.**
(3) (Prerequisite: one course in Canadian history or consent of instructor) A survey course of the development of constitutional arrangement in Canada from the Royal Proclamation of 1763 until Confederation.

● **HIST 333 History of New France: Part 1.**
(3) (Prerequisite: HIST 202 or consent of instructor) The development of the French Empire in North America, with particular emphasis on French-Native encounters arising through missions, trade, and military alliances.

HIST 334 History of New France: Part 2.
(3) (Prerequisite: HIST 202 or consent of instructor) Social and cultural history of France's ancien régime settlement colonies in North America. Topics include the links between the absolutist colonial state and society; family history; the Church, gender, and popular religion.

HIST 336 France, 1789 to 1914.
(3) (Prerequisite: HIST 214 and HIST 215) A study of the history of France from the Revolution to World War I.

● **HIST 337 Japanese Intellectual History 1.**
(3) (Restriction: Not open to students who have taken 101-337D) An overview of the history of Japanese thought and mentality from earliest times to 1700. By examining not only texts of representative thinkers but also other (especially literary) materials, it aims at elucidating changing and continuing characteristics of the Japanese intellectual history. The sequel to this course is HIST 352.

● **HIST 338 China in Revolution 2: 1921-1997.**
(3) (Prerequisite: one previous course in Chinese or Asian history or permission of instructor) The history of China from the establishment of the Chinese Communist Party to the present. Contents: origins and development of the Chinese Communist movement; the War of Resistance against Japan; The People's Republic, the Cultural Revolution, Deng era reforms.

● **HIST 339 Arab-Israeli Conflict.**
(3) (Restriction: Open to U2 or U3 students only or permission of instructor.) The political, military, and diplomatic history of the Arab-Israeli conflict, with a focus on a number of historiographical debates over specific issues, such as the 1948 and 1967 wars, and the failures of the various peace initiatives.

HIST 341 The New Nation: U.S. 1800-1850.
(3) (Prerequisite: any course in U.S. history or consent of instructor) How did Americans create a viable country with legitimate institutions out of a collection of independent states? What was the impact of industrialization on this new nation? This course will also examine Jeffersonianism, Jacksonianism, American slavery, and reform movements.

HIST 342 Canada: External Relations since 1867.
(3) (Prerequisite: HIST 202 and HIST 203) This course will examine the historical development of Canadian external relations before WW II. Particular emphasis will be placed on Canadian-American relations, Canadian-Imperial relations, the growth of Canadian diplomatic autonomy and participation in the League of Nations.

● **HIST 343 Women in Post-Confederation Canada.**
(3) (Prerequisite: HIST 203) This course examines women's contribution to the economic and social development of Canada as well as the changes in the image and status of women. Special emphasis will be on the relationship between women's roles in the private sphere and the public domain.

● **HIST 344 Police Institutions.**
(3) (Prerequisite: One course in British, Canadian or American history) The origins of law enforcement from Saxon juries through Norman justices of the peace, to Scotland Yard and the London Metropolitan police. Focus on the Royal Irish Constabulary and its influence on the growth of rural police in Commonwealth countries.

● **HIST 345 History of Italian Renaissance.**
(3) (Prerequisite: HIST 214 or consent of instructor) An introduction to the economy, society, politics and intellectual developments in Italy from approximately 1300 to the early 16th century.

HIST 346 France, 1914 to the Present.
(3) (Prerequisite: HIST 214 and HIST 215 or written consent of instructor) A study of the history of France from World War I to the present.

HIST 347 History and Sexuality 2.
(3) 1700 to the present, with a particular focus on Europe and North America. Possible topics include: patterns of fertility and sexual practice; prostitution; religion and sexuality; the medical and legal construction of sexualities; the rise of sexology; gay liberation movements; queer politics.

●**HIST 348 China: Science-Medicine-Technology.**
(3) (Prerequisite: HIST 208 or HIST 218 or permission of instructor) An introduction to traditional Chinese ideas about human beings and their relationship with heaven and earth. Special emphasis on the history of medicine and the body, alchemy, geomancy and divination techniques, agriculture and sericulture, astronomy, and engineering and their relation to changing social and cultural formations.

HIST 350 Science and the Enlightenment.
(3) (Prerequisite: HIST 215 or permission of instructor.) Explores the relationship between the natural sciences and the eighteenth-century Enlightenment. Examination of works in post-Newtonian science as well as their broader cultural meaning, the history of material practices, the origins of social science, and the role of geography and international context beyond Western Europe.

HIST 351 Themes in U.S. History since 1865.
(3) (Prerequisite: any course in U.S. history or consent of instructor) Aspects of American history from the gilded Age through the Cold War era.

●**HIST 352 Japanese Intellectual History 2.**
(3) (Prerequisite: one previous course in East Asian history, including Japanese history and Chinese history, or permission of instructor) (Restriction: Not open to students who have taken 101-337D) An overview of the history of Japanese thought and mentality from 1700 to the present. By examining not only texts of representative thinkers but also other (especially literary) materials, it aims at elucidating changing and continuing characteristics of the Japanese intellectual history.

●**HIST 353 History of Montreal.**
(3) (Prerequisite: HIST 202 or HIST 203 or permission of the instructor.) The history of Montreal from its beginnings to the present day. Montreal's economic, social, cultural and political role within the French and British empires, North America, Canada, and Quebec; the city's linguistic and ethnic diversity.

HIST 354 Women in Europe 1700-2000.
(3) (Prerequisites: One course in European history or permission of Instructor) An overview of the history of women in modern continental Europe, focusing on women's changing roles in the family and society at large, in the context of work, family life, education, and culture, and the changing notions of citizenship, femininity, and masculinity.

●**HIST 355 Topics in German History.**
(3) (Prerequisite: HIST 234 and HIST 235 or a European survey course or consent of the instructor) (Restriction: Not open to students who have taken HIST 354 and HIST 355 prior to 200609.) Topics in German history from the confederation of two German Great Powers through revolution, confrontation, separation and consolidation to the destruction of the Dual Monarchy.

●**HIST 356 Medicine in the Medieval West.**
(3) (Winter) (Prerequisites: HIST 214 or HIST 249 or HIST 380 or permission of instructor.) The history of ideas about the human body, disease and therapeutics and the diverse practices of medicine in western Europe in the Middle Ages (ca. AD 300-1500), with particular attention to their social, intellectual, cultural and religious context.

HIST 357 Religion and Canadian Society in Historical Perspective.
(3) (Prerequisite: HIST 202 and HIST 203) (Restriction: Not open to students who have taken 101-469) This course explores religious history of French and English Canada. The growth of various denominations, popular religion, Church/State relations, sectarian education, Protestant and Catholic cultures, missions among the Natives, forces of secularization. A reading knowledge of French is recommended.

HIST 358 Medieval to Early Modern China.
(3) (Prerequisite: HIST 208 or permission of instructor) (Restriction: Not open to students who have taken 101-308D) This course studies the changes in Chinese society from the age of the aristocracy to the dominance of the literati; the rise of Buddhism and religious Daoism, the resurgence of Confucianism; and the impact of foreign conquests on the development of Chinese traditional culture.

HIST 359 History of Japan 2.
(3) (Restriction: Not open to students who have taken 101-294B or 101-318D) A survey of Japanese history and culture from the 17th century to the present, this course aims to provide students with a broad understanding of important themes in Japanese Civilisation.

HIST 360 Latin America since 1825.
(3) (Summer) Themes in the political, economic, and social development of Latin America since the wars of independence. Emphasis on the domestic history of the region, with some attention to relations with the United States and Europe.

●**HIST 361 The Canadian West to 1905.**
(3) (Prerequisite: HIST 202 and HIST 203) The development of what is now the Canadian West from the 17th century to the entry of Saskatchewan and Manitoba into confederation. Topics include: culture contact between native and European, the fur trade, entry of the West into confederation and its evolution from colonial to provincial status.

●**HIST 362 The Canadian West since 1905.**
(3) (Prerequisite: HIST 203 or consent of instructor) An examination of significant themes in the history of British Columbia and the Prairie Provinces since 1905. Topics include immigration, economic development, regional protest movements and class conflict within the West itself.

HIST 363 Canada 1870-1914.
(3) (Prerequisite: HIST 202 and HIST 203 or permission of instructor) This course will examine social, economic, political and cultural aspects of Canadian society between 1870 and 1914. Topics covered will include aboriginal peoples, European settlement of the West, provincial rights, the national policy, social reform movements, industrialization, immigration and the rise of cities.

●**HIST 364 Canada 1914-1945.**
(3) (Prerequisite: HIST 202 and HIST 203 or permission of instructor) This course will examine Canada and Canadian society between 1914 and 1945. Il will focus on the social, political, economic and cultural impact of the two World Wars and the economic crisis of the 1930s. Among the topics will be Canadian external relations, political and social protest, popular culture, demographic changes and prohibition.

●**HIST 365 17th - 18th C. Western Europe.**
(3) (Prerequisite: HIST 214 or consent of instructor) (Restriction: Not open to students who have taken 101-325D) A comparative analysis of the major states of Western Europe: Absolutism and its alternatives; religious and scientific thought; classical and enlightenment cultures; international and colonial rivalries. Special attention will be placed on social and economic changes between the 1630s and the late 18th century.

●**HIST 366 Themes in Latin American History 1.**
(3) (Prerequisite: HIST 309 or HIST 360 or permission of the instructor.) (Note: Topics will vary from year to year.) Exploration of a specific topic in the history of Latin America and the Caribbean, 1492 to the present.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

HIST 367 Canada since 1945.
(3) (Prerequisite: HIST 202, HIST 203) Elements of Canada's political, social, economic, and cultural history since World War II. Topics will include constitutional questions, gender and class issues, the role of the state, regionalism, consumer society, the Quiet Revolution, and nationalism in Canada.

●**HIST 368 Greek History: Classical Period.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) The Classical period of Greek history, from the end of the Persian wars to the death of Alexandra the Great (479-323 B.C.).

HIST 369 Greek History: Early Greece.
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) Historical study of the period from the Mycenean Age to the end of the Archaic Age.

●**HIST 370 Canadian Party Politics 1867-2000.**
(3) (Prerequisite: HIST 203 or consent of the instructor) An examination of how politics evolved in Canada's parliamentary system from campaigns to media management, including party systems, ideology, the role of leadership and the growing role of the state.

●**HIST 371 American Civil Rights 1877-1940.**
(3) (Prerequisite: any course in U.S. history or consent of instructor) The social, economic, political, and constitutional history of citizenship and civil rights in the United States from the end of Reconstruction through the 1930s. Emphasis on segregation and disfranchisement; immigration restrictions, americanization and national identities; civil rights movements and organizations; women's suffrage; voting rights and representation.

●**HIST 373 Canadian Labour History.**
(3) (Prerequisite: HIST 203 or equivalent or consent of instructor) (Restriction: Not open to students who have taken HIST 353) This course explores themes in labour and working class history in Canada.

●**HIST 375 Roman History: Early Empire.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) The history of the Roman Empire from Augustus to Marcus Aurelius.

HIST 376 Roman History: Later Empire.
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) The history of the Roman Empire from Marcus Aurelius to Justinian.

HIST 377 The United States, 1940-1965.
(3) (Prerequisite: any course in U.S. history or consent of instructor) Major events in politics and international affairs, culture and society, and the economy in the U.S. during and after World War II. Topics include: The War and American society; the first years of the Cold War; economic prosperity and social change; the civil rights movement; Vietnam to 1965.

●**HIST 378 Roman & Greek Social History.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) Roman and Greek social history including the family and domestic space, economic structures, and religious beliefs.

●**HIST 379 Greek History: Hellenistic Period.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) The Hellenistic Greek world from Alexander the Great to the period of the Roman conquest.

HIST 380 Western Europe: The Middle Ages.
(3) (Restriction: Not open to students who have taken 101-380D) History of Western Europe from the later Roman Empire through the 15th century: sub-roman and Carolingian civilization, feudal monarchy; the Church and the laity; domestic life and social institutions; cultural developments.

HIST 381 Colonial Africa: Health/Disease.
(3) (Prerequisite: HIST 200 and HIST 201 or HIST 349 or permission of the instructor) A study of the impact of disease on African societies over the last three centuries. Topics include: the efforts of Africans to control their ecology, and to maintain their own medical traditions; the wider African responses to Western bio-medicine, and the relationship of disease to nutrition, demography, and public health.

●**HIST 382 History of South Africa.**
(3) (Prerequisite: HIST 200 and HIST 201) History of South Africa from precolonial times to the present. Topics include: precolonial societies; British and Dutch colonialism; slavery in colonial South Africa; the Zulu kingdom; mining capitalism; the Boer War; Afrikaner nationalism; apartheid; the anti-apartheid struggle; music, religion, and art; challenges of the post-apartheid state.

HIST 383 Eighteenth-Century Britain.
(3) (Prerequisite: HIST 215 or permission of instructor.) (Restriction: Not open to students who have taken HIST 383 and HIST 384 prior to 2005.) Cultural, intellectual, political, economic and social history of Britain and Ireland in the eighteenth century; the era of the creation of the United Kingdom and the rise of a great commercial and imperial power.

HIST 384 Nineteenth-Century Britain.
(3) (Prerequisite: HIST 215 or permission of instructor) (Restriction: Not open to students who have taken HIST 384 prior to 2005.) Cultural, intellectual, political, economic and social history of Britain and Ireland in an era of unprecedented economic and cultural change as the United Kingdom became the world's first industrial nation and leading imperial power.

HIST 386 Twentieth-Century Britain.
(3) (Prerequisite: HIST 215 or permission of instructor) (Restriction: Not open to students who have taken HIST 385 and HIST 386 prior to 2003) From a range of perspectives, including cultural, intellectual, political, economic and social history, this course examines Britain from the height of its power, through two world wars, the building of a welfare state, the dissolution of Empire and entry into Europe, to the start of the 21st century. consensus, decolonisation, immigration, culture and society, Northern Ireland, Scottish and Welsh nationalism, Thatcherism, the European Union.

HIST 387 The First World War.
(3) A world-wide political, social, economic, cultural and military survey, from the origins of the Great War to the Treaty of Versailles.

HIST 388 The Second World War.
(3) A world-wide political, social, economic, cultural and military survey, from the Treaty of Versailles to the first years of the Cold War.

HIST 390 France in the Ancien Régime.
(3) (Prerequisite: HIST 214 or HIST 225 or permission of instructor) (Restriction: Not open to students who have taken 101-425D) The history of France from the end of the Thirty Year's War to the eve of the French Revolution. A reading knowledge of French is recommended.

●**HIST 391 Roman History: Republic.**
(3) (Prerequisite: HIST 205 or HIST 231 or permission of instructor.) (Restriction: Not open to students who have taken 101-451) History of the Roman Republic from its foundation through the death of Julius Caesar.

HIST 392 The United States since 1965.
(3) (Prerequisite: any course in U.S. history or consent of the instructor) Major events in politics and international affairs, culture and society, and economy in the U.S. since 1965. Topics include: social and political upheaval 1965 - 1975; Vietnam to 1975; conservative politics; Nixon and Watergate; economic change in the 1970s and 1980s; presidential leadership from Carter on.

HIST 393 Civil War and Reconstruction.
(3) (Prerequisite: any course in U.S. history or permission of instructor) (Restriction: Not open to students who have taken 101-431) The causes of the American Civil War; the social, economic, political and military forces that shaped the conflict, attempts to restructure race relations, Southern and American societies after the war.

●**HIST 394 Stuart Britain and Ireland.**
(3) (Prerequisite: HIST 204 or HIST 214 or permission of instructor) A study of Britain and Ireland during the seventeenth and early eighteenth centuries; topics include the nature of early British society, the outbreak of the civil wars of the 1640s, the Restoration of the monarchy, and the changes in political ideas over the period.

HIST 395 Canadian Military Experience.
(3) (Prerequisite: CANS 200 or HIST 203 or permission of instructor.) (Restriction: Not open to students who have taken 106-406) Canada's military experience since European contact. The course explores social, economic, technological and political themes as well as more traditional themes of military history.

HIST 396 Disease in Africa Since 1960.
(3) (Prerequisite: HIST 200 and HIST 201 or HIST 349 or permission of the instructor) This course examines the negatives and positives of African health since independence: the rise of new pathogens, especially HIV/AIDS, and the revitalization of old ones, such as drug resistant tuberculosis and malaria. Also examined are the growth of health infrastructure, and international successes such as the eradication of smallpox.

HIST 397 Canada: Ethnicity, Migration.
(3) (Prerequisite: HIST 202 and HIST 203 or permission of the instructor) (Restriction: Not open to students who have taken HIST 423) Immigration, ethnicity and race in Canada in the nineteenth and twentieth centuries. Topics will include the migration process, government policy and legislation, urban and rural migration, acculturation, nativism and multiculturalism.

HIST 398 Topics in Italian History.
(3) (Prerequisite: HIST 214)

HIST 399 History and Historical Methods.
(3) (Prerequisite: 6 credits of History) The nature and functions of history; changing conceptions of time and of the past; techniques historians use to find and appraise evidence; methods of reconstructing the past. Emphasis will be given not only to documentary sources but also to the range of techniques used by historians to find and appraise evidence.

● HIST 399D1 (1.5), HIST 399D2 (1.5) History and Historical Methods.
(Students must register for both HIST 399D1 and HIST 399D2.) (No credit will be given for this course unless both HIST 399D1 and HIST 399D2 are successfully completed in consecutive terms) (HIST 399D1 and HIST 399D2 together are equivalent to HIST 399) The nature and functions of history; changing conceptions of time and of the past; techniques historians use to find and appraise evidence; methods of reconstructing the past. Emphasis will be given not only to documentary sources but also to the range of techniques used by historians to find and appraise evidence.

HIST 401 Topics: Medieval Culture and Society.
(3) (Prerequisite: HIST 214 or HIST 380 or consent of instructor) Selected topics in the intellectual and cultural history of the Middle Ages. Emphasis on modern critical approaches to medieval culture, including literature, the supernatural, religious experience.

● HIST 403 History of Quebec Institutions.
(3) (Prerequisite: HIST 203 or consent of instructor) Analysis of institutional structures in Quebec with emphasis on the 19th century. Particular attention will be given to legal and property institutions in transition.

HIST 405 European Cultural History 1.
(3) (Prerequisite: HIST 214 and HIST 215, or a course in European intellectual history or consent of the instructor) A survey of 19th century French and European cultural/intellectual history. The sequel to this course is HIST 415.

HIST 406 Petrine and Catherinian Russia.
(3) (Prerequisite: A prior course in Russian or European history) The transformation of Russian society by Peter the Great and the problems and achievements of Russia's Golden Age under the enlightened despotism of Catherine II and of her son.

● HIST 407 Topics in Ancient History.
(3) (Prerequisite: 3 credits in Ancient history at the 300-level or permission of instructor.) (Restriction: Not open to Honours students in History.) An in-depth look at various topics in ancient history.

HIST 408 Colonialism and Native Peoples.
(3) (Prerequisite: HIST 202) (Restriction: Not open to students who have taken 101-580D) The nature and consequences of encounters between American native peoples and Europeans.

HIST 409 Themes in Latin American History 2.
(3) (Prerequisites: HIST 309 or HIST 360 and at least one other course in the Latin America area or permission of instructor.) (Note: Topics will vary from year to year.) In-depth discussion and research on a circumscribed topic in the history of Latin America and the Caribbean, 1492 to the present.

HIST 410 Topics in History of Science.
(3) (Prerequisite: A prior course on history of science or HPSC 300 or permission of Instructor.) (Restriction(s): Not open to U0 or U1 students) (Themes (and/or periods) vary year to year.) Specific theme in the history of science, such as scientific instruments, experimental practices, uses of the body, knowledge and museums, scientific institutions, or science and empire.

HIST 412 Women and Gender in Modern Britain.
(3) (Prerequisite: HIST 215 or a course in British history or permission of instructor) Women and gender in modern Britain (1850 on). Topics include early feminist political agitation, including the suffrage movement; working-class women; changing notions of gender, sexuality and women's role; women and empire.

HIST 413 Independent Reading.
(3) (Summer) (Prerequisite: Written permission) (Restriction: Open to History Major Concentration students only. Students may register in this course only once) Exceptionally, and under the direction of a member of staff, advanced and highly qualified students who have an extensive background in the proposed area of study, may pursue this independent study.

HIST 414 Canadian Cultural History.
(3) (Prerequisite: HIST 202 or HIST 203 or permission of the instructor.) A cultural history of Canada, with culture defined in both the anthropological sense as comprising an entire way of life-,material, intellectual and spiritual- and in the familiar sense of embodying the life of the intellect and the arts.

HIST 415 European Cultural History 2.
(3) (Prerequisite: HIST 214 and HIST 215 or a course in European intellectual history or written consent of instructor) A survey of 20th century French and European cultural/intellectual history.

● HIST 416 British and French Identity.
(3) (Prerequisite: A 300-level course in British or French History or permission of instructor.) Examines the close yet conflictual histories of Britain and France through the way each formed and projected national identities, the way in which those identities changed over time, and the wider impact these various identities have had.

● HIST 417 The Celtic Fringe.
(3) (Prerequisite: At least one course in Modern British History) Social, economic, political and cultural topics in the modern history of Wales, Scotland and Ireland.

● HIST 418 Topics: Atlantic World.
(3) (Prerequisites: any two of the following: HIST 200, HIST 202, HIST 211, HIST 214, HIST 309 or permission of instructor.) (Restriction: Enrollment limit 25.) Exploration of a specific theme in Atlantic history, 1500 to 1850.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**HIST 419 Central America.**
(3) (Prerequisite: HIST 309, HIST 360 or permission of instructor) (Restriction: Not open to students who have taken 101-419D) The study of historical roots of the regional crisis of the 1980s, with particular attention to Nicaragua, El Salvador and Guatemala.

●**HIST 420 Gender and Sexuality in Modern China.**
(3) (Prerequisite: A 300-level course in the History of China or Gender/Sexuality or permission of instructor.) The history of gender and sexuality in modern China. Topics include Chinese femininities and Chinese masculinities, theories of sexuality, and changing conceptions of gender identity under Confucianism, Western Imperialism, and socialism.

HIST 421 Topics in Early Modern Europe.
(3) (Prerequisite: a course in Early Modern Europe) Varying subjects of topical interest regarding early-modern Europe.

●**HIST 423 Topics: Migration and Ethnicity.**
(3) (Prerequisite: HIST 397 or permission of instructor) The study of various topics and themes in the area of migration, ethnicity and race in Canada. Topics vary from year to year.

HIST 424 Gender, Sexuality & Medicine.
(3) (Prerequisite: A 300-level History course in gender, sexuality or medicine or permission of instructor.) Gender, sexuality, and medicine since the colonial era, with a focus on North American experience. Topics will include reproductive medicine (puberty, childbirth, fertility control, menopause), changing perceptions of men's and women's health needs and risks, and ideas about sexual behaviour and identity.

●**HIST 425 European Food History.**
(3) (Prerequisite: HIST 215 or permission of instructor.) A history of food and drink in European history. Topics include: feasts and famines; the introduction of new foods and drinks from Asia and the Americas; table manners and the origins of the restaurant.

HIST 426 Topics: British Cultural History.
(3) (Prerequisite: HIST 215 or a course in British history or permission of instructor) Selected topics in intellectual and cultural history of Britain and Ireland, focusing on discussion of primary texts.

●**HIST 427 The Hasidic Movement.**
(3) (Prerequisite: HIST 307 or a course in East-European history or consent of instructor) A historical examination of the history of the Hasidic Movement from its beginnings in 18th-century Poland to the present. Although emphasis will be placed on the social history of the movement, doctrinal developments will be examined as well.

●**HIST 428 History of the Book in Britain.**
(3) (Prerequisite: A 300-level course in British history or permission of instructor.) The theory and the practice of using books, manuscripts and periodicals in Early Modern British history. Topics include literacy and orality; the print revolution; censorship; readers and reading practices; newspapers and journalism; the origins of scientific persuasion and intellectual property rights.

●**HIST 429 Topics: Canadian Family History.**
(3) (Prerequisite: HIST 202 or HIST 203 or permission of instructor) This course will examine themes in the history of the Canadian family from 1850. Historical study reveals the family as a diverse, changing, social institution. Marriage, childhood, sexuality, and the state will come under examination and the Canadian experience will be compared to that of the U.S.

HIST 430 Topics in Modern Medicine.
(3) (Prerequisites: HIST 249 (or HIST 349 prior to Winter 2006) or permission of the instructor.) Selected topics in the history of medicine in the 19th, 20th and/or 21st centuries will be explored through discussion of primary and secondary historical sources.

●**HIST 431 Topics in U.S. History.**
(3) (Prerequisite: By permission of instructor.) Various topics in United States history.

●**HIST 432 The Atlantic Provinces.**
(3) (Prerequisite: HIST 202 and HIST 203 or consent of the instructor) Themes and topics in the history of the Canadian Atlantic Provinces from the European settlement to Present.

●**HIST 433 British Queer History.**
(3) (Prerequisites: HIST 215 or a course in British History or permission of instructor.) (Restrictions: Not open to students who have taken HIST 426 in 200209.) An investigation of the changing historical construction of "deviant" and "normal" sexualities in Britain since 1700, and how queer women and men discovered ways of surviving and perhaps even flourishing in the face of persecution and hostility from the state, the churches and the medical profession.

HIST 434 British North America 1760-1867.
(3) (Prerequisite: An introductory course in history or consent or instructor) This course will study the social-cultural and political development of British North American colonies.

●**HIST 435D1 (3), HIST 435D2 (3) Germany in the 20th Century.**
(Prerequisite: HIST 234 and HIST 235 or a European survey course or consent of instructor) (Students must register for both HIST 435D1 and HIST 435D2.) (No credit will be given for this course unless both HIST 435D1 and HIST 435D2 are successfully completed in consecutive terms) First World War: national and international aspects; Weimar: economic crisis, and nationalism; rise of Hitler; structure of the National Socialist state; blue-print for World Power; Second World War; attempts to overthrow Hitler; the revolt of conscience; defeat; the Cold War and German unity; the post-War era.

HIST 436 Topics: European History.
(3) (Prerequisite: Permission of instructor.) An in-depth look at particular aspects of European history.

●**HIST 438 Topics in Cold War History.**
(3) (Prerequisite: HIST 304 or other 300-level course relevant to the current topic of the course or permission on the instructor.) One large aspect of Cold War, either thematic or regional, will be explored.

●**HIST 439 History of Women in China.**
(3) (Prerequisite: a previous course in Chinese history) This course examines the changing roles of women in traditional and modern China. Topics include political, social, and legal status, sexuality and medicine, religion and culture.

●**HIST 440 Fiction and History.**
(3) (Prerequisite: 6 credits at the 300 level in either history or literature) This course examines why and how books are classified as fiction or history. Topics include: social expectations and uses of literature; evidence and verification; the author as authority. Readings include history and fiction from various historical periods, and relevant scholarship.

HIST 441 Topics: Culture and Ritual in China.
(3) (Prerequisite: HIST 208 and HIST 218 and permission of instructor) An examination of selected aspects of the cultural and intellectual life of China. Topics vary from year to year, but include the history of popular religion, Chinese science and medicine, the esoteric arts including divination practices, law, and the influence of ideas in the production of Chinese culture.

●**HIST 442 Asian Diaspora: Chinese Overseas.**
(3) (Prerequisite: One previous course in Chinese or Asian history or permission of instructor) The contexts and causes of Chinese emigration; historical patterns of migration; Overseas Chinese communities on five continents, with emphasis on Southeast Asia and North America; alienation and identity in Chinatown; relations between the Overseas Chinese and China.

●**HIST 445 Late Imperial China.**
(3) (Prerequisite: HIST 208 or HIST 218) An introduction to the social and economic history of Late Imperial China, focusing on the Ming and early to mid Qing Dynasties (1368 - 1800), and current interpretations thereof. Was this a discrete period in Chinese history? If so, why.

●**HIST 447 The Natural History of America.**
(3) (Prerequisites: HIST 211 or permission of the instructor.) Examination of the ways in which interpretations of the natural world in the Americas were constructed by European travellers, colonial settlers and others. Emphasis primarily on natural histories of colonial British America, but coverage includes comparison across national and regional boundaries within the early modern Atlantic world.

HIST 448 Women, Gender and Sexuality in the Middle East.
(3) (Prerequisite: A course on women, gender or sexuality or permission of instructor.) A focus on women in the history of the late-19th- and 20th-Century Middle East, and on the ways in which gender analysis and sexuality illuminate the history of national and religious communities. Topics such as: education, masculinity, sexuality, Western representations of Middle Eastern women, and gender and the nation.

HIST 449 Medicine in the Ancient World.
(3) (Prerequisite: HIST 349 or an introductory course in Ancient Greek or Roman history) (Restriction: Not open to students who have taken HIST 452 and HIST 453) The evolution of ideas about the human body, disease, and therapeutics, and the diverse practices of medicine in Graeco-Roman antiquity (ca 800BC - ca 600CE), with particular attention given to their social, political, cultural and religious context.

HIST 450 Ancient History Methods.
(3) (Prerequisite: 3 credits at the 300-level in Ancient history or permission of the instructor.) Different methods and strategies employed by Ancient historians, including numismatics, epigraphy, and papyrology.

●**HIST 451 The Ancient Mediterranean City.**
(3) (Prerequisite: 3 credits at the 300-level in Ancient history or permission of instructor.) Advanced study of ancient Mediterranean city-states, focusing on their urban setting and political, social, economic, and cultural institutions.

●**HIST 452 Medicine in Europe 1500-1700.**
(3) (Prerequisites: HIST 214 or HIST 249 and a 300-level course in History or permission of instructor.) (Priority is given to students in Honours History, students registered for the Minor in Social Studies of Medicine, and graduate students in History, Medical Anthropology, and Medical Sociology) The history of the evolution of ideas about the human body, disease and therapeutics and the diverse practices of medicine in Western Europe in the 16th and 17th centuries, with particular attention to their social, political, cultural and religious context.

HIST 453 History of Revolution in Europe.
(3) (Prerequisite: HIST 215 or permission of instructor) The evolution of the concept and phenomenon of revolution from the 1640s in England to 1989 in eastern Europe. How the experiences of 1789, 1848, and 1917 changed the theory and practice of revolution.

●**HIST 456 Russian Intellectual History 1825-1917.**
(3) (Prerequisite: HIST 236 or a course in European intellectual history, or consent of instructor) Sequel to HIST 446, from the year of the Decembrist insurrection to the Bolshevik Revolution. Discussion of the Russian influence on European and American intellectuals in the 19th century.

HIST 457 Topics in Medical History.
(3) (Prerequisite: HIST 349 or HIST 356 or permission of instructor) This course explores different topics in medical history. Topics to be explored include the role of medicine from ancient to modern times.

●**HIST 458 Modern Medicine: Seminar.**
(3) (Restriction: Not open to students who have taken 101-459D) The emergence of scientific medicine, medical professionalization, the development of public health and the process of medical specialization since 1700.

●**HIST 459 Modern Medicine: Research.**
(3) (Prerequisite: HIST 458) (Restriction: Not open to students who have taken 101-459D) (Priority given to students in Honours History and students registered for the Minor in Social Studies of Medicine.) Supervised design, research, writing, and discussion of a major research paper on a theme in the history of modern medicine since 1700.

●**HIST 460 Milton in Myth and History.**
(3) (Prerequisite: a 200-level course on modern English or European history or literature, or permission of instructor) The great poet-revolutionary as construed or caricatured by contemporaries, and posthumous fans and foes such as Voltaire, Dr Johnson, the Romantics, Whigs, Unitarians, Victorian feminists, Marxists, Bolsheviks, and ex-Marxists.

HIST 461D1 (3), HIST 461D2 (3) Topics in Modern U.S. History.
(Prerequisite: any course in American History or consent of instructor) (Students must register for both HIST 461D1 and HIST 461D2.) (No credit will be given for this course unless both HIST 461D1 and HIST 461D2 are successfully completed in consecutive terms)

●**HIST 462D1 (3), HIST 462D2 (3) Topics: Canadian Conservatism.**
(Prerequisite: HIST 202 and HIST 203. Reading knowledge of French is required) (Students must register for both HIST 462D1 and HIST 462D2.) (No credit will be given for this course unless both HIST 462D1 and HIST 462D2 are successfully completed in consecutive terms) A critical examination of political, intellectual and institutional manifestations of conservatism in Canada from New France to Reform Party.

●**HIST 463D1 (3), HIST 463D2 (3) Topics: History of Women in Canada.**
(Prerequisite: HIST 203 or consent of instructor)
(Restriction: Not open to students who have taken HIST 493) (Students must register for both HIST 463D1 and HIST 463D2.) (No credit will be given for this course unless both HIST 463D1 and HIST 463D2 are successfully completed in consecutive terms) A research seminar on the history of women in Canada since Confederation. Students will get familiar with primary sources and are expected to produce a major research paper in the second term.

HIST 464D1 (3), HIST 464D2 (3) Topics: Latin American History.
(Prerequisite: HIST 309 or consent of instructor) (Students must register for both HIST 464D1 and HIST 464D2.) (No credit will be given for this course unless both HIST 464D1 and HIST 464D2 are successfully completed in consecutive terms) This seminar counts as part of the North American concentration for Honours students.

●**HIST 465D1 (3), HIST 465D2 (3) Seminar: Italian Renaissance.**
(Prerequisite: HIST 214 or consent of instructor) (Students must register for both HIST 465D1 and HIST 465D2.) (No credit will be given for this course unless both HIST 465D1 and HIST 465D2 are successfully completed in consecutive terms)

●**HIST 466 Seminar: Medieval Medicine**
(3) Models of the body, disease and medical intervention current in western Europe between 400 and 1500 AD will be examined through analysis of primary sources in translation, and modern historical scholarship. The sequel to this course is HIST 496.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

● **HIST 467 Indian Ocean World Slave Trade.**
(3) (Prerequisites: HIST 200 or HIST 206 or HIST 213 or permission of instructor.) The origins, structure and impact of the Indian Ocean World slave trade from early times to the present day. Enslavement, the trading structure, slave functions, reactions to slavery, emancipation and 'slave' diaspora. Comparisons will be made to the Atlantic slave system.

● **HIST 469D1 (3), HIST 469D2 (3) Topics in Canadian Religious History.**
(Prerequisite: HIST 202 and HIST 203, plus HIST 357. A reading knowledge of French is highly recommended) (Students must register for both HIST 469D1 and HIST 469D2.) (No credit will be given for this course unless both HIST 469D1 and HIST 469D2 are successfully completed in consecutive terms)

● **HIST 470D1 (3), HIST 470D2 (3) Topics: Historical Interpretation.**
(Students must register for both HIST 470D1 and HIST 470D2.) (No credit will be given for this course unless both HIST 470D1 and HIST 470D2 are successfully completed in consecutive terms)

● **HIST 474 History of the GULAG 1918-1991.**
(3) (Prerequisites: A 200- or 300-level course in Russian or East European history or permission of instructor.) The Soviet concentration camps, set up as a system of repression after the 1917 October Revolution, lasted until the collapse of the USSR.

HIST 476D1 (3), HIST 476D2 (3) Seminar: Topics in Russian History.
(Students must register for both HIST 476D1 and HIST 476D2.) (No credit will be given for this course unless both HIST 476D1 and HIST 476D2 are successfully completed in consecutive terms)

● **HIST 477D1 (3), HIST 477D2 (3) Seminar in Jewish History.**
(Students must register for both HIST 477D1 and HIST 477D2.) (No credit will be given for this course unless both HIST 477D1 and HIST 477D2 are successfully completed in consecutive terms)

● **HIST 478 Pre-modern Chinese Law and Society.**
(3) (Prerequisite: Any 300-level course in Chinese history or permission of the instructor.) The history of Chinese law and society from early pre-imperial to late imperial times. Themes include the philosophical basis of Chinese law; development of different forms of legislation; practice of pre-modern law; law and social and political change; military law; legal cases translated from primary sources.

HIST 482D1 (3), HIST 482D2 (3) Seminar: Antiquity to Reformation.
(Students must register for both HIST 482D1 and HIST 482D2.) (No credit will be given for this course unless both HIST 482D1 and HIST 482D2 are successfully completed in consecutive terms)

HIST 483D1 (3), HIST 483D2 (3) History of Montreal.
(Prerequisite: HIST 202 and HIST 203 and other courses on French Canada or consent of instructor) (Students must register for both HIST 483D1 and HIST 483D2.) (No credit will be given for this course unless both HIST 483D1 and HIST 483D2 are successfully completed in consecutive terms)

HIST 485D1 (3), HIST 485D2 (3) Seminar in Japanese History.
(Prerequisite: HIST 208 or HIST 218 or consent of instructor) (Students must register for both HIST 485D1 and HIST 485D2.) (No credit will be given for this course unless both HIST 485D1 and HIST 485D2 are successfully completed in consecutive terms) Particular attention will be paid to Japanese responses to the impact of Western culture from the sixteenth century, and to aspects of Japanese intellectual history.

● **HIST 486D1 (3), HIST 486D2 (3) Topics: African Social History.**
(Prerequisite: HIST 200 or consent of instructor) (Students must register for both HIST 486D1 and HIST 486D2.) (No credit will be given for this course unless both HIST 486D1 and HIST 486D2 are successfully completed in consecutive terms)

● **HIST 489D1 (3), HIST 489D2 (3) Topics: Germany.**
(Students must register for both HIST 489D1 and HIST 489D2.) (No credit will be given for this course unless both HIST 489D1 and HIST 489D2 are successfully completed in consecutive terms)

HIST 490D1 (3), HIST 490D2 (3) Honours Tutorial 1.
(Students must register for both HIST 490D1 and HIST 490D2.) (No credit will be given for this course unless both HIST 490D1 and HIST 490D2 are successfully completed in consecutive terms)

HIST 491D1 (3), HIST 491D2 (3) Honours Tutorial 2.
(Students must register for both HIST 491D1 and HIST 491D2.) (No credit will be given for this course unless both HIST 491D1 and HIST 491D2 are successfully completed in consecutive terms) (HIST 491D1 and HIST 491D2 together are equivalent to HIST 491)

● **HIST 492D1 (3), HIST 492D2 (3) Topics in Comparative History.**
(Students must register for both HIST 492D1 and HIST 492D2.) (No credit will be given for this course unless both HIST 492D1 and HIST 492D2 are successfully completed in consecutive terms) (HIST 492D1 and HIST 492D2 together are equivalent to HIST 492)

● **HIST 493D1 (3), HIST 493D2 (3) Topics: Canadian Social History.**
(Students must register for both HIST 493D1 and HIST 493D2.) (No credit will be given for this course unless both HIST 493D1 and HIST 493D2 are successfully completed in consecutive terms)

● **HIST 496 Research: Medieval Medicine.**
(3) (Restriction: Open only to students who have taken HIST 466) Supervised design, research, writing, and discussion of a theme in the history of western European medicine, 400 - 1500 AD.

● **HIST 497D1 (3), HIST 497D2 (3) Topics in Chinese History.**
(Prerequisite: HIST 208 and HIST 218 and a 300-level course in Chinese History or permission of instructor) (Students must register for both HIST 497D1 and HIST 497D2.) (No credit will be given for this course unless both HIST 497D1 and HIST 497D2 are successfully completed in consecutive terms) A research seminar on aspects of Chinese history from early time to the present, with emphasis on social history.

● **HIST 498D1 (3), HIST 498D2 (3) Seminar in Eastern Europe.**
(Prerequisite: a course in European history or permission of instructor) (Students must register for both HIST 498D1 and HIST 498D2.) (No credit will be given for this course unless both HIST 498D1 and HIST 498D2 are successfully completed in consecutive terms) Particular attention will be paid to problems confronting the contemporary historian.

HIST 499 Internship: History.
(3) (Summer) (Prerequisite: Permission of the departmental Internship Advisor.) (Restriction: Open to U2 and U3 students with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor.) Internship with an approved host institution or organization.

● **HIST 510**
(3)

● **HIST 525 Women, Work and Family in Global History.**
(3) (Prerequisite: A 300 or 400-level course in women's history or labour history or permission of instructor.) (Restriction: Restricted to students in History and Women's Studies.) The shifting historical context of female labour and family in selected western and non-western countries; the interaction between labour and gender relations with special focus on women's experiences on the shop floor and in the family.

HIST 526 Women and War.
(3) (Prerequisite(s): A 300 or 400-levelcourse in women's history or permission of instructor) Examines the impact of war on individuals, families and societies. Studies the experiences of women and children in exile, mass persecutions, and punishments associated with social unrest, revolution or wars during twentieth century.

●**HIST 530 U.S. Foreign Relations.**
(3) (Prerequisite: one course in U.S. history or permission of instructor.) (Restriction: Enrollment limit 25.) The history and historiography, approaches and interpretations, of American foreign relations from the pre-Revolutionary era to the present.

HIST 550 Ancient History: Seminar.
(3) (Fall) (Prerequisite (Undergraduate): 6 credits at the 300 or 400-level in Ancient history or permission of instructor.) (Restriction: Honours students or advanced undergraduates who have permission of the instructor. Also open to graduate students.) Topics in ancient Mediterranean History, focusing on Greek and/or Roman society.

HIST 551 Ancient History: Research.
(3) (Winter) (Prerequisite: HIST 550) (Restriction: Honours students or advanced undergraduates who have permission of the instructor. Also open to graduate students.) Research paper on a theme in ancient Mediterranean history.

HIST 552 International Relations: Seminar.
(3) (Prerequisite: Permission of instructor.) (Restrictions: Restricted to Graduate students and Honours students or advanced students who have permission of the instructor.) Readings on and discussion of a theme in the history of international relations.

HIST 553 International Relations: Research.
(3) (Prerequisite: HIST 552) (Restrictions: Open only to students who have taken HIST 552 in the previous semester.) Supervised design of, research for and writing of a substantial paper on a theme in the history of international relations.

HIST 556 Colonial America: Seminar 1.
(3) (Prerequisite: Permission of instructor.) (Restrictions: Restricted to Honours students or advanced undergraduates who have permission of the instructor. Not open to students who have taken HIST 481D1/D2.) Readings in and discussion of a theme in the history of Colonial America. Topics will change from year to year.

HIST 557 Colonial America: Seminar 2.
(3) (Prerequisite: HIST 556) (Restrictions: Open only to students who have taken HIST 556 in the previous semester. Not open to students who have taken HIST 481D1/D2.) Supervised design, research and writing of a substantial research paper on a theme in the history of Colonial America.

●**HIST 560 World History: Seminar.**
(3) (Prerequisite: Permission of instructor.) (Restrictions: Restricted to Graduate students and Honours students or advanced students who have permission of the instructor) Readings on and discussion of a theme in world history.

HIST 561 World History: Research.
(3) (Prerequisite: HIST 560) (Restrictions: Open only to students who have taken HIST 560 in the previous semester.) Supervised design of, research for and writing of a substantial paper on a theme in world history.

HIST 565 Modern Britain: Seminar 1.
(3) (Prerequisite: Permission of the instructor.) (Restrictions: Honours students or advanced undergraduates. Not open to students who have taken HIST 484D1/D2 and/or HIST 634D1/D2.) Readings in and discussion of a theme in Modern British history.

HIST 566 Modern Britain: Seminar 2.
(3) (Prerequisite: HIST 565) (Restrictions: Not open to students who have taken HIST 484D1/D2 and/or HIST 634D1/D2.) Supervised design, research and writing of a substantial research paper on a theme in modern British history.

●**HIST 579 The Arts of Healing in China.**
(3) (Prerequisite (Undergraduate): At least two courses at the 300-level or above in East Asian history or permission of instructor) An historical perspective on the diverse arts of healing in China focusing on Key formations such as popular traditions, the emergence of classical medicine, the creation of Traditional Chinese medicine in modern China. Emphasis on healing as part of social, historical, intellectual, and cultural processes.

●**HIST 580D1 (3), HIST 580D2 (3) European and Native-American Encounters.**
(Prerequisite (Undergraduate): Permission of instructor. Priority is given to Graduate students) (Students must register for both HIST 580D1 and HIST 580D2.) (No credit will be given for this course unless both HIST 580D1 and HIST 580D2 are successfully completed in consecutive terms) This seminar will examine European and Native encounters throughout the Americas, from the late 15th century to the mid-nineteenth century. The aim is to introduce students to key primary sources related to contact, and to the methods used to interpret them.

●**HIST 581 The Art of War in China.**
(3) (Prerequisite (Undergraduate): at least two 300-level or above courses in East Asian history, or permission of instructor) A study of the historical development of military theory and practice from earliest times to 1911 from a variety of perspectives, technological, scientific, social, and cultural.

●**HIST 582 European Intellectual History.**
(3) (Prerequisite (Undergraduate): a previous course in European History or permission of instructor) A study of selected topics in 20th century French and European intellectual and cultural history and popular culture.

●**HIST 590 Topics: The British Empire.**
(3) (Prerequisite (Undergraduate): permission of instructor) Topics in the history of British formal and informal imperialism and the colonial encounter from the eighteenth to the twentieth centuries.

HIST 594D1 (3), HIST 594D2 (3) Seminar in Early Modern Britain.
(Prerequisite: any university course in British history or consent of instructor) (Note: Topics will vary from year to year.) (Restriction: Undergraduate Honours students or Masters students in history.) (Students must register for both HIST 594D1 and HIST 594D2.) (No credit will be given for this course unless both HIST 594D1 and HIST 594D2 are successfully completed in consecutive terms) Topics in early modern British history.

●**HIST 595D1 (3), HIST 595D2 (3) Seminar: Early Modern Western Europe.**
(Prerequisite (Undergraduate): permission of instructor) (Students must register for both HIST 595D1 and HIST 595D2.) (No credit will be given for this course unless both HIST 595D1 and HIST 595D2 are successfully completed in consecutive terms) This course is intended to offer advanced analytical and research training in a selected theme in western European history during the period from the Italian Renaissance to the French Revolution.

HMST-Humanistic Studies

Offered by: Arts - Dean's Office

HMST 296 Western Humanistic Tradition 1.
(3) (Restriction: students registering in Humanistic Studies.) (Restriction: Not open to students who have taken HMST 200.) Implicit and explicit responses in selected texts (philosophical, literary, theological, historical) in the western tradition from 750 BCE to 1600 to the question,

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

"What is it to be human?"

HMST 297 Western Humanistic Tradition 2.
(3) (Prerequisite: HMST 296.) (Restriction: students registering in Humanistic Studies.) (Restriction: Not open to students who have taken HMST 200.) Implicit and explicit responses in selected texts (philosophical, literary, theological, historical) in the western tradition from 1600 to the present to the question, "What is it to be human?"

HPSC-Hist & Phil of Science

Offered by: Arts - Dean's Office

●**HPSC 300 Independent Studies: History and Philosophy of Science.**
(3) (Restriction: Permission of Director and History & Philosophy of Science Committee) Offered by special arrangement between students in Arts or Science and a professor in either a Science or a Social Science Department. The purpose is to enable a student to undertake for credit the study of a special topic in the History or the Philosophy of Science.

HPSC 500 Interdisciplinary Seminar: History & Philosophy of Science.
(3) (Restriction: Permission of Instructor) At least one topic will be chosen from each of the four major areas: the mathematical, the physical, the biological, the social sciences.

HSEL-Health Science Electives

Offered by: Nursing

HSEL 308 Issues in Women's Health.
(3) (Fall) (Prerequisite: Introductory Psychology or Sociology or permission of the instructor) (Complementary course for the Women's Studies and Social Studies of Medicine Concentrations) Exploration of a wide range of topics on the health of women. Topics include use of health care system, poverty, roles, immigration, body image, lesbian health, and violence against women. Additional topics vary by year. A Health Science elective open to students in the Faculties of Arts, Science, and Medicine.

HSEL 309 Women's Reproductive Health.
(3) (Winter) (Prerequisite: Introductory Psychology or Sociology or permission of the instructor) (Restriction: not open for credit to students who have taken HSEL 308 prior to September 1997) (Complementary course for the Women's Studies and Social Studies of Medicine Concentrations) Concepts of health and medicalization. Canadian and international perspectives. Topics include contraception, abortion, infertility, menstruation, menopause, new reproductive technologies, prenatal care, childbirth. Additional topics vary by year. A Health Science elective open to students in the Faculties of Arts, Science, and Medicine.

INTD-International Development

Offered by: Arts - Dean's Office

INTD 200 Introduction to International Development.
(3) An interdisciplinary introduction to the field of International Development Studies focusing on the theory and practice of development. It examines various approaches to international development, including past and present relationships between developed and underdeveloped societies, and pays particular attention to power and resource distribution globally and within nations.

INTD 490 Development Field Research.
(3) (Prerequisite: completion of ECON 313 and 3 credits of IDS Group A Complementary Courses) (Restriction: Open only to students enrolled in International Development Studies Concentrations with prior approval of IDS program adviser and project supervisor) Supervised reading, field work and research project in international development. Requirements consist of previously approved project proposal, field component (usually carried out during the summer), and research report based on field work to be completed upon return.

INTD 491 Research Project.
(3) (Summer) (Restriction: Open only to U3 Honours and Joint Honours students.) Supervised reading and preparation of a research project under the direction of a member of staff.

INTD 492 Honours Thesis.
(6) (Summer) (Restriction: Open only to U3 Honours and Joint Honours students.) (Restriction: Permission of an appropriate supervising instructor and program adviser required.) Supervised reading and preparation of a research report under the direction of a member of staff.

INTD 492D1 (3), INTD 492D2 (3) Honours Thesis.
(Students must register for both INTD 492D1 and INTD 492D2.) (No credit will be given for this course unless both INTD 492D1 and INTD 492D2 are successfully completed in consecutive terms) (INTD 492D1 and INTD 492D2 together are equivalent to INTD 492) Supervised reading and preparation of a research report under the direction of a member of staff.

INTD 492N1 (3), INTD 492N2 (3) Honours Thesis.
(Students must also register for INTD 492N2) (No credit will be given for this course unless both INTD 492N1 and INTD 492N2 are successfully completed in a twelve month period) (INTD 492N1 and INTD 492N2 together are equivalent to INTD 492) Supervised reading and preparation of a research report under the direction of a member of staff.

INTD 497 Research Seminar on International Development.
(3) (Restriction: Open only to students in final year of an IDS Concentration) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) An interdisciplinary research seminar on topics of common interest to staff and students of the International Development Studies programs. See http://www.mcgill.ca/ids/courseinfo/intd497

INTD 499 Internship: International Development Studies.
(3) (Restriction: Open to U2 and U3 students with a minimum CGPA of 2.7, and permission of the departmental Internship Adviser. This course will not normally fulfill program requirements for seminar or 400-level courses. A letter from a supervisor at the institution must attest to successful completion of the student's tenure.) Internship with an approved host institution or organization.

ISLA-Islamic Studies

Offered by: Islamic Studies

ISLA 200 Islamic Civilization.
(3) (Winter) (Note: All readings are in English.) An introduction to, and survey of, the religious, literary, artistic, legal, philosophical and scientific traditions that constituted Islamic civilization from the 7th Century until the mid-19th Century.

ISLA 210 Muslim Societies.
(3) (Fall) An introduction to the different, often disparate, ways in which Muslims live and think in the modern world (19th-21 centuries). Muslim social contexts across the globe and cyberspace.

ISLA 345 Science and Civilization in Islam.
(3) (Winter) (Prerequisite: ISLA 200 or permission of the instructor.) (Note: All readings are in English.) History of scientific traditions and ideas in Islamic civilization, from the origins of Islam to the early modern period. Emphasis is on the derivation, development and transmissions of Islamic science, as well as on the assimilation and influence of science within Islamic culture.

●**ISLA 350 From Tribe to Dynasty.**
(3) (Prerequisite: ISLA 200 or permission of instructor.) (Restriction: Not open to U0 or U1 students.) The political and intellectual developments shaping Arab and Persian societies from the rise of Islam in the 7th century until the early mid 8th century, including the major social changes, political revolts, religious schisms, and the consolidation of lasting cultural institutions.

●**ISLA 355 Modern History of the Middle East.**
(3) (Prerequisite: ISLA 210 or permission of instructor.) Assessment of the historical transformation of the modern Middle East concentrating on its internal socio-economic changes, as well as the colonial experience and encounters with the West since the early 19th century. Examination of the historical conditions that led to the rise of nationalism, the nation-state, the Arab-Israeli conflict.

ISLA 360 Islam and Politics.
(3) (Fall) (Prerequisite: ISLA 210 or permission of instructor.) Assessment of the relationship between Islam and politics in the contemporary Middle East and Africa through various analytic themes, including political economy, social movement and gendered analysis.

●**ISLA 365 Middle East Since the 1970's.**
(3) (Prerequisite: ISLA 210 or permission of instructor.) Changes that have occurred in the Middle East since the 1970's, viewed through the lens of themes such as migration, consumerism, war, communications, and ideology.

●**ISLA 380 Islamic Philosophy and Theology.**
(3) (Prerequisite: ISLA 200 or permission of instructor.) (Restriction: Not open to U0 or U1 students.) (Note: Reading and discussion in English.) A survey of the most important philosophers and theologians in Islamic intellectual history, with a focus on the theories they articulated and the movements they engendered. The impact of European thought on 19th and 20th century Islamic intellectual history is also examined.

ISLA 383 Central Questions in Islamic Law.
(3) (Winter) (Prerequisite: ISLA 200 or permission of instructor.) An integrative view of Islamic law in the past and present, including landmarks in Islamic legal history (e.g., sources of law; early formation; intellectual make-up; the workings of court; legal change; legal effects of colonialism; modernity and legal reform) and a structured definition of what it was/is.

●**ISLA 385 Poetics & Politics in Arabic Literature.**
(3) (Prerequisite: ISLA 210 or permission of instructor.) (Restriction: Not open to U0 or U1 students.) (Note: Reading and discussion in English.) Major issues in classical and modern Arabic literature; how poetics and politics interact in classical and modern, popular folktales and high literature, novels and poetry. The politics of translation from Arabic into English.

●**ISLA 388 Persian Literature.**
(3) (Prerequisite: ISLA 200 or permission of instructor.) (Note: Readings in English.) Examination of literature produced in the Persian-speaking world from the mid 10th to the late 20th century C.E. A broad selection of texts (prose and poetry) will be studied in translation.

●**ISLA 392 Arabic Literature as World Literature.**
(3) (Prerequisite: ISLA 210 or permission of instructor.) Consideration of Arabic literature as part of world literature, including exploration of tensions between reading Arabic literature as local, discrete and self-contained and as part of larger global phenomena.

●**ISLA 410 History: Middle-East 1798-1918.**
(3) (Fall) (3 hours) A study of the Middle East from Napoleon's invasion of Egypt to the end of WW I. Emphasis will be on the emergence of nationalisms in the context of European imperialism; political, social, and economic transformation; religion and ideology; and changing patterns of alliances.

●**ISLA 411 History: Middle-East 1918-1945.**
(3) (Fall) (3 hours) The impact of WW I on Middle Eastern society and politics; the British and French mandates; the growth of nationalisms, revolutions and the formation of national states; WW II and the clash of political interests within the region.

ISLA 415 Modern Iran: Anthropological Approach.
(3) (Winter) (Prerequisite: ISLA 210 or permission of instructor.) The modern history, social, and cultural anthropology of contemporary Iran.

●**ISLA 420 Indo-Islamic Civilization: Medieval.**
(3) (Prerequisite: ISLA 200 or permission of instructor.) The rise of Islam in South Asia in the 8th Century and its subsequent expansion; evolution of Indo-Islamic civilization and its apogee during Mughal rule up to 1707. Themes include state and religion; ruling institutions; political theory, Sufism and the process of conversion, as well as the formation of a composite culture.

ISLA 421 Islam in South Asia: 1757 to Present.
(3) (Winter) (Prerequisite: ISLA 420 or permission of instructor.) Pre-colonial eighteenth century; colonial disruption: "ulama" and litterateurs as reformers, protagonists of modernism and traditionalism, and social activists; the challenges of modernity and search for Islamic solutions; minority identity and political separatism; Pakistan, Bangladesh, and Indian Muslims.

●**ISLA 501 The Qur'an: Text and History.**
(3) A study of the Qur'an's teachings, structures, style, and history in the light of classical and modern scholarship.

●**ISLA 505 Islam: Origin and Early Development.**
(3) (3 hours) The Qur'an, Hadith, the Shari'a and their major themes. The early development of law, theology and Sufism. The development and formation of an Islamic "orthodoxy", the development and nature of competing interpretations of Islam during the Classical Period. Topics: God, revelation, prophecy, the community and the individual and the meaning of history.

ISLA 506 Islam: Later Developments.
(3) (Fall) (3 hours) How the basic elements of Islam have been understood in the course of later Islamic history up to the present day. The nature and development of Shi'ism, Sufi brotherhoods, major intellectual trends, Islam in a world of nation states, diaspora. The challenges of modernity and the contemporary world.

●**ISLA 510D1 (3), ISLA 510D2 (3) History: Islamic Civilization - Classical.**
(Fall and Winter) (3 hours) (Students must register for both ISLA 510D1 and ISLA 510D2.) (No credit will be given for this course unless both ISLA 510D1 and ISLA 510D2 are successfully completed in consecutive terms) The origins of the early Islamic state in Arabia and the Umawi Caliphate. The growth of an Islamic civilization, and the "Abbasi Empire" until the Seljuk period. The rise of the Fatimis. The Caliphate of Cordoba.

●**ISLA 511D1 (3), ISLA 511D2 (3) History: Islamic Civilization - Mediaeval Era.**
(Fall and Winter) (3 hours) (Students must register for both ISLA 511D1 and ISLA 511D2.) (No credit will be given for this course unless both ISLA 511D1 and ISLA 511D2 are successfully completed in consecutive terms) The Seljuks, and the medieval synthesis. The Moors in Spain and North Africa. The Crusades. The Mongols and the destruction of the Baghdad Caliphate. The Mamluk, Persian, Turkish and Indian Empires until 1700.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ISLA 521D1 (4.5), ISLA 521D2 (4.5) Introductory Arabic.
(Fall and Winter) (5 lecture hours and laboratory) (Students must register for both ISLA 521D1 and ISLA 521D2.) (No credit will be given for this course unless both ISLA 521D1 and ISLA 521D2 are successfully completed in consecutive terms) Modern Standard Literary Arabic (non-spoken).

●**ISLA 522 Lower Intermediate Arabic.**
(6) (Summer) (3 hours and laboratory) (Prerequisite: ISLA 521 or equivalent)

ISLA 522D1 (3), ISLA 522D2 (3) Lower Intermediate Arabic.
(Fall) (3 hours and laboratory) (Prerequisite: ISLA 521 or equivalent) (Students must register for both ISLA 522D1 and ISLA 522D2.) (No credit will be given for this course unless both ISLA 522D1 and ISLA 522D2 are successfully completed in consecutive terms) (ISLA 522D1 and ISLA 522D2 together are equivalent to ISLA 522)

ISLA 523D1 (3), ISLA 523D2 (3) Higher Intermediate Arabic.
(Fall and Winter) (3 hours and laboratory) (Prerequisite: ISLA 522 or equivalent) (Formerly 397-623) (Students must register for both ISLA 523D1 and ISLA 523D2.) (No credit will be given for this course unless both ISLA 523D1 and ISLA 523D2 are successfully completed in consecutive terms)

●**ISLA 531D1 (3), ISLA 531D2 (3) Survey Development of Islamic Thought.**
(Fall) (3 hours) (Students must register for both ISLA 531D1 and ISLA 531D2.) (No credit will be given for this course unless both ISLA 531D1 and ISLA 531D2 are successfully completed in consecutive terms) A survey of the development of the major intellectual traditions of Islamic civilization in medieval and modern times.

ISLA 532D1 (3), ISLA 532D2 (3) Introductory Turkish.
(Fall and Winter) (3 lecture hours plus conference and laboratory) (Students must register for both ISLA 532D1 and ISLA 532D2.) (No credit will be given for this course unless both ISLA 532D1 and ISLA 532D2 are successfully completed in consecutive terms)

ISLA 533D1 (3), ISLA 533D2 (3) Lower Intermediate Turkish.
(Fall and Winter) (3 lecture hours plus conference and laboratory) (Prerequisite: ISLA 532 or equivalent) (Students must register for both ISLA 533D1 and ISLA 533D2.) (No credit will be given for this course unless both ISLA 533D1 and ISLA 533D2 are successfully completed in consecutive terms)

ISLA 541D1 (3), ISLA 541D2 (3) Introductory Persian.
(Fall and Winter) (3 hours) (Students must register for both ISLA 541D1 and ISLA 541D2.) (No credit will be given for this course unless both ISLA 541D1 and ISLA 541D2 are successfully completed in consecutive terms)

ISLA 542D1 (3), ISLA 542D2 (3) Lower Intermediate Persian.
(Fall and Winter) (3 hours) (Prerequisite: ISLA 541 or equivalent) (Students must register for both ISLA 542D1 and ISLA 542D2.) (No credit will be given for this course unless both ISLA 542D1 and ISLA 542D2 are successfully completed in consecutive terms)

ISLA 551D1 (3), ISLA 551D2 (3) Introductory Urdu.
(Fall and Winter) (3 hours) (Students must register for both ISLA 551D1 and ISLA 551D2.) (No credit will be given for this course unless both ISLA 551D1 and ISLA 551D2 are successfully completed in consecutive terms) Introduction to the basic grammatical structures and vocabulary of the Urdu language, including drills in pronunciation and sentence structures.

ISLA 552D1 (3), ISLA 552D2 (3) Intermediate Urdu.
(Fall and Winter) (3 hours) (Prerequisite: ISLA 551 or equivalent) (Students must register for both ISLA 552D1 and ISLA 552D2.) (No credit will be given for this course unless both ISLA 552D1 and ISLA 552D2 are successfully completed in consecutive terms) Assuming a knowledge of basic grammar and vocabulary, this course continues with the study of more complex grammatical structures. Reading and composition exercises in Urdu script are designed to give intermediate competency in the language.

●**ISLA 553 Advanced Urdu 1.**
(3)

ISLA 581 Special Topics 1.
(3) (Note: Subject matter will vary year to year, according to the instructor. Topic will be announced at the beginning of the term.) Selected topics in Islamic studies.

●**ISLA 585 Arab Women's Literature.**
(3) (Prerequisite: ISLA 392 or permission of instructor.) (Note: Readings in English translation.) Explorations of writings by Arab women. Issues include: translation/reception, gender and genre, categories of knowledge about Arab women, feminist and post-colonial theories/methodologies.

ITAL-Italian

Offered by: Italian Studies

●**ITAL 199 FYS: Italy's Literature in Context.**

(3) (Fall) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) (Given in English) The purpose of this seminar is to re-visit, problematically, the commonsense notion that literature "reflects" reality (or society). Classics of twentieth-century Italian writing shall be analyzed as the response of that nation's literary imagination to the contradictions of its turbulent political and social history.

ITAL 205D1 (3), ITAL 205D2 (3) Italian for Beginners'.
(Fall, Winter) (3 hours and laboratory) (Students must register for both ITAL 205D1 and ITAL 205D2.) (No credit will be given for this course unless both ITAL 205D1 and ITAL 205D2 are successfully completed in consecutive terms) Grammar, reading, dictation. Intensive practice in speech patterns and written structures. Conversation and composition. Visual material and selected readings will be used in describing the making of contemporary Italy.

ITAL 206 Beginners' Italian Intensive.
(6) (Summer) (6 hours and 1 hour laboratory) (Restriction: Not open to students who have taken ITAL 205D1/ITAL 205D2) Designed to cover in one term the same material as ITAL 205D1/ITAL 205D2. The Summer term will also be given in Florence, Italy, as part of McGill's Summer courses in Italy program.

ITAL 210D1 (3), ITAL 210D2 (3) Elementary Italian.
(Fall, Winter) (3 hours and laboratory) (Restriction: Not open to students who have taken ITAL 205D1/ITAL 205D2 or ITAL 206) (Students must register for both ITAL 210D1 and ITAL 210D2.) (No credit will be given for this course unless both ITAL 210D1 and ITAL 210D2 are successfully completed in consecutive terms) The course is intended for students who have never studied Italian but who have had some informal exposure to the language. Grammar, reading, conversation and composition. An outline of Italian civilization, oral presentations and discussions.

ITAL 215D1 (3), ITAL 215D2 (3) Intermediate Italian.
(Fall, Winter) (Students must register for both ITAL 215D1 and ITAL 215D2.) (No credit will be given for this course unless both ITAL 215D1 and ITAL 215D2 are successfully completed in consecutive terms) Direct continuation of ITAL 205D1/ITAL 205D2. Grammar, literary readings, conversation. Grammar exercises and composition. Reading of selected literary works, oral presentations and group discussion.

ITAL 216 Intermediate Italian Intensive.
(6) (Summer) (6 hours) (Prerequisite: ITAL 205D1/ITAL 205D2 or ITAL 206 or permission of the Department) (Restriction: Not open to students who have taken ITAL 210) Course designed to cover in one term the same material as ITAL 215D1/ITAL 215D2. Direct continuation of ITAL 206. The Summer term will be given in Florence, Italy, as part of McGill's Summer courses in Italy program.

ITAL 300 Italian Literary Composition.
(3) (Fall) (3 hours seminar) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Analysis and discussion of selected 19th and 20th century literary texts with a view to improving language and composition skills. Review of major grammatical difficulties.

●**ITAL 306 Advanced Reading and Composition.**
(6) (Summer) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Course is given in Florence, Italy, as part of McGill's Summer Study in Italy program. The understanding of grammatical structures through a variety of exercises; paraphrasing, translating, composition and discussion. Particular emphasis will be placed on syntax through the study of contemporary texts.

●**ITAL 307 Topics in Italian Culture.**
(3) (Summer) (Section 001 given in English, section 002 and 003 given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2 or ITAL 216, or equivalent) Course is given in Florence, Italy, as part of McGill's Summer Study in Italy program. Selected topics in Italian culture (topics may vary and may concentrate on one or more of the following areas: geography, history, music, art history, political science and/or literature).

●**ITAL 308 Business Italian 1.**
(3) (Summer) (Prerequisite: ITAL 215D1/ITAL 215D2 or ITAL 216 or equivalent) Course is given in Florence, Italy, as part of McGill's Summer Study in Italy program. It focuses on the terminology, idiomatic expressions and syntax of Italian business language. Topics, such as workplace in Italy, credit institutions, chamber of commerce and its role, industrial associations, will be used to help develop and improve written and oral communication skills as they relate to the business world.

●**ITAL 309 Perspectives on Italy.**
(3) (Summer) Course is given in Florence, Italy, as part of McGill's Summer Study in Italy program. A study of various topics relating to the perception of Italy, the country, its people and their culture as seen by foreign and/or Italian writers. Course to be taught in English.

ITAL 311 Twentieth Century Texts.
(3) (Winter) (Given in Italian) A selection of narrative and theatrical works by 20th century authors, illustrating different facets of this century's social and literary experience.

●**ITAL 320 Manzoni: Novel and Nationhood.**
(3) (Winter) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) An analysis of the historical novel "I promessi sposi", by Alessandro Manzoni: its political, social and intellectual role in the evolution of Italy towards nationhood (Risorgimento).

●**ITAL 325 Masterpieces of Italian Literature 1.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216 or equivalent) A survey of Italian literature focused on the Middle Ages and the Renaissance. Interdisciplinary approach.

●**ITAL 326 Masterpieces of Italian Literature 2.**
(3) (Winter) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) A survey of Italian literature from Renaissance to the 20th century. Interdisciplinary approach.

●**ITAL 327 A Literary Map of Italy.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 210,215,216, or permission of instructor) Italian literature from the perspective of Italy's marked regional divisions. Works studied may range from Medieval to contemporary.

●**ITAL 328 Contemporary Italy.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215 or 216) A cultural studies approach to contemporary Italian society. Focus on distinctive traits of Italian popular culture through literature, film, television and other media.

ITAL 329 Contemporary Italian Cinema.
(3) (Fall) (Prerequisite: ITAL 210, 215 or ITAL 216.) (Note: Course taught in Italian.) Contemporary Italian films in original language. Films are examined from a wide historical and cultural perspective. Introduction to issues and preoccupations central to contemporary Italy and rooted in the Italian cultural tradition.

ITAL 330 Commedia Dell'Arte.
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Playhouses, actors, stage techniques, masks and scenarios of the "Commedia dell'Arte".

ITAL 341 The Art of Essay Writing.
(3) (Fall) (Given in Italian) (Prerequisites: ITAL 300 or permission of the Department) Word formation in the Italian language. Syntactic and stylistic aspects of texts by Italian essayists.

ITAL 355 Dante and the Middle Ages.
(3) (Winter) (Given in English) An introduction to the work of Dante Alighieri, a pillar of medieval European literature. The times in which he lived, the institutions and cultural shifts of that era, the influence exercised by Dante's work, as well as how it has been perceived in our time.

●**ITAL 356 Medieval Discourses on Love.**
(3) (Winter) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Medieval ideas, attitudes and behaviour surrounding love as represented in literature: readings will include excerpts from early Italian love lyrics, Dante's Vita Nuova, Petrarch's Canzoniere, Boccaccio's Decameron.

●**ITAL 360 Contemporary Italian Prose.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 210,215,216, or permission of instructor) A study of Italian fiction, docu-fiction and non-fiction published since 1990, examined in the context of the debates on post-modernism.

●**ITAL 361 Italian Prose after 1945.**
(3) (Winter) (Given in English) Major prose works of Italian literature as they reflect the reactions of writers to the social, cultural and political dilemmas facing Italian society in the second half of the 20th century.

ITAL 362 Literature and Society 1945-1989.
(3) (Fall) (A study of Italian prose fiction and non-fiction in the context of some of the events and issues that marked these years: the aftermath of Fascism, the economic boom, terrorism, the Mafia, the North-South question.) (Prerequisites: ITAL 215, 216 or equivalent) A study of Italian prose fiction and non-fiction in the context of some of the events and issues that marked these years: the aftermath of Fascism, the economic boom, terrorism, the Mafia, the North-South question.

●**ITAL 363 Gender, Literature and Society.**
(3) (Winter) (Given in English) (Course for the Women's Studies Concentrations) Questions of gender identity and literary representation as they emerge from women's texts or from comparisons of women's and men's texts, in relation to specific social and historical conditions. May focus on any time period in Italian history, from medieval to contemporary.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**ITAL 365 The Italian Renaissance.**
(3) (Winter) (Given in English) A presentation of the main ideas and literary masterpieces of the Italian Renaissance (13th-17thC), in the context of Italy's social, political, religious and cultural climate. Reading and discussion of selected literary texts and visual material.

ITAL 368 Literature of the Renaissance.
(3) (Winter) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Reading and discussion of selected literary texts (Poliziano, Lorenzo, Alberti, Sannazzaro, Castiglione among others) will provide an opportunity to become familiar with the social and political conditions of literary production, the ideas and debates about language and literature, and the literary genres which emerged during the Renaissance.

●**ITAL 370 Italian Poetry and Music.**
(3) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) A study of the texts of Italian madrigals, canzoni, mottetti and librettos in relation to their musical setting from the Renaissance to the 19th century. Emphasis on the transformation of literary texts for their adaptation to music, and on the language of Italian Opera. No specialized knowledge of music is required.

●**ITAL 374 Classics of Italian Cinema.**
(3) (Winter) (Note: Course taught in English.) Key works in the history of Italian cinema; an in-depth analysis of a few exceptional works; emphasis on the complex web of relationship connecting each work to a wide range of cultural products and expressions, from literature to popular culture, in Italy and internationally.

ITAL 375 Cinema and Society in Modern Italy.
(3) (Fall) (Given in English) A survey of the most important trends in post-war Italian cinema seen in the context of the rapidly and dramatically evolving society of modern Italy.

●**ITAL 380 Neorealism: Roots and Development.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2) Focus on pivotal narrative and cinematic works that illustrate the evolution of Italian realism from the late 19th century naturalism to post-WWII neorealism.

●**ITAL 383 Women's Writing since 1880.**
(3) (Winter) (Prerequisite: any 300 level course given in Italian or permission of the Department) (Course for the Women's Studies Concentrations) A study of Italian women writers and their search for literary identity.

●**ITAL 385 Italian Futurist Movement.**
(3) (Given in English) Futurism is essentially a multidisciplinary movement. Using textual and visual material, its various manifestations - in literature, "paraliterature", painting, photography, theatre, film, sculpture, architecture, music, dance and performance - will be examined from a double perspective: the futurist theory/practice relationships on the one hand and, on the other, the multiple links between Italian futurism, the "historical" avant-garde outside Italy and the neo-avant garde movements of the 60s and 70s.

●**ITAL 395 Interdisciplinary Seminar.**
(3) (Winter) .

ITAL 410 Modern Italian Literature.
(3) (Winter) (Given in Italian) A study of representative works of major Italian authors from the fin-de-siècle to WW II.

●**ITAL 411 Pirandello.**
(3) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Selected readings from Pirandello's essays, short stories, novels and plays in the light of his ideological rejection of the literature and society of his time.

●**ITAL 416 The Twentieth Century.**
(3) (Given in English.) Topics in twentieth-century Italian literary and cultural history. The focus may be on a movement, a theme, a genre, a specific writer, or a specific period.

●**ITAL 420 Leopardi and Italian Romanticism.**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215, ITAL 216, or equivalent) The major early 19th century poets in the context of Italian and European Romanticism.

●**ITAL 435 Ariosto's "Orlando Furioso".**
(3) (Fall) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) Ariosto's chivalresque poem in the context of the Italian Renaissance.

●**ITAL 436 Tasso's "Gerusalemme Liberata".**
(3) (Winter) (Given in Italian) (Prerequisite: ITAL 215D1/ITAL 215D2) A study of Tasso's poem in the context of the Counter Reformation.

ITAL 444 Individual Reading Course.
(3) (Fall and Winter) (Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) In exceptional circumstances, this course may be used to meet special interests of students or to assist them in meeting the standard requirements of the Department.

ITAL 464 Machiavelli.
(3) (Fall) (Given in English) Machiavelli, the political thinker and man of letters. A portrait of Machiavelli as political strategist, playwright and observer of his times. Reading of The Prince as well as selected plays, letters and other writings.

ITAL 470 Joint Honours Thesis.
(3) (Fall or Winter) (Restriction: Compulsory for Honours and Joint Honours students.) Joint Honours Thesis.

●**ITAL 471D1 (3), ITAL 471D2 (3) Honours Thesis.**
(Restrictions: Compulsory for Honours students. Not open to students who have taken ITAL 472.) Honours Thesis.

●**ITAL 472 Honours Thesis (Intensive).**
(6) (Restrictions: Compulsory for Honours students. Not open to students who have taken ITAL 471D1/D2.) Intensive Honours thesis.

ITAL 477 Italian Cinema and Video.
(3) (Fall) (Given in Italian) (Restriction: Not open to students who have taken ITAL 377) Different Italian film maker or videomaker every year, presenting a selection of his/her significant works. Discussions will include script analysis, interviews, articles and books by the director in focus, in addition to theoretical and critical statements by scholars. Established and new directors will be considered alternately.

ITAL 499 Internship: Italian Studies.
(3) (Fall or Winter) (Prerequisite: Permission of the departmental Internship Advisor.) (Restriction: Open to U2 and U3 students after completing 30 credits of a 90 credit degree program or 45 credits of a 69-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will not normally fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

●**ITAL 530 17th-18th Century Culture.**
(3) (Given in Italian)

●**ITAL 542 History of Italian Language.**
(3) (Winter) (Given in Italian) (Prerequisite for Undergraduate students: permission of the Department) A historical survey of the intense debate on the problem of literary language in Italy, from Dante to the present time, as caused by the variance between spoken and literary languages; followed by an in-depth examination of the theoretical and literary texts of one particular period.

ITAL 560 Topics in 19th & 20th Century Literature.
(3) (Fall) (Given in Italian) (Prerequisite for Undergraduate students: permission of the Department) Exploration of individual authors, genres, and literary or cultural movements that have marked Italian culture in the 19th and 20th century.

ITAL 563 13th-16th Century Literature.
(3) (Winter) (Given in Italian) (Prerequisite (Undergraduate): permission of the Department) Topics in the literature of the 13th to the 16th Centuries.

●**ITAL 591 Italian Literary Criticism.**
(3) (Given in Italian) (Prerequisite: Permission of the department) (Restriction: A minimum of 6 credits at the 400-level) (Note: Students should already have a minimum of 6 credits at the 400-level) From Croce's "critica estetica" to contemporary semiology. Critical essays will be analyzed and compared with theoretical statements about the definition and role of literature.

JWST-Jewish Studies

Offered by: Jewish Studies

● **JWST 199 FYS: Images - Jewish Identities.**
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum enrolment 25) A seminar devoted to literary portrayals of Jews by Jews and non-Jews from Biblical times to the present. Both positive and negative understandings of Jewish identity and Judaism will be studied.

● **JWST 200 Hebrew Language (Intensive).**
(12) (Restriction: Not open to students who have taken or are taking JWST 220 or JWST 320) (Normally offered in the summer.) Intensive language course, covering the first two levels in one year rather than the usual two.

JWST 201 Jewish Law.
(3) The nature and history of Jewish law; literary and legal sources; selections in English from the Mishnah and Talmud, as well as selected post-Talmudic Texts, on such subjects as Contracts, Torts, Public Law and Family Law.

● **JWST 206 Introduction to Yiddish Literature.**
(3) (Readings are in English) A survey of modern Yiddish literature from its beginnings in the 1880s to the present. Particular attention will be paid to representative themes, forms, and literary techniques. Emphasis will be put on relations between literary texts and historical and literary contexts.

JWST 211 Jewish Studies 1: Biblical Period.
(3) (All texts will be read in English) The history, literature and beliefs of Judaism's formative period. Both Biblical and non-Biblical materials will be studied. The Bible in the context of cognate literatures of the Ancient Near East; non-Biblical documents will be analysed for their bearing on the Jewish tradition.

● **JWST 216 Jewish Studies 2: 400 B.C.E. - 1000.**
(3) (All texts and discussions will be in English) (Restrictions: Not open to students who have taken HIST 207) The history, literature and intellectual developments in Judaism during late antiquity. Special emphasis will be placed on rabbinic literature e.g. Babylonian Talmud, Palestinian Talmud, the midrashim both as literary works and for the light they shed on the events and ideologies of the period.

● **JWST 217 Jewish Studies 3: 1000 - 2000.**
(3) (All texts will be read in English) The Jewish experience from the rise of the European centres to the present.

● **JWST 220 Introductory Hebrew.**
(6)

JWST 220D1 (3), JWST 220D2 (3) Introductory Hebrew.
(Students must register for both JWST 220D1 and JWST 220D2.) (No credit will be given for this course unless both JWST 220D1 and JWST 220D2 are successfully completed in consecutive terms)

JWST 225 Literature and Society.
(3) (All texts will be read in English) A panoramic analysis of Israeli society through poetry, fiction, essays, interviews and testimonial narratives reflecting the country's historical, ideological and ethnic complexity. In English translation, we will read Oz, Amichai, Habibi, Har-Even and Yehoshua, as well as new authors from divergent ethnic, religious and ideological positions.

● **JWST 226 Contemporary Israeli Fiction.**
(3) Study of selected themes in literary works by Israeli authors.

JWST 240 The Holocaust.
(3) (Restriction: Not open to students who have taken JWST 252 "The Holocaust") Consideration of the history of the Holocaust and the literary, theological and cultural responses to the destruction of European Jewry.

JWST 252 Interdisciplinary Lectures.
(3) Topic 2009: Jewish Life Through Music.

● **JWST 254 The Jewish Holy Days.**
(3) An exploration of the Jewish holy days. Emphasis is placed on their historical development, philosophical messages, and ritual forms.

JWST 261 History of Jewish Philosophy & Thought.
(3) An introduction to Jewish philosophy and thought from the Hellenic period (Philo) to the beginning of the modern era (Spinoza) focusing on topics such as prophecy and philosophy, God and the world; the Law as a canon of ethical rules and as a political constitution. survey the treatment of such issues by Jewish thinkers from Philo to Maimonides.

● **JWST 280 Introductory Yiddish.**
(6) (Summer) Introduction to basic structures of standard Yiddish. Intensive practice in speech and written structures. Emphasis on grammar, reading and writing. Selected readings to introduce Yiddish culture.

JWST 280D1 (3), JWST 280D2 (3) Introductory Yiddish.
(Students must register for both JWST 280D1 and JWST 280D2.) (No credit will be given for this course unless both JWST 280D1 and JWST 280D2 are successfully completed in consecutive terms) (JWST 280D1 and JWST 280D2 together are equivalent to JWST 280) Introduction to basic structures of standard Yiddish. Intensive practice in speech and written structures. Emphasis on grammar, reading and writing. Selected readings to introduce Yiddish culture.

● **JWST 300 Charisma and Social Change.**
(3) An introduction to charismatic phenomena in politics, religion and the media, and interpretation of them, from the ancient prophets to the modern period. Particular attention will be given to charisma as a general force for social change and also the lives of individuals such as Lenin, Krishnamurti and Chaplin.

● **JWST 303 The Soviet Jewish Experience.**
(3) (Readings in English) Sovietization both fueled the modernization of Russian Jewry and contributed to its eventual suppression. This experience will be examined from two perspectives: history and literature. The interrelationship between culture and politics and the effects of ideology and censorship on literature will be discussed.

JWST 305 American Jewish History / Colonial Era to WWI.
(3) The interaction of Jewish and American historical traditions in forging the American Jewish experience. The themes of acculturation, immigration and political behaviour will be treated.

JWST 306 The American Jewish Community.
(3) Issues affecting American Jewry in the post-World War I era until today and the American Jewish community's responses to those issues. Special emphasis on understanding the community responses and reactions to developments in both the American society and in the Jewish world.

JWST 309 Jews in Film.
(3) Topic 2010:Representation of Jews and Jewish life in Yiddish film 1920-39. An introduction to the portrayal of Jews in film from the 1920s to the present. Films to be studied will usually be based on literary texts in English, which will form part of the required study. Films in languages other than

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

English will be subtitled.

JWST 314 Denominations in North American Judaism.
(3) A survey of Reform, Reconstructionist, Conservative and Orthodox Judaism in North America. Emphasis is placed on the ideology forwarded by the movements since their inception.

● **JWST 315 Modern Liberal Jewish Thought.**
(3) The work of Mordecai Kaplan, followed by a study of several contemporary authors following feminist, mystical and postmodernist tendencies.

JWST 319 Judaism and the Occult.
(3)

● **JWST 320 Intermediate Hebrew.**
(6)

JWST 320D1 (3), JWST 320D2 (3) Intermediate Hebrew.
(Students must register for both JWST 320D1 and JWST 320D2.) (No credit will be given for this course unless both JWST 320D1 and JWST 320D2 are successfully completed in consecutive terms) (JWST 320D1 and JWST 320D2 together are equivalent to JWST 320)

JWST 323 The Israeli Novel.
(3) In-depth examination of selected Israeli novels written during the past fifty years of national formation and consolidation. Authors may include Agnon, Yehoshua, Oz, Shabtai, Shalev and others.

● **JWST 324 Biblical Interpretation - Antiquity.**
(3) Texts from the millennium before the rise of Islam will be studied for the light they shed on Jewish interpretation of Hebrew scripture. Selections deal with narrative and legal portions of the Bible and include pagan, Christian and Jewish sources: excerpts from the Bible and Philo, Josephus, Pseudo-Philo, Jubilees, Enoch, Eusebius, Dead Sea Scrolls (including The Temple Scroll), Ephraem Syrus, Origen, Jerome, The Septuagint, Targumim, Talmud and Midrash.

● **JWST 325 Israeli Literature in Translation.**
(3) Survey of contemporary Israeli fiction that reflects Israel's cultural, political, and historical concerns. Authors may include Yehoshua, Oz, Librecht, Michael, Shamir, Castel-Bloom, and others.

● **JWST 327 A Book of the Bible.**
(3) (Fall) (Prerequisite: Knowledge of Hebrew) One book of the Bible will be studied in its entirety in Hebrew. Emphasis on the contributions of Ancient Near Eastern Studies (archaeology, comparative literature and Semitic linguistics) to understanding the text.

● **JWST 328 A Book of the Bible.**
(3) (Winter) (Prerequisite: Knowledge of Hebrew) One book of the Bible will be studied in its entirety in Hebrew. Emphasis on the contributions of Ancient Near Eastern Studies (archaeology, comparative literature and Semitic linguistics) to understanding the text.

● **JWST 329 A Book of the Bible.**
(3) (Fall) (Prerequisite: Knowledge of Hebrew) One book of the Bible will be studied in its entirety in Hebrew. Emphasis on the contributions of Ancient Near Eastern Studies (archaeology, comparative literature and Semitic linguistics) to understanding the text.

JWST 330 A Book of the Bible.
(3) (Winter) (Prerequisite: Knowledge of Hebrew) One book of the Bible will be studied in its entirety in Hebrew. Emphasis on the contributions of Ancient Near Eastern Studies (archaeology, comparative literature and Semitic linguistics) to understanding the text.

● **JWST 331 Bible Interpretation/Medieval Ashkenaz.**
(3) (Prerequisite: Knowledge of Hebrew) An introduction to Jewish interpretation of the Bible in the Middle Ages. Readings from the Hebrew Bible and the commentaries of Rashi, Rashbam, the Tosafists, etc.

● **JWST 332 Bible Interpretation/Sefardic Tradition.**
(3) (Prerequisite: Knowledge of Hebrew. Recommended: JWST 331) Readings from the Hebrew Bible and the commentaries of Ibn Ezra, Nachmanides, Abravanel, etc.

JWST 333 The Hebrew Liturgy.
(3) (Prerequisite: Reading knowledge of Hebrew) The structure, contents, foci and ideological assumptions of Jewish prayer. Texts will reflect the different approaches to prayer in Biblical, rabbinic, medieval and modern periods, with emphasis on the evolution of the classical Hebrew prayer book (Siddur) and the Passover Haggadah.

● **JWST 337 Jewish Philosophy and Thought 1.**
(3) (Fall) Focuses on either a period, a current of thought or the work of a thinker in the history of Jewish thought from Antiquity to the Middle Ages, paying particular attention to the relationship of Jewish thinkers to intellectual trends in their respective cultural contexts. contemporary Muslim and Christian theologians and philosophers.

● **JWST 338 Jewish Philosophy and Thought 2.**
(3) (Winter) Focuses on either a period, a current of thought or the work of a thinker in the history of Jewish thought from the Middle Ages to Modern Times, paying particular attention to the relationship of Jewish thinkers to intellectual trends in their respective cultural contexts. themes and concerns of Jewish theology and on Jewish responses to contemporary trends in European thought.

● **JWST 340 Advanced Hebrew.**
(6)

JWST 340D1 (3), JWST 340D2 (3) Advanced Hebrew.
(Prerequisite: JWST 200 or JWST 320 or permission of the Hebrew Language Coordinator) (Students must register for both JWST 340D1 and JWST 340D2.) (No credit will be given for this course unless both JWST 340D1 and JWST 340D2 are successfully completed in consecutive terms)

● **JWST 345 Introduction to Rabbinic Literature.**
(3) (All readings in English) An introduction to the study of Rabbinic texts.

JWST 346 Modern Jewish Studies.
(3) (Requires Departmental approval) Topic 2010: Contemporary Jewish Social Action. Topics in Jewish Studies. Semesters will be devoted to specific issues and periods of the Jewish Experience since 1500 and the literature produced by Jews during this period.

JWST 347 Modern Jewish Studies.
(3) (Requires Departmental approval) Topic 2010: Political Expression in Israeli Songs. Topics in Jewish Studies. Semesters will be devoted to specific issues and periods of the Jewish Experience since 1500 and the literature produced by Jews during this period.

JWST 348 Modern Jewish Studies.
(3) Topic 2009:The History of Jewish Historiography. Topics in Jewish Studies. Semesters will be devoted to specific issues and periods of the Jewish Experience since 1500 and the literature produced by Jews during this period.

JWST 349 Modern Jewish Studies.
(3) Topic 2009: Boom, Bust and Faith: Jewish Culture and Economic History. Topics in Jewish Studies. Semesters will be devoted to specific issues and periods of the Jewish Experience since 1500 and the literature produced by Jews during this period.

JWST 351 Studies in Modern Jewish Literature.
(3) (All texts will be read in English) Topic 2010: Kabbalah in Literature and History.

● **JWST 355 The Yiddish Canon.**
(3) (Prerequisite: Any literature course) This course will focus on the Classical Period (1860 - 1915) in Yiddish literature. We will be reading landmark texts in English translation.

● **JWST 356 Jewish Labour Movement/Eastern Europe.**
(3) The development of the Jewish labor and socialist movement in Eastern Europe from the last quarter of the 19th century to the Bolshevik Revolution.

● **JWST 357 Jewish Labour Movement/North America.**
(3) The development of the Jewish labor and socialist movement in North America from the last quarter of the 19th century to WW I.

● **JWST 358 Topics in Jewish Philosophy 1.**
(3) (All texts in English)

● **JWST 361 The Shtetl: 1500-1897.**
(3) Using historical, sociological, literary and cultural sources, this course will examine various aspects of communal and individual life in the shtetl, the Jewish - or largely Jewish - town in Eastern Europe.

● **JWST 362 The Shtetl: 1897-1939.**
(3) (Recommended: JWST 361)

● **JWST 365 Modern Jewish Ideologies.**
(3) The rise and development of the various ideologies which attempt to define the Jews in historical, national and socio-cultural terms will be analyzed within the context of modern European nationalism. Selected texts of the Jewish Enlightenment, Science of Judaism, Peretz Smolenskin, Leon Pinsker, Simon Dubnow, Chaim Zhitlowsky and Ahad Ha-Am.

● **JWST 366 History of Zionism.**
(3) (Recommended: JWST 365) An examination of the development of the Zionist idea, the most influential expression of modern Jewish nationalism, which led to the creation of the Jewish state. The transformation of elements of traditional Jewish messianism into a modern political ideology. Hibbat Zion, Political Zionism, Cultural and Synthetic Zionism will be discussed.

JWST 367 Studies in Hebrew Language and Literature.
(3) (Fall) To expand knowledge of grammar, and vocabulary and idioms in order to enhance reading comprehension and facility in writing and speaking. Of value to those interested in all aspects of Hebrew literature, classical and modern.

JWST 368 Studies in Hebrew Language and Literature.
(3) (Winter) To expand knowledge of grammar, and vocabulary and idioms in order to enhance reading comprehension and facility in writing and speaking. Of value to those interested in all aspects of Hebrew literature, classical and modern.

● **JWST 369 Studies in Hebrew Language and Literature.**
(3) (Fall) To expand knowledge of grammar, and vocabulary and idioms in order to enhance reading comprehension and facility in writing and speaking. Of value to those interested in all aspects of Hebrew literature, classical and modern.

● **JWST 370 Studies in Hebrew Language and Literature.**
(3) (Winter) To expand knowledge of grammar, and vocabulary and idioms in order to enhance reading comprehension and facility in writing and speaking. Of value to those interested in all aspects of Hebrew literature, classical and modern.

● **JWST 371D1 (3), JWST 371D2 (3) Jews and the Modern City.**
(Students must register for both JWST 371D1 and JWST 371D2.) (No credit will be given for this course unless both JWST 371D1 and JWST 371D2 are successfully completed in consecutive terms) In the forefront of the development of modern society in Europe and North America, the Jews have shown a distinct preference for the metropolis. The influence of Vienna and New York on the socio-cultural development of the Jews and on the Jewish contribution to general culture. The contributions of Schnitzler, Freud, Herzl and the New York intellectuals.

● **JWST 374 Talmud and Law 1: Bava Kamma.**
(3) An introduction to Bava Kamma, in particular to Talmudic dialectic and interpretation; Talmudic law of torts; damages committed by one's self or one's property; negligence and absolute liability.

● **JWST 375 Talmud and Law 2: Bava Metzia.**
(3) An introduction to Bava Metzia. Talmudic texts covering a wide range of subjects.

JWST 380D1 (3), JWST 380D2 (3) Intermediate Yiddish.
(Prerequisite: JWST 280 or permission of instructor) (Students must register for both JWST 380D1 and JWST 380D2.) (No credit will be given for this course unless both JWST 380D1 and JWST 380D2 are successfully completed in consecutive terms) Intermediate level of study of structures of standard Yiddish. Emphasis on reading, composition and conversation. Selected readings and visual materials to expand knowledge of Yiddish culture.

JWST 383 Holocaust Literature.
(3) (Restriction: Not open to students who have taken this topic under JWST 381) Readings from Holocaust literature in English translation. Writers include Primo Levi, Aharon Appelfeld, Elie Wiesel, Dan Pagis, Paul Celan, Nelly Sachs, U.Z. Greenberg and others.

JWST 386 American Jewish Literature.
(3) (Readings in English) Topic 2009: The American Jewish Immigrant experience. An intensive study of American Jewish novels from the 1900s to the present. Attention to representations of gender, class and Jewishness as seen in relation to changing notions of America. Focus on ways novels represent and wrestle with Jewish difference.

● **JWST 387 Modern Jewish Authors.**
(3) Introduction to representative novels written in America by Jews from the 1950s to the present. Issues of Jewish identity, ethnicity will inform our discussions. Focus on contemporary Jewish authors; consideration of the ways in which the complexities of American life are re-scripted in these novels.

● **JWST 403 Contemporary Hebrew Literature.**
(3) (Prerequisite: Proficiency in Hebrew.) Israeli literature in its original language with emphasis on in-depth literary analysis. Texts read in Hebrew; assignments may be written in English.

● **JWST 430 Tutorial in Hebrew Literature.**
(3)

● **JWST 439 Survey of Hebrew Literature 2.**
(3) (Prerequisite: Advanced Hebrew or equivalent)

JWST 445 The Poetry of Nationalism.
(3) Topic 2009: Poetry and anti-Imperial Resistance and Revolt. An introduction to the work of various modern 'national poets' - i.e. poets closely linked to national movements who expressed (or constructed) a particular national identity and whose work has lasting artistic value. These will include Mickiewicz of Poland, Tagore of India, Yeats of Ireland, and Bialik of pre-state Israel.

JWST 474 Maimonides' Mishneh Torah.
(3) Study of the Moses Maimonides' Mishneh Torah, including such subjects as idolatry, repentance, and sacrifices, to torts, contracts, and public law.

JWST 480 Advanced Yiddish 1.
(3) (Fall) (Prerequisite: JWST 380 or permission of the instructor) (Restriction: Not open to students who have taken JWST 480D1 and JWST 480D2) Development of advanced Yiddish language skills in conversation and discussion, composition, and oral presentation. Particular emphasis will be placed on the reading and paraphrasing of a variety of literary texts.

JWST 481 Advanced Yiddish 2.
(3) (Winter) (Prerequisite: JWST 380D1 and JWST 380D2; or permission of the instructor.) (Restriction: Not open to students who have taken JWST 480D1 and JWST 480D2) Additional development of advanced Yiddish language skills in conversation and discussion, composition, and oral presentation. Particular emphasis will be placed on the reading and paraphrasing of a variety of literary texts.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

JWST 485 Tutorial in Yiddish Literature.
(3)

JWST 486 Tutorial in Yiddish Literature.
(3)

● **JWST 487 Tutorial in Yiddish Literature.**
(3)

● **JWST 488 Tutorial in Yiddish Literature.**
(3)

JWST 491 Honours Thesis 1.
(3) (Restriction: Open only to Honours and Joint Honours students.) A tutorial for the preparation of an Honours Thesis.

JWST 492 Honours Thesis 2.
(3) (Restriction: Open only to Honours and Joint Honours Students.) A tutorial for the preparation of an Honours Thesis.

JWST 499 Internship: Jewish Studies.
(3) (Restriction: Open to U2 and U3 students pursuing a Majors or Honours program in Jewish Studies with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will not normally fulfill program requirements for seminar or 400-level courses. A letter from a supervisor at the institution must attest to successful completion of the student's tenure.) Internship with an approved host institution or organization.

● **JWST 502 Modern Israeli Literature.**
(3) (Prerequisite: JWST 340 or permission of instructor) (Knowledge of Hebrew required) A review of the master texts of Israeli literature from the modern period.

● **JWST 504 Seminar in Jewish Thought.**
(3) (Note: Readings in English) Examination of a theme or philosopher in the history of Jewish thought with particular attention to the intersections between Jewish thought and other intellectual traditions (e.g. Greek, Islamic, Christian, etc.)

JWST 510 Jewish Bible Interpretation 1.
(3) (Restriction: Not open to students who have taken JWST 512) The issues, approaches, and texts of Jewish Bible interpretation between the Biblical and talmudic eras: Bible interpretation in the Bible; in Greco-Roman Jewish literature; in the Mishnah, Tosefta, Targumim, and Talmudim; early Samaritan interpretation, Bible interpretation in ancient synagogue art, and in the massoretic literature.

JWST 511 Jewish Bible Interpretation 2.
(3) (Restriction: Not open to students who have taken JWST 512) The issues, problems, approaches, and texts of Jewish Bible interpretation in medieval, renaissance, early modern, and modern times. Interpretation in the Geonic, Ashkenazi, Sefardic, North African, Italian, European, Yemenite, North American and Israeli centres of Jewish Learning.

● **JWST 521 Bible in Dead Sea Scrolls.**
(3)

JWST 523 Ancient Bible Interpretation.
(3) Advanced level work in one aspect of Jewish Bible interpretation in ancient times.

JWST 530 Topics in Yiddish Literature.
(3) Supervised research in Yiddish literature. Work will focus on one genre, literary school or author.

JWST 531 Topics in Yiddish Literature.
(3) Supervised research in Yiddish literature. Work will focus on one genre, literary school or author.

JWST 539 Biblical Interpretation 1.
(3) Close readings in one or more texts of early rabbinic Bible interpretation: Mishnah, Tosefta, Halakhic and Aggadic Midrashim, Talmud.

● **JWST 548 Medieval Parshanut.**
(3) Advanced level work in one aspect of Jewish Bible interpretation in medieval times.

JWST 551 20th Century Parshanut.
(3)

● **JWST 552 Judaism and Poverty.**
(3) (Prerequisite: One course in Jewish Studies, Sociology or Social Work.) An introduction to the subject of poverty in Jewish literature and its influence on religions such as Christianity and Islam, and on modern, secular ideologies, especially socialism, and creative literature.

● **JWST 558 Topics: Modern Jewish Thought.**
(3)

● **JWST 562 Medieval Islamic and Jewish Philosophy.**
(3) (Prerequisite: one course in Greek, Islamic or Jewish Philosophy, or permission of instructor.) Deals with the manifold points of contact between medieval Muslim and Jewish intellectual history. Muslim and Jewish philosophers, theologians and mystics belonged to the same currents of thought, used the same language and studied the same sources in translation, proposing similar answers to questions that arose in the context of their respective religious traditions.

JWST 571 Biblical Literature.
(3)

JWST 573 History of Hebrew Bible Text.
(3) (Prerequisite (Undergraduate): permission of instructor) (Restriction: Not open to students who have taken JWST 507) The text of the Hebrew Bible as it evolved between antiquity and the most recent printed edition. Attention will be given to the accurate reconstruction of the Bible from primary and secondary witnesses: Greek and Aramic translations, Dead Sea Scrolls, and ancient quotations, and the Massoretic notes and lists.

● **JWST 575 Topics in Parshanut.**
(3) Advanced level work in one aspect of Jewish Bible Interpretation that cuts across all periods of Jewish Bible interpretation.

● **JWST 576 Jewish Family Law.**
(3) Study of the complex interaction between Jewish law and both Canadian and American law in the area of marriage and divorce.

JWST 581 Aramaic Language.
(3) (Requires Departmental approval) (Restriction: Not open to students who have taken JWST 506)

JWST 582 Hebrew and Aramaic Philology.
(3)

JWST 585 Tutorial: Eastern European Studies 1.
(3)

JWST 586 Tutorial: Eastern European Studies 2.
(3)

JWST 587 Tutorial in Yiddish Literature.
(3)

JWST 588 Tutorial in Yiddish Literature.
(3)

JWST 589 Tutorial in Jewish Literature.
(3) Supervised research in Modern Jewish history.

JWST 590 Tutorial in Jewish Literature.
(3) Supervised research in Modern Jewish history.

LACS-Latin American & Caribbean St

Offered by: Arts - Dean's Office

LACS 497 Research Seminar: Latin America and the Caribbean.

(3) (Restriction: Open to Program students and to others with permission of the Program Adviser.) (Ordinarily offered in alternate years) An interdisciplinary research seminar on topics of common interest to staff and students of the Latin-American and Caribbean Studies Program.

LACS 498 Independent Research Project.
(3) (Prerequisite: LACS 497 and permission of the Program Adviser) This course is designed to allow students to pursue interdisciplinary research projects under close supervision.

LING-Linguistics

Offered by: Linguistics

LING 200 Introduction to the Study of Language.
(3) (Fall and Winter) (No prerequisite) General interest course; intended for students in all fields. Topics include: linguistic competence vs. performance, language and the brain, language acquisition, sociolinguistics, historical linguistics, language universals, pragmatics.

LING 201 Introduction to Linguistics.
(3) (Fall and Winter) (No prerequisite.) Primarily for students intending to take further courses in linguistics. Topics include: phonetics, phonology, morphology, syntax, and semantics. Students will be introduced to techniques of linguistic analysis.

● LING 301 Structure of English.
(3) (Winter) (Prerequisite: LING 200 or LING 201) (Students who have taken LING 371 are strongly encouraged not to take LING 301) A linguistic investigation of the grammar of Modern English, focusing on the structural characteristics of English sentence types, words and sounds.

LING 320 Sociolinguistics 1.
(3) (Winter) (Prerequisite: LING 201.) A survey of language in its social context. The main focus will be on the influence of social factors like age, gender, social class and speech style on linguistic variation and change. Contact amongst languages (e.g. in Montreal) and the birth and death of languages will also be discussed.

LING 330 Phonetics.
(3) (Winter) (Prerequisite: LING 201) Intensive training in the identification and production of speech sounds. Phonemic analysis. The investigation of how sounds function within a system.

LING 331 Phonology 1.
(3) (Fall) (Prerequisite: LING 330.) Introduction to phonological theory and analysis.

LING 350 Linguistic Aspects of Bilingualism.
(3) (Winter) (Prerequisite: LING 200 or LING 201) Linguistic competence and performance in bilinguals: the organization of the bilingual's grammar. Syntactic constraints on code mixing: How many grammars are involved? Unidirectional and bidirectional grammatical interference. Structural distance between genetically related and unrelated languages and its effect on the organization of the bilingual's grammar.

LING 355 Language Acquisition 1.
(3) (Fall) (Prerequisite: LING 201.) A critical study of the application of linguistic theory and description to first and second language learning. Topics include: the acquisition of sounds, syntax and word meanings; acquisition strategies; properties of the input; theories of first and second language acquisition.

LING 360 Introduction to Semantics.
(3) (Fall) (Prerequisite(s): LING 201 and PHIL 210) (Restriction: Not open to students who have taken LING 370.) Introduction to the rudiments of semantics, focusing on those aspects of meaning that are invariant across contexts and the ways in which the meaning of a complex expression is determined by the meanings of its constituents.

LING 371 Syntax 1.
(3) (Winter) (Prerequisite: LING 201.) Introduction to the study of generative syntax of natural languages, emphasizing basic concepts and formalism: phrase structure rules, transformations, and conditions on rules.

LING 390 Neuroscience of Language.
(3) (Fall) (Prerequisite: An introductory course in Linguistics, Psychology or Neuroscience at the 200 level or above.) The neurobiological study of the human language faculty. Theoretical and experimental approaches to neurolinguistics, focusing on linguistic capacity in the healthy and damaged brain.

LING 410 Structure of a Specific Language 1.
(3) (Winter) (Prerequisites: LING 330 and LING 331 and LING 371, or permission of instructor.) Application and refinement of analytical methods in phonology, morphology, and syntax to phenomena from a specific language. One focus will be the identification of empirical generalizations which form the basis for the development of the theory. The language of study will vary from year to year.

✶ ● LING 415 Field Methods of Linguistics.
(3) (Winter) (Prerequisites: LING 330, LING 331 and LING 371.) Elicitation, recording and analysis of linguistic data under simulated field conditions; consideration of typical problems confronting the field analyst, preparation of a descriptive statement.

LING 417 Topics at the Interfaces 1.
(3) (Fall) (Prerequisites: LING 360 and LING 371 and permission of instructor.) Topics relevant to a linguistic interface, rotating between syntax/semantics interface and morphology/syntax interface.

LING 418 Topics at the Interfaces 2.
(3) (Winter) (Prerequisites: LING 331 and LING 371.) Topics relevant to a linguistic interface, rotating between phonology/syntax interface and morphology/phonology interface.

LING 419 Linguistic Theory and its Foundations.
(3) (Winter) (Prerequisites: Two of LING 331, LING 360, LING 371, LING 440.) Change linguistics underwent at the end of the 1950's both in how it conceived of itself and in the methods it used, including the philosophical change and the formal and mathematical innovations in syntax and morphology.

LING 425 Historical Linguistics.
(3) (Fall) (Prerequisites: LING 330 and LING 320 or permission of instructor.) An examination of how languages change over time and the methods that allow us to study linguistic history. Topics include: types of language change (sound change, anology, etc.) linguistic reconstruction, the origins of modern languages.

LING 440 Morphology.
(3) (Fall) (Prerequisite: LING 330 and LING 371, or permission of the instructor) An introduction to the study of the internal structure of words. Topics will include the different ways words are formed in languages, how sound changes take place within words, how words are used in sentences.

● LING 451 Acquisition of Phonology.
(3) (Winter) (Prerequisite: LING 331; a course in language acquisition highly recommended.) Exploration of the development of prosodic and segmental structure in children, with an emphasis on current theoretically-informed work in this area.

LING 455 Second Language Syntax.
(3) (Fall) (Prerequisite: LING 301 or LING 371.) The nature of the linguistic knowledge acquired by second language learners, focusing on description and explanation of second language syntax and morphology.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

LING 480D1 (3), LING 480D2 (3) Honours Thesis.
(Students must register for both LING 480D1 and LING 480D2.) (No credit will be given for this course unless both LING 480D1 and LING 480D2 are successfully completed in consecutive terms) (LING 480D1 and LING 480D2 together are equivalent to LING 480.) Honours thesis.

LING 480N1 (3), LING 480N2 (3)
(Students must also register for LING 480N2.) (No credit will be given for this course unless both LING 480N1 and LING 480N2 are successfully completed in the same calendar year.) Honours thesis.

LING 481D1 (1.5), LING 481D2 (1.5) Joint Honours Thesis.
(Students must register for both LING 481D1 and LING 481D2.) (No credit will be given for this course unless both LING 481D1 and LING 481D2 are successfully completed in consecutive terms) .

LING 483 Special Topics 1.
(3) (Fall or Winter) (Restriction: Permission of instructor.) Intensive study of a selected field or topic.

● **LING 484 Special Topics 2.**
(3) (Fall or Winter) (Restriction: Permission of instructor.) Intensive study of a selected field or topic.

● **LING 485 Special Topics 3.**
(3) (Prerequisite: LING 331 or LING 370 or LING 371 or permission of instructor.) Intensive study of a selected field or topic.

LING 488 Independent Study 1.
(3) (Fall or Winter) (Restriction: Permission of instructor.) Independent study of a selected field or topic.

LING 489 Independent Study 2.
(3) (Fall or Winter) (Restriction: Permission of instructor.) Independent study of a selected field or topic.

LING 499 Internship: Linguistics.
(3) (Restrictions: Limited to U-2 and U-3 students, with a minimum CGPA of 2.7, and permission of the department.) Internship with a host institution or organization.

✶ ● **LING 520 Sociolinguistics 2.**
(3) (Fall) (Prerequisite: LING 320 or permission of instructor.) A seminar on variationist "micro-sociolinguistics", including a survey of the most important primary literature on sociolinguistic variation and introduction to sociolinguistic fieldwork.

✶ **LING 521 Dialectology.**
(3) (Fall) (Prerequisites: LING 330 and LING 320.) An introduction to the theory and methods of dialectology (the study of regional variation in language) with an emphasis on connections with linguistic theory. Students will also acquire a practical knowledge of major differences among dialects of English, and will gain hands-on experience in the planning, implementation and analysis of a dialect survey.

✶ ● **LING 531 Phonology 2.**
(3) (Prerequisites: LING 331 and permission of instructor.) Exploration of current issues in phonology.

● **LING 555 Language Acquisition 2.**
(3) (Winter) (Prerequisites: LING 355 and LING 371 and permission of instructor) A detailed overview of recent experimental work on first language acquisition of syntax within the principles and parameters framework, concentrating on both theoretical and methodological issues.

● **LING 560 Formal Methods in Linguistics.**
(3) (Fall) (Prerequisites: LING 360 and permission of instructor.) (Restriction: Not open to students who have taken MATH 240.) This course presents the formal methods used in the study of language (namely, the theories of sets, relations, functions, partial orders, and lattices, as well as the principle of mathematical induction).

● **LING 565 Pragmatics.**
(3) (Winter) (Prerequisites: LING 360 and PHIL 210 or permission of the instructor.) Study of the relationship between language and its contexts of use. Topics to be examined include deixis, presupposition and implicature.

LING 571 Syntax 2.
(3) (Fall) (Prerequisite: LING 371) This course extends and refines the theory of grammar developed in LING 371, while introducing some primary literature and developments (in certain modules of the grammar such as phrase structure, wh-movement, and binding).

● **LING 583 Special Topics 4.**
(3) (Restriction: Not open to students who have taken LING 486) Intensive study of a selected field or topic.

LING 590 Language Acquisition and Breakdown.
(3) (Fall) (Prerequisites: LING 371 and either LING 355 or LING 390.) Theoretical and experimental perspectives on an imperfect language faculty, in the context of current linguistic theory and state-of-the-art experimental methods and techniques. Comparison of linguistic abilities of normally developing children, children with language disorders (e.g., SLI), and adults with disrupted linguistic abilities (e.g., aphasic patients).

MEST-Middle East Studies

Offered by: Arts - Dean's Office

● **MEST 495 Middle East Studies: Research Seminar.**

(3) (Prerequisite: At least 4 MES Core courses) (Restriction: Open to final year MES Program students and to others by permission of the Program Co-ordinator) An interdisciplinary research seminar on topics of common interest to staff and students of the Middle East Studies program. As part of their contribution, students will prepare a research paper under the supervision of one or more members of staff.

MEST 496 Independent Reading and Research.
(3)

MUAR-Music-Arts Faculty

Offered by: Music Research

MUAR 201 Basic Materials: Western Music.
(3) (Summer) (3 hours) A combination of elementary theory and ear training (sightsinging and aural recognition), and basic piano skills. Topics include: notation of pitch and rhythm, intervals, scales and modes, concept of key, triads and seventh chords, introductory melody and accompaniment writing.

MUAR 202 Basic Materials: Western Music 2.
(3) (3 hours) (Prerequisite: MUAR 201 or permission of instructor) Integrated course in music theory with creative applications of acquired skills. Analysis and writing: concepts of melodic organization, elementary harmonic progressions, two-part contrapuntal techniques, fundamental formal procedures, examination of popular song and jazz. Development of individual skills: intermediate sightsinging, aural recognition, keyboard techniques, small group performance in class.

MUAR 211 The Art of Listening.
(3) (Summer) (3 hours) An introduction to the major forms and styles in Western music from the baroque to the present, with emphasis on guided listening in the classroom. The ability to read music is not a prerequisite.

● **MUAR 260 Basic Materials of Jazz.**
(3) Study of contemporary and traditional jazz improvisation. Exploration of harmonic framework of music from the jazz repertoire (melody, voice leading, traditional jazz writing). Characteristic sounds of predominant scales and modes and their potential uses. Common song forms and their harmonic devices.

● **MUAR 374 Special Topics in Music.**
(3) (3 hours) A course whose topics will correspond to special historical events and their associated musical, political, and cultural contexts.

● **MUAR 381 Music in Gothic and Renaissance Culture.**
(3) In introduction to European music in late Medieval and Renaissance society: the Crusades, the age of Columbus, the Reformation, Shakespeare's England. Music in the daily lives of courtiers, clergy and commoners - music as courtly pastime, music for devotion in cathedrals, domestic music in towns and cities. Selected masterworks will be studied.

●**MUAR 384 Romanticism and the Piano.**
(3) (3 hours) (Prerequisite: MUAR 201 or MUAR 211 or permission of instructor) A survey of nineteenth-century European piano music: the piano virtuoso as cult figure, the social functions of the piano, women and the piano, and developing Romantic sensibilities as expressed in piano music throughout the century. Repertoire may include works by Beethoven, Chopin, Liszt, and Rachmaninoff, among others.

●**MUAR 385 Music of the Avant-Garde.**
(3) (3 hours) (Prerequisite: MUAR 201 or MUAR 211) Explorations into post-1945 sound environments; new timbres (Berio and Crumb); "technological" music (electronic and computer music); minimalism (Glass); new aesthetics (Cage); the World Soundscape Project (Schafer); global trends (cross-cultural influences; the New Romanticism; multi-media; protest music).

MUAR 387 The Opera.
(3) (3 hours) (Prerequisite: MUAR 201 or MUAR 211) A survey of opera from c.1600 to the present. Opera as ritual, opera as spectacle, opera as catharsis, opera as business, opera and its literary models. The continuing relevance of the operatic experience today.

MUAR 389 The Symphony and Concerto.
(3) (3 hours) (Prerequisite: MUAR 201 or MUAR 211) An historical overview of two major genres in the current concert repertoire: baroque foundations, the Viennese achievement, Beethoven's influence, visionaries and nationalists after 1850, cross-currents in the twentieth century.

MUAR 392 Popular Music after 1945.
(3) (Summer) (3 hours) (Prerequisite: MUAR 201 or MUAR 211 or permission of instructor) An historical survey of major artists, genres, and styles in the most widespread traditions of postwar commercial music. The course will include practice in techniques of listening, discussion of the shaping institutions of commercial music, and consideration of the interaction of musical style and culture.

●**MUAR 393 Introduction to Jazz.**
(3) (3 hours) (Prerequisite: MUAR 201 or MUAR 211 or permission of instructor.) (Restriction: Open only to non-Music majors) A survey of the development of jazz from its late 19th-century origins in America to the present day, with an introduction to musical concepts relevant to the genre and consideration of sociocultural issues.

●**MUAR 399 Music and Queer Identity.**
(3) (Prerequisite: MUAR 201 or MUAR 211 or permission of instructor.) (Restriction: Open only to non-music majors.) A survey of notable lesbian, gay, bisexual, transgender, queer composers and musicians in both art music and popular music, and an exploration of musical meaning from queer perspectives, covering topics such as coded expression, subcultural music-making, the value of mainstream visibility, and minority versus 'universal' aesthetics.

NAST-North American Studies

Offered by: History, Arts - Dean's Office

●**NAST 201 Introduction to North American Studies.**
(3) (Team-taught Seminar.) Basic concepts of North American studies with an emphasis on scholarship dealing with the United States, stressing, the contribution of each discipline to the effort to understand the many dimensions of the American experience as well as relationships with Canada and Mexico.

●**NAST 401 Interdisciplinary Seminar - North American Studies.**
(3) (Students must register for both NAST 410D1 and 401D2. No credit will be given for this course unless both NAST 401D1 and 401D2 are successfully completed in consecutive terms. NAST 401D1 and NAST 401D2 together are equivalent to NAST 401) (Restrictions: Not open to students who are taking or have taken ENGL 529.) Topics Include: Is American commitment to liberty less popular and universal than her enthusiasm for equality? Is the taste for liberty among citizens of a democracy confined to a sophisticated minority, while an intense passion for equality dominates the masses? Do politicians who serve the interest of the latter thereby diminish freedom for all persons?

●**NAST 401D1 (1.5), NAST 401D2 (1.5) Interdisciplinary Seminar - North American Studies.**
(Students must register for both NAST 410D1 and 401D2. No credit will be given for this course unless both NAST 401D1 and 401D2 are successfully completed in consecutive terms. NAST 401D1 and NAST 401D2 together are equivalent to NAST 401) (Restrictions: Not open to students who are taking or have taken ENGL 529.) Topics Include: Is American commitment to liberty less popular and universal than her enthusiasm for equality? Is the taste for liberty among citizens of a democracy confined to a sophisticated minority, while an intense passion for equality dominates the masses? Do politicians who serve the interest of the latter thereby diminish freedom for all persons?

NAST 471 Topics in North American Studies 1.
(3)

NAST 472 Topics in North American Studies 2.
(3)

●**NAST 490 Independent Reading & Research.**
(3) (It is the responsibility of the student to obtain the instructor's consent prior to registering.) (Restrictions: Open only to U3 Major students.) Final year students wishing to pursue a specialized interest will be allowed to undertake a program of independent reading and/or research in that area under the supervision of a member of staff.

NAST 499 Arts Internships: North American Studies.
(3) (Note: U-2 and U-3 students in good standing, normally after completing 30 credits of a 90-credit program or 45 credits of a 96-120 credit program, a minimum CGPA of 2.7, and permission from the departmental internship Adviser. This course will normally not fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

PHIL-Philosophy

Offered by: Philosophy

PHIL 200 Introduction to Philosophy 1.
(3) (Summer) (Philosophy students may use either PHIL 200 or PHIL 201 towards their program requirements, but not both. Students may, however, take both for credit (using the second as an elective), as the content in PHIL 201 does not overlap with PHIL 200) A course treating some of the central problems of philosophy: the mind-body problem, freedom, scepticism and certainty, fate, time, and the existence of God.

PHIL 201 Introduction to Philosophy 2.
(3) (Philosophy students may use either PHIL 200 or PHIL 201 towards their program requirements, but not both. Students may, however, take both for credit (using the second as an elective), as the content in PHIL 201 does not overlap with PHIL 200) An introduction to some of the major problems

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

of philosophy. This course does not duplicate PHIL 200.

PHIL 210 Introduction to Deductive Logic 1.
(3) (Summer) (Restriction: Not open to students who are taking or have taken MATH 318) An introduction to propositional and predicate logic; formalization of arguments, truth tables, systems of deduction, elementary metaresults, and related topics.

● PHIL 220 Introduction to History and Philosophy of Science 1.
(3) A survey of the rise of the scientific outlook from the ancient Greeks to the Scientific Revolution in the Seventeenth Century.

PHIL 221 Introduction to History and Philosophy of Science 2.
(3) A survey of the development of modern science since the Eighteenth Century.

PHIL 230 Introduction to Moral Philosophy 1.
(3) A survey of a number of historically important and influential theories. Philosophers to be discussed may include Aristotle, Hume, Kant, Bentham, Mill, and Moore.

PHIL 237 Contemporary Moral Issues.
(3) (Summer) An introductory discussion of central ethical questions (the value of persons, or the relationship of rights and utilities, for example) through the investigation of currently disputed social and political issues. Specific issues to be discussed may include pornography and censorship, affirmative action, civil disobedience, punishment, abortion, and euthanasia.

PHIL 240 Political Philosophy 1.
(3) An introduction to contemporary philosophy of politics by concentrating on a number of contested concepts, such as freedom, justice and equality, in contemporary political philosophy and practice.

PHIL 242 Introduction to Feminist Theory.
(3) An introduction to feminist theory as political theory. Emphasis is placed on the plurality of analyses and proposals that constitute contemporary feminist thought. Some of the following are considered: liberal feminism, marxist and socialist feminism, radical feminism, postmodern feminism, francophone feminism, and the contributions to feminist theory by women of colour and lesbians.

PHIL 301 Philosophical Fundamentals.
(3) (Prerequisites: two previous courses in philosophy, one of which must be PHIL 210 or written consent of the Department) (Restriction: Open only to and required of Philosophy Honours and Joint Honours students) An intensive study of basic philosophical skills; reading, writing, analysis, and argumentation.

PHIL 304 Chomsky.
(3) Philosophical aspects of Chomsky's contribution to psychology, linguistic theory, theories of human nature, and to politics.

PHIL 306 Philosophy of Mind.
(3) A survey of major positions of the mind-body problem, focusing on such questions as: Do we have minds and bodies? Can minds affect bodies? Is mind identical to body? If so, in what sense "identical"? Can physical bodies be conscious.

PHIL 310 Intermediate Logic.
(3) (Prerequisite: PHIL 210 or equivalent) A second course in Logic. NB. The course will be technical in nature, and some mathematical aptitude is essential. The emphasis is on the expressive properties of standard logical systems, including implications for the philosophy of mathematics. We will study the Completeness of First-Order Logic, then the 'limitative' theorems of Tarski and Gödel.

PHIL 332 Philosophy of Religion 1.
(3)

PHIL 334 Ethics 1.
(3) (Prerequisite: one of PHIL 230, PHIL 237, PHIL 242, or written permission of the instructor) A course focusing on such central questions of ethical theory as: Why be moral? Are moral judgments subjective? On what is morality based? What is the nature of the good.

● PHIL 336 Aesthetics.
(3) An introduction to issues central to aesthetic theory; the nature of aesthetic judgment, perception of the aesthetic object, the nature of the art object.

● PHIL 340 Philosophy of the Social Sciences 1.
(3) An introduction to foundational issues in the social sciences and to the broader implications of these issues for both philosophy and science. Topics to be discussed may include methodology in natural and social science, objectivity in the social sciences, and cultural relativism.

PHIL 341 Philosophy of Science 1.
(3) A discussion of philosophical problems as they arise in the context of scientific practice and enquiry. Such issues as the philosophical presuppositions of the physical and social sciences, the nature of scientific method and its epistemological implications will be addressed.

PHIL 343 Biomedical Ethics.
(3) An investigation of ethical issues as they arise in the practice of medicine (informed consent, e.g.) or in the application of medical technology (in vitro fertilization, euthanasia, e.g.)

PHIL 345 Greek Political Theory.
(3) (Restriction: Not open to students who have taken POLI 333) An examination of the ethical and political theories of ancient Greece, especially those of Plato and Aristotle.

PHIL 348 Philosophy of Law 1.
(3) (Restriction: This course is intended for students with a non-professional interest in law, as well as for those considering law as a profession) A discussion of the nature of justice and law, and of the relationship between them.

PHIL 350 History and Philosophy of Ancient Science.
(3) Topics in ancient pure mathematics (geometry and number theory), "mixed mathematics" (astronomy, music theory, optics, mechanics), and/or natural science (including medicine), studied with a view to philosophical issues raised by the content of ancient science and/or by the logic of scientific argument.

PHIL 353 The Presocratic Philosophers.
(3) An examination of the surviving fragments of the presocratic philosophers and schools of philosophy, as well as later reports of their views.

PHIL 354 Plato.
(3) An examination of some of the philosophical problems (those in logic, epistemology, metaphysics, and ethics, e.g.) found in a selection of Plato's dialogues.

PHIL 355 Aristotle.
(3) An examination of selected works by Aristotle. The course considers issues in moral philosophy as well as those found in the logical treatises, the Physics and Metaphysics, and in the philosophy of mind.

PHIL 356 Early Medieval Philosophy.
(3) An examination of selected works in the Christian, Islamic and Jewish traditions. Topics in moral and political philosophy, logic and metaphysics, philosophical psychology and epistemology, philosophy of science, and philosophical theology may be discussed.

PHIL 360 17th Century Philosophy.
(3) An examination of the work of such seventeenth-century philosophers as Descartes, Hobbes, Gassendi, Malebranche, Leibniz, and the Cambridge Platonists.

PHIL 361 18th Century Philosophy.
(3) A survey of eighteenth century philosophy, especially British philosophy. Attention is given to fundamental metaphysical, epistemological, and moral issues as reflected in the work of such philosophers as Locke, Shaftesbury, Berkeley, Hutcheson, Butler, Hume and Reid.

PHIL 366 18th and Early 19th Century German Philosophy.
(3) (Prerequisite: PHIL 360 or PHIL 361 is recommended) An examination of the works of such philosophers as Kant, Fichte, Jacobi, Schelling, and Hegel.

PHIL 367 19th Century Philosophy.
(3) (Prerequisite: A previous course in philosophy is recommended) An examination of the works of such 19th century philosophers as Mach, Helmholtz, Dedekind, Frege, Marx, Kierkegaard, Schopenhauer, Nietzsche, Mill and Bradley.

PHIL 370 Problems in Analytic Philosophy.
(3) An introduction to the central questions in the analytic tradition, through the works of important early figures in that tradition. Philosophers to be discussed may include: Frege, Russell, Wittgenstein, Ramsay, Carnap and the "logical positivists".

PHIL 375 Existentialism.
(3) (Prerequisite: one course in philosophy) This course will examine the nature of existentialist thought as represented in various philosophical and literary texts. Particular themes to be examined include freedom, alienation, responsibility and choice, and the nature of self.

PHIL 397 Tutorial 01.
(3) (Restriction: Open to second year Full Honours students in Philosophy and to other students, with consent of the Department)

PHIL 398 Tutorial 02.
(3) (Restriction: Open to second year Full Honours students in Philosophy and to other students, with consent of the Department)

●**PHIL 410 Advanced Topics in Logic 1.**
(3) (Prerequisite: PHIL 310 or equivalent) A course focusing on central results in logic that are of philosophical significance.

●**PHIL 411 Topics in Philosophy of Logic and Mathematics.**
(3) (Prerequisites: PHIL 210 or the equivalent, and one intermediate course in philosophy) A course focusing on some philosophical issue (e.g., the nature of numbers or the relation of truth to provability) as it arises in the study of mathematics and logic.

PHIL 415 Philosophy of Language.
(3) (Prerequisites: PHIL 210 or equivalent and one intermediate course in philosophy) An examination of central notions in the philosophy of language (reference, meaning, and truth, e.g.), the puzzles these notions give rise to, and the relevance of these notions to such questions as: What is language? How is communication possible? What is understanding? Is language rule-governed.

PHIL 419 Epistemology.
(3) (Prerequisite: PHIL 210 or equivalent and one intermediate course in philosophy) A discussion of central topics in the theory of knowledge. The questions addressed in the course may include: What is knowledge? Do we have any knowledge? What is the relation between knowledge and belief? When is belief justified? Is all knowledge conscious knowledge.

PHIL 421 Metaphysics.
(3) (Prerequisites: PHIL 210 or equivalent and one intermediate course in philosophy) An examination of central questions in metaphysics in their historical and contemporary forms. Topics may be chosen from such issues as: personal identity, the nature of space and time, the nature of events and properties, possible worlds, and the problem of realism.

●**PHIL 432 Philosophy of Religion 2.**
(3)

PHIL 434 Ethics 2.
(3) (Prerequisite: PHIL 334 or written permission of the instructor) Advanced discussion of one or more themes in ethics. Topics will vary from year to year but may include such issues as the nature of rights and duties, moral realism and anti-realism, or the place of reason in morality.

PHIL 436 Aesthetics 2.
(3) (Prerequisite: PHIL 336 or written permission of the instructor) An advanced discussion of issues in aesthetics.

●**PHIL 440 Philosophy of Social Sciences 2.**
(3) (Prerequisite: PHIL 340 or written permission of the instructor) An advanced course on such topics as methodology of, or explanation, in the social sciences or models of rationality. Topics will vary from year to year.

●**PHIL 441 Philosophy of Science 2.**
(3) (Prerequisite: PHIL 341 or written permission of the instructor) An analysis of some key philosophical ideas in science and technology, e.g. problem, explanation, forecast, testability and truth.

PHIL 442 Topics in Feminist Theory.
(3) (Prerequisite: PHIL 242 and one intermediate course in philosophy) Advanced discussion of topical and central themes in feminist theory.

●**PHIL 444 Early Modern Political Theory.**
(3) (Prerequisite: at least one course in political philosophy) A survey of political and moral theory from the Reformation to the French Revolution including Luther, Montaigne, Descartes, Hobbes, Locke, Rousseau and Smith.

PHIL 445 19th Century Political Theory.
(3) (Prerequisite: at least one course in political philosophy) (Restriction: Not open to students who have taken POLI 434) An examination of various strands of political theory since Rousseau, concentrating on such themes as the understanding of modernity and theories of liberal society.

PHIL 450 Major Philosophers 1.
(3) (Prerequisite: one intermediate course in philosophy) This seminar will give detailed attention to the work of one philosopher or to a single philosophical theme addressed by several philosophers. Emphasis will be placed on understanding how the metaphysical, epistemological, and moral views of a figure or figures are internally related. Topic will vary from year to year.

PHIL 452 Later Greek Philosophy.
(3) (Prerequisite: PHIL 354 or PHIL 355) (Restriction: Not open to students who have taken POLI 351) An examination of some of the major post-Aristotelian schools of philosophy. Texts from the Peripatetic, Stoic, Epicurean, Sceptical, Platonic, and medical traditions may be considered. Problems in logic, ethics, physics, epistemology, and metaphysics will be addressed.

●**PHIL 453 Ancient Metaphysics and Natural Philosophy.**
(3) An examination of central themes of ancient metaphysics and/or natural philosophy as treated by two or more contrasting philosophers or philosophical traditions - probably including Plato and/or Aristotle, and possibly including some Hellenistic or post-Hellenistic schools.

PHIL 454 Ancient Moral Theory.
(3) An examination of central themes of ancient moral theory as treated by two or more contrasting philosophers or philosophical traditions - probably including Plato and/or Aristotle, and possibly some Hellenistic or post-Hellenistic schools.

PHIL 460 Major Philosophers 2.
(3) This seminar will give detailed attention to the work of one philosopher or to a single philosophical theme addressed by several philosophers. Emphasis will be placed on understanding how the metaphysical, epistemological, and moral views of a figure or figures are internally related.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

●**PHIL 470 Topics in Contemporary Analytic Philosophy.**
(3) (Prerequisite: PHIL 370, PHIL 415 or written permission of instructor) An advanced discussion of major themes in the analytic tradition.

PHIL 474 Phenomenology.
(3) (Prerequisite: one intermediate course in philosophy) A study of phenomenology from a historical and thematic perspective. The course will typically involve the study of central thinkers such as Husserl, Heidegger, or Merleau-Ponty, with an examination of the nature and development of the phenomenological movement.

PHIL 475 Topics in Contemporary European Philosophy.
(3) (Prerequisite: one intermediate course in philosophy) Advanced discussion of selected themes in contemporary European philosophy.

PHIL 480 Topics in the History of Philosophy.
(3) (Prerequisite: one intermediate course in philosophy) An advanced discussion of some theme and/or problem in the history of philosophy.

PHIL 481 Topics in Philosophy.
(3)

PHIL 497 Tutorial 04.
(3) Open to third year Full Honours students in Philosophy, and to other students, with consent of the Department.

●**PHIL 497N1 (1.5), PHIL 497N2 (1.5) Tutorial 04.**
(Students must also register for PHIL 497N2) (No credit will be given for this course unless both PHIL 497N1 and PHIL 497N2 are successfully completed in a twelve month period) (PHIL 497N1 and PHIL 497N2 together are equivalent to PHIL 497) Open to third year Full Honours students in Philosophy, and to students in Philosophy, and to Department.

PHIL 498 Tutorial 05.
(3) Open to third year Joint Honours students in Philosophy, and to other students, with consent of the Department.

●**PHIL 498N1 (1.5), PHIL 498N2 (1.5) Tutorial 05.**
(Students must also register for PHIL 498N2) (No credit will be given for this course unless both PHIL 498N1 and PHIL 498N2 are successfully completed in a twelve month period) (PHIL 498N1 and PHIL 498N2 together are equivalent to PHIL 498) Open to third year Joint Honours students in Philosophy, and to other students, with consent of the Department.

●**PHIL 499 Tutorial 06.**
(6) Open to third year Full Honours students in Philosophy, and to other students, with consent of the Department.

PHIL 499D1 (3), PHIL 499D2 (3) Tutorial 06.
(Students must register for both PHIL 499D1 and PHIL 499D2.) (No credit will be given for this course unless both PHIL 499D1 and PHIL 499D2 are successfully completed in consecutive terms) (PHIL 499D1 and PHIL 499D2 together are equivalent to PHIL 499) Open to third year Full Honours students in Philosophy, and to other students, with consent of the Department.

PHIL 499N1 (3), PHIL 499N2 (3) Tutorial 06.
(Students must also register for PHIL 499N2) (No credit will be given for this course unless both PHIL 499N1 and PHIL 499N2 are successfully completed in a twelve month period) (PHIL 499N1 and PHIL 499N2 together are equivalent to PHIL 499) Open to third year Full Honours students in Philosophy, and to other students, with consent of the Department.

●**PHIL 506 Seminar: Philosophy of Mind.**
(3) (Prerequisite: PHIL 306.) (Restriction: Open only to students as indicated above and to Cognitive Science Minors) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department.) An advanced course devoted to specific topics in the philosophy of mind.

●**PHIL 507 Seminar: Cognitive Science.**
(3) (Prerequisites: PHIL 306, PHIL 415 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced discussion of a topic of philosophical interest arising from contemporary empirical work in cognitive science.

PHIL 511 Seminar: Philosophy of Logic and Mathematics.
(3) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department)

PHIL 515 Seminar: Philosophy of Language.
(3) (Prerequisite: PHIL 415 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a topic in the philosophy of language.

●**PHIL 519 Seminar: Epistemology.**
(3) (Prerequisite: PHIL 420 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a topic in the theory of knowledge. Subject varies from year to year.

PHIL 521 Seminar: Metaphysics.
(3) (Prerequisite: PHIL 421 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a topic in metaphysics.

PHIL 534 Seminar: Ethics.
(3) (Prerequisite: PHIL 334 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department)

●**PHIL 536 Seminar: Aesthetics.**
(3) (Prerequisite: PHIL 336 or PHIL 436 or permission of the instructor.) (Restriction: Open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department.) An advanced course devoted to a specific topic in the area of aesthetics and/or the philosophy of art.

●**PHIL 540 Seminar: Philosophy and Social Sciences.**
(3)

PHIL 541 Seminar: Philosophy of Science.
(3) (Prerequisite: PHIL 441 or other requirements specified by the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a topic in the philosophy of science.

PHIL 543 Seminar: Medical Ethics.
(3) (Prerequisite: PHIL 343 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a particular philosophical problem as it arises in the context of medical practice or the application of medical technology.

PHIL 544 Political Theory.
(3) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department)

●**PHIL 548 Seminar: Philosophy of Law.**
(3) (Prerequisite: PHIL 348 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a particular topic in the philosophy of law. Subject varies from year to year.

PHIL 550 Seminar: Ancient Philosophy 1.
(3)

●**PHIL 551 Seminar: Ancient Philosophy 2.**
(3) (Prerequisite: at least one course in ancient philosophy and the specific requirements of individual instructors) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course on a philosopher or philosophical issue articulated in antiquity.

●**PHIL 556 Seminar: Medieval Philosophy.**
(3) (Prerequisite: PHIL 345 or PHIL 357 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course devoted to a particular topic in medieval philosophy. Subject varies from year to year.

PHIL 561 Seminar: 18th Century Philosophy.
(3) (Prerequisite: PHIL 361 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course on an eighteenth-century philosopher or philosophical issue.

PHIL 567 Seminar: 19th Century Philosophy.
(3) (Prerequisite: PHIL 366 or PHIL 367 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course on 19th-century philosophy or philosophical issue.

PHIL 570 Seminar: Contemporary Analytic Philosophy.
(3) (Prerequisite: PHIL 370 or PHIL 415 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course on some major analytic philosopher, or some issue of central importance in the analytic tradition. Subject varies from year to year.

PHIL 575 Seminar: Contemporary European Philosophy.
(3) (Prerequisite: PHIL 475 or written permission of the instructor) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) An advanced course on contemporary European philosophy or some important issue in the Continental tradition.

●**PHIL 580 Seminar: Problems of Philosophy 1.**
(3) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department)

●**PHIL 581 Seminar: Problems of Philosophy.**
(3) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department)

●**PHIL 590 Seminar: Special Topics in Philosophy.**
(3) (Prerequisites: one course in philosophy) (Restriction: Seminars are open only to graduate students and final year Philosophy Majors, Honours and Joint Honours students, except by written permission of the Department) Psychoanalysis: a critical examination. Depending on the interests of the class, areas covered would include: psychoanalytic epistemology, psychoanalysis and the pre-socratics, psychoanalysis and tragedy, reasons versus causes in psychoanalysis, hermeneutics, psychoanalytic truth, self-deception, irrationality, paradox, creativity, internal object world and its relation to external objects.

PHWR-Philosophy & Western Religions

Offered by: Arts - Dean's Office

PHWR 300 Philosophy & Western Religions 1.
(3) (Restrictions: Open to students in Philosophy & Western Religions, Islamic Studies, Jewish Studies, Philosophy, Religious Studies, and to students of other units with permission of the instructor.) Introduction to the encounter between philosophy and the Abrahamic religions, Judaism, Christianity, and Islam, from Antiquity to the 12th Century, covering the philosophical sources (Plato to Neoplatonism), the religious sources (Bible to Qu'ran), and their manifold syntheses in the thought of theologians, philosophers and mystics within the three religious traditions.

●**PHWR 301 Philosophy & Western Religions 2.**
(3) (Prerequisite: PHWR 300 or permission of the instructor.) (Restrictions: Open to students in Philosophy & Western Religions, Islamic Studies, Jewish Studies, Philosophy, Religious Studies, and to students of other units with permission of the instructor.) Introduction to the encounter between philosophy and the three Abrahamic religions, Judaism, Christianity, and Islam, from the 13th Century to the Enlightenment, covering the manifold syntheses of philosophical and religious ideas in thinkers from the Later Middle Ages, the Renaissance, the 17th Century and the Enlightenment.

PHWR 400 Joint Honours/Honours Tutorial.
(3) (Restrictions: Open to Joint Honours and Honours students in Philosophy & Western Religions in their final year.) Guided reading and research for Joint Honours and Honours students in their final year.

PHWR 401 Honours Thesis Tutorial 1.
(3) (Restrictions: Open to Honours students in Philosophy & Western Religions in their final year.) Initial guided reading and research for Honours students in their final year.

PHWR 402 Honours Thesis Tutorial 2.
(3) (Prerequisite: PHWR 401) (Restrictions: Open to Honours students in Philosophy & Western Religions in their final year.) Final guided reading and research for Honours students in their final year.

●**PHWR 500D1 (1.5), PHWR 500D2 (1.5) Interdisciplinary Seminar.**
(Prerequisite: PHWR 300 or permission of an advisor.) (Restrictions: Open to Major, Joint Honours and Honours students in Philosophy & Western Religions in their final year, as well as students of related units with permission of an adviser.) (Students must register for both PHWR 500D1 and PHWR 500D2.) (No credit will be given for this course unless both PHWR 500D1 and PHWR 500D2 are successfully completed in consecutive terms) Advanced undergraduate students and faculty members and graduate students conducting research in relevant areas of the academic field will discuss a specific topic (e.g. Platonism, Aristotelianism, Renaissance, Mysticism, God, Prophecy, Exegesis etc.) in an interdisciplinary perspective.

POLI-Political Science

Offered by: Political Science

POLI 211 Comparative Government and Politics.

(3) (Fall) (Note: The area in the field of Comparative Politics is Developed Areas.) Introduction to the study of comparative politics as it applies both to the developed world and developing countries. The course presents the basic concepts and approaches used in the field of comparative politics and it focuses on patterns of similarity and difference in a way political institutions and processes are structured in a wide

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

variety of national contexts.

●**POLI 212 Government and Politics - Developed World.**
(3) (Note: The area in the field of Comparative Politics is Developed Areas.) The nature of politics in a few selected nations of the industrialized world, applying the concepts introduced in POLI 211 to specific national contexts. Countries studied will be drawn principally from Europe and North America.

POLI 221 Government of Canada.
(3) (Fall) (Note: The field is Canadian Politics.) An examination of the central governmental institutions, including parliament, federalism, and the judiciary.

POLI 222 Political Process and Behaviour in Canada.
(3) (Winter) (Note: The field is Canadian Politics.) An introduction to contemporary political life in Canada that examines how demands are identified and transmitted through the political systems. Emphasis will be placed on: the Canadian political culture; socialization and political participation; the electoral system; elections and voting; the role and structure of political parties; and the influence of organized interest.

POLI 226 La vie politique québécoise.
(3) (Restriction: An ability to understand and read French is required; writing and speaking ability are not.) (This course is offered in English and French in alternate years. For 2009-10 it will be offered in English) (Note: The field is Canadian Politics.) Une introduction à la vie politique québécoise à travers l'étude des institutions, des idéologies et des comportements politiques. Une attention particulière sera accordée à la structure et aux changements dans le système politique québécoise.

POLI 227 Developing Areas/Introduction.
(3) (Note: The area in the field of Comparative Politics is Developing Areas.) An introduction to Third World politics. A comparative examination of the legacies of colonialism, the achievement of independence, and contemporary dynamics of political and socio-economic development in Africa, Asia and Latin America. Topics include modernization, dependency, state-building and national integration, revolution, the role of the military, and democratization.

POLI 231 Introduction to Political Theory.
(3) (Note: The field is Political Theory.) The course introduces students to political theory through critical examination of classic texts in the history of political thought. In addition to gaining an understanding of several different traditions of political thought, students are encouraged to develop their skills in textual interpretation, critical reasoning, and essay-writing.

POLI 232 Modern Political Thought.
(3) (Note: The field is Political Theory.) The course introduces students to modern political thought through a critical examination of some of the key political ideologies and concepts of contemporary political discourse. Themes vary from year to year, and may include liberalism, conservatism, socialism, feminism, democracy, power, justice, and freedom.

POLI 243 International Politics of Economic Relations.
(3) (Winter) (Note: The field is International Politics.) An introduction to international relations, through examples drawn from international political economy. The emphasis will be on the politics of trade and international monetary relations.

POLI 244 International Politics: State Behaviour.
(3) (Summer) (Note: The field is International Politics.) Offers a comprehensive introduction to the behaviour of nation states. Explores how states make foreign policy decisions and what motivates their behaviour. Other covered topics include the military and economic dimensions of state behaviour, conflict, cooperation, interdependence, integration, globalisation, and change in the international system.

●**POLI 300D1 (3), POLI 300D2 (3) Developing Areas/Revolution.**
(Prerequisite: A basic course in Comparative Politics or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) (Students must register for both POLI 300D1 and POLI 300D2.) (No credit will be given for this course unless both POLI 300D1 and POLI 300D2 are successfully completed in consecutive terms) The post WW II revolutionary process in the third world. Attention to the nature of the revolutionary process in the struggle for national liberation both where this approach succeeded and failed. Examples drawn from Asia, Africa and Latin America. Students will be required to do a thorough case study.

POLI 311 Techniques of Empirical Research.
(3) (Summer) An introduction to empirical political research. Among the topics considered are the formulation of research problems, the selection of samples, interviewing, questionnaire construction, and the analysis and interpretation of data.

●**POLI 315 Approaches to Political Economy.**
(3) (Prerequisite: POLI 211 or POLI 212 and one preferably university-level economics course) (Note: The area in the field of Comparative Politics is Developed Areas.) Influential traditions in political economy. Focus on how these attempted to integrate the economic and political. Application of economic analysis to social and political phenomena ("social choice"). Recent efforts to combine the deductive logic of economics with comparative empirical analysis of actors in different institutional settings. Extension to the international political economy.

●**POLI 318 Comparative Local Government.**
(3) (Prerequisite: POLI 211 or POLI 212 or written permission of instructor) (Note: The area in the field of Comparative Politics is Developed Areas; also in the field of Canadian Politics.) An examination of the organization and conduct of local government in Canada, the United States, and selected European countries. Attention to theories of local government, the criteria for comparative analysis, the provision of public goods and bads, urban political patterns and the constitution of new institutional arrangements to deal with "urban crises" in North America.

POLI 319 Politics of Latin America.
(3) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) This course will deal with the dynamics of political change in Latin America today.

●**POLI 320 Issues in Canadian Democracy.**
(3) (Prerequisite: At least one other course in Canadian or Comparative Government and Politics or permission of instructor) (Note: The field is Canadian Politics.) Critical analysis of selected issues and debates in Canadian politics, including citizen participation, electoral system effects, party financing, office-seeking, approaches to representation, and direct democracy and non-party alternatives. Topics are examined from both the perspective of the general population and the specific experience of women and ethno-racial minorities.

POLI 321 Issues: Canadian Public Policy.
(3) (Prerequisite: at least one other course in Canadian or Comparative Politics) (Note: The field is Canadian Politics.) The Canadian political process through an analysis of critical policy issues in community development, welfare state, education, and institutional reforms in public service delivery systems. Diagnostic and prescriptive interpretations of public choices in a federal-parliamentary regime.

POLI 322 Political Change in South Asia.
(3) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) Political change in South Asia in late colonial and post-colonial periods. Issues covered include social and cultural history; colonial rule, nationalism and state formation; democratic and authoritarian tendencies; economic policies and consequences; challenges to patterns of dominance and national boundaries; prospects for democracy, prosperity and equality.

●**POLI 323 Developing Areas/China and Japan.**
(3) (Winter) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) A survey of traditional and modern political society in China and Japan. Special emphasis is placed on governmental policy and institutions in relation to ideology

in the Peoples' Republic of China and post-1945 Japan.

POLI 324 Developing Areas/Africa.
(3) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) The government and politics of African states south of the Sahara with reference to the ideological and institutional setting as influenced by the forces of tradition and the impact of Western colonialism.

POLI 325D1 (3), POLI 325D2 (3) Government and Politics: United States.
(Prerequisite: POLI 211 or POLI 212 or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developed Areas.) (Students must register for both POLI 325D1 and POLI 325D2.) (No credit will be given for this course unless both POLI 325D1 and POLI 325D2 are successfully completed in consecutive terms) A survey of the American political system, with emphasis on the constitutional and philosophical setting, the institutions and their interactions, the political process, public policy issues, and political change.

●**POLI 326 Provincial Politics.**
(3) (Prerequisite: A basic course in Canadian Government or Politics or permission of the instructor) (Note: The field is Canadian Politics.) The effect of regional and provincial culture on the operation of political parties and the institutions of government; the effect of institutional modernization on provincial governments; the role of provincial sub-systems within the Canadian political system.

POLI 328 Modern Politics in Western Europe.
(3) (Prerequisites: POLI 211 or POLI 212, or POLI 227) (Note: The area in the field of Comparative Politics is Developed Areas.) This course seeks an understanding of the similarities and differences between the political systems of contemporary Western Europe by examining the different ways in which these systems have taken shape over time. The political development of Western Europe will be conceptualized as a series of critical phases beginning with the formation of the modern dynastic state in the 15th Century and concluding with the "postwar settlement" of the late 1940s.

POLI 329 Russian and Soviet Politics.
(3) (Prerequisite: POLI 211, POLI 212, or written consent of instructor; Soviet history helpful but not required) (Note: The area in the field of Comparative Politics is Developed Areas.) This course explores the institutions of the Soviet system and pressures to reform this system. Examines specific changes made to the system through democratization and market reform. Compares these changes to similar transitions in other countries to assess possible twists in Russian's political future.

POLI 330 Law and Courts in Europe.
(3) (Prerequisite: POLI 211 or POLI 212) (Restrictions: Not open to students who have taken POLI 339 in 2006-2007 or 2007-2008) Judicial politics in continental Europe, including theoretical accounts of the rule of law, judicial independence, power, and accountability, and the judicialization of politics. Empirical examples will be drawn from both Western and Eastern Europe countries, as well as the constitutional and the ordinary judiciaries.

POLI 333 Western Political Theory 1.
(3) (Prerequisite: POLI 231 or POLI 232 or PHIL 240 or at least two political science courses at the 300 level; or permission of the instructor) (Note: The field is Political Theory.) The major themes and writers in the political theory of classical antiquity. The political ideas of Thucydides, Plato, Aristotle, and the Hellenistic philosophers will be explored through the significant texts of this period.

POLI 334 Western Political Theory 2.
(3) (Prerequisite: POLI 333 or written permission of the instructor. POLI 333 should be taken before this course) (Note: The field is Political Theory.) Medieval and renaissance political philosophy, from Saint Augustine to Sir Thomas More. Scholastic and neo-scholastic political thought, natural law and natural rights, as well as civic and northern humanism, republicanism and liberty. Twentieth century work on similar concepts will be used.

POLI 336 Le Québec et le Canada.
(3) (Restrictions: An ability to understand and read French is required; writing and speaking ability are not. Not open to students who have taken QCST 336.) (Note: The field is Canadian Politics.) Comment les Canadiens anglais et les Québécois se perçoivent-ils? Les différences culturelles entre les deux groupes. Les relations politiques et économiques entre les deux groupes. L'impact de la Révolution Tranquille. La place des francophones et des anglophones dans la vie collective. Les projets de réaménagement du cadre politique.

POLI 337 Canadian Public Administration.
(3) (Prerequisite: at least one other course in Canadian government or politics) (Note: The field is Canadian Politics.) Organization and practice of public administration at the federal provincial and local level in Canada. Contrasting theories/techniques of public administration and policy, organization of field offices for delivery of essential public services, governments as employers, and institutional and policy changes to resolve crisis inherent in "the paradoxical view of bureaucracy".

●**POLI 339 Comparative Developed: Topics 1.**
(3) (Summer) (Prerequisite: a basic course in Comparative Politics or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developed Areas.) Selected aspects of politics in developed countries.

POLI 340 Developing Areas/Middle East.
(3) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) An examination of the societies, political forces and regimes of selected countries of the Eastern Arab world (Egypt, Syria, Lebanon, Jordan, Palestine, Saudi Arabia).

POLI 341 Foreign Policy: The Middle East.
(3) (Prerequisite: A 200- or 300- level course in International Relations or Middle East politics or permission of the instructor) (Note: The field is International Politics.) An examination of the changing regional security environment and the evolving foreign policies and relationships of Arab states in three areas - relations with non-Arab regional powers (Israel, Iran), inter-Arab relations, Great Power relations. The course will focus particularly on Egypt, Syria, Iraq and Saudi Arabia.

POLI 342 Canadian Foreign Policy.
(3) (Prerequisite: A basic course in Canadian Government and Politics or International Politics or written consent of instructor) (Note: The fields are International Politics and Canadian Politics.) The development and articulation of Canadian foreign policy. Theoretical approaches. The environmental setting. Historical perspectives. Trans-Atlantic linkages. The American connection. The Common Market. The United Nations. Military security. Developing relations with Asia, Africa, Latin America. Canada in global society.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

POLI 344 Foreign Policy: Europe.
(3) (Prerequisite: A basic course in International or European Politics or written consent of instructor. POLI 346 would be a helpful preparation for this course) (Note: The field is International Politics.) An examination of the evolution of the European system since 1945.

POLI 345 International Organizations.
(3) (Prerequisite: A basic course in International Politics or written consent of instructor) (Note: The field is International Politics.) Examination of significant organizations in world politics such as the United Nations, the European Union, and the World Trade Organization.

POLI 346 American Foreign Policy.
(3) (Prerequisite: POLI 244 or a course in American history) (Note: The field is International Politics.) An exploration of American foreign policy from 1945 to the present. Topics to be addressed are the origins of the Cold War, deterrence, strategy and arms control, American intervention in Latin America and Vietnam, U.S. policy in the Post Cold War era - Gulf War, Haiti, Somalia, Yugoslavia and relations with Japan.

POLI 347 Arab-Israel Conflict, Crisis, Peace.
(3) (Prerequisite: 160-243 prior to 1997-98; or POLI 244) (Note: The field is International Politics.) Concepts - protracted conflict, crisis, war, peace; system, subsystem; Conflict-levels of analysis; historical context; images and issues; attitudes, policies, role of major powers; Crises-Wars - configuration of power; crisis models; decision-making in 1956, 1967, 1973, 1982 crisis-wars; conflict- crisis management; Peace-Making - pre-1977; Egypt-Israel peace treaty; Madrid, Oslo, Israel-Jordan peace; prospects for conflict resolution.

POLI 349 Foreign Policy-Asia Pacific.
(3) (Prerequisites: POLI 243 or 244, or permission of the instructor.) (Note: The field is International Politics.) A study of the international relations of the Asia Pacific region, including China, Korea, Japan, and Southeast Asia, as well as Australia and New Zealand. Focuses on security and economic issues, foreign policy, and regional institutions.

POLI 351 The Causes of Major Wars.
(3) (Prerequisite: POLI 243, POLI 244 or permission of the instructor.) (Note: The field is International Politics.) Examination of the competing theoretical explanations for major wars; application of the theories to the outbreak of World War I.

●**POLI 352 International Policy/Foreign Policy: Africa.**
(3) (Summer)

POLI 354 Approaches to International Political Economy.
(3) (Prerequisite: A basic course in International Relations and an introductory course in Macro Economics) (Note: The field is International Politics.) The course presents theoretical approaches to understanding change in the international political economy.

●**POLI 357 Politics: Contemporary Europe.**
(3) (Prerequisite: POLI 212 or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developed Areas.) An examination of political institutions and processes in today's Europe, concentrating on the member-states of the European Union and on the Union itself. The course is organized thematically rather than on a country-by-country basis.

●**POLI 359 Topics in International Politics 1.**
(3) (Prerequisites: A basic course in International Relations) (Note: The field is International Politics.) A specific problem area in International Relations.

POLI 360 Security: War and Peace.
(3) (Prerequisite: A basic course in International Relations or written permission of the instructor) (Note: The field is International Politics.) Focuses on international security and strategies of war and peace in historical and comparative frameworks. Topics include case studies of 20th century wars, conventional and nuclear strategy, and various approaches to peace.

POLI 361 Political Participation in Comparative Perspective.
(3) (Prerequisite: POLI 211 or POLI 212.) (Note: The area in the field of Comparative Politics is Developed Areas.) Exploration of how citizens engage in politics. Theories and examples of current forms of political participation and mobilization will be introduced, including voting, party membership, transnational movements, political consumerism, culture jamming and internet activism. Examples are drawn from Europe and North America and sometimes from the developing world.

POLI 362 Political Theory and International Relations.
(3) (Prerequisites: A 200 or 300-level course in political theory, and POLI 243 or POLI 244) (Note: The fields are International Politics and Political Theory.) Key contributions of political theory to the study and practice of international relations. Three prevailing theoretical traditions will be examined: realism, 'international society', and cosmopolitanism. Key practical issues to be explored from these perspectives include war, humanitarian intervention, economic globalization, environment, and gender.

●**POLI 363 Contemporary Political Theory.**
(3) (Prerequisite: A 200 or 300 level course in political theory) (Note: The field is Political Theory.) This course explores fundamental currents of thought in political philosophy. Topics will vary from year to year, and may include issues such as classical liberalism and its opponents, the foundations of socialism and Marxism, rational choice theory and its critics.

●**POLI 364 Radical Political Thought.**
(3) (Prerequisite: A 200- or 300-level course in political theory) Radical themes in contemporary political thought and action.

POLI 365 Democratic Theory.
(3) (Prerequisite: Prerequisite: A 200- or 300-level course in political theory) (Note: The field is Political Theory.) A series of lectures and seminars on democratic theory.

POLI 366 Topics in Political Theory 1.
(3) (Prerequisites: A 200- or 300-level course in political theory) (Note: The field is Political Theory.) A specific problem area in Political Theory.

POLI 367 Liberal Political Theory.
(3) (Prerequisite: POLI 231, 232 or POLI 333) The development of liberal political thought and theories of justice, including a selection of authors from: Locke, Montesquieu, Smith, Constant, Kant, Mill, Tocqueville, Berlin, Hayek, Rawls, Nozick, Walzer, and Kymlicka, as well as some of their critics.

POLI 369 Politics of Southeast Asia.
(3) (Prerequisite: 200 level course in comparative politics (POLI 211, POLI 212, or POLI 227).) Topics covered include: colonialism, nationalism, democracy, authoritarianism, war, economic development, social development, overseas Chinese, ethnicity, religion, populism, and international relations, as they apply to Southeast Asian politics.

POLI 371 Challenge of Canadian Federalism.
(3) (Prerequisite: at least one course in Canadian politics) (Note: The field is Canadian Politics.) An analysis of the origins, evolution and nature of federalism in Canada. Topics and themes will include the impact of federalism on political institutions, the effect of different regional perspectives, and the issues and conflicts that currently confront Canadian federalism.

POLI 372 Aboriginal Politics in Canada.
(3) (Prerequisite: At least one course in Canadian politics such as, POLI 221 or POLI 222 OR Permission of the instructor.) (Restriction: Not open to students who have taken POLI 372 prior to W06.) The relationship of aboriginal politics to larger debates and literatures within political science, such as citizenship theory, federalism, and collective action. Subjects covered include Canada's treaty history, constitutional changes, and aboriginal political development.

POLI 378 The Canadian Judicial Process.
(3) (Fall) (Prerequisite: POLI 221 or POLI 222 or permission of the instructor) (Restriction: Not open to students who took 160-379 (1990-91) or 160-427 (1989-90)) (Note: The field is Canadian Politics.) An examination of the structure of the judiciary and its role in the Canadian political process. Topics include the nature of judicial power and its constitutional framework in Canada, the structure and function of courts, judicial recruitment and personnel, judicial policy-making and the political role of the Supreme Court under the Charter of Rights and Freedoms.

●**POLI 379 Topics in Canadian Politics.**
(3) (Summer) (Prerequisite: A basic course in Canadian Government and Politics) (Note: The field is Canadian Politics.) Topics in Canadian politics.

●**POLI 410 Canadian Political Parties.**
(3) (Prerequisite: At least one other course in Canadian Politics) (Note: The field is Canadian Politics.) This course examines Canadian political parties and party systems, stressing patterns of historical development, party organization and finance, relationships with social movement, and the impact of Canadian federalism.

●**POLI 411 Immigration and Multiculturalism in Canada.**
(3) (Prerequisite: at least one course in Canadian politics, preferably at the 300 or 400 level, or permission of the instructor) (Note: The field is Canadian Politics.) An examination of various aspects of Canadian politics that stems from the country's experience with immigration and ethnic and racial diversity.

POLI 412 Canadian Voting/Public Opinion.
(3) (Prerequisite: at least one course in Canadian politics, preferably at the 300 or 400 level, or permission of the instructor) (Note: The field is Canadian Politics.) A critical examination of major debates within the literature on Canadian voting behaviour and public opinion.

POLI 414 Society and Politics in Italy.
(3) (Prerequisite: a basic course in Comparative Politics and preferably an upper level course or written permission of the Instructor) (Note: The area in the field of Comparative Politics is Developed Areas.) Analysis of modern Italian political development in comparison to other Western and Mediterranean countries. What makes Italian politics unique, what makes it resemble that of other countries.

POLI 417 Health Care in Canada.
(3) (Prerequisites: POLI 221 or POLI 221) (Note: The field is Canadian Politics.) This course analyzes the theory and politics of health policy and institutions, comparing provincial models and contextualizing Canadian systems with international perspectives from the U.S. and Europe. Current health reform debates will be explored, particularly those involving federal-provincial relations, sustainable financing and the role of the state in social protection.

POLI 419 Transitions from Communism.
(3) (Prerequisites: A previous History or Political Science course on the USSR, or Eastern Europe after WW II, or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developed Areas.) Selected problems facing the Post-Soviet world. Themes include: new political institutions, parties, and groups; economic reform; social problems; ideological changes; the rise of ethnonationalism; linkages with the West.

POLI 423 Politics of Ethno-Nationalism.
(3) (Prerequisites: one 300 or 400-level course in comparative politics; and one 300 or 400-level course on developing areas (any discipline.) The same course can fulfill both requirements) (Note: The area in the field of Comparative Politics is Developing Areas.) Theories of ethno-nationalism examined in light of experience in Asia, Middle East and Africa. Topics include formation and mobilization of national, ethnic and religious identities in colonial and post-colonial societies; impact of ethno-nationalism on pluralism, democracy, class and gender relations; means to preserve tolerance in multicultural societies.

POLI 424 Media and Politics.
(3) (Prerequisites: POLI 211 or POLI 212; and at least 3 credits in Political Science at the 300 level) (Note: The area in the field of Comparative Politics is Developed Areas; also in the field of Canadian Politics.) The role of media in domestic and international politics, with reference to recent studies in political science. Themes in the study of mass media and politics in developed democracies.

POLI 425 Topics in American Politics.
(3) (Prerequisite: POLI 325) (Note: The area in the field of Comparative Politics is Developed Areas.) This course involves a detailed analysis of a limited area of American politics and government.

POLI 427 Selected Topics: Canadian Politics.
(3) (Prerequisite: A basic course and preferably an upper level course as well in Canadian Government and Politics or permission of the instructor) (Note: The field is Canadian Politics.) Selected problem areas in Canada's political process, political culture, constitutional development, and machinery of government.

POLI 431 Nations and States/Developed World.
(3) (Summer) (Prerequisite: POLI 211 or POLI 212 or POLI 328) (Note: The area in the field of Comparative Politics is Developed Areas.) The role of nationalism in European and North American political development. Topics include: nationalism and state-formation, secession and sub-state nationalism, war and nationalism, federal and consociational arrangements in multi-national societies.

●**POLI 432 Selected Topics: Comparative Politics.**
(3) (Note: The field is Comparative Politics in Developed Areas.)

POLI 433 History of Political/Social Theory 3.
(3) (Prerequisite: POL1 231 or 232 or 333 or 334 or written permission) (Note: The field is Political Theory) Early modern political philosophy, from Luther to Rousseau and Burke. Resistance theories of the 16th century, Hobbes and Locke, the Enlightenment and the French Revolution. Twentieth century work on concepts developed in this period such as rights, revolution, legitimacy, democracy, authority and liberty.

POLI 434 History of Political/Social Theory 4.
(3) (Prerequisite: POL1 433) (Note: The field is Political Theory.) A consideration of selected writers and themes of late 19th and 20th century political theory. Writers include Hegel, Clausewitz, Marx, Mill, Nietzsche, Lenin, Rowis, Foucault, and Habermas. The rise of industrial society, scientism, the romantic revolt, revolutionary movements, socialism and liberal-democracy.

●**POLI 435 Identity and Inequality.**
(3) (Prerequisite: 300 level course in comparative politics or related social science course.) Inequality is often particularly durable between groups whose boundaries are based on assumed ancestry - e.g., the major ethnic categories in former European settler colonies, castes in South Asia. This course explores ongoing changes in the relationship between identity and social,

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

economic and political inequality in some of these contexts.

● **POLI 437 Politics in Israel.**
(3) (Prerequisite: POLI 211 or POLI 212. Recommended JWST 366) (Note: The area in the field of Comparative Politics is Developed Areas.) An analysis of the nature and development of the Israeli political system, including historical background, Zionist ideology, the electoral system, the political parties, the institutions of government, constitutional issues, and religion and politics. The relationship between domestic politics and foreign policy will also be explored.

● **POLI 438 British Politics.**
(3)

● **POLI 440 Civil-Military Relations.**
(3) (Prerequisites: POLI 244 or permission of instructor.) Civil-military relations is a key component of any society's political system. This course considers both domestic issues of political stability, such as the threat of coups d'état, as well as international ones, such as the use of force.

● **POLI 441 IPE: Trade.**
(3) (Prerequisites: POLI 243 or permission of the instructor.) (Note: The field is International Politics.) Politics of international trade, such as the international rules governing trade in goods, the functioning of international bodies such as the WTO, and the domestic sources of these international policies.

● **POLI 442 International Relations of Ethnic Conflict.**
(3) (Prerequisite: POLI 244 or permission of instructor) Issues related to the internationalization of ethnic conflict, including diasporas, contagion and demonstration effects, intervention, irredentism, the use of sanctions and force. Combination of theory and the study of contemporary cases.

● **POLI 444 Topics in International Politics 2.**
(3) (Prerequisite: An upper level course in International Politics or written permission of the instructor) (Note: The field is International Politics.) A specific problem area in International Politics.

● **POLI 445 International Political Economy: Monetary Relations.**
(3) (Prerequisites: POLI 243 or permission of the instructor.) (Note: The field is International Politics.) Advanced course in international political economy; the politics of international of monetary relations, such as international rules governing international finance, the reasons for and consequences of financial flows, and the functioning of international financial bodies such as the IMF and World Bank.

POLI 450 Peacebuilding.
(3) (Prerequisites: previous courses in comparative politics/developing areas and international relations. Internet research skills are strongly recommended) (Note: The area in the field of Comparative Politics is Developing Areas; also in the field of International Politics.) An examination of transitions from civil war to peace, and the role of external actors (international organizations, bilateral donors, non-governmental organizations) in support of such transitions. Topics will include the dilemmas of humanitarian relief, peacekeeping operations, refugees, the demobilization of ex-combatants, transitional elections, and the politics of socio-economic reconstruction.

POLI 451 The European Union.
(3) (Summer) (Prerequisite: one course each in International Relations and Comparative Politics) (Note: The area in the field of Comparative Politics is Developed Areas; also in the field of International Politics.) The emergence of the EU and its innovative institutions and policies will be studied through lectures, discussions, and a simulation (of a European Council or Parliament session). Emphasis upon current debates about the EU's developing identity, its internal political economy, its institutions of 'multilevel' governance, and its external relation.

POLI 459 Topics in Political Theory 2.
(3) (Prerequisite: A 300- or 400-level course in political theory) (Note: The field is Political Theory.) This course will deal with a specific problem area in Political theory.

● **POLI 469 Politics of Regulation.**
(3) (Prerequisite: POLI 221 or POLI 222 and at least one 300-level course or above in Canadian politics, or permission of instructor) (Note: The field is Canadian Politics.) Issues arising from the use of regulation as a governing instrument including origins of regulation, costs and benefits, political accountability and regulatory change including deregulation. Issues will be explored through examination of broadcasting and telecommunications regulation and their convergence in the "Information Highway".

● **POLI 473 Democracy and the Market.**
(3) (Prerequisite: A course in Comparative Politics or written permission of the instructor) (Note: The area in the field of Comparative Politics is Developing Areas.) The course examines the relationship between economic and political change by focusing on dual processes of economic reform and democratization. The inter-play of societal, state-level and international actors, and the possible trade-offs involved, are explored using examples from Latin America, the former Soviet bloc, and other developing areas.

POLI 474 Inequality and Development.
(3) (Prerequisite: A basic course in Comparative Politics or a course on the region or written permission of the instructor.) (Note: The area in the field of Comparative Politics is Developing Areas.) The political structures and social forces underlying poverty and inequality in the developing world; the historical roots of inequality in different regions, varying manifestations of inequality (class, region, ethnicity, gender), and selected contemporary problems.

● **POLI 475 Social Capital in Comparative Perspective.**
(3) (Prerequisite: POLI 211 or POLI 212.) (Note: The area in the field of Comparative Politics is Developed Areas.) Social capital as an important societal resource that helps to overcome collective action and development problems. Introduction to the roots of the concept of social capital, and discussion on how and why this resource influences the political and economic life of countries, regions, cities and individuals.

POLI 478 The Canadian Constitution.
(3) (Winter) (Prerequisites: POLI 378 or an upper level course in Canadian Politics or permission of the instructor) (Restriction: Not open to students who took 160-427 in 1989-90 or 1991) (Note: The field is Canadian Politics.) An examination of legislative and judicial protection of rights and liberties in Canada. Topics to be covered include civil rights and the division of powers; the implied bill of rights theory; the 1960 Bill of Rights; establishment and enforcement of human rights legislation; and the Charter of Rights and Freedoms.

POLI 490 Independent Reading and Research 1.
(3) (Summer) Final year Honours students wishing to pursue a specialized interest will be allowed to undertake a program of independent reading and/or research in that area under the supervision of a member of staff. Such programs may be undertaken by students either individually or in small groups. It is the responsibility of the student to obtain the instructor's consent prior to registration.

POLI 499 Honours Essay.
(3) (Summer) (Restriction: Open to Honours students only) Regular meetings between students and professors, the writing of a well researched essay and its oral defense. The essay should demonstrate some experience with primary sources, the ability to explore various theoretical perspectives as well as to organize and present a set of arguments in a systematic and thorough manner.

POLI 521 Seminar: Canadian Politics and Government.
(3) (Restriction: Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor) (Prerequisite: At least one 300 or 400-level course in Canadian Politics) (Note: The field is Canadian Politics.) Selected problems of Canadian socio-economic and political structures; political culture; constitutional development, and governmental structure.

POLI 522 Seminar: Developing Areas.
(3) (Prerequisite: At least one upper level course in the politics of developing areas) (Note: The area in the field of Comparative Politics is Developing Areas.) (Restriction: Open to graduate students, final year honours students, and other advanced undergraduates with permission of instructor; (Note: The field is Comparative Politics in Developing Areas).) State-society relations in the developing world through historical, comparative, and analytical perspectives, focusing on: (1) theories and concepts of the state; (2) state capacity and incapacity; (3) state formation.

POLI 524 Seminar: Developed Areas.
(3) (Prerequisite: At least one upper-level course in the politics of developed areas) (Restriction: Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor) (Note: The area in the field of Comparative Politics is Developed Areas.)

POLI 561 Seminar: Political Theory.
(3) (Prerequisite: At least one upper level course in political philosophy) (Restriction: Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor) (Note: The field is Political Theory.) A topic in political philosophy such as democracy, liberty, property or nationalism, or a political philosopher, is studied to enable students to research a topic in depth, to present their papers to the seminar, and to engage in and profit from discussion and debate.

POLI 575 Seminar: International Politics.
(3) (Fall and Winter) (Restriction: Open to graduate students and final year Honours students only) (Note: The field is International Politics.) A research seminar dealing with topics in the field of international politics.

POLI 599 Internship: Political Science.
(3) (Summer) (Restriction: Open, with permission, to final year Honours and Joint Honours students, and graduate students. This course does not count as a 500-level seminar under the Honours requirements) The internship shall consist of a minimum of 150 hours of work over a period of 12 weeks, plus a major research project based on the internship. The major project will ordinarily consist of a major research paper, plus a substantial written record of the work conducted during the internship.

QCST-Quebec Studies

Offered by: Arts - Dean's Office

QCST 300 Quebec Culture and Society.
(3) (Required course for all students in Quebec Studies. Open to all students.) A multidisciplinary course that looks at Quebec with an aim of integrating key social, economic, cultural, political and historical aspects.

●**QCST 336 Quebec Studies Summer Seminar.**
(6) (Summer) (Prerequisite: Intermediate level placement test required or permission of the instructor.) (Restrictions: Designed for non-Quebec and non-francophone students. Intermediate proficiency in French is required. Placement test is required. Enrolment is limited to 25 students. Not open to students who have taken FRSL 326 or QCST 300.) This intensive course, mainly in French, introduces non-Quebec students to Quebec and Montreal's history and culture. Special emphasis on French-language skills. Students attend lectures and seminars by instructors and invited experts. Weekend cultural activities will reinforce course themes.

QCST 440 Contemporary Issues in Quebec.
(3) (Prerequisite(s): QCST 300 or permission of the instructor) (Required course for all students in Quebec Studies.) (Instruction, discussions, oral presentations and papers can be in French or English) A multidisciplinary seminar that looks at a theme or topic concerning Quebec Society with the goal of integrating key social, economical, cultural, political and historic aspects.

QCST 472D1 (3), QCST 472D2 (3) Tutorial/Travaux dirigés.
(Obligatoire pour les étudiants(es) inscrit(e)s au concentration majeur en Études sur le Québec.) (Required for U3 students completing a Major Concentration in Quebec Studies.) (Students must register for both QCST 472D1 and QCST 472D2.) (No credit will be given for this course unless both QCST 472D1 and QCST 472D2 are successfully completed in consecutive terms) Sous la direction du Directeur du Programme d'études sur le Québec ou d'un professeur, l'étudiant(e) choisit un sujet sur lequel il (elle) travaille pendant une année et rédige un essai d'une cinquantaine de pages. Under the supervision of either the Director of Quebec Studies Program or a professor, the student chooses a topic on which she/he works for a year and then submits an essay of approximately 50 pages.

RUSS-Russian

Offered by: Russian & Slavic Studies

RUSS 210 Elementary Russian Language 1.
(3) (Fall) Reading, grammar, translation, oral practice.

RUSS 211 Elementary Russian Language 2.
(3) (Winter) (Prerequisite: RUSS 210 or equivalent) Russian Language; continuation of RUSS 210.

RUSS 215 Elementary Russian Language Intensive 1.
(6) (Fall) (Restriction: Departmental approval required) (Restriction: Not open to students who are taking or have taken RUSS 210, RUSS 211 or equivalent) An intensive introduction to the Russian language which covers the first year of the normal level, i.e. RUSS 210/RUSS 211 in one semester. The basic grammatical structures are covered.

RUSS 217 Russia's Eternal Questions.
(3) (Fall) (Given in English) (Restriction: Permission of the instructor) Exploration of cultural archetypes defining continuity and change from Peter the Great to the present; the Russian national identity, double-faith, Western and Slovophile influences, Mother Russia, superfluous men and the Eternal Feminine, anarchism, the avant-garde, Stalinism. Recurring themes traced in literature, art, film, music, pop culture and the applied arts.

RUSS 218 Russian Literature in Revolution.
(3) (Fall) (Prerequisite: None, but some background in Russian 20C history is helpful) (Given in English) The Russian twentieth-century literary dynamic up to the watershed of Stalin's death (1953). Carving out cultural territory against ideological polemics, revolutionary versus traditional values, the explosion of avant-garde experimentation under mounting critical conformism as reflected in major works and authors (Mayakovsky, Babel, Bulgakov, Platonov and others).

RUSS 219 Russian Literature in Recovery.
(3) (Winter) (Prerequisite: None, but some background in Russian 20C history is helpful) (Given in English) Rediscovering the Russian literary heritage, both traditional and avant-garde, after Stalin's death (1953). The Thaw, Soviet beatniks, Solzhenitsyn-style dissidents against cultural iconoclasts, the challenge and decline of perestroika, raising the literary Iron Curtain to include women writers, émigrés, Western influence and the angst of pluralism.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

RUSS 223 Russian Writers - 19th Century.
(3) (Fall) (Given in English) Designed for students interested in Russian literature and its authors. A broad overview acquainting them with the main Russian literary currents of the 19th century and with the lives and destinies of its writers.

RUSS 224 From War to Revolution.
(3) (Winter) (Given in English) Russian literature from the Crimean War (1856) to the revolutions of 1917. The classical novel through Symbolism to the end of the Empire. Literature in an age of uncertainty. There will be an examination of the works of Tolstoy, Dostoevsky, Chekhov, Bely, Gorky and other selected authors.

●**RUSS 255D1 (3), RUSS 255D2 (3) Introduction to Polish.**
(Fall, Winter) (Students must register for both RUSS 255D1 and RUSS 255D2.) (No credit will be given for this course unless both RUSS 255D1 and RUSS 255D2 are successfully completed in consecutive terms) An introduction to the study of Polish with emphasis on basic Polish grammar, conversation, reading and writing. Please consult Department prior to registration.

RUSS 300 Russian for Heritage Speakers 1.
(3) (Fall) (Prerequisite: Permission of the Department) (Restriction: Not open to students who have taken RUSS 210, RUSS 211, RUSS 215, RUSS 310, RUSS 311 and RUSS 316.) (Given in Russian) For native speakers of Russian who have not had full academic instruction in the language. Focus on grammatical structure and syntax, the formalities of written Russian and appreciation of the language's stylistic diversity. Multi- media approach including excerpts from literary works, current newspapers, television news broadcasts, films and cartoons.

RUSS 301 Russian for Heritage Speakers 2.
(3) (Winter) (Given in Russian) (Prerequisites: RUSS 300 or permission of the instructor) (Restrictions: Not open to students who have taken Russ 210,211,215,310,311 and 316) For native speakers of Russian who have not had full academic instruction in the language. Focus on complex grammatical structures, syntax, and stylistically differentiated uses of vocabulary in written and spoken Russian. Multi-media approach including excerpts from literary works, current newspapers, Internet sources, and films.

RUSS 310 Intermediate Russian Language 1.
(3) (Fall) (Prerequisite: RUSS 210 and RUSS 211 or equivalent) (Restriction: Not open to students who are taking RUSS 316) Reading, translation, conversation.

RUSS 311 Intermediate Russian Language 2.
(3) (Winter) (Prerequisite: RUSS 310 or equivalent) (Restriction: Not open to students who are taking or have taken RUSS 316) Reading, translation, conversation.

RUSS 316 Intermediate Russian Language Intensive 2.
(6) (Winter) (Prerequisite: RUSS 215 or equivalent) (Restriction: Requires departmental approval) (Restriction: Not open to students who have taken RUSS 310, RUSS 311 or are taking RUSS 311) Continuing the Intensive program of RUSS 215 this course covers the second year of the normal level, i.e. RUSS 310/RUSS 311, in one semester. The basic grammatical structures are covered.

RUSS 327 Outlines 19th Century Russian Literature: Romantic Period.
(3) (Fall) (Prerequisite: RUSS 215 or equivalent, or permission of the Department. The) (The course will be conducted to some extent in Russian) A general introduction to Russian prose, poetry and drama in the 19th Century. Selected texts will be read in the original and discussed.

●**RUSS 328 Outlines 19th Century Russian Literature: Russian Realism.**
(3) (Winter) (Prerequisite: RUSS 327 or permission of the Department.) (The course will be conducted to some extent in Russian) A general introduction to Russian prose, poetry and drama in the 19th Century. Selected texts will be read in the original and discussed.

RUSS 330 Introduction to Soviet Russian Literature before WWII.
(3) (Fall) (Prerequisite: RUSS 215 or equivalent, or permission of the Department) (The course will be given mainly in Russian) Selected texts will be read in the original and discussed.

●**RUSS 331 Introduction to Soviet Russian Literature after WWII.**
(3) (Winter) (Prerequisite: RUSS 330 or equivalent.) (The course will be given mainly in Russian) Selected texts will be read in the original and discussed.

●**RUSS 385 Russian Drama.**
(3) (Winter) (Prerequisite: Permission of the Department) (Restriction: Not open to students who have taken RUSS 410,411.) Masterpieces of the Russian stage in the nineteenth and twentieth centuries; the emergence of a uniquely Russian dramatic sensitivity against prevailing European trends; the literary word in a public, political and/or avant-garde forum.

●**RUSS 390 Special Topics in Russian.**
(3) (Fall) Exploration of a significant author, trend, theme or theory in modern Russian culture, including but not limited to the interface between literary works, the graphic and performing arts, ideology and national identity.

RUSS 400 Advanced Russian Language 1.
(3) (Fall) (Prerequisite: RUSS 310 and RUSS 311 or equivalent or permission of the Department) (Given in Russian) Advanced practical Russian grammar and composition. May include reading a variety of texts and media from classical to contemporary (literature, newspapers, TV, film, etc.).

RUSS 401 Advanced Russian Language 2.
(3) (Winter) (Prerequisite: RUSS 400 or equivalent) (Given in Russian) Advanced practical Russian grammar and composition. May include reading a variety of texts and media from classical to contemporary (literature, newspapers, TV, film, etc.).

RUSS 415 Advanced Russian Language Intensive 1.
(6) (Fall) (Prerequisite: RUSS 215/RUSS 316 or RUSS 310/RUSS 311) (Requires departmental approval) Continuing the Intensive program of RUSS 215 and RUSS 316, students will complete their study of the fundamental structure of modern literary Russian, including the morphology and syntax of the nominal and verbal systems.

RUSS 416 Advanced Russian Language Intensive 2.
(6) (Winter) (Prerequisite: RUSS 415) (Requires departmental approval) Continuing the Intensive program of RUSS 215/RUSS 316, students will complete their study of the fundamental structure of modern literary Russian, including the morphology and syntax of the nominal and verbal systems. Besides developing an oral facility in the language, this course introduces the student to the study of literature by analysing literary texts of prerevolutionary and Soviet Russia to see the use and verbal systems, syntax, stylistic levels, historical changes.

●**RUSS 450 Reading the 20th Century.**
(3) (Fall) (Prerequisite: Permission of instructor) (Restriction: Not open to students who have taken RUSS 451) (Given in Russian) A century of upheaval; the tug of war between iconoclasts (the avant-garde, the dissidents, the postmodernists) and the traditionalists (neo-realism, socialist realism). Major trends, polemics, authors and milestones; literature as the fulcrum of change and the conscience of the age.

RUSS 452 Advanced Russian Language and Syntax 1.
(3) (Fall) (Prerequisite: RUSS 415 and RUSS 416 or equivalent or permission of the Department) Prose composition, translation, essay writing. An introduction to Russian stylistics.

RUSS 453 Advanced Russian Language and Syntax 2.
(3) (Winter) (Prerequisite: RUSS 452 or equivalent) Prose composition, translation, essay writing. An introduction to Russian stylistics.

●**RUSS 455 History of Modern Russian Language.**
(3) (Fall) (Prerequisite: Permission of instructor) (Note open to students who have taken RUSS 456) (Course given principally in Russian) An examination of the structure of modern Russian using a historical, comparative approach.

●**RUSS 458 Development Russian Novel before Turgenev.**
(3) (Fall) (Prerequisite: RUSS 415 and RUSS 416 or equivalent or permission of the Department) (Given in Russian) The development of the Russian novel before Turgenev. Reading texts will be chosen from the prose works of Karamzin, Bestuzhev, Pushkin, Lermontov, and Gogol.

●**RUSS 459 Russian Novel Pushkin-Gogol.**
(3) (Winter) (Prerequisite: RUSS 458 or equivalent) (Conducted in Russian) The development of the Russian novel from Pushkin to Gogol. Reading texts will be chosen from the prose works of Pushkin and Gogol.

●**RUSS 460 Russian Novel 1860-1900 1.**
(3) (Fall) (Given mainly in Russian) (Prerequisite: RUSS 452 and RUSS 453 or equivalent or permission of the Department) The Golden Age of the novel in Russian Literature. The major works of Turgenev and Dostoevsky will be read in the original.

●**RUSS 461 Russian Novel 1860-1900 2.**
(3) (Winter) (Given mainly in Russian) (Prerequisite: RUSS 460) The Golden Age of the novel in Russian literature. The major works of Tolstoy will be read in the original.

●**RUSS 465 Russian Modernism 1.**
(3) (Fall) (Prerequisite: Permission of the Department) (Given mainly in Russian) Russian poetry, prose, drama, the essay and other media from the Silver Age to WWI, from Chekhov to Blok and Belyi. The crisis of realism, decadence, symbolism, and its waning traced through the eternal feminine, the devil, the city, poetry as pure creation, and millennial crisis.

●**RUSS 466 Russian Modernism 2.**
(3) (Winter) (Prerequisite: Permission of the Department) (Given mainly in Russian) Russian poetry, prose, drama, the manifesto and other media from WW1 to 1930. The avant-garde responds to revolution. Acmeism, futurism, and other movements modelled and transcended in the works of Khlebnikov, Akhmatova, Pasternak, Mandel'shtam, Tsvetaeva, Maiakovskii, Platonov, Kharms, Bulgakov and others. Agitprop, utopianism and total art.

RUSS 468 The Age of Pushkin.
(3) (Winter) (Prerequisite: RUSS 315 and 316 or equivalent or permission of the instructor) (Restriction: Not open to students who have taken RUSS 469) Examination of the major trends and concerns of the first third of the nineteenth century; the flowering of poetry and prose inspired by Pushkin and his contemporaries.

RUSS 470 Individual Reading Course.
(3) (Fall) (Prerequisite: Permission of instructor) Supervised reading under the direction of a member of staff.

RUSS 471 Independent Research.
(3) (Winter) (Prerequisite: Permission of instructor) Supervised research under the direction of a member of staff.

●**RUSS 475 Special Topics in Russ Culture.**
(3) (Winter) (Prerequisite: Permission of instructor) Examination of a significant author, trend, theme or theory in modern Russian culture, including but not limited to the interface between literary works, the graphic and performing arts, ideology and national identity.

RUSS 490 Honours Seminar 01.
(3) (Fall) (Prerequisite: Permission of the Department) (Restriction: Honours or Joint Honours in Russian and Slavic Studies) This course is intended to allow students to bring together their knowledge of the general area of Russian & Slavic Studies and produce a synthesis appropriate to their level of development. The major exercise will consist of the writing of a research paper displaying their competence.

RUSS 491 Honours Seminar 02.
(3) (Winter) (Prerequisite: RUSS 490) This course is intended to allow students to bring together their knowledge of the general area of Russian & Slavic Studies and produce a synthesis appropriate to their level of development. The major exercise will consist of the writing of a research paper displaying their competence.

RUSS 499 Internship: Russian and Slavic Studies.
(3) (Fall or Winter) (Prerequisite: Permission of the departmental Internship Advisor.) (Restriction: Open to U2 and U3 students after completing 30 credits of a 90 credit degree program or 45 credits of a 69-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will not normally fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

●**RUSS 500 Special Topics.**
(3) (Given in English) (Prerequisite: Permission of Department) Focus on a critical theme, author or work, as determined by the current research interests of faculty and visiting faculty.

RUSS 510 High Stalinist Culture.
(3) (Winter) (Prerequisite: Permission of instructor) (Given in English) Novels, films, art, architecture, pageantry, rhetoric and routine of the Stalinist 1930s-40s, including socialist realism as an aesthetic doctrine, utopian blueprint, target of parody, amalgam of a submerged avantgarde and state-controlled pop culture, precursor of the postmodernist simulacrum, self-proclaimed international style and/or uniquely Russian 20th-century project.

●**RUSS 585 Woman in Russian Culture.**
(3) Representation of and the discourse on woman by women in Russian literature and cultural thought from medieval times to the present. Topics include the age of Empresses, the salon, Decembrist wives; the Eternal Feminine, fallen woman, new woman, the rise of women's prose in post-Soviet Russia.

SDST-Sexual Diversity Studies

Offered by: Arts - Dean's Office

SDST 250 Introduction: Sexual Diversity Studies.

(3) A general introduction to the study of sexual and gender diversity and sexuality from a range of perspectives and across a variety of disciplines.

SDST 450 Independent Reading & Research.
(3) (Prerequisite: SDST 250.) (Restriction: Program students in Sexual Diversity Studies. Program and adviser approval required.) Advanced reading course and independent research project under the supervision of an instructor on aspects of Sexual Diversity Studies.

SOCI-Sociology

Offered by: Sociology

SOCI 210 Sociological Perspectives.
(3) (Summer) Major theoretical perspectives and research methods in sociology. The linkages of theory and method in various substantive areas including: the family, community and urban life, religion, ethnicity, occupations and stratification, education, and social change.

SOCI 211 Sociological Inquiry.
(3) (Prerequisite or Corequisite: SOCI 210) An introductory review of methods of sociological research including research design, elementary quantitative data analysis, observation, and use of official statistics. Detailed examination of published examples of the use of each of the major techniques of data analysis and collection.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

SOCI 219 Sociology of Culture.
(3) A survey of theoretical approaches and substantive topics in the culture. Topics include: norms and values in national cultures; negotiation of cross-cultural interpersonal exchanges; structural codes and cultural classifications; production constraints on cultural objects; the differential reception of cultural products.

SOCI 222 Urban Sociology.
(3) Comparative analysis of the process of urbanization in Europe, North America and the Third World; effects of urbanization upon social institutions and individuals; theories of urbanization and urbanism; the Canadian urban system; urban problems in comparative view.

SOCI 225 Medicine and Health in Modern Society.
(3) Socio-medical problems and ways in which sociological analysis and research are being used to understand and deal with them. Canadian and Québec problems include: poverty and health; mental illness; aging; death and dying; professionalism; health service organization.

SOCI 230 Sociology of Ethnic Relations.
(3) (Prerequisite: SOCI 210 or permission of instructor) An introduction to the sociological study of minority groups in Canada. The course will explore the themes of racism, prejudice, and discrimination, ethnic and racial inequalities, cultural identities, multiculturalism, immigration. Theoretical, empirical, and policy issues will be discussed. While the focus will be primarily on Canada, comparisons will be made with the United States.

SOCI 234 Population and Society.
(3) Introduction to the reciprocal linkages in the social world between population size, structure and dynamics on the one hand, social structure, action and change on the other. An examination of population processes and their relation to the social world.

SOCI 235 Technology and Society.
(3) An examination of the extent to which technological developments impose constraints on ways of arranging social relationships in bureaucratic organizations and in the wider society: the compatibility of current social structures with the effective utilization of technology.

SOCI 247 Family and Modern Society.
(3) (Course for the Women's Studies Concentrations) Contrasting family in Canada and in the United States for the recent past. Examination of theories on family; changes and diversity of family life; complex relationships among marriage, work, and family; domestic violence; various types of family experience; and the future of the family.

● **SOCI 250 Social Problems.**
(3) Contrasting theoretical approaches to social problems.

SOCI 254 Development and Underdevelopment.
(3) (Summer) Competing theories about the causes of underdevelopment in the poor countries. Topics include the impact of geography, the population explosion, culture and national character, economic and sexual inequalities, democracy and dictatorship. Western imperialism and multi-national corporations, reliance on the market, and development through local participation, cooperation, and appropriate technology.

● **SOCI 265 War, States and Social Change.**
(3) The impact of war on society in agrarian and industrial epochs. Particular attention is given to the relationship between war and economic development, social classes, nationalism, and democratization.

● **SOCI 270 Sociology of Gender.**
(3) This course focuses on social changes in gender relations, gender inequalities and the social construction of gender. Using sociological theories of gender, different social institutions and spheres of society will be analyzed. Topics such as gender socialization, gender relations in work, family, education, and media will be covered.

SOCI 304 Sociology of the Welfare State.
(3) (Prerequisites: SOCI 210 and SOCI 211 or instructors permission.) The origins and history of the welfare state and the differences between types of welfare state regimes; debates about and empirical evidence for current developments in welfare state programs. Special attention will be paid to the interconnections between the evolution of the labour market and the resulting pressures on the welfare state.

● **SOCI 305 Socialization.**
(3) The effects of early childhood experiences upon adult personality, and the transmission of social roles and values. Topics include: social reinforcement theories, modeling theories, maternal deprivation, culture and personality studies, cognitive development and infantile sexuality. The processes of sex role socialization.

SOCI 307 Sociology of Globalization.
(3) (Prerequisite: SOCI 210 or Permission of Instructor) Core sociological and political issues of the globalization debate, such as trade, global production networks and the new international division of labor, global inequalities, the ecological crisis, the reform of international institutions, and the emergence of the global justice movement.

SOCI 309 Health and Illness.
(3) Health and illness as social rather than purely bio-medical phenomena. Topics include: studies of ill persons, health care occupations and organizations; poverty and health; inequalities in access to and use of health services; recent policies, ideologies, and problems in reform of health services organization.

SOCI 310 Sociology of Mental Disorder.
(3) Data and theories of mental disorders. Transcultural psychiatry, psychiatric epidemiology, stress, labelling, mental health care delivery, the family, positive mental health and the "sick" society in the framework of sociological theories of stratification, organization and social psychology.

SOCI 312 Sociology of Work and Industry.
(3) The development of the world of work from the rise of industrial capitalism to the postindustrial age. Responses of workers and managers to changing organizational, technological and economic realities. Interrelations between changing demands in the workplace and the functioning of the labour market. Canadian materials in comparative perspective.

SOCI 318 Television in Society.
(3) TV in the social communication process: a surveyor of the environment, a socializer, a definer of "public" realities and a forum of debate. Topics include: TV reporting of political and international events, differences in French/English outlooks, and the portrayal of women.

● **SOCI 320 Topics in Sociology 2.**
(3) (Prerequisite: SOC1 210 or Permission of instructor.) (Note: Topics will vary from year to year.) Examination of selected topics in sociological theory and research.

SOCI 321 Gender and Work.
(3) (Course for the Women's Studies Concentrations) Focus on men's and women's work in North American societies, historically and contemporarily, in order to understand the dynamisms of gender (in)equality in and outside of the home. Topics explored include: housework; the relationship(s) between gender, organizations and bureaucracy; emotional labour; occupational segregation and stratification; sexual harassment; and work-family policy.

● **SOCI 322 Sociology of Literature.**
(3) (Prerequisite: SOCI-219.) A review of sociological research on the production, readership, and broader social implications of literature. Topics will include: the issue of whether literature "reflects" society, the use of literature in establishing collective identities, and reading as a social practice.

SOCI 326 Political Sociology 01.
(3) An examination of the social changes that underlie the emergence of modern politics. An outline and empirical critique of the principal alternative models of political functioning in industrial societies. Empirical analysis of elite and mass political behaviour.

● **SOCI 327 Jews in North America.**
(3) Understanding of contemporary North American Jewry using findings of sociology and other social sciences. Social, cultural, and political issues of concern to the Jewish community. Specific characteristics of Jewish life in Canada, and Québec in particular, in comparison to the American Jewish experience.

SOCI 330 Sociological Theory.
(3) (Prerequisite: SOCI 210 or permission of instructor) Major sociological theoretical traditions are seen in their historical contexts, as the background to current theoretical issues. Emphasis on Smith, Tocqueville, Marx, Durkheim, Weber and Parsons.

SOCI 333 Social Stratification.
(3) The pattern, causes and consequences of social inequality. Among the inequalities considered are those of economic class, sex (gender), race, ethnicity and age. Competing theories of the causes of social inequalities are compared and assessed.

●**SOCI 338 Introduction to Biomedical Knowledge.**
(3) The dynamics of biomedical disciplines and specialties. Social, scientific, political and commercial aspects of biomedical research. The organization of work in clinical and fundamental research and its consequences on the choice of research topics.

SOCI 341 Current Problems in Sociology 02.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 342 Independent Study 1.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 343 Independent Study 2.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 350 Statistics in Social Research.
(3) (Prerequisite: SOCI 211) (Restriction: Not open to students who have taken PSYC 204, PSYC 305 or ECON 227) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) This is an introductory course in descriptive and inferential statistics. The course is designed to help students develop a critical attitude toward statistical argument. It serves as a background for further statistics courses, helping to provide the intuition which can sometimes be lost amid the formulas.

SOCI 354 Dynamics of Industrial Societies.
(3) (Prerequisite: SOCI 210 or any other introductory course in the social sciences) Theories of social, economic, and political change in the industrialized societies. Causes of cycles in economic growth; imperialism and war; and in ethnic, religious, and industrial conflict. Causes of long run trends in social inequality, crime, family stability, and the position of women. Comparison of North America, Europe, Russia, and Japan.

SOCI 365 Health and Development.
(3) (Prerequisite: SOCI 234 or SOCI 254) Main concepts and controversies linking health to broader social and economic conditions in low income countries. Topics include the demographic and epidemiological transitions, the health and wealth conundrum, the social determinants of health, health as an economic development strategy, and the impact of the AIDS pandemic.

●**SOCI 370 Sociology: Gender and Development.**
(3) (Prerequisite: SOCI 210) Exploration of the main development theories and discussion of how gender is placed within them, analysis of the practical application of development projects and discussion of how they affect gender dynamics, and examination of power relations between development agencies and developing countries. Examples from Sub-Saharan Africa and Latin America are used.

SOCI 377 Deviance.
(3) Introduction to the sociological study of deviance. Emphasis on the "societal reaction" or "interactionist" approach to deviance. The correctional and causal approach towards deviance, its limitations and alternative ways to address the subject of deviance.

SOCI 386 Contemporary Social Movements.
(3) This course will focus on contemporary social movements in Canada, the U.S., and Western Europe, such as the civil rights movement, the women's movement, and the environmental movement. Empirical studies of movements will be used to explore such general issues as how social movements emerge, grow, and decline.

SOCI 388 Crime.
(3) Introductory course on methods and theories in criminology. Exploration of the nature and distribution of crime; and critical evaluation of definitions and the measurement of crime; review of theoretical approaches used to understand such a phenomenon; a comparative overview of the criminal justice system.

SOCI 390 Gender and Health.
(3) Key conceptual and substantive issues in gender and health since c1950: stratified medicalization of women's and men's health; social movements in health including the women's health movement; gender inequality in morbidity and mortality; gender, power and control in patient/physician interactions; embodied experience; politics and policies of gender and health.

●**SOCI 420 Organizations.**
(3) (Prerequisites: SOCI 210 or SOCI 235) A survey of theories of organization with particular reference to problems of growth, technology, centralization and decentralization, and organizational environments.

●**SOCI 422 Health Care Providers.**
(3) Current trends and issues in health and illness. The role of occupations and organizations which define health and illness and organize and provide health care. Topics include: the impact of interprofessional relationships; legitimation of approaches to health and illness; knowledge and belief systems, and the role of power; challenges to traditional providers, and the impact of the consumers' and women's movements.

SOCI 424 Networks and Social Structures.
(3) The study of relations and networks. Concepts and techniques of network analysis. Issues include: interlocking directorates, social relationships among individuals in heterogeneous communities and organizations, and relations among elites. Students will be required to design an inquiry into one of these substantive domains.

●**SOCI 425 Sociology of the Body.**
(3) (Prerequisite: SOCI 225 or Permission of Instructor.) Sociological examination of the human body as a cultural phenomenon that intersects with identity, health, illness, disability and medicine. Exploration of meanings attributed to human bodies as well as the body as a site of social interaction.

●**SOCI 435 Popular Culture.**
(3) A seminar exploring the nature of popular culture, tracing historical beginnings and contemporary changes in film, TV, comics, magazines, and rock music content. Emphasis on developing theoretical perspectives and methodologies for analysing genres and themes, and for making distinctions between so-called folk and popular art.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

SOCI 440 Current Problems.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 441 Current Problems in Sociology 03.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 442 Independent Reading and Research 01.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 443 Independent Reading and Research 02.
(3) (Prerequisite: permission of instructor.) (Restriction: Open to U2 and U3 students only) Intended for students who are adequately prepared to undertake advanced work and have an explicit proposal to submit.

SOCI 446 Colonialism and Society.
(3) (Prerequisite: SOCI 210 or permission from instructor.) Forms that colonialism took, its impact on colonial societies, and its modern legacies, focusing on overseas colonialism between 1600 and the 1970s.

●**SOCI 455 Post-Socialist Societies.**
(3) (Prerequisite: SOCI 210.) The demise of Communist Party rule between 1989 - 1991 throughout Eastern Europe and the Soviet Union. The societal implications (e.g. class formation, gender relations, nationalism, corruption, religious freedom) of these dramatic economic and political changes.

SOCI 460 Responses to Social Problems.
(3) (Prerequisite: permission of instructor.) This seminar focuses on attempts to resolve social problems. There will be discussion and debate concerning policies suggested and critical examination of their potential successes and failures. The course presupposes knowledge of social problems issues obtained in 166-250. Topics include: crime and prisons; discrimination and inequality; poverty; and drug use.

SOCI 461 Quantitative Data Analysis.
(3) (Prerequisite: SOCI 350) (You may not be able to get credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) This course blends theory and applications in regression analysis. It focuses on fitting a straight line regression using matrix algebra, extending models for multivariate analysis and discusses problems in the use of regression analysis, providing criteria for model building and selection, and using statistical software to apply statistics efficiently.

SOCI 470 Topics in Economic Sociology.
(3)

SOCI 475 Canadian Ethnic Studies Seminar.
(3) (Restriction: Open to students following the Minor Concentration in Canadian Ethnic Studies; or to students with at least nine credits, three at the 300 level, in the social sciences; or with permission of instructor. Not open to students taking CANS 404 in 2007-08.) An interdisciplinary seminar focusing on current social sciences research and public policies in areas relating to Canadian ethnic studies. Topics will include ethnic and racial inequalities, prejudice and discrimination, ethnic identities and cultural expressions, the structure and organization of minority groups.

●**SOCI 477 Qualitative Methods in Sociology.**
(3) (Prerequisite: SOCI 211) Introduction to qualitative research methods. Students will be exposed to various types of data collection (e.g., textual, observational) and data analysis techniques (e.g., in vivo coding) for qualitative data in an experiential, hands-on fashion.

SOCI 480 Honours Project.
(3) (Restriction: For Sociology U3 Honours and Joint Honours students only) The Honours Project, normally in the form of a paper, provides every Honours student with the opportunity to work independently on a topic of special interest. The student works out the topic for the Honours Project through discussions with appropriate potential supervisors (aided by the Honours Adviser when necessary).

●**SOCI 484 Emerging Democratic States.**
(3) (Prerequisite: SOCI 210) Focus on the sociological aspects of recent transitions to democracy within developing countries - particularly within Sub-Saharan Africa and Latin America. Exploration of why democratization has taken place, to what extent it has been successful and the implications of democratization.

●**SOCI 489 Gender, Deviance and Social Control.**
(3) (Course for Women's Studies Concentrations) (Prerequisite: Permission of instructor) (Restriction: open to U3 students concentrating on social problems.) This seminar examines how the definition of deviance, reactions to deviance and explanations deviance are gendered. Specific topics vary from year to year.

●**SOCI 495 Social Problems and Conflicts.**
(3) (Prerequisite: permission of instructor) This course explores the social construction of "social problems". It focuses on the social conflicts involved in the definition of social issues and on how and why "problems" change over time. Issues such as drinking, smoking, drug use, pornography, abortion, and homosexuality will be discussed.

SOCI 499 Internship: Sociology.
(3) (Restriction: Open to U2 and U3 students with a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will normally not fulfill program requirements for seminar or 400-level courses. A letter from a supervisor at the institution must attest to successful completion of the student's tenure.) Internship with an approved host institution or organization.

SOCI 504 Quantitative Methods 1.
(3) (Prerequisites: SOCI 350 and SOCI 461 or equivalents) Analysis of quantitative information, especially in large, survey-type, data sets. Use of computer programs such as SPSS and SAS. Topics include: cross tabulations with an emphasis on multi-dimensional tables, multiple correlation and regression, and, the relationship between individual and aggregate level statistical analyses. Special reference to demographic techniques.

SOCI 505 Quantitative Methods 2.
(3) (Prerequisite: SOCI 504) Topics include: problems - and solutions - in regression analysis, models for categorical dependent variables, including logit, log-linear, and linear probability models, measurement models, structural equation models with latent variables (LISREL), and time series and panel analysis.

●**SOCI 506 Quantitative Methods 3.**
(3) (Prerequisite: SOCI 504 or equivalent or permission of instructor.) Advanced statistical analyses focusing on advanced methods such as event history analysis and analysis of contingency tables.

SOCI 507 Social Change.
(3) (Restrictions: Not open to students who have taken SOCI 672. Undergraduates by permission of instructor only.) An examination of the major sociological theories of long term macro social change. Topics include why industrialization began in Europe instead of Asia, the divergence among societies in systems of class, gender, ethnic and racial inequality, and whether industrial society has entered a new post-industrial or post-modern phase.

SOCI 508 Medical Sociology and Social Psychiatry.
(3) (Prerequisite: SOCI 309 or SOCI 310 or Permission of the Instructor.) (Note: Open to Social Studies of Medicine students.) The social construction of mental illness and disease, the personal and professional definition and recognition of illness, the distribution and determinants of illness, disease, sickness in the population, and the politics of medical research.

SOCI 510 Seminar in Social Stratification.
(3) (Prerequisites: SOCI 333 and SOCI 350 or equivalents) Recent theoretical and empirical developments in social stratification and inequality. The study of social class, with attention to the anomalous findings on heterogeneity in labour markets and the labour process, status attainment processes, and the socio-political and industrial attitudes of the working class. Students will prepare quantitative analysis of Canadian survey material as well as critical qualitative reviews.

SOCI 511 Movements/Collective Action.
(3) A critical examination of classical and more recent approaches to the study of social movements and collective action. Discussion of: the role of grievances and interests, incentives and beliefs, conditions of breakdown and solidarity, mobilization and social control, the dynamics of collective action.

SOCI 512 Ethnicity & Public Policy.
(3) (Prerequisite: SOCI 230 or permission from the instructor.) (Restriction: Not open to students who have taken SOCI 629.) Major themes in the theoretical literature on ethnicity. Public policies with direct and indirect implications for inter-ethnic relations will be studied. Policies affecting areas such as language, education, immigration, employment and promotion, multiculturalism and welfare. Examples drawn from several multi-ethnic societies. Political, constitutional, and economic problems associated with these policy initiatives.

SOCI 513 Social Aspects HIV/AIDS in Africa.
(3) (Prerequisites: SOCI 225 or SOCI 309 or Permission of Instructor.) Examination of the social causes and consequences of HIV/AIDS in Africa. Gender inequality, sexual behaviors, marriage systems, migration, and poverty are shaping the pandemic as well as how the pandemic is altering social, demographic and economic conditions across Africa.

SOCI 514 Criminology.
(3) (Prerequisite: Permission of Instructor.) (Note: Grad students and U3 students only.) A survey of the major schools of thought that have developed to explain criminal behavior from the emergence of modern criminology in the 18th and 19th centuries to current debates.

SOCI 515 Medicine and Society.
(3) (Prerequisite: Undergraduate students require permission of instructor) The sociology of health and illness. Reading in areas of interest, such as: the sociology of illness, health services occupations, organizational settings of health care, the politics of change in national health service systems, and contemporary ethical issues in medical care and research.

●**SOCI 516 Sociological Theory & Research.**
(3) (Prerequisites: SOCI 330 or Permission of Instructor.) (Note: Topics will vary from year to year.) Selected topics of current faculty interest in sociological theory and research.

●**SOCI 519 Gender and Globalization.**
(3) (Prerequisite: SOCI 270 or permission of instructor.) Focus on the diverse forces of globalization that impact the lives of men and women. Critical analysis of key theories and concepts implicated in the intersection of globalization processes with gender dynamisms.

●**SOCI 520 Migration and Immigrant Groups.**
(3) (Prerequisite: 15 credits in the Social Sciences) Review of the major demographic, economic and sociological theories of internal and international migration. The main emphasis will be on empirical research on migration and immigrant groups.

SOCI 525 Health Care Systems in Comparative Perspective.
(3) (Prerequisite: Permission of instructor.) (Restriction: Not open to students who are taking or have taken EPIB 525.) (Note: This course is cross-listed in Epidemiology, Biostatistics and Occupational Health and in Sociology.) Comparative perspective to illustrate processes involved in the development and evolution of health care systems around the world. Countries examined will represent different welfare state regimes, health care system typologies, levels of development and wealth.

SOCI 529 Political Sociology 1.
(3) (Prerequisite (s): SOCI 330) Key theories and empirical areas of political sociology. Major works relevant to each theme will be read and analyzed. Topics include: political socialization, the social psychology of political behaviour, class and politics, political organizations, elite studies. A research paper in one of the areas covered will be required.

SOCI 530 Sex and Gender.
(3) (Restriction: Open to Honours Sociology students and to Sociology Majors with the permission of the instructor) This seminar critically reviews theoretical perspectives and research on sex and gender in various domains of social life. It gives special emphasis to work which considers the meaning of gender and how it differs across time and place.

SOCI 535 Sociology of the Family.
(3) (Undergraduate students require permission of instructor) This seminar reviews literature on major research areas in family. The course examines families in the past, the study of family using a life course approach, and considers selective areas which may have had significant influences on contemporary family such as work and family, family violence, and cultural variation in families.

●**SOCI 538 Selected Topics in Sociology of Biomedical Knowledge.**
(3) The seminar will examine recent work in the sociology of biomedical knowledge. It will focus on the technological shaping of biomedical knowledge, i.e. on the impact of new technologies and equipments on the development of biomedical knowledge.

SOCI 540 Qualitative Research Methods.
(3) (Restrictions: open to Sociology Honours students, and Sociology Major Concentration students with the instructor's permission) Qualitative methodology, mainly participant observation, structured and unstructured interviewing. Students begin a research project using these techniques and submit field notes once a week.

●**SOCI 545 Sociology of Population.**
(3) (Prerequisites: SOCI 234 or equivalent.) The classic literature of sociology of population. Drawing reciprocal linkages between social and population processes: Historical, family and labour force demography, demographic and fertility transitions, mortality, ethnic and race relations, gender, macro-structural interaction theory, and the relation of population and the environment.

SOCI 550 Developing Societies.
(3) Comparison of alternative explanations of underdevelopment: the impact of social stratification, relations of domination and subordination between countries, state interference with the market. Alternative strategies of change: revolution, structural adjustment, community development and cooperatives. Students will write and present a research paper, and participate extensively in class discussion.

●**SOCI 555 Comparative Historical Sociology.**
(3) (Restriction: Undergraduate students require permission of instructor) The analysis of patterns of state and nation-building in historical and comparative perspectives with particular attention being given to methodology.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

● **SOCI 565 Social Change in Panama.**
(3) (Prerequisites: SOCI 210 and SOCI 350 or equivalents.) (Restriction: Students must register for a full term in the Panama Field Studies Semester.) (Note: Four field trips.) Analysis of social change in Panama, particularly during the 20th century: demography, social and economic structures, rural and urban activities and landscapes, indigenous peoples, the effects of the Canal and the Free Trade Zone. Focus throughout on the interaction of human society and the environment.

● **SOCI 571 Deviance and Social Control.**
(3) This seminar focuses on how social groups enforce rules (and maintain social order) through coercion and socialization. It reviews current research and critiques key theoretical approaches to social control. Included are discussions of regulating institutions such as prisons and mental asylums, and the roles of gossip, manners and etiquettes.

SOCI 580 Social Research Design and Practice.
(3) (Restriction: Open to U3 and graduate students) Asking researchable sociological questions and evaluation of different research designs used to answer such questions. Development of cogent research proposals, including data collection procedures. Principles, dynamics, strengths and practical limitations of research designs. Examples from recent publications.

● **SOCI 588 Sociology of Knowledge.**
(3) (Restriction: Not open to students who have taken SOCI 661.) A review of the current research in the sociology of knowledge. The focus will be on sociological studies of the formation, circulation and reception of scientific and artistic ideas, beliefs and practices, and the configuration and social organization of the collectives involved in these processes.

SSMD-Social Studies of Medicine

Offered by: Social Studies of Medicine

SSMD 199 FYS: Mind-Body Medicine.
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Limit 25 students) Health is influenced by biological, psychological and social factors. The interaction between these determinants in the onset, course and recovery from a variety of diseases (e.g. AIDS) will be highlighted. Students will select one phase of a particular illness (e.g. remission following breast cancer treatment) and explore the related biopsychosocial factors.

● **SSMD 400 Interdisciplinary Seminar.**
(3)

SWRK-Social Work

Offered by: Social Work

● **SWRK 199 FYS: Social Work Profession.**
(3) (Fall) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) The course will explore the profession and practice of social work including its history; ethical foundations and place in society. It will also address the various fields in which social workers practice - e.g., health; child welfare; women's issues.

SWRK 220 History & Philosophy of Social Work.
(3) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK240.) Historical, theoretical and philosophical base of social work which includes the role of social work in the social welfare, modalities of practice, professional codes of ethics, and human rights legislation.

SWRK 221 Public Social Services in Canada.
(3) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK352.) Federal and provincial social welfare programs - the intended objectives, program design, issues of eligibility and funding, and comparison with programs in other parts of Europe and North America. Particular emphasis on concepts of social justice and poverty. Programs such as income security, labour market, health, immigration, and social services.

SWRK 222 Introduction to Practicum.
(3) (Restrictions: Limited to BSW U1 students. Not open to students who have taken SWRK255.) Basic social work skills.

SWRK 223 Poverty and Inequality.
(3) (Restrictions: Limited to BSW U1 students. Not open to students who have taken SWRK357.) Examination and analysis of laws and policies affecting those living in poverty, experiencing inequality, strategies for mitigating these issues, role of social work in advocating for legal and welfare rights of clients and communities.

SWRK 224 Human Development Across the Lifespan.
(3) (Restrictions: Limited to BSW U1, 2-year BSW students, and Special/Visiting students.) Physical, cognitive, emotional, behavioural and social development in different stages of the life course with a focus on childhood and adolescence. Human development in different social contexts. Theory and research as it relates to social work practice.

SWRK 320 Practice with Individuals and Families 1.
(3) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK 320 D1/D2 and SWRK 341) Introduction to theories and techniques informing clinical social work practice with individual and family systems in a social context. Sexual orientation, race, class, gender, culture, ability and diverse family forms are integrated. Knowledge and skills required for assessment and treatment across a range of practice settings.

SWRK 321 Introduction to Practice with Groups.
(3) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK 321 D1/D2 and SWRK 376) Introduction to theories and techniques informing social work practice with groups. Emphasis on understanding group formation, assessment, and models of group intervention across a range of practice settings and with different populations.

SWRK 322 Field Practice 1.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Restrictions: Limited to BSW students. Not open to students who have taken SWRK 355.) Supervised educational experiences in social work practice designed to integrate practice and theory.

SWRK 323 Field Practice 2.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Prerequisite: SWRK 322) (Restrictions: Limited to BSW students. Not open to students who have taken SWRK 356.) Supervised educational experiences in social work practice designed to integrate practice with theoretical knowledge.

SWRK 325 Anti-Oppression Social Work Practice.
(3) (Prerequisite: SWRK 223.) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK 344) Social work policy and practice, including an examination of discrimination and oppressions, identity and social location, reflexivity, intersectionality, contemporary anti-oppression movements, access and equity in human services and their implications.

SWRK 326 Practice with Individuals and Families 2.
(3) (Prerequisite: SWRK 320) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK 320 D1/D2 and SWRK 341) Advanced integration of theories and techniques informing clinical social work practice with individual and family systems in a social context. Sexual orientation, race, class, gender, culture, ability and diverse family forms are integrated. Knowledge and skills required for assessment and treatment across a range of practice settings.

SWRK 327 Approaches to Community Practice.
(3) (Prerequisite: SWRK 321) (Restrictions: Limited to BSW U1 and 2-year BSW students. Not open to students who have taken SWRK 321 D1/D2, SWRK 374 and SWRK 467.) A comparison of models of community practice in a variety of social settings. An analysis of practice assumptions and

methods. Intervention strategies and methods from student practice will be discussed.

●SWRK 341 Introduction: Practice with Families.
(3) (Winter) An introduction to theories and techniques of family assessment and intervention using genograms, family systems and eco-systemic approaches and family life cycle theory. The effects of class, gender, race, culture; also diverse family forms (nuclear, extended, divorcing, reconstituted, substitute, lone parent, gay/lesbian) are considered. Illustrations using simulations and tapes.

SWRK 342 Practice with Gay, Lesbian, Bisexual & Two-Spirit People.
(3) (Restrictions: Limited to Social Work BSWU2, BSWU3, 2-year BSW students and U2, U3 Minor in Sexual Diversity Studies students.) Issues facing gay, lesbian, bisexual and two-spirit people. Addresses how social workers can support the development of health and social services informed by principles of social justice and equity. Topics include self-esteem, youth at risk, families, and aging.

SWRK 345 First Peoples' Issues and Social Work.
(3) (Prerequisite: SWRK 220) An analysis of Canadian policies and legislation, their impact on First Peoples and on social work practice. Historical overview of European-Canadian and First Nations, Métis and Inuit relations.

●SWRK 350 Social Work Skills Laboratory.
(3) (Summer) (Restriction: Limited to Special B.S.W. Students) A Compulsory Skills laboratory for all Special B.S.W. students which focuses on developing basic interviewing skills. Student participation is required.

●SWRK 351 Children's Needs and Social Services.
(3)

●SWRK 353 Introduction to Practice.
(6) (Summer) (Corequisite: SWRK 350) (Restriction: Limited to Special B.S.W. students only) Introduction to the principles and practice of social work. Examination of social legislation, social policy, and social services.

SWRK 354 Social Work in the Health Field.
(3) (Restrictions: Limited to BSW U2, BSW U3, and 2-year BSW students.) An introduction to health and health institutions in the context of service delivery. Major themes will include: multidisciplinary teamwork in the hospital; crisis intervention; legal ethical issues; and emerging issues for social workers in health.

●SWRK 374 Community Development/Social Action.
(3) (Fall) (Restriction: Not open To U1 Level Students.) The organizing process and development of direct organizing skills. Emphasis on organizational entities, community power and conflict, organizing strategies and their application, urban community development.

●SWRK 376 Social Work Practice with Groups.
(3) (Fall) (Prerequisite: U1 required Social Work course) (Restriction: Limited to B.S.W. students only) Theory and practice of work with groups. Emphasis on understanding group concepts and group dynamics and learning about various theoretical models of social group work practice. Focus on group development theory and the skills of the worker in a small group context. Small group participation, role playing and simulations will be utilized.

●SWRK 377 Women's Issues in Practice.
(3) (Winter) (Restriction: Limited to B.S.W. U2, B.S.W. U3, Special B.S.W. and U3 Women's Studies Major/ Minor Concentration students) Social work practice with women based on recent advances in understanding women's relationships to the structures and institutions of society. Issues which arise in the provision of social services: women and the family, mental and physical health, poverty and the welfare system, feminist counselling.

SWRK 400 Policy and Practice for Refugees.
(3) (Restrictions: Limited to BSW U3, 2-year BSW, and U3 non-Social work students) Refugee-generating conflicts, international and national responses are considered. Canadian policy, history and response to refugees are analyzed. Theory-grounded practice with refugees is examined, including community organizing and direct service delivery to individuals and families.

●SWRK 402 Developmental Disabilities.
(3) (Winter) (Restriction: Limited to U2 and U3 level students) This course provides an in-depth analysis of social work's response to persons with a developmental disability. Students will review both the practice and the policy considerations that pertain to the field of developmental disabilities with a special emphasis on the effects of deinstitutionalization and the community response.

●SWRK 403 Assessment - Clinical and Community.
(3) (Winter) (Restriction: Limited to B.S.W. U2, B.S.W. U3 and 2-year B.S.W. students only) (Prerequisite: SWRK 240) Social work assessment is the crucial professional activity on which all interventions, clinical and community, are based. This course will address relevant factors involved in the situations faced by social work practitioners and their clients as they attempt to collaboratively solve problems.

SWRK 420 Advanced Field Practice 1.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Prerequisite: SWRK 323) (Restrictions: Limited to BSW U3 and 2-year BSW students) Supervised educational experience in social work practice at an advanced level.

SWRK 421 Advanced Field Practice 2.
(3) (Summer - Section 001 (01-May-2009/03-Jun-2009)) (Summer - Section 002 (04-Jun-2009/07-Jul-2009)) (Restriction: Limited to BSW U3 and 2-year BSW students completing their last practicum) Supervised educational experience in social work practice at an advanced level.

SWRK 422D1 (1.5), SWRK 422D2 (1.5) Integrative Seminar.
(Prerequisite: SWRK 323.) (Restrictions: Limited to 2-year BSW students. Not open to students who have taken SWRK340 D1/D2.) (No credit will be given for this course unless both SWRK 422D1 and SWRK 422D2 are successfully completed in consecutive terms.) Analyzing field experiences operationalizing the link between scholarship and practice. Dimensions of equity will be integrated.

SWRK 423 Social Work Research.
(3) (Restrictions: Limited to BSW U3 students. Not open to students who have taken SWRK401.) Appraising and analyzing social work practice research, including the perspectives of the authors, the literature reviewed, the practice questions, the research methodology and analysis and the implications of the findings for practice.

SWRK 424 Mental Health and Illness.
(3) (Prerequisite: SWRK 326 is a prerequisite for the students in the 90-credit BSW program.) (Corequisites: SWRK 320 or SWRK 326 is a co-requisite for the students in the 2-year BSW program) (Restrictions: Limited to BSW U3 and 2-year BSW students. Not open to students who have taken SWRK 482) Symptoms of mental illness and approaches to the delivery of services and programs within various sites of care. Impact of stigma and the place of psychosocial rehabilitation. Biopsychosocial framework and effective practice models examined with an emphasis on policy and its implications for the delivery of services and programs.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

SWRK 428 Social Policy and Administration.
(3) (Prerequisites: SWRK 327) (Restrictions: Limited to BSW U3 and 2-year BSW students. Not open to students who have taken SWRK 458.) An analysis of the administrative structures and dynamics of social service organizations, with special attention to Québec policies and to the role of social workers. Examples are drawn from current field experiences of students.

● **SWRK 434 Practice with Involuntary Clients.**
(3) (Winter) (Restriction: Limited to B.S.W. U3 and 2-year B.S.W. students) Issues and practice problems encountered with involuntary clients in settings such as courts, youth protection agencies and total institutions. Topics include: reaction of the client and worker to the "involuntary" situation, the ethics and efficacy of "coerced treatment" and practice interventions with involuntary clients. Students draw on their own experience with these issues.

● **SWRK 438 Drug Addiction and Society.**
(3) (Fall or Winter) (Restriction: Limited to B.S.W. U3 and 2-year B.S.W. Students) This course examines primarily the abuse in our society of illegal drugs e.g. heroin, cocaine and marijuana, and the abuse of prescription drugs, e.g. tranquilizers and narcotics. Topics include: assessment and treatment; I.V. drug use and the spread of the HIV virus; Canada's policy on illegal drugs.

● **SWRK 459 Adult/Child Sexual Relations.**
(3) (Restriction: Limited to B.S.W. U3 and Special B.S.W. students) An examination of intra/ extra-familial child sexual abuse with a focus on the individual and family psychodynamics, the legal systems that respond to the problem and on assessment and treatment skills.

SWRK 463 Practice with the Elderly.
(3) (Restrictions: Limited to BSW U3, 2-year BSW and U3 non-Social Work students) An introduction to social services to the aged. The involvement of the social worker with respect to: institutionalizing the elderly, community care, economics and aging, widowhood, separation and loss, the family situation of the elderly, and the strengths of older people.

● **SWRK 465 School Social Services.**
(3) (Winter) (Restriction: Limited to B.S.W. students) (Restriction: Not open to U1 students) Introduction to models of school social work practice. Diagnostic and practice approaches places emphasis on the relationships between the school, family, community and the pupil. Problems which affect the school social worker include: youth protection, children with special needs, drop-outs, conduct-disordered behaviour, integration of immigrants and violence.

SWRK 471 Tutorial in Social Work Research.
(3) (Prerequisite: SWRK 401 or equivalent) (Restriction: Limited to BSW U3 and 2-year BSW students) Opportunity for interested students to conduct a small-scale practical research project, either individually or in a small group, with tutorial assistance from staff members.

● **SWRK 472 Family Assessment.**
(3) (Fall) (Restriction: Limited to B.S.W. U3 and 2-year B.S.W. students) An opportunity to participate in a seminar focusing on an integrative model of work with families. Concurrent field practice with families required.

● **SWRK 473 Individuals and Families in Crisis.**
(3) (Restriction: Limited to B.S.W. U3 and Special B.S.W. students) Theory and practice of work with individuals and families under stress. Topics include: categories of hazardous events; affective, behavioural and role disorganization; phases in the crisis cycle; techniques of crisis intervention and abatement.

● **SWRK 481 Goal Directed Time Limited Practice.**
(3) (Fall) (Restriction: Limited to B.S.W. U3 and Special B.S.W. students) Principles of goal directed time limited casework with individuals, couples and families. Relevant theory will be examined and applied to practice drawing upon examples from the students' field experiences. Emphasis on goal setting, contracting, use of tasks, evaluation of practice.

SWRK 485 Tutorial: Social Work Practice.
(3) (Restriction: Limited to BSW U3 and 2-year BSW students) An individual or small group tutorial in which students will work independently in conjunction with the instructor. The student will undertake a project related to the area of specialization.

SWRK 486 Tutorial in Social Policy.
(3) (Restrictions: Limited to BSW U3 students. Not open to students who have taken SWRK401.) An individual or small group tutorial in which students will work independently in conjunction with the instructor. The student will undertake a project related to the area of specialization.

● **SWRK 492 Violence against Women and Children.**
(3) (Winter) (Restriction: Limited to BSW U3, 2-year BSW, and Women's Studies Major/Minor Concentration students) Through a feminist theoretical lens, this course examines a range of male-perpetrated sexual and physical abuses of women and children. Such an examination includes critical appraisals of "common knowledge", research findings, dominant modes of intervention, and social welfare policies and legislation.

SWRK 493 Seminar on Child Protection.
(3) (Restriction: Limited to BSW U3 and 2-year BSW students) The field of child protection and the problems of physical and sexual abuse and neglect of children. The general characteristics of this vulnerable population group and their families as well as some models of intervention.

SWRK 497 Clinical Practice Seminar 1.
(3) (Restriction: Limited to BSW U3 and 2-year BSW students) Practice competence with various population groups: physically and mentally handicapped, terminally-ill, multi-problem families. Topics may change from year to year.

SWRK 498 Clinical Practice Seminar 2.
(3) (Fall) (Restrictions: Limited to BSW U2, BSW U3, and 2-year BSW students.) Practice competence with various population groups. Topics may change from year to year.

SWRK 525 Critical Thought and Ethics in Social Work.
(3) (Prerequisite: SWRK 325.) (Restrictions: Limited to BSW U3, 2-year BSW and MSW students) Use of theory and reflexivity to challenge the various ways knowing and practicing within social work. Critically engage and assess the theoretical basis of social work theories and knowledge acquired over the course of the program. Application of this knowledge to ethical dilemmas that arise in practice.

● **SWRK 531 Social Perspectives on Aging 2.**
(3) (Summer) (Restriction: School of Social Work: Limited to U3 and M.S.W. students) Instructors and students from various disciplines will focus on certain aspects of aging related to issues of independence in later life. The provision of services and their impact on the recipients will be evaluated. Senior citizens will participate in the course as Senior Consultants.

SWRK 532 International Social Work.
(3) (Restriction: Limited to BSW U3, 2-year BSW and MSW students) Discussion based upon intensive study and reports on problems in selected countries. Emphasis on identifying major social problems, understanding the social forces bearing on those problems and considering appropriate professional approaches to aid in their solution.

● **SWRK 539 Chronic and Terminal Illness.**
(3) (Winter) (Restriction: Limited to B.S.W. U3, 2-year B.S.W. and M.S.W. students) A seminar to examine practice with persons living with chronic and terminal illnesses. Needs of families, caretakers, health care workers and the gay community are studied.

WMST-Women's Studies

Offered by: Arts - Dean's Office

WMST 200 Introduction to Women's Studies.
(3) (Summer) An introduction to the interdisciplinary field of Women's Studies from historical and contemporary perspectives, this course will explore key concepts, issues and modes of analysis based on the intersection of gender with factors such as race, ethnicity, class, religion, and sexuality.

WMST 301 Women's Studies Current Topics 1.
(3) (Prerequisite: WMST 200 or PHIL 242 or permission of instructor) Consideration of contemporary issues in Women's Studies. Topic and approach will vary from year to year.

WMST 302 Women's Studies Current Topics 2.
(3) (Prerequisite: WMST 200 or PHIL 242 or permission of instructor) in Winter 2010 the topic is Transnational Global Feminism Consideration of contemporary issues in Women's Studies. Topic and approach will vary from year to year.

WMST 303 Feminist Theory and Research.
(3) (Prerequisite: WMST 200) (Restriction: Open to Women's Studies students only) This course explores contemporary feminist theories and critiques of approaches to knowledge developed in the humanities, social, natural, and applied sciences. Feminist contributions to research and critical practices will be examined in relation to course projects.

WMST 401 Women's Studies Special Topics 1.
(3) (Prerequisite: WMST 200 or PHIL 242 or permission of instructor) In Fall 2009 the topic is Women and the State in India. Advanced seminar in selected themes and issues in Women's Studies.Topics and theoretical or disciplinary approach will vary from year to year.

WMST 402 Women's Studies Special Topics 2.
(3) (Prerequisite: WMST 200 or PHIL 242 or permission of instructor) Advanced seminar in selected themes and issues in Women's Studies. Topics and theoretical or disciplinary approach will vary from year to year.

WMST 461 Tutorial in Women's Studies 1.
(3) (Prerequisite: WMST 303 or permission of instructor) (Restrictions: Majors, Honours and Joint Honours students in Women's Studies. Program and advisor approval required.) Advanced reading course and independent research project under the supervision of an instructor on aspects of Women's Studies.

WMST 462 Tutorial in Women's Studies 2.
(3) (Prerequisite: WMST 303 and permission of instructor) (Restriction: Majors, Honours and Joint Honours students in Women's Studies.) Advanced reading course and independent research project under the supervision of an instructor on aspects of Women's Studies.

WMST 494 Internship: Women's Studies.
(3) (Restrictions: Open to U-2 and U-3 students after completing 30 credits of a 90 credit program or 45 credits of a 96-120 credit program. A minimum CGPA of 2.7, and permission of the Women's Studies Internship Program Coordinator required. This course will not normally fulfill program requirements for seminar or 400-level courses.) Internship with an approved host institution or organization.

WMST 495D1 (1.5), WMST 495D2 (1.5) Honours/Joint Honours Colloquium.
(Prerequisite: WMST 303.) (Corequisite: WMST 497D1.) (Restriction: Honours/Joint Honours students in Women's Studies) (Students must register for both WMST 495D1 and WMST 495D2.) (No credit will be given for this course unless both WMST 495D1 and WMST 495D2 are successfully completed in consecutive terms.) Students will research, discuss, and present their thesis topics.

WMST 497D1 (1.5), WMST 497D2 (1.5) Honours/Joint Honours Thesis.
(Prerequisite: WMST 303) (Corequisite: WMST 495D1) (Students must register for both WMST 497D1 and WMST 497D2.) (No credit will be given for this course unless both WMST 497D1 and WMST 497D2 are successfully completed in consecutive terms) Supervised reading and preparation of a Joint Honours thesis under the direction of a member of staff.

●**WMST 501 Advanced Topics 1.**
(3) (Prerequisite: WMST 303 or permission of instructor) Advanced topics in theory and methodology related to Women's Studies. Topics will vary from year to year.

●**WMST 502 Advanced Topics 2.**
(3) (Prerequisite: WMST 303 or permission of instructor) Advanced topics in theory and methodology related to Women's Studies. Topics will vary from year to year.

●**WMST 513 Gender, Race and Science.**
(3) This course is a philosophical exploration of the nature of science concerning sex, gender, race and racial stereotypes, and the construction of "womanhood". The social history/biography of women and minorities in science will be studied to develop a critique of biological determinism and explore the meaning and possibility of a "feminist science".

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

Interfaculty, B.A. & Sc.

BASC-Arts & Science

Offered by: Science

BASC 201 Arts & Science Integrative Topics.
(3) (Restriction: Open only to students registered in the B.A.& Sc.) Topics that integrate information from Arts & Science (e.g. biomedical ethics; history of science; scientific reasoning; military conflict and geography; philosophy of mind, etc.) to exemplify the benefits of applying scholarship from diverse areas to a problem.

COGS-Cognitive Science

Offered by: Arts & Science Admin (Shared)

COGS 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project.

COGS 401 Research Cognitive Science 1.
(6) (Prerequisites: 30 credits of Cognitive Science program. Approval of Program Director. CGPA >3.00) (Note: The student must find a Faculty research advisor in the Department of Linguistics, Philosophy, Physiology or Psychology, or the School of Computer Science. A research proposal worked out with the research advisor requires approval of the Director of the Cognitive Science Program. The research will be reported in a scholarly paper to be evaluated by the research advisor and a second reader appointed by the Director of the Cognitive Science Program. Please see regulations concerning Project Courses. COGS 401 is not a prerequisite to COGS 402. Thus the 2 courses can be done in any order, although a student may take only one of them.) Research project supervised by a McGill Faculty member.

COGS 402 Research Cognitive Science 2.
(6) (Prerequisites: 30 credits of Cognitive Science program. Approval of Program Director. CGPA >3.00.) (Note: The student must find a Faculty research advisor in the Department of Linguistics, Philosophy, Physiology or Psychology, or the School of Computer Science. A research proposal worked out with the research advisor requires approval of the Director of the Cognitive Science Program. The research will be reported in a scholarly paper to be evaluated by the research advisor and a second reader appointed by the Director of the Cognitive Science Program. Please see regulations concerning Project Courses. COGS 401 is not a prerequisite to COGS 402. Thus the 2 courses can be done in any order, although a student may take only one of them.) Research project supervised by a McGill Faculty member.

COGS 444 Honours Research.
(6) (Prerequisite: Permission of Director of Cognitive Science Programs.) (Note: To receive approval to register for this course, a student must present a research proposal to the Director of the Cognitive Science Program. The student's proposal must include approval of the research from one advisor from each of the student's two focal departments. The student's focal departments must consist of one Arts department and the one Science department (both must be participating in the BASc option) in which the student will have at the completed least 12 credits, exclusive of required courses at graduation.) Honours research course including research issues in two areas of cognitive science.

COGS 444D1 (3), COGS 444D2 (3) Honours Research.
(Prerequisite: Permission of Director of Cognitive Science Programs.) (Note: To receive approval to register for this course, a student must present a research proposal to the Director of the Cognitive Science Program. The student's proposal must include approval of the research from one advisor from each of the student's two focal departments. The student's focal departments must consist of one Arts department and the one Science department (both must be participating in the BASc option) in which the student will have at the completed least 12 credits, exclusive of required courses at graduation.) (Students must register for both COGS 444D1 and COGS 444D2.) (No credit will be given for this course unless both COGS 444D1 and COGS 444D2 are successfully completed in consecutive terms.) Honours research course including research issues in two areas of cognitive science.

COGS 444N1 (3), COGS 444N2 (3) Honours Research.
(Prerequisite: Permission of Director of Cognitive Science Programs.) (Note: To receive approval to register for this course, a student must present a research proposal to the Director of the Cognitive Science Program. The student's proposal must include approval of the research from one advisor from each of the student's two focal departments. The student's focal departments must consist of one Arts department and the one Science department (both must be participating in the BASc option) in which the student will have at the completed least 12 credits, exclusive of required courses at graduation.) (Students must also register for COGS 444N2.) (No credit will be given for this course unless both COGS 444N1 and COGS 444N2 are successfully completed in a twelve month period.) Honours research course including research issues in two areas of cognitive science.

Faculty of Education

EDEA-Arts Education

Offered by: Integrated Studies in Ed

❒▲**EDEA 201 Basic Musicianship Teaching 1.**
(3) Introduction to the elements of music theory through techniques of aural training, sight singing and keyboard. Lab work at the keyboard.

❒▲**EDEA 204 Drawing.**
(3) Development of sound drafting skills through the study of organic forms and the human figure in various media.

❒▲**EDEA 205 Painting 2.**
(3) (Prerequisite: EDEA 204) Investigation of color, media, tools, techniques. Studies of natural forms, the human figure.

EDEA 206 1st Year Professional Seminar.
(1) (Summer) (Corequisite: EDFE 205) This seminar along with First Year Field Experience Music serves as an orientation to the culture of the school and to teaching as a profession. Emphasis is on the general functioning of elementary and secondary schools. Topics include the role of the arts in the curriculum.

❒▲**EDEA 241 Basic Art Media for Classroom.**
(3) An introduction to media that can be easily adapted to elementary classroom studio exploration.

▲ **EDEA 242 Cultural Skills 1.**
(3) Development of First Nations and Inuit skills and knowledge in art, music, handicrafts and other areas both modern and traditional. Topics will vary and be chosen from a range identified by instructors and students. Course is seasonally based and will cover summer cultural skills.

▲ **EDEA 243 Cultural Skills 2.**
(3) (Note: Topics will vary and will cover different cultural skills than EDEA 242. Course content is seasonally based.) Development of First Nations and Inuit skills and knowledge in art, music, handicrafts and other areas both modern and traditional.

❒▲**EDEA 296 Basic Design.**
(3) Exploration of the basic elements of visual art through two dimensional composition and three-dimensional constructions. Investigation of materials and tools and the processes of manipulating and relating materials.

❒▲**EDEA 302 Special Topics.**
(3) Selected topics and contemporary issues in education in the arts. The content will vary from year to year and will be announced prior to registration.

❒▲**EDEA 304 Painting 3.**
(3) (Prerequisite: EDEA 205) Continuation of course EDEA 205 with emphasis on drawing and structure.

❒▲**EDEA 305 Painting 4.**
(3) Continuation of course EDEA 304 with emphasis on advanced composition.

❒▲**EDEA 307 Drawing 2.**
(3) (Prerequisite: EDEA 204) A course designed to further the individual's natural drawing ability, and to develop a keen, perceptive approach to varied subject matter, including figure drawing.

❒▲**EDEA 314 Instruments in the Classroom.**
(3) (The ability to read notation is not a prerequisite) Rhythmic and melodic instruments are introduced and their potential to enhance songs, poems, stories and movement is explored through students' active participation.

❒†**EDEA 332 Art Curriculum and Instruction - Elementary.**
(3) An introduction to theories on children's visual expression and perception, lesson planning, and classroom-oriented studio practice.

❒▲**EDEA 341 Listening for Learning.**
(3) (The ability to read notation is not a prerequisite) Musical knowledge is developed and articulated through a structured approach to listening. Using recorded examples, students learn how to recognize, identify and discuss musical elements, devices, styles and genres.

❒†**EDEA 342 Curriculum and Instruction in Drama Education.**
(3) Pedagogical theory and practical applications in the teaching of developmental drama, dramatic forms, improvisation and theatre arts.

❒†**EDEA 345 Music Curriculum and Instruction for Generalists.**
(3) Study of materials and instructional techniques grounded in an understanding of basic musical concepts and contemporary theories of music teaching and learning. Definition of musical objectives and rationales, selection and development of materials, review of MEQ guidelines. Participation through singing, movement, listening, discussion and lesson planning and implementation.

▲ **EDEA 352 Music Listening in Education.**
(3) A perceptual development approach to music listening focusing on the relationship between the affective response and the musical stimulus. Designed to enhance the listening experience and to facilitate meaningful discourse about music. No formal music training is required.

❒▲**EDEA 362 Movement, Music and Communication.**
(3) Coordination of musical perception and movement and development of communication skills that arise from this combination. Structured and improvised eurhythmic activities are used to explore the relationship between time, space and energy. Classroom applications are explored. No formal music training is required.

❒▲**EDEA 394 Creative Dramatics for Classroom.**
(3) A participatory course in creative drama and the use of improvisational techniques in the pursuit of student development.

❒▲**EDEA 396 Speech in Drama Education.**
(3) A study of the elements of voice production in teaching public speaking and drama, including training activities to develop the voice in speech and drama. Theoretical aspects of the structure and functioning of the voice and speech mechanism are included.

❒▲**EDEA 404 Painting 5.**
(3) (Prerequisite: EDEA 305) Major problems in graphic expression. A tutorial course where the student selects the instructor. Individual conferences and criticism leads the student to an independent approach to painting.

❒▲**EDEA 405 Painting 6.**
(3) (Prerequisite: EDEA 404) The student will be required to work in a variety of sizes up to mural painting. Exploration of selected media and new dimensions of design.

EDEA 407 Final Year Professional Seminar Music.
(3) (Corequisite: EDFE 407) (Restriction: Students in B.Ed. in Music or Concurrent B.Ed. and B.Mus.) Summary of philosophical, theoretical and practical issues related to the profession of teaching.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

❒EDEA 410 Aesthetics and Art for the Classroom.
(3) The course is designed to address the need for teachers to be able to lead students to increased perceptual awareness and critical thinking in relation to their visual environment. Museum visits are a regular component of this course.

❊†EDEA 442 Elementary Music Curriculum and Instruction.
(3) Preparation for Third Year Field Experience. Includes the study of curriculum content and instructional approaches, classroom management issues, lesson planning and program development for elementary schools.

❊†EDEA 472 Secondary Music Curriculum and Instruction.
(3) Preparation for Fourth Year Field Experience. Includes the study of curriculum content and instructional approaches, classroom management issues, lesson planning and program development for secondary schools.

❒▲EDEA 496 Sculpture 1.
(3) An investigation of basic sculpture methods and concepts with a view toward developing personal aptitudes. Development of three-dimensional thinking through direct experience with processes using new and traditional materials.

❒▲EDEA 497 Sculpture 2.
(3) (Prerequisite: EDEA 496) Further exploration of processes introduced in Sculpture 2 plus an introduction to constructive sculpture.

EDEC-Curriculum and Instruction

Offered by: Integrated Studies in Ed

▲ EDEC 200 Introduction to Inuit Studies.
(3) An introductory survey of Inuit history, language and culture, and of the social and political issues affecting contemporary Inuit life.

EDEC 201 First Year Professional Seminar.
(1) (Corequisite: EDFE 200) (Restriction: Open to B.Ed. Secondary and B.Ed. K/Elem. students only) Orientation to the culture of the school and to teaching as a profession, focusing on the general functioning of schools. Professional portfolios will be introduced.

▲ EDEC 202 Effective Communication.
(3) (Restriction: Not open to students who have taken EDES 201, EDEC 203, EDEC 204, EDEC 205 or EDEC 206) (Offered through Continuing Education) (Note that Arts students are allowed 6 credits in writing courses and may only take an EC course before EAPR 250.) A course designed to help students develop the quality and effectiveness of their writing and speaking (in English) in a variety of academic disciplines and professional situations. Emphasis is on identifying, analyzing, and solving writing and speaking problems.

▲ EDEC 203 Communication in Education.
(3) (Restriction: Education students who have not taken EDES 201 or EDEC 202) (Because this course uses a workshop format, attendance at first class is desirable.) Written and oral communication in Education (in English): emphasis on strategies for identifying, analyzing and solving writing and speaking problems. Course work based on academic and professional communication in education, with a particular focus on classroom communication.

EDEC 204 Communication in Social Work.
(3) (Restriction: Social Work students who have not taken EDES 201 or EDEC 202) (Because this course uses a workshop format, attendance at first class is desirable.) Written and oral communication in Social Work (in English): emphasis on strategies for identifying, analyzing and solving writing and speaking problems. Course work based on academic and professional communication in social work.

EDEC 205 Communication in Management 1.
(3) (Restriction: Placement test required) (Restriction: B.Com. students who have not taken EDES 201 or EDEC 202) (Because this course uses a workshop format, attendance at first class is desirable.) (Continuing Education: requirement for the EA, AAC, and the Canadian Institute of Management) Written and oral communication in Management (in English): emphasis on strategies for identifying, analyzing and solving writing and speaking problems. Course work based on academic and professional communication in management.

EDEC 206 Communication in Engineering.
(3) (Summer) (Limited enrolment) (Restriction: B.Eng. students who have not taken EDES 201 or EDEC 202) (Because this course uses a workshop format, attendance at first class is desirable.) Written and oral communication in Engineering (in English): strategies for generating, developing, organizing, and presenting ideas in a technical setting; problem-solving; communicating to different audiences, editing and revising; and public speaking. Course work based on academic, technical, and professional writing in engineering.

EDEC 207 Communication in Public Relations.
(3) (Restriction: Students in Public Relations Management Certificate only.) Identifying, analyzing, and solving communication problems in a variety of public relations contexts. Emphasis on news releases, media kits, informational and promotional materials, and oral presentations.

EDEC 208 Expressive Writing.
(3) The focus is on strategies for writing authentic, authoritative texts as well as achieving correct grammar and appropriate style as well as the drafting and revising of a collection of short non-fiction pieces in a collaborative setting.

EDEC 215 English Language Requirement.
(0) The English language proficiency test is a program requirement that must be completed in the first term. Anyone who fails the test must re-take and pass it prior to the third-year field experience. Anyone who is unsuccessful after two attempts must withdraw from the program.

EDEC 216 Aboriginal Language Requirement.
(0) The Aboriginal language proficiency test is a program requirement. Anyone who fails the test must retake and pass it prior to the third year field experience. Anyone who is unsuccessful after two attempts must withdraw from the program.

EDEC 220 Curriculum Development.
(3) This course, introducing Aboriginal educators to the principles and processes of curriculum development, emphasizes the impact of language and culture on the development of materials. Features of the process of curriculum and materials design, which are strategically important in meeting the needs of Aboriginal students, are highlighted.

EDEC 221 Leadership and Group Skills.
(3) (Restriction: Normally for students registered within Certificate in First Nations and Inuit Educational Leadership) Management, effective team leadership, group dynamics, and communications skills crucial to First Nations and Inuit community-based educational leaders. Differences between traditional and mainstream institutional practices and leadership skills.

EDEC 222 Personnel Management and Support.
(3) (Restriction: Normally for students registered within Certificate in First Nations and Inuit Educational Leadership.) Methods of appropriate and supportive supervision in a First Nations and Inuit educational milieu. Techniques of developing staff members' potential through staff development and quality performance. A compulsory practicum component will demonstrate students' transfer of theory to practice.

EDEC 233 First Nations and Inuit Education.
(3) (Restriction: Not open to students who have taken EDEE 441. Not for credit if EDEC 248 or EDER 464 has been or is being taken.) Study of First Nations and Inuit schools as diverse social, cultural, linguistic, political and pedagogical settings. Considers school and community minority-majority interactions and their influence on teaching and learning in educational settings. Examines how a teacher's personal practice can be influenced by an understanding of these factors.

▲ EDEC 236 Mohawk Second Language 2.
(3) (Prerequisite: EDEE 296) Students will continue their study of Mohawk syntax and morphology and improve their literacy. Oral skills will focus on basic interactions and classroom commands. Students will discuss the difficulties encountered in learning a second language and consider implications for their students' language learning.

▲ EDEC 239 Mi'kmaq Language 1.
(3) Students will learn the phonological system and develop their literacy skills. They will also begin to explore Mi'kmaq syntax and morphology. Word generation conventions will be introduced and Mi'kmaq labels developed to describe how the language functions.

▲ EDEC 241 Cree Language 1.
(3) Students will learn their own phonology and see how the phonological system is reflected in dialects. They will learn the spelling rules and develop their literacy skills in syllabics. Finally, they will derive Cree grammatical terms and begin to study Cree morphology and syntax.

▲ EDEC 242 Cree Language 2.
(3) (Prerequisite: EDEC 241) Students will study the morphology and syntax analysis of Cree at a more advanced level and begin the study of word generation conventions. In addition, features of Cree that are difficult in first language acquisition will be highlighted and implications for classroom practice discussed.

EDEC 243 Teaching: Multigrade Classrooms.
(3) This course introduces students to concepts and strategies for organizing, teaching, and evaluating learning in classes in which there are students from 2, 3 or 4 grade levels.

▲ EDEC 244 Issues in Aboriginal Education.
(3) The content of this course changes depending on the needs and interests of the students and the educational communities participating in programs administered by First Nations and Inuit Education. It always addresses issues related to Aboriginal education, e.g., local control, development of linguistic and cultural policies.

EDEC 245 Middle School Teaching.
(3) Explores the philosophy of middle school teaching and how this impacts on the institutional, curricula and instructional decisions made in meeting the specialized needs of Aboriginal adolescents. Particular attention will be paid to how middle school philosophy can be integrated with Aboriginal values.

EDEC 246 Middle School Curriculum.
(3) (Prerequisite: EDEC 245) Curriculum principles underlying an integrated approach to learning in the middle school level; surveys various curricula looking at program structures; explores teaching and learning methodologies appropriate for this age level when implementing an integrated curriculum, with particular attention to integrating indigenous language and culture.

EDEC 247 Policy Issues in Quebec Education.
(3) (Restriction: Not open to students who have taken EDEM 405.) This course examines the organization of education in Quebec from various perspectives, including historical, political, social and legal. It aims to provide students with sufficient knowledge that they can begin the life-long learning process of a professional educator, aware of, and contributing to, the policy talk on school.

EDEC 248 Multicultural Education.
(3) (Restriction: Not open to students who have taken EDEC 410 and EDER 464.) Introduction to theories about intercultural and multicultural education in Quebec and Canadian schools.

EDEC 253 Second Professional Seminar (Kindergarten/Elementary).
(1) (Summer) (Corequisite: EDFE 256) (Restriction: Open to B.Ed.(K/Elem) students.) Preparation for the second field experience through development of basic practices in planning and teaching in elementary school classrooms. Professional portfolios and competencies will be addressed.

EDEC 253D1 (0.5), EDEC 253D2 (0.5) Second Professional Seminar (Kindergarten/Elementary).
(Corequisite: EDFE 256) (Restriction: Open to B.Ed.(K/Elem) students.) Preparation for the second field experience through development of basic practices in planning and teaching in elementary school classrooms. Professional portfolios and competencies will be addressed.

EDEC 254 Second Professional Seminar (Secondary).
(1) (Corequisite(s): EDFE 254) (Restrictions: Open to B.Ed. Sec and concurrent B.Sc. and B.Ed. students.) Preparation for the second field experience through development of basic practices in planning and teaching in Secondary school classrooms. Competencies and Professional portfolios will be addressed.

EDEC 254D1 (0.5), EDEC 254D2 (0.5) Second Professional Seminar (Secondary).
(Corequisite(s): EDFE 254) (Restrictions: Open to B.Ed. Sec and concurrent B.Sc. and B.Ed. students.) (No credit will be given for this course unless both EDEC 254D1 and EDEC 254D2 are successfully completed in consecutive terms) Preparation for the second field experience through development of basic practices in planning and teaching in Secondary school classrooms. Competencies and Professional portfolios will be addressed.

EDEC 260 Philosophical Foundations.
(3) (Restriction: Not open to students who have taken EDER 400.) Ideas essential for the development of a coherent educational theory and sound professional practice. Reflections on: the nature of the person, of reality, of knowledge, and of value; the aims of education, the nature of the school and the curriculum, the roles and responsibilities of professional educators.

EDEC 261 Philosophy of Catholic Education.
(3) (Restriction: Not open to students who have taken EDER 398.) An exploration of the philosophy of Catholic education, and its relevance in the world today.

EDEC 262 Media, Technology and Education.
(3) (Restriction: Not open to students who have taken EDEC 402.) Orientation to the equipment and systems of educational technology. Examination of theories of educational technology, media education and technology education and the exploration and development of possible applications in school settings.

EDEC 300 Special Topics 1.
(3) Selected topics and contemporary developments in the areas of elementary and/or secondary education. The content will vary from year to year and will be announced prior to registration.

EDEC 301 Special Topics 2.
(3) Selected topics and contemporary developments in the areas of elementary and/or secondary education. The content will vary from year to year and will be announced prior to registration.

EDEC 305 Communication in Management 2.
(3) (Restriction: B.Com. students. Prerequisite: EDEC 205 or based on the results of Placement Test.) (Because this course uses a workshop format, attendance at first class is desirable.) Advanced course (in English) in professional written and oral communication in Management. Assignments include résumés, business proposals, public relations documents and oral presentations. Students use a wide variety of communication technologies such as presentation software, video equipment, e-mail and the Internet.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EDEC 306 Third Year Professional Seminar (Sec).
(3) (Prerequisites: EDFE 254.) (Corequisite: EDFE 351.) (Restriction: Open to B.Ed. Secondary students only) Preparation for the third field experience through engaging in the full spectrum of unit/lesson planning, micro-teaching, critical analysis and self-reflection. Professional portfolios will be addressed.

EDEC 308 Learning to Write Fiction.
(3) Course focuses on basic story elements: character development, plot structure, setting, description, dialogue, point of view and the drafting and revising of stories through a shared experience within a community of supportive readers.

EDEC 309 Learning to Write Poetry.
(3) Basic poetic techniques such as free writing, lineation, metaphor, simile, and scansion. Collaborative development and oral readings.

EDEC 311 Resource Management.
(3) (Restriction: Normally for students registered within the Certificate in First Nations and Inuit Educational Leadership) A problem-solving approach (needs assessment, projections, creative solutions, and proposals) will establish a procedure for proactive management of the First Nations and Inuit educational environment (human, financial, and physical resources). Topics include staffing, finance, budgeting, payroll, and building and equipment maintenance.

EDEC 312 Practicum in Educational Leadership.
(3) (Restriction: Normally for students registered within the Certificate in First Nations and Inuit Educational Leadership) A work-study course within a First Nations and Inuit educational milieu. Supervised practice and application of communication and group skills; staff development and evaluation; human, fiscal, and physical resource management; and community outreach.

EDEC 351 Third Professional Seminar (Secondary).
(2) (Prerequisite: EDEC 254) (Corequisite: EDFE 351) (Restriction: Open to B.Ed. Secondary B.Sc. and B.Ed. concurrent students only. Not open to students who have taken EDEC 306.) Preparation for the third field experience through engaging in the full spectrum of unit/lesson planning, critical analysis and self-reflection. Professional portfolios and competencies will be addressed.

▲ EDEC 403 The Dialects of Inuktitut.
(3) (Prerequisite: EDEE 344) Study of the main Eskimo-Aleut dialects from Siberia to Greenland, looking at the effect of Inuit migrations across the Arctic on the development of dialectical differences. The main phonological, grammatical and lexical differences between the dialects and the patterns underlying these differences will be examined.

EDEC 404 Fourth Year Professional Seminar (Sec).
(3) (Prerequisites: EDEC 306, EDFE 351.) (Corequisite: EDFE 451) (Restriction: Open to B.Ed. Secondary students only) Preparation for the final field experience and entry into the teaching profession. Emphasis will be placed on developing the ability to demonstrate ethical and responsible professional behaviour in the performance of duties. Final preparation of professional portfolios will be addressed.

EDEC 405 Fourth Year Professional Seminar (K/Elem).
(3) (Prerequisites: EDFE 303, EDEE 350, EDEE 352 and EDEE 355.) (Corequisite: EDFE 405) (Restriction: Open to B.Ed. K/Elem. students only) Preparation for the final field experience and entry into the teaching profession. Emphasis will be placed on developing the ability to demonstrate ethical and responsible professional behaviour in the performance of duties. Final preparation of professional portfolios will be addressed.

EDEE-Elementary Education

Offered by: Integrated Studies in Ed

EDEE 223 Language Arts.
(3) This course will explore the current research and theory of language learning and the practices which provide meaningful language experiences in the context of the pre-school and elementary classroom.

❒†EDEE 224 Language Arts Part 2.
(3) (Prerequisite: EDEE 223) This course will explore the current research and theory of language learning and the practices which provide integrated and meaningful language experiences in the context of the pre-school and elementary classroom.

▲ EDEE 230 Elementary School Mathematics.

(3) A course specially designed for elementary school teachers to provide the basic foundations, insight and understanding of the Quebec modern elementary mathematics programs.

EDEE 234 Elementary School Geometry.
(3) A course specially designed for elementary school teachers to provide the basic foundations, insight and understanding of the geometry found in the Quebec modern elementary mathematics programs.

EDEE 240 Use and Adaptation of Curricula.
(3) Provincial or Nunavut curricula as a basis for planning, materials production and evaluation. Methods of adapting curricula to local needs and of developing local courses of study in First Nations and Inuit community schools.

EDEE 241 Teaching Language Arts.
(3) (Prerequisite: Fluency in Inuktitut or another Aboriginal language) Organization and planning of Language Arts programs in Inuktitut or another Aboriginal language. Preparation and presentation of lesson sequences. Use of various techniques to improve language skills in listening, speaking, reading and writing.

EDEE 242 Teaching Mathematics.
(3) An introduction to mathematical concepts and approaches to teaching First Nations or Inuit students at the elementary level. Emphasis on the preparation and use of materials directly related to First Nations or Inuit life.

EDEE 243 Reading Methods in Inuktitut/Cree.
(3) (Prerequisite: Fluency in Inuktitut/Cree syllabics) Overview of reading theories and their application to Inuktitut/Cree; processes used by proficient readers. Methods of teaching reading.

EDEE 245 Orientation to Education.
(3) The First Nations or Inuit classroom as a unique pedagogical setting. Introduction to planning and maintaining a learning environment for First Nations or Inuit children. Study and application of differential learning styles.

▲ EDEE 246 Cultivating Language and Thought.

(3) Study and observation of spoken language development and its maturation in First Nations or Inuit children. Application of observed data to the selection and devising of appropriate materials and methods for pre-school and elementary levels.

EDEE 248 Reading and Writing Inuktitut/Cree.
(3) (Prerequisite: Fluency in Inuktitut/Cree syllabics) Methods of teaching syllabic reading and writing. Understanding the principles of sight word reading instruction, child observation, material development and guided instruction.

▲ EDEE 249 Inuktitut Orthography and Grammar.

(3) (Prerequisite: Fluency in Inuktitut) Structure and morphology of Inuktitut for teachers working in that language. Use of orthography, both qaliujaaqpait (Roman script) and qaniujaaqpait (syllabics) as established by the Inuit Cultural Association.

EDEE 250 The Kindergarten Classroom.
(2) (Restriction: Not open to students who have taken EDEC 310) An orientation to the Kindergarten curriculum. Integration of the school subject areas (language arts, second language, mathematics, social sciences, science, expressive arts, moral and religious education, and physical education) in a manner appropriate to the developmental level of the pre-school child.

EDEE 261 Reading Clinic - Early Childhood.
(3) Reading problems at a readiness and basic decoding level presented in a clinic format covering classroom diagnosis and remediation.

▲ EDEE 270 Elementary School Science.
(3) Science as a means of exploring and explaining our environment. A study of some of the fundamental concepts and process skills common to most elementary programs.

EDEE 275 Science Teaching.
(2) (Prerequisite: EDEE 270.) (Restriction: Not open to students who have taken EDEE 372 (Teaching Science)) A study of science programs and teaching strategies appropriate for providing elementary school children with an appreciation of the nature and method of science inquiry.

EDEE 280 Geography, History and Citizenship Education.
(3) (Restriction: Faculty of Education students.) Designed for elementary school teachers. A multi-disciplinary and cross-curricular investigation of various citizenship education themes, geographical regions and historical periods as outlined in the Quebec Education Program.

EDEE 282 Teaching Social Sciences.
(2) (Prerequisite: EDEE 280.) (Restriction: Not open to students who have taken EDEE 382) Programs, materials and strategies for social studies from Kindergarten through grade six.

EDEE 290 Cooperative Learning.
(3) Principles of cooperative learning and how they may be applied in First Nations and Inuit schools to the creation of team-building classroom activities and to the development of culturally appropriate learning materials.

EDEE 291 Cultural Values and Socialization.
(3) An introduction to the educational implications of cultural values and patterns of socialization of children. Topics will include a description of the cultural values of Aboriginal peoples, home styles of communication, learning and discipline and intercultural educational issues.

EDEE 292 Using Instructional Resources.
(3) Students will learn to find, assess, and use a variety of instructional resources. Specifically, they will learn how to evaluate the instructional value of software packages and other established audio-visual materials; how to make and use simple audio-visual materials; and how to find additional resource material in the library.

▲ EDEE 296 Mohawk Second Language 1.
(3) Students will develop a basic knowledge of the Mohawk phonological system and have some understanding of the morphological and syntactic rules, the stress and intonation patterns which control the language, and how Mohawk culture is reflected in the language.

▲ EDEE 297 Mohawk Language 1.
(3) Students will learn the Mohawk phonological system (including glottal stop, length mark, up and down stress). Syntactically and morphologically, they will focus on the pronoun system (tense included). Word generation conventions will be analyzed and Mohawk labels developed to describe how the language functions.

▲ EDEE 298 Mohawk Language 2.
(3) (Prerequisite: EDEE 297) Students will complete their earlier study of the predictable items in the language, and then will focus on the non-predictable items in Mohawk: irregular verbs, reflexive and semi-reflexive verbs, purposive stem, translocative, etc. Importance will be placed on developing reading and writing skills.

▲ EDEE 325 Children's Literature.
(3) (Restriction: Not open to students who have taken ENGL 240, ENGL 341) (Limited enrollment) Selection and use of literature suitable for children in the elementary school.

EDEE 332 Teaching Mathematics 1.
(3) (Prerequisite: EDEE 230.) Curriculum trends in teaching mathematics to children. Programs, methods, materials and evaluation procedures appropriate for the elementary school. Please check timetable information for labs schedule.

▲ EDEE 340 Special Topics: Cultural Issues.

(3) Seminars on Inuit culture or on selected aspects of the culture of First Nations peoples. Topics will include historical cultural contacts, native oral tradition, religious beliefs and cultural change. Preparation of a project on an aspect of First Nations or Inuit life will be required.

▲ EDEE 342 Intermediate Inuktitut/Amerindian Language.

(3) (Prerequisite(s): EDEE 249 or equivalent, e.g. EDEE 295, EDEE 298 or permission of Director) A study for Inuktitut/Amerindian language speakers, of Inuktitut/Amerindian language phonology and structure, emphasizing the connection between the two, demonstrating the orderliness of many dialectic differences.

▲ EDEE 344 Advanced Inuktitut/Amerindian Language.

(3) (Prerequisite(s): EDEE 342 or permission of Director) The final course in a set dealing with Inuktitut/Amerindian Language phonology and structure. An understanding of basic Inuktitut/Amerindian Language syntax in particular, rules governing verb and possessive endings.

▲ EDEE 345 Literature and Creative Writing 1.

(3) A study of the development of oral and written poetry and prose in the various dialects of Inuktitut or of another Aboriginal Language from pre-European contact to the present day. Emphasis on themes and structures in contemporary writings. Original production of poetry, narrative, drama and journalism in the selected language is required of each student.

▲ EDEE 346 Literature and Creative Writing 2.

(3) (Prerequisite: EDEE 345) A continuation of course EDEE 345.

EDEE 350 Integrating the Curriculum.
(2) (Corequisites: EDEE 352, EDEE 355, EDFE 303 or EDFE 306) Strategies and methods for integrating the individual subject areas in the elementary school curriculum, using the Québec curriculum as the primary example.

EDEE 352 Classroom Practices.
(2) (Corequisites: EDEE 350, EDEE 355 and EDFE 303 or EDFE 306) (Restriction: B.Ed. (K/Elem) students) Theory-based strategies for setting up, managing and teaching in the elementary school classroom.

EDEE 353 Teaching and Learning in the Elementary Classroom.
(3) (Corequisite(s): EDEE 355 and EDFE 303 or EDFE 306) (Restriction(s):B.Ed. (K/Elem) students. Not open to students who have taken EDEE 350 or EDEE 352.) Theory-based strategies for setting up, managing and teaching in the elementary school classroom. Methods for integrating the individual subject areas in the elementary school curriculum, using the Quebec curriculum as the primary example.

EDEE 355 Classroom-based Evaluation.
(3) (Corequisites: EDEE 350, EDEE 352, EDFE 303 and EDFE 306) (Restriction: B.Ed. (K/Elem) students) The role of evaluation within kindergarten/elementary school programs. Topics include the kinds of information needed, different techniques for collecting that information, and ways of interpreting it to make educational decisions. Principles and a variety of methods for evaluation are discussed and practiced.

EDEE 435 Mathematics Topics.
(3) (Restriction: Permission of instructor) (Offered through Continuing Education) Seminars and workshops on specific topics in mathematics education. One to three topics will be chosen, from such areas as construction of teaching materials, evaluation, audio-visual techniques, use of calculating instruments, readiness for mathematics concepts, and curriculum

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

development. This course will make significant use of microcomputers in mathematics education.

EDEE 444 First Nations and Inuit Curriculum.
(3) An introduction to First Nations and Inuit curriculum: how curriculum needs in Aboriginal communities are similar to and different from mainstream ones, the range of ways in which First Nations and Inuit have responded to curriculum needs based on language, culture, and community perceptions.

▲ EDEE 473 Ecological Studies.
(3) (Offered through Summer Studies 2009) A lecture, laboratory and field course to train elementary school teachers in the principles and practices of field biology and nature tours. The observation and identification of various organisms and a study of their ecological relationships in the web of life.

▲ EDEE 474 Problems of the Environment.
(3) (Offered through Summer Studies 2010) A modern study of environmental problems designed for elementary school teachers. The role of humanity in the web of life in relation to conservation, the population explosion, waste disposal, sewage treatment, air and water pollution, chemical and radiation pollution.

EDEM-Admin & Policy Studies in Ed

Offered by: Integrated Studies in Ed

EDEM 202 Native Family Dynamics & Supporting Institutions.
(3) (Restriction: Limited to students enrolled in off-campus programs delivered through First Nations and Inuit Education. Not open to students who have taken EDEM 202 Educational and Administrative Institutions and/or EDPC 208 Native Families' Dynamics) Native family dynamics and examination of educational and administrative institutions that support families.

EDEM 220 Contemporary Issues in Education.
(3) An introduction to contemporary issues in education in local, national and international contexts, including a critical perspective on educational issues by drawing on a variety of analytical frameworks.

EDER-Religious Studies

Offered by: Integrated Studies in Ed

▲ EDER 207 'Who is Christ?'
(3) An open search for the authentic person of Christ - from Scriptures and present day manifestations.

❒▲EDER 209 Search for Authenticity.
(3) A search for meaning in contemporary living as reflected in selected authors.

❒EDER 252 Understanding and Teaching Jewish Life.
(3) An exploration of Jewish holidays and life cycle rituals. Emphasis is placed on their historical development and philosophical meaning. Curriculum developed for teaching this material in various Jewish educational frameworks is examined and evaluated.

❒▲EDER 309 The Religious Quest.
(3) (Summer) An approach to the study of religious experience as expressed in humanity's major religious traditions, especially Christianity, Judaism, Islam, Hinduism and Buddhism.

EDER 318 Teaching the Jewish Liturgy.
(3) (Restriction: Not open to students who have taken EDER 407.) An examination of curriculum developed for teaching prayer and fostering spirituality within Jewish educational frameworks. Excerpts from the liturgy of the Jewish people are studied with an emphasis on the theological, moral, and philosophical issues that they raise.

EDER 319 Teaching the Holocaust.
(3) (Restriction: Not open to students who have taken EDER 421.) An examination of approaches, strategies, and techniques of teaching the Holocaust, including methodologies for using the Holocaust as a basis for teaching about prejudice, cultural identity, racism, human rights and moral responsibility.

❒EDER 320 Visions and Realities of Jewish Education.
(3) A course in the philosophy of Jewish education. Various perspectives on the purpose of Jewish education are explored, and consideration is given to how contemporary Jewish ideologies can be translated into educational forms. Challenges facing Jewish education as it approaches the millennium are examined. Research in Jewish education is evaluated.

EDER 360 Ethics and Religious Culture (K/Elementary).
(2) (Restriction: Not open to students who have taken EDER 333) Teaching methods and pedagogical resources for programs in moral education, ethics, and religious culture in the k/elementary school curriculum.

❊EDER 372 Ethics and Religious Culture (Secondary).
(3) (Prerequisite: A course in World Religion with a RELG or EDER prefix and a course in Ethics with a PHIL or EDER prefix - refer to B.Ed., Secondary Program advising information.) Teaching methods and pedagogical resources for programs in moral education, ethics, and religious culture in the secondary school.

❊EDER 392 Guiding Religious Response - Secondary.
(3) A study of developmental religious and moral life of the secondary school student, and of the programs and procedures designed to meet this development.

❒▲EDER 394 Philosophy of God.
(3) A critical study of the concept of God from a variety of religious, philosophic and mystical perspectives.

❒▲EDER 395 Moral Values and Human Action.
(3) A philosophical critical inquiry into the relationship between belief and conduct oriented toward the teacher and his/her role in education.

❒EDER 401 Teaching Biblical Literature - Jewish School 1.
(3) Examination of Biblical passages raising theological, moral, historical, literary, or linguistic challenges, and their interpretation within the rabbinic tradition and modern scholarship. Methodologies for teaching such passages in Jewish studies classrooms are discussed. Some familiarity with Biblical and Rabbinic Hebrew is essential, but most texts are available in English.

EDER 451 Tutorial in Jewish Education.
(3) A reading course for students who wish to explore intensively the literature in a particular area related to teaching Jewish studies.

❒▲EDER 461 Society and Change.
(3) Factors influencing patterns of stability and change in major social institutions and the implications for formal and non-formal education.

❒▲EDER 473 Living with Insight.
(3) An examination of the moral and spiritual challenges of the modern and post-modern world. Emphasis will also be placed on the role and responsibility of education in meeting these challenges.

❒▲EDER 494 Ethics in Practice.
(3) Fundamental principles of ethics as applied to current moral issues such as abortion, drugs, nuclear war, and discrimination.

EDER 505 Education and Social Issues.
(3) A study of the philosophical aspects of major social issues to education, and of selected approaches to fostering critical thinking concerning such issues.

EDER 520 Issues in Jewish Education.
(3) (Restriction: Not open to students who have taken 422-320 / EDER 320) An exploration of dissenting and complementary perspectives on the purpose of Jewish education. Challenges facing the field of Jewish education are examined. Developments in general education of relevance to Jewish education are considered.

EDER 523 Teaching Judaism: Bible.
(3) (Restriction: Not open to students who have taken 422-401 / EDER 401) (Prerequisite: Knowledge of Hebrew, with permission of instructor) A study of selected narrative, poetic and legal portions of the Pentateuch with a view to teaching this material in Jewish schools. An examination of some of the techniques presently used in the teaching of Bible.

EDER 525 Teaching Judaism: Holidays.
(3) (Restriction: Not open to students who have taken 422-250 / EDER 252) An exploration of the rituals, customs, values and historical development of Jewish holidays. Methods of applying this material to the Jewish studies classroom are examined.

EDER 526 Teaching Judaism: Liturgy.
(3) (Restriction: Not open to students who have taken 422-400 / EDER 407) (Prerequisite: Knowledge of Hebrew, with permission of instructor.) An exploration of curriculum developed for teaching prayer and fostering spirituality within Jewish educational frameworks. Selected portions of the High Holy Day liturgy are examined with a view to teaching this material in Jewish settings.

EDER 527 Teaching Judaism: Special Topics.
(3) In-depth examination of topics in Jewish education. Content will vary from year to year.

EDER 528 Teaching Judaism: The Holocaust.
(3) (Restriction: Not open to students who have taken 422-421 / EDER 421) An exploration of approaches and techniques for the teaching of the Holocaust. Strategies for using Holocaust education as a basis for discussing prejudice and moral responsibility are examined.

EDES-Secondary Education

Offered by: Integrated Studies in Ed

EDES 334 Teaching Secondary Social Studies 1.
(3) (Prerequisite: 18 credits of university science courses at or above the 200 level) (Restriction: Not open to students who have taken EDEC 334.) An examination of Quebec and other secondary school social studies curricula: Objectives; theoretical orientation; course structures; curriculum resources. Teaching and learning methodologies both common to the social studies and specific to the disciplines of history, geography, and economics.

EDES 335 Teaching Secondary Science 1.
(3) (Prerequisite: 18 credits of university science courses at or above the 200 level) (Restriction: Not open to students who have taken EDEC 335.) A survey of the philosophy and curriculum principles behind modern high school courses in the physical and life sciences, especially related to the Quebec context. An examination of teaching methods for junior and senior high school science.

EDES 350 Classroom Practices (Secondary).
(3) Competency-based discipline skills and methods of classroom management, emphasizing the relationship between theory and practice; the rationale for various approaches to classroom management; strategies for developing instruction that focus attention and reduce off-task behaviour.

❊ †EDES 353 Teaching Secondary Mathematics 1.
(3) (Prerequisites: 18 credits in university level mathematics or above the 200 level) Directed observations in secondary schools and the study of the general objectives and curriculum trends. The learning problems, teaching strategies and mathematical concepts encountered in the High School curriculum.

❊ †EDES 361 Teaching Secondary English 1.
(3) (Prerequisites: 18 credits of university ENGL, COMS, or LING courses at or above the 200 level.) Examination of appropriate materials related to the high school English programs; exploration of various techniques of teaching language, literature, writing and dramatics in the secondary school.

EDES 365 Experiences in Communications.
(3) (Offered through Continuing Education) Personal development of students as communicators; involvement of the imagination in individual and group projects in language and in another chosen medium of communication: analysis of experiences in projects in relation to general problems of communication.

▲ EDES 366 Literature for Young Adults.
(3) Selection and use of literature for the differing abilities and interests of high school students.

EDES 434 Teaching Secondary Social Studies 2.
(3) (Prerequisite: EDES 334.) (Restriction: Not open to students who have taken EDES 389.) This course will examine the nature, content, and methodology of social studies education in the secondary school.

EDES 435 Teaching Secondary Science 2.
(3) (Prerequisite: EDES 335.) (Restriction: Not open to students who have taken EDES 370.) Principles and procedures for implementation of the general science curriculum in the secondary schools of Québec. A survey of teaching methods and laboratory management appropriate to the junior and senior high school level.

EDES 453 Teaching Secondary Mathematics 2.
(3) (Prerequisite: EDES 353.) (Restriction: Not open to students who have taken EDEC 338.) This course supplements EDES 353 for students who select Mathematics as a single teachable subject. Evaluation of learning in Mathematics, obstacles to learning, technological aids to learning.

EDES 461 Teaching Secondary English 2.
(3) (Restriction: Open to B.Ed. Secondary students having English as a teaching option.) (Prerequisite: EDES 361) Special interest areas in the teaching of English in the light of contemporary theories and research.

EDET-Vocational Education

Offered by: Integrated Studies in Ed

EDET 360 Teaching Business Subjects.
(3) (Offered through Continuing Education) A course in general teaching principles which will include the teaching and learning process, lesson planning, unit planning, and techniques of instruction specific to: a) Accounting and Business Machines b) Typewriting and Shorthand.

❊EDET 373 Teaching Technical Subjects.
(3) (Offered through Continuing Education) Methods and techniques of instruction in vocational education subjects. Classroom management and administration. Lesson planning and use of instructional materials. Individual assignments, demonstrations and reports. Special problems of the teacher.

EDET 376 Evaluation: Vocational Education.
(3) (Offered through Continuing Education) Emphasis on student growth and progress in public education; appraisal of specialized techniques of evaluation, teacher made tests, and data analysis as specifically related to Technical-Vocational Education.

EDET 395 Principles and Foundations.
(3) (Offered through Distance Education) A study of leaders, movements, legislation, events, and institutions that have contributed to the formation and development of vocational education. Special attention given to economic, social and philosophical factors.

EDET 398 Special Project.
(3) (Offered through Continuing Education) (May also be offered through Distance Education.) A project related to the student's teaching concentration will be investigated, developed, produced, implemented, and/or evaluated, depending on the nature of the project. Students must identify the problem or topic to

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❊ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

be investigated and obtain approval of the instructor. Includes preparation and submission of a written report.

EDFC-Bachelor of Ed Core Program

Offered by: Education - Dean's Office

EDFC 497 Individual Research Project.
(3)

EDFE-Student Teaching

Offered by: Education - Dean's Office

EDFE 200 First Field Experience (K/Elem & Secondary).
(2) (Corequisite: EDEC 201) (Restriction: Open to B.Ed. Secondary and B.Ed. K/Elem. students) Students are assigned to a school for a "participant observer" field experience for a minimum of 10 days.

EDFE 205 First Field Experience (Music).
(2) (Summer) (Corequisite: EDEA 206) (Special registration dates February 5 to February 27, 2009) Ten days of observation and some limited teaching in an elementary school under the supervision of a cooperating music teacher.

EDFE 208 Second Field Experience (Music).
(3) (Summer) (Prerequisite: EDFE 205.) (Restrictions: Students in B.Ed. in Music and concurrent B.Ed./B.Mus. Not open to students who have taken EDFE 207.) (Note: Expectations for this field experience, according to your program can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days of supervised teaching in a school.

EDFE 209 First Field Experience (TESL).
(2) (Prerequisite: EDSL 300.) (Corequisite: EDSL 210) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) Students are assigned to a school for a "participant observer" field experience for a minimum of 10 days.

EDFE 210 Middle School Practicum.
(3) (Prerequisite: At least 24 credits in the program must have been completed) Supervised practice to provide classroom teaching experience in the middle school context designed to prepare individuals to teach effectively at this level; seminars where participants discuss how best to respond to the social and emotional issues their students face.

EDFE 214 Aboriginal Education Practicum 1.
(3) (Restrictions: Not open to students who have taken EDFE 444. Open to students registered in the Certificate in Education for First Nations and Inuit.) Observation and limited teaching in an elementary school.

EDFE 246 First Field Experience (Physical Education).
(3) (Summer) (Prerequisite: EDKP 342) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days of supervised student teaching in Physical Education in an elementary school.

EDFE 254 Second Field Experience (Secondary).
(3) (Summer) (Prerequisite: EDEC 201 and EDFE 200) (Corequisite: EDEC 254) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days of supervised student teaching in a school.

EDFE 254D1 (1.5), EDFE 254D2 (1.5) Second Field Experience (Secondary).
A minimum of 15 days of supervised student teaching in a school.

EDFE 255 Second Field Experience (TESL).
(3) (Summer) (Prerequisites: EDSL 210, EDFE 209.) (Corequisite: EDSL 255) (Restrictions: Open only to B.Ed. TESL students. Not open to students who have taken or are taking EDFE 259.) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days of supervised student teaching in a school.

EDFE 256 Second Field Experience (Kindergarten/Elementary).
(3) (Summer) (Prerequisites: EDEE 275, EDEE 223, EDEE 250, EDEE 282, EDEE 332, EDFE 200, EDEC 201.) (Corequisite: EDEC 253) (Restrictions: B.Ed. (K/Elementary) students. Not open to students who have taken EDFE 253.) (Note: Expectations for this field experience, according to your program can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days supervised student teaching in a school.

EDFE 256D1 (1.5), EDFE 256D2 (1.5) Second Field Experience (Kindergarten/Elementary).
A minimum of 15 days supervised student teaching in a school.

EDFE 261 Stage d'assistanat - 2e année.
(3) (Prerequisite(s): EDFE 260 or EDFM 260.) (Corequisite(s): EDSL 260, EDSL 301, EDSL 444) Interventions progressives par tutorat auprès d'un élève ou de petits groupes d'élèves au primaire en immersion sous la supervision de l'enseignement. Assistant auprès d'un enseignant associé.

EDFE 303 Third Field Experience (K/Elem).
(7) (Prerequisites: EDEE 275, EDEE 223, EDEE 250, EDEE 282, EDEE 332, EDEC 215, EDFE 253.) (Corequisites: EDEE 350, EDEE 352 and EDEE 355.) (Restriction: Open to B.Ed. K/Elem. students only) 35 to 40 days of student teaching in a host school.

EDFE 305 3rd Field Experience Music.
(7) (Prerequisites: EDEC 215, EDFE 207.) 35 to 40 days of student teaching in a host school.

EDFE 306 Third Field Experience (Kindergarten/Elementary).
(8) (Prerequisites: EDEE 275, EDEE 223, EDEE 250, EDEE 282, EDEE 332, EDEC 215, EDFE 256.) (Corequisites: EDEE 350, EDEE 352 and EDEE 355.) (Restrictions: B.Ed. (K/Elementary) students. Not open to students who have taken EDFE 303.) (Note: Expectations for this field experience, according to your program can be found at www.mcgill.ca/ost.) A minimum of 40 days of supervised student teaching in a school.

EDFE 308 Third Field Experience (Music).
(8) (Prerequisites: EDEC 215, EDFE 208.) (Restrictions: Students in B.Ed. in Music and concurrent B.Ed./B.Mus. Not open to students who have taken EDFE 305.) (Note: Expectations for this field experience, according to your program can be found at www.mcgill.ca/ost.) A minimum of 40 days of supervised student teaching in a school.

EDFE 325 Aboriginal Education Practicum 2.
(3) (Restrictions: Not open to students who have taken EDFE 422. Open to students registered in the Certificate in Education for First Nations and Inuit.) Supervised teaching of designated subject areas in an elementary school.

EDFE 326 Aboriginal Education Practicum 3.
(3) (Restrictions: Not open to students who have taken EDFE 423. Open to students registered in the Certificate in Education for First Nations and Inuit.) Supervised teaching of designated subject areas for a specific number of weeks in an elementary school, including assuming more responsibility for student learning, classroom management and formative and summative evaluation.

EDFE 351 Third Field Experience (Secondary).
(8) (Prerequisites: EDFE 254, EDEC 215.) (Corequisite: EDEC 306) (Restriction: Students must have completed, with a grade of C or higher, a minimum of 24 credits in a teachable subject and have taken the corresponding Methods courses as a co-requisite.) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 40 days of supervised student teaching in a school.

EDFE 359 Third Field Experience (TESL).
(8) (Prerequisites: EDEC 215, EDSL 259, EDFE 259.) (Corequisites: EDSL 315 and EDSL 447) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 40 days of supervised student teaching in a school.

EDFE 362 Stage d'enseignement en Français langue seconde.
(7) (Prerequisite: EDFE 261) (Corequisites: EDSL 320 and EDSL 472) Enseignement accompagné d'un enseignant associé, avec prise en charge d'une classe.

EDFE 373 Second Field Experience (Physical Education).
(3) (Summer) (Prerequisite: EDFE 246) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) (Special registration dates February 5 to February 27, 2009) A minimum of 15 days of supervised student teaching in Physical Education in a secondary school.

EDFE 380 Third Field Experience (Physical Education).
(7) (Prerequisite: EDPE 373.) (Corequisite: EDKP 442.) (Restriction: Only open to B.Ed. Physical and Health Education students.) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 40 days of supervised student teaching Physical Education in a school.

EDFE 406 Fourth Field Experience (K/Elem).
(7) (Prerequisite: EDEE 223, EDEE 332, EDEE 275, EDEE 282, EDFE 303 or EDFE 306.) (Corequisite: EDEC 405) (Restriction: Restricted to B.Ed. (K/Elem) students.) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 35 days of supervised student teaching in a school. Students will be expected to assume an increasing responsibility for students' learning, classroom management and formative and summative evaluations.

EDFE 407 Fourth Field Experience (Music).
(7) (Prerequisite: EDFE 308 or EDFE 305.) (Corequisite: EDEA 407.) (Restriction: Students in B.Ed. in Music and the Concurrent B.Ed./B.Mus.) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) Thirty-five days of teaching in a secondary school under the supervision of a cooperating music teacher. Students will gradually assume more responsibility for student learning, formative and summative evaluation, and will be expected to experience a full teaching load.

EDFE 425 Aboriginal Education Practicum 4.
(3) (Restrictions: Not open to students who have taken EDFE 394. Open to students registered in the Certificate in Education for First Nations and Inuit.) Teaching and classroom management skills at the elementary and secondary levels.

EDFE 451 Fourth Field Experience (Secondary).
(7) (Prerequisites: EDFE 351.) (Corequisite: EDEC 404.) (Restriction: Open to B.Ed. Secondary students only) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 35 days of supervised student teaching in a school. Students will be expected to assume an increased responsibility for students' learning, classroom management and formative and summative evaluations.

EDFE 459 Fourth Field Experience (TESL).
(7) (Prerequisites: EDSL 315 and EDFE 359) (Corequisites: EDSL 415 and EDSL 458) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 35 days of supervised student teaching in a school.

EDFE 461 Stage d'enseignement - immersion.
(9) (Prerequisite: EDFE 362 or EDFE 361 or EDFM 361) (Corequisites: EDSL 345, EDSL 420.) Enseignement accompagné d'un enseignant associé, avec prise en charge d'une classe en immersion.

EDFE 480 Fourth Field Experience (Physical Education).
(7) (Prerequisite: EDFE 380) (Corequisite: EDKP 494.) (Restriction: Only open to B.Ed. Physical Education students) (Note: Expectations for this field experience, according to your program, can be found at www.mcgill.ca/ost.) A minimum of 35 days of supervised teaching Physical Education in a school.

EDFM-Education Field Montreal

Offered by: Education - Dean's Office

EDFM 260 Stage de familiarisation.
(1) (Restriction: Not open to students who have taken UdeM: EDU 1060 or EDFE 260) Stage de familiarisation. à l'école en milieu pluriethnique et d'introduction à la fonction enseignante. Observation des élèves à l'école. Contacts avec des intervenants. Étude du projet éducatif.

EDFM 361 Stage d'enseignement 1.
(7) (Prerequisites: EDSL 260, EDFE 261.) (Corequisites: EDSL 391 or EDUM 391and EDSL 394 or EDUM 394.) (Restriction: Not open to students who have taken UdeM: EDU 3060 or EDFE 361) Enseignement au secondaire en milieu pluriethnique. Gestion de classe, intervention et réflexion sur les pratiques. Réalisation de projets.

EDFM 460 Stage d'enseignement 2.
(9) (Prerequisite: EDSL 402 or EDUM 402 and EDFE 361 or EDFM 361) (Corequisite: EDSL 498 or EDUM 498 and EDSL 499 or EDUM 499) (Restriction: Not open to students who have taken UdeM: EDU 4060 or EDFE 460) Enseignement en milieu pluriethnique. Gestion de classe, intervention et réflexion sur les pratiques. Réalisation de projets.

EDKP-Kinesiology&Physical Education

Offered by: Kinesiology and Physical Ed

❒**EDKP 200 Weight Training.**
(1)

▲ **EDKP 204 Health Education.**
(3) A study of the teacher's role in the total school health program at both elementary and high school levels; current issues in contemporary health education.

▲ **EDKP 205 Structural Anatomy.**
(3) Skeletal, muscular and nervous system are examined anatomically and physiologically within the realm of how they interact to generate and apply the forces which permit man's mobility.

▲ **EDKP 206 Biomechanics of Human Movement.**

(3) Analysis of fundamental human movement and the kinematic concepts which underlie each: Stability, agility, walking, running, jumping, throwing, absorbing forces, striking, kicking, spinning, twisting, aquatics and work positions.

EDKP 208 Applied Biomechanics.
(3) (Prerequisite: EDKP 293.) (Restriction: Not open to students who have taken EDKP 206.) Nature and mechanical function of human movement in sport, dance, physical recreation and adapted movement activities.

EDKP 212 Folk Dance.
(1)

EDKP 213 Aquatics 1.
(1)

EDKP 214 Basketball 1.
(1)

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EDKP 217 Track & Field / Cross Country.
(2) Skills and techniques of the various disciplines in track and field/cross country and the teaching and evaluation strategies for the elementary and secondary school levels.

EDKP 218 Volleyball 1.
(1)

EDKP 223 Games: Principles and Practice.
(2) Use of games as a teaching strategy to develop physical fitness, tactical understanding, technical ability, game sense and social skills. Specific connections will be made to the three competencies in the Quebec Education Program.

▲ EDKP 224 Foundations of Movement Education.
(3) (Restriction: Not open to P.E. Majors) This course is designed for the elementary school classroom teacher. It will include the study of basic movement education concepts, principles of movement and the role of movement education in the life of the developing child.

EDKP 227 Rugby.
(1)

EDKP 228 Football 1.
(1)

EDKP 229 Ice Hockey 1.
(1)

EDKP 231 Martial Arts.
(1)

EDKP 233 Soccer.
(1)

EDKP 234 Team Handball.
(1)

EDKP 236 Softball.
(1) (Summer) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.)

EDKP 238 Field Hockey 1.
(1)

EDKP 239 Medical Imaging of Anatomy.
(1) This course will examine various non-invasive imaging modalities to observe anatomical systems of living humans in vivo. Structural and functional properties of complex biological systems will be examined

EDKP 240 Winter Activities.
(1)

❒EDKP 244 Dance and Fitness.
(1)

EDKP 245 Special Topics 01.
(1)

❖†EDKP 250 Practicum 1.
(3) A practical work-study experience with a focus on instruction and leadership in fitness. Work will be in a community placement under a qualified sponsor selected with the approval of the Department.

EDKP 252 Racquet Sports.
(2) (Restriction: Not open to students who have taken EDKP 226 and EDKP 235) Basic stroke techniques, rules and strategies, and teaching skills appropriate for various types of racquet sports.

EDKP 253 Gymnastics.
(2) (Restriction: Not open to students who have taken EDKP 216 and EDKP 210) Gymnastics skills, risk and safety concerns, discovery and direct teaching techniques, and evaluation strategies for the elementary and secondary school curricula.

EDKP 254 Principles of Dance.
(2) (Restriction: Not open to students who have taken EDKP 202 and EDKP 243) Basic dance skills, dance as a movement form, dance curriculum content and dance teaching skills, and resources to support dance instructional programs.

▲ EDKP 261 Motor Development.
(3) Changes apparent in motor behaviour from conception to old age. Two perspectives are emphasized: 1) contemporary and historical theories of human development, 2) development of motor behaviour and influences of physical growth, sensori-perceptual development, information processing and socio-cultural factors.

EDKP 292 Nutrition and Wellness.
(3) (Restriction: Not open to students who have taken EDKP 392) This course will examine the role of carbohydrates, fats, proteins, vitamins, minerals and water in a balanced diet. Students will be introduced to the affects of nutrition on exercise, sport performance and wellness. The validity of claims concerning nutrient supplements will be studied.

EDKP 293 Anatomy and Physiology.
(3) (Restriction: Not open to students who have taken EDKP 205 and EDKP 331) Basic foundations of structural, neuromuscular and visceral anatomy extending to the basic elements of the neuromuscular, circulatory and respiratory systems with emphasis on applications in instructional and coaching settings.

EDKP 300 Special Topics 02.
(3) Content will vary from year to year and will be announced prior to registration. The course will be given by a single instructor or by a group, as the occasion warrants.

EDKP 307 Evaluation in Physical Education.
(3) (Prerequisite: EDFE 246) (Restriction: Not open to students who have taken EDKP 207) Measurement and evaluation techniques designed to assess progress in physical education settings.

EDKP 311 Athletic Injuries.
(3) (Prerequisite: EDKP 205) This course is designed to educate students about the prevention, immediate care, and minor rehabilitation of athletic injuries. The course will focus on specific situations encountered in elementary, high school and fitness centers. An intensive academic program is coupled with practical lab sessions and field experience.

EDKP 314 Basketball 2.
(1)

EDKP 318 Volleyball 2.
(1)

EDKP 330 Physical Activity and Health.
(3) This course introduces students to literature on the role of physical activity and general health and well-being. Students will examine issues of exercise adherence, exercise prescription and the economic impact of physical fitness programs in the workplace.

EDKP 332 Physical Education Curriculum and Instruction.
(3) (Restriction: Not open to P.E. Majors) Principles, programs and procedures that an elementary teacher may use to promote the designing and teaching of elementary school P.E.

EDKP 336 Lacrosse.
(1) (Summer) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.)

† EDKP 342 Physical Education Methods.
(3) (Prerequisite: EDKP 223.) This course is a prerequisite for all field experience and practice.) Designed to prepare students for a teaching/leadership role in physical education. They will examine teaching/leadership effectiveness as it relates to organization and observation techniques, planning, instruction and evaluation of physical activity.

† EDKP 350 Physical Fitness Evaluation Methods.

(3) (Restriction: Open to BSc (Kinesiology) students only.) Protocols to evaluate physical fitness, including interpretation and evaluation of results, and prescription of exercise training programs for healthy populations.

▲ EDKP 391 Physiology in Sport and Exercise.

(3) (Prerequisite: EDKP 293 or equivalent.) Examination of the responses of the human body during and following acute and chronic exercise with practical applications for a school setting.

EDKP 394 Historical Perspectives.
(3) A historical survey of the form and function of organized sport and physical activity.

EDKP 395 Exercise Physiology.
(3) (Prerequisites: PHGY 201 or PHGY 209 and PHGY 202 or PHGY 210.) Examination of the physiological responses of the neuromuscular, metabolic, endocrine, and circulatory and respiratory systems to acute and chronic exercise.

EDKP 396 Adapted Physical Activity.
(3) (Restriction: Not open to students who have taken EDKP 496) Assessment, instruction and evaluation in physical activity for special populations. Emphasis on inclusion of people labelled intellectually disabled, learning disabled, physically awkward, autistic, visually or hearing impaired and physically disabled. Weekly lectures plus practical teaching lab.

EDKP 400 Special Topics 03.
(3)

EDKP 405 Sport in Society.
(3) (Prerequisites: EDKP 261, EDKP 393) (Corequisite: EDKP 498) (Restrictions: Not open to students who have taken EDKP 505) An examination of the cultural, social, political and economic factors that influence sport in society. Special attention to the effects of gender, financial constraints and political policies on involvement in physical activity and sports programs.

EDKP 442 Physical Education Pedagogy.
(3) (Prerequisites: EDKP 342, EDFE 246 and EDFE 373) This pedagogy course builds on physical education methods and field experiences. It focuses on the developing teacher, the establishment of the learning environment, and the implementation of the varied teaching strategies. Principles of research on teaching in physical education are translated into practical techniques for application in the field.

EDKP 443 Research Methods.
(3) (Prerequisites: PSYC 204 or equivalent.) How to conduct and understand research in physical activity, including a complete overview of the research process, statistical and measurement concepts in research, the various types of research including both quantitative and qualitative aspects, as well as ways of presenting research.

EDKP 444 Ergonomics.
(3) (Prerequisites: EDKP 205, EDKP 206.) An examination of ergonomic issues including: injury mechanisms, evaluation and assessment techniques, occupational health and safety legislation, and ergonomic interventions.

EDKP 445 Exercise Metabolism.
(3) (Prerequisite: EDKP 395.) The biochemical structure and regulation of major biochemical pathways related to exercise. Examine the hormonal regulation of lipid, carbohydrate and protein metabolism during short and prolonged exercise as well as the influence of physical training. Examine gender-related differences and exercise metabolism.

EDKP 446 Physical Activity and Ageing.
(3) (Prerequisite: EDKP 395.) Review of ageing-related changes in circulatory, respiratory, neuromuscular, hormonal, metabolic and immune systems as they relate to functional limitations and the physiological responses to acute and chronic exercise. Examination of the role of exercise in mitigating ageing response.

EDKP 447 Motor Control.
(3) (Prerequisites: EDKP 206, PHGY 201 or PHGY 209, PHGY 202 or PHGY 210, EDKP 261) Basic concepts of neuromuscular control of human limb movement. Neural circuitry of sensorimotor networks in the spinal cord and brains. Principles of feedback and feedforward control of body mechanics. Neural mechanisms of motor learning and adaptation.

EDKP 448 Exercise and Health Psychology.
(3) (Prerequisite: EDKP 261) The psychological aspects of health and participation in exercise and physical activity. The application of psychological knowledge and methodology within exercise and health. Theory and evidence on selected topics in this area of study.

EDKP 449 Exercise Pathophysiology 2.
(3) (Prerequisite: EDKP 395.) Review of the physiological bases of selected disorders of the immune, renal, neurological and muscular-skeletal systems and an examination of the particularities of exercise responses and the effects of exercise conditioning in these populations. A special emphasis on the scientific bases for exercise prescription.

✦†EDKP 450 Practicum 3.
(3) (Prerequisites: EDKP 250 and EDKP 350) A work-study experience with a focus on administration and program development in fitness. Work will be in a community placement under a qualified sponsor selected with the approval of the Department.

✦EDKP 451 Personal Trainer Practicum.
(3)

✦EDKP 452 Fitness & Lifestyle Consulting.
(3) (Prerequisites: EDKP 201, EDKP 249 and EDKP 350D1/D2.) This course prepares Kinesiology and Physical Education students for Professional Fitness and Lifestyle Consultant Certification from the Canadian Society of Exercise Physiology. Core competencies in ten subject domains as outlined in the certification guide will be reviewed. The certification process includes both theoretical and practical examinations.

✦EDKP 453 Research Practicum in Kinesiology.

(3) (Prerequisites: EDKP 206, EDKP 395, EDKP 393 (formerly EDKP 492).) (Restriction: Open to B.Sc. (Kinesiology) Honours students only.) Research project in kinesiology. Independent work under the supervision of the thesis advisor(s) leading to the finalization of procedures for data collection.

✦EDKP 453D1 (1.5), EDKP 453D2 (1.5) Research Practicum in Kinesiology.
(Prerequisites: EDKP 206, EDKP 395, EDKP 393 (formerly EDKP 492).) (Restriction: Open to B.Sc. (Kinesiology) Honours students only.) (Students must register for both EDKP 453D1 and EDKP 453D2.) (No credit will be given for this course unless both EDKP 453D1 and EDKP 453D2 are successfully completed in consecutive terms.) (EDKP 453D1 and EDKP 453D2 together are equivalent to EDKP 453.) Research project in kinesiology. Independent work under the supervision of the thesis advisor(s) leading to the finalization of procedures for data collection.

EDKP 485 Exercise Pathophysiology 1.
(3) (Prerequisite: EDKP 395.) The physiological bases of selected cardiovascular, respiratory and metabolic disorders and an examination of the particularities of exercise responses and the effects of exercise conditioning in these populations. A special emphasis on the scientific bases for exercise prescription.

† EDKP 494 Physical Education Curriculum Development.

(3) (Prerequisite: EDKP 442) Analysis of important philosophies, principles, and personal, educational, and societal issues that influence current physical and health education curricula with particular emphasis on the Québec curriculum for Physical Education and Health.

▲ EDKP 495 Scientific Principles of Training.

(3) (Prerequisite: EDKP 395.) Application of physiological and kinesiological principles in the selection and evaluation of athletic and physical fitness programs. Specific topics studied will include aerobic and anaerobic training, interval training, circuit training, weight training for muscular strength and endurance, flexibility, motor ability, obesity and energy balance.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

▲ EDKP 498 Sport Psychology.
(3) (Prerequisite: EDKP 261) The psychological aspects of participation in sport and physical activity relative to performance enhancement.

EDKP 504 Health & Lifestyle Education.
(3) This course will focus on content development and implementation of Health and Lifestyle concepts within the elementary and secondary physical education curriculum. Emphasis through lectures and labs will allow students' participation and experimentation of activities that could be taught in classroom and/or physical education settings.

EDKP 566 Advanced Biomechanics Theory.
(3) (Prerequisite(s): EDKP 205 and 206) (Restriction(s): Not open to students who have taken EDKP 303 or EKDP 568) Examination of biomechanical applications in various contexts such as clinical, ergonomic, sport, aging, comparative, robotics.

EDPC-Ed Psych & Couns (Counselling)

Offered by: Educational&Counselling Psych

EDPC 201 Introduction to Student Advising.
(3) Introduction to student advising and guidance including personal, vocational, and educational aspects of services normally found in Aboriginal school settings. Role of the student personnel advisor at both the elementary and secondary levels.

EDPC 202 Helping Skills Practicum 1.
(3) (Prerequisite: EDPC 201) Basic interviewing and helping skills relevant to the helping profession in Aboriginal settings. Interpersonal skills which facilitate the prevention and amelioration of problems.

EDPC 203 Helping Skills Practicum 2.
(3) (Prerequisite: EDPC 202) Parent and student interviews. Practicing interviewing techniques within the context of the student,s own community and culture.

EDPC 206 Group Leadership Skills.
(3) (Prerequisite: EDPC 203) Animation and practice of group leadership skills. Students learn to organize and lead groups, how and when to use groups for particular settings and topics.

EDPC 208 Native Families' Dynamics.
(3) (Prerequisite: EDPC 203) Adolescent sexuality and concurrent problems, substance addictions, physical abuse and violence, and suicide within the milieu of the native family, with a review of possible basic interventions for remediation. The roles of teachers, counsellors, social workers, physicians and legal authorities.

EDPC 209 Basic Crisis Intervention Skills.
(3) (Prerequisite: EDPC 208) Models and methods of crisis intervention as well as the development of skills in working with individuals experiencing emotional trauma, and identifying referral sources for individuals who require medical or psychiatric consultation.

EDPC 210 Field Experience.
(3) (Prerequisite: EDPC 202) An extended practicum experience which commences at the beginning of formal academic training. On-going development of student personnel services training experience at the individual and group level, "progress file" and evaluation of performance over the course of training, organization and administration of student personnel services. This comprises site visits, workshops and seminars interwoven with the other courses.

EDPC 501 Helping Relationships.
(3) (Offered through Continuing Education.) A course in the basic principles of human relationships and communication skills, approached from a theoretical and experimental viewpoint. An emphasis will be given to training in basic listening skills, interviewing techniques, and the interpretation of non-verbal behaviour and communication.

EDPC 502 Group Processes and Individuals.
(3) (Offered through Continuing Education.) A laboratory course in which participants observe individual dynamics within a group setting as well as understand the developmental phases of the group. Participants will be encouraged to experiment with their own behaviour, in order to increase their own awareness of functioning.

EDPC 503 Human Sexuality: Professionals.
(3) (Summer) Historical, biological, anthropological, psychological and sociological perspectives of human sexual development. Sexual dysfunctions and approaches to sex therapy. Attitudes toward sexuality held by professional helpers relative to their implications for the learning and teaching of human sexuality and sex therapy.

EDPC 504 Practicum: Interviewing Skills.
(3) (Offered through Continuing Education.) (Prerequisite: EDPC 501) This course will enable students to become practitioners in the field of Applied Social Sciences. Theoretical principles of the helping relationship will be applied in particular situations. Demonstration, lecture, role-playing and psychodrama techniques will be used.

EDPC 505 Crisis Intervention Processes.
(3) (Offered through Continuing Education.) Instruction in the skills of working with crisis situations involving persons emotionally disturbed, suicidal, or alcoholic, and those who are on drugs or experiencing emotional trauma, as well as other problems. Attention will be given to identification of referral sources and the writing of reports.

EDPC 507 Practicum: Group Leadership Skills.
(3) (Offered through Continuing Education.) (Prerequisite: EDPC 502) The practical aspects of group leadership, group design and planning. Candidates will set up groups, conduct such groups over a number of sessions, and assess these groups according to the theoretical models covered in the prerequisite course.

✶EDPC 508 Seminar in Special Topics.
(3) (Summer) (Offered through Summer Studies.) Content will vary from year to year and will be announced prior to registration. The seminar may be given by a single instructor or by a group, as the occasion warrants.

EDPC 509 Individual Reading Course.
(3) (Restriction: Permission of Program Director required) (By arrangement with individual instructor.)

EDPC 510 Family Life Education and Marriage.
(3) (Offered through Continuing Education.) The contribution of central concepts of psychological theories and therapeutic systems to the understanding of marriage and relationships. Special attention will be given to gender and ethnicity issues in order to increase the sensitivity of students to the issues typically confronted in the modern marriage and family.

EDPC 511 Demystifying Death & Dying.
(3) (Restriction: Open to U3 students or higher. Priority will be given to Educational and Psychology graduate, diploma and certificate students.) The impact of death and dying on individuals, the family, the community and society.

EDPC 540 Foundation of Family Life Education.
(3) (Restriction: Not open to students who have taken EDPC 640) (Offered through Continuing Education.) An examination of the psychological and sociological foundations of family life education tracing the evolution of theory, research and practice within this domain.

✶EDPC 542 Counselling Role of the Teacher.

(3) (Offered through Continuing Education or Summer Studies.) Theory and practice in interpersonal communication, interviewing, group dynamics, group leadership management, and referral criteria and procedures for students with developmental problems who experience trauma or crisis. Addressed primarily to elementary and secondary teachers who combine instructional responsibilities with a supportive role in school guidance and counselling activities.

✶EDPC 562 Career Education and Guidance.

(3) (Offered through Continuing Education or Summer Studies.) A review of career education and guidance programs that refer to the subject matter and related methods and techniques designed to foster the intellectual development of career awareness, career planning, career decision-making, and the necessary career-resilient employability skills for the school-to-work transition.

EDPE-Ed Psych & Couns (Psychology)

Offered by: Educational&Counselling Psych

EDPE 208 Personality and Social Development.
(3) (Restriction: Not available for Psychology Major students or any student who has taken or is required to take PSYC 304 in the Psychology Department) Personality, social behavior, and moral development from nursery school up to, but not including, adolescence. Emphasis on aspects of personality and social development that are related to the process of schooling.

† **EDPE 300 Educational Psychology.**
(3) Selected theories, models, and concepts relevant to planning and reflecting upon educational practice and improvement. Overview of development, learning, thinking, motivation, individual difference, etc. In relation to applications in classroom teaching and learning, the complementary role of counsellors and psychologists, educational computing and technology. The Youth Protection Act.

❒▲❄**EDPE 304 Measurement and Evaluation.**
(3) The purposes of examinations. Causes of complaints about examinations. Equalizing means and dispersions in distribution of marks. Standardized scores. The percentile system. Essay and objective-type examinations. Taxonomies of educational objectives. Validity and reliability: item analysis.

EDPE 335 Instructional Psychology.
(3) (Prerequisites: An introductory course in psychology or EDPE 300) Psychological processes in instruction and learning, assessment, and curriculum design, based on theories of cognition, motivation, and the social context of instruction.

EDPE 355 Cognition and Education.
(3) (Prerequisites: PSYC 213 or permission of the instructor) Cognition and learning in educational domains and contexts. Contributions of cognitive science to issues in education including domain-specific and general knowledge and expertise, situated cognition and learning, cognitive apprenticeship, and uses of computers and networks as cognitive tools in educational settings.

EDPE 377 Adolescence and Education.
(3) (Offered through Continuing Education or Summer Studies) Development of personality and social behaviour in adolescence. Problems relating to self-concept, academic achievement, relationships with others, and development of values in a changing culture. Some attention to current criticisms of the school as an agency involved in adolescent development.

EDPE 495 Individual Reading Course.
(3) (By arrangement with individual instructor. Permission must be obtained from the Department before registration)

† **EDPE 496 Individual Reading Course.**
(3) (By arrangement with individual instructor. Permission must be obtained from the Department before registration)

EDPE 502 Theories of Development and Disabilities.
(3) Developmental theory to form a foundation for scholarly, empirical, and applied work with both typical and atypical populations.

EDPE 515 Gender Identity Development.
(3) (Prerequisites: EDPE 208, EDPE 300 or a course in developmental psychology) (Offered through Continuing Education.) Theoretical models and empirical findings relevant to the development of gender identity. Special attention is given to the influence of peers in school settings. Psychological, physiological, parental, peer and cultural influences on gender identity.

✶**EDPE 535 Instructional Design.**
(3) This course draws on the fields of learning theory, developmental psychology, and measurement to focus on the tasks of constructing instructional materials. Areas to be considered include behaviour analysis, concept formation, and test construction.

EDPE 550 Consciousness and Virtual Reality.
(3) (Restriction: Not open to students who have taken EDPE 650.) An exploration of the nature and role of consciousness from the virtual reality research perspective, and the implications of virtual reality and cyberspace in education.

EDPE 555 Applied Cognitive Science.
(3) Examination of foundations of cognitive science including contributions by psychology, linguistics, and computer science. Consideration of theory and methodology or cognitive science in educational and instructional contexts.

EDPE 560 Human Development.
(3) (Offered through Continuing Education.) A review of current theory and knowledge of human development through the life cycle. Particular attention is given to emotional and social development. All major age-stages are considered. Emphasis is placed on the effects of interaction between individuals of these different age groupings.

EDPE 561 Artificial Intelligence in Education.
(3) (Restriction: Not open to students who have taken EDPE 660.) An exploration of the principles of artificial intelligence as a metaphor for understanding conventional instructional and learning-processes. Topics include expert systems, intelligent computer-assisted instruction, tutoring systems, fifth-generation languages, and logic programming (e.g. Prolog). Lectures, discussion, demonstrations, and where possible site visits and hands-on experience will be provided.

EDPE 564 Family Communication.
(3) (Summer) (May be offered through Summer Studies) Family communication processes and interpersonal reactions in the context of marriage and the contemporary family will be considered. Attention will be given to role changes and the effect of crises on marital and family relationships.

EDPE 575 Educational Measurement.
(3) (Offered through Continuing Education and Summer Studies.) Statistical measurements in education, graphs, charts, frequency distributions, central tendencies, dispersion, correlation, and sampling errors.

❒✥ **EDPE 595 Seminar in Special Topics.**
(3) (Summer) (Restriction: Permission must be obtained from the Department before registration.) The content of the seminar will vary from year to year and will be announced prior to registration. The seminar may be given by a single instructor or by a group, as the occasion warrants.

❒✥ **EDPE 596 Seminar in Special Topics.**
(3) (Summer) Seminar in selected topics in Educational and Counselling Psychology. The topic will vary from year and will be announced prior to registration.

EDPI-Ed Psych & Couns (Inclusive)

Offered by: Educational&Counselling Psych

EDPI 211 Social and Emotional Development.
(3) (Offered through Continuing Education. Limited to students enrolled in programs offered by the Office of First Nations and Inuit Education) Intensive training in observation of the development and behaviour of children as individuals and as members of modern First Nations or Inuit society. Study of educational implications of both common and divergent behaviour. Development of relevant teaching practices.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✥ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EDPI 212 Perceptual Motor Development.
(3) (Offered through Continuing Education. Limited to students enrolled in programs offered by the Office of First Nations and Inuit Education) Observation of perceptual-motor aspects of child development at the pre-school and elementary levels. Application of observations to teaching methods and materials, curriculum, classroom management and evaluation.

EDPI 309 Exceptional Students.
(3) (Restriction: Open to B.Ed. and Concurrent students only.) (Offered through Continuing Education or Summer Studies.) Evolution of special education to inclusive education; characteristics, teaching practices, and teachers' roles in inclusive classrooms. Overview of characteristics, causes, needs, and teaching strategies for students with each exceptionality, including students with intellectual, emotional, behavioral, sensory, physical and learning differences.

EDPI 341 Instruction in Inclusive Schools.
(3) (Summer) (Restriction: Open to B.Ed. students only) (Also offered through Continuing Education.) Planning, implementing and evaluating curriculum and instruction for students with exceptionalities. Using technology and adapting curriculum and instruction for learners with varying abilities, learning styles, and needs. Collaboration with students, families, and other educators in the instructional process. Application component: application of instructional modifications for exceptional students in inclusive schools.

EDPI 344 Assessment for Instruction.
(3) (Offered through Summer Studies and Continuing Education.) Assessing student strengths, problems and needs; functions and use of different types of student assessment (traditional and alternative assessments); assessing the classroom environment; issues in assessment. Application component: application of assessment process with exceptional students, and use of results for planning and adapting instruction.

EDPI 440 Managing the Inclusive Classroom.
(3) (Offered through Continuing Education) Comprehensive approach to classroom management, including management of student learning and behavior, classroom environment, material and human resources, and teacher growth. Focus on research-based practices, including behavioral approaches, for effectively managing a classroom with diversity of students. Application component: application of classroom management principles in the field.

EDPI 441 Students with Behavior Difficulties.
(3) (Offered through Continuing Education.) Theoretical approaches and specific teaching methods appropriate to the needs of students with emotional or behavior problems, including students with attention deficit hyperactivity disorder. Multimodal team intervention approaches are emphasized. Application component: application of teaching methods with students experiencing behavior difficulties.

EDPI 442 Students with Learning Difficulties.
(3) (Offered through Continuing Education.) Commonalities and differences between students with specific learning disabilities, and related teaching approaches. Emphasis on methods, materials, and technology for teaching academic content as well as social skills. Application component: modifying and teaching content areas to students experiencing learning difficulties.

EDPI 446 Special Topics.
(3) Selected topics in the field of educating students with exceptionalities.

✶EDPI 450 Computers and Special Needs.
(3) (Summer) (May be offered through Continuing Education.) Overview of the role and contribution of computers in relation to students with exceptionalities. Review of instructional uses of computers, applications for modifying and teaching curriculum applications for specific learning needs, assistive devices for students with sensory and physical disabilities, and resources for students and teachers.

EDPI 526 Talented and Gifted Students.
(3) (Offered through Continuing Education.) The psychology and education of exceptionally able children. Definitions, assessment, classroom adaptations, technology, educational programs and educational issues. The course combines theoretical background and practical concerns. Application component: application of teaching methods with exceptionally able students.

✶EDPI 527 Creativity and its Cultivation.

(3) (Offered through Continuing Education.) Recent research, theory, and educational practice concerning creativity, with special attention to creativity in students and educational settings.

❐✥ EDPI 539 Field Work 1: Exceptional Students.

(3) (Restriction: Permission of Program Director required.) Supervised experience with exceptional students in an approved educational setting.

❐✥ EDPI 540 Field Work 2: Exceptional Students.

(3) (Prerequisite: EDPI 539) (Restriction: Permission of Program Director required.) Supervised experience with exceptional students in an approved educational setting.

EDPI 543 Family, School and Community.
(3) (Offered through Summer Studies and Continuing Education.) Examination of family, school, community and societal influences on student growth, development and adjustment. Emphasis on family perspectives, school orientation, community services, and community collaboration. Application component: using knowledge and skills in the field.

EDPT-Ed Psych & Couns (Media)

Offered by: Educational&Counselling Psych

▲ EDPT 200 Integrating Educational Technology in Classrooms.

(3) (Also offered through Continuing Education and Summer Studies) Applications Software is the "gateway" course to educational computing. It introduces novices to basic computing skills, using a printer, word processing, data bases and spreadsheets. Assignments and projects focus on educational applications by teachers and students.

▲ EDPT 204 Educational Media 1.
(3) (Offered through Continuing Education) Educational Media 1 is the "gateway" course for educational media. It reviews audio-visual education and emphasizes the rationale for audio-visual materials in education, and the underlying principles in their design, production and effective use.

EDSL-Education in Second Languages

Offered by: Integrated Studies in Ed

EDSL 210 First Professional Seminar.
(1) (Corequisite: EDFE 209) (Restriction: Not open to students who have taken EDSL 209 (First Year Professional Seminar)) How to observe in second language classrooms. Students will be introduced to ways of observing instructional practices and procedures and will begin to reflect on various interactional patterns between teachers and students as observed in the First Year Field Experience.

EDSL 215 Effective Communication in French.
(3) (Students who place at or above the FRSL 321 French proficiency level will be exempt from EDSL 215) (Prerequisite: Placement test.) Intermediate course on effective communication in Quebec French school settings. Exposure to different professional and social situations via role playing and problem-solving and various oral and written interactions in French.

▲ EDSL 247 Second Language Education in Aboriginal Communities.

(3) (Restriction: Limited to students enrolled in off-campus programs delivered through First Nations and Inuit Education) Issues and considerations in the learning of English or French in Aboriginal communities. Emphasis on teaching a second language to Aboriginal children.

EDSL 255 Second Professional Seminar.
(2) (Restrictions: Open to B.Ed. (TESL) students. Not open to students who have taken EDSL 259 (Second Year Professional Seminar).) (Prerequisites: EDSL 210, EDFE 209 and EDSL 330.) (Corequisite: EDFE 255) The course aims to develop basic practices in planning and teaching in ESL classrooms, including microteaching and reflective analysis.

EDSL 255D1 (1), EDSL 255D2 (1) Second Professional Seminar.
(Restrictions: Open to B.Ed. (TESL) students. Not open to students who have taken EDSL 259 (Second Year Professional Seminar)) (Prerequisites: EDSL 210, EDFE 209 and EDSL 330) (Students must register for both EDSL 255D1 and EDSL 255D2) (No credit will be given for this course unless both EDSL 255D1 and EDSL 255D2 are successfully completely in consecutive terms) The course aims to develop basic practices in planning and teaching in ESL classrooms, including microteaching and reflective analysis.

EDSL 260 Séminaire professionnel-2e.
(1) (Corequisites: EDFE 261, EDSL 301, EDSL 444.) Analyse réflexive des pratiques d'enseignement propres à l'assistanat.

▲ EDSL 300 Foundations of L2 Education.
(3) This introduction to the field of second language education provides an overview of the supporting disciplines (e.g., linguistics, psychology, sociology and education) and includes historical and analytical perspectives on the development of L2 teaching through an examination of approaches to L2 instruction and specific teaching methods.

EDSL 301 Étude de la langue.
(3) (Prerequisites: FREN 245, EDSL 265 or EDUM 265) (Corequisites: EDSL 444, EDFE 261, EDSL 260) (Restriction: Not for credit if EDSL 311 or EDEC 302 has been or is being taken) Notions de base pour l'enseignement des composantes linguistique (lexique, morphologie, syntaxe et sémantique) et discursive (de la phrase aux types de textes et de discours); apprentissage de la grammaire nouvelle; composante langue des programmes d'études.

▲ EDSL 304 Sociolinguistics and L2 Education.
(3) (Prerequisite: LING 200 or LING 201.) (May be offered in English or French) This course introduces students to various social aspects of language, language use, and language learning by examining second language education from three interrelated perspectives: sociolinguistics, discourse, and culture. Issues range from language variation and social attitudes to conversational analysis and cross-cultural communication.

▲ EDSL 305 L2 Learning: Classroom Settings.
(3) (Prerequisite: EDSL 300 or LING 200 or LING 201.) This course provides an introduction to theory and research in second language acquisition (SLA). It is designed to help students understand the processes, developmental patterns and factors contributing to SLA so that the students will be prepared to evaluate and develop teaching procedures in light of this understanding.

EDSL 310 Third Professional Seminar.
(3) (Prerequisite: EDSL 255.) (Corequisite: EDFE 359) (Restriction: Not open to students who have taken EDSL 309) Focus is on classroom processes such as teaching and learning strategies, lesson planning and implementation, classroom organization and management, and on developing a reflective teaching and learning practice.

EDSL 311 Pedagogical Grammar.
(3) (Prerequisite: EDSL 350) (Restriction: Not for credit if EDSL 301 or EDEC 302 has been or is being taken) The course focuses on how the English language works as a system, examining it from the levels of phonology, morphology, syntax, semantics, and discourse. These aspects will be considered in relation to second language teaching and learning.

EDSL 315 Third Year Professional Seminar.
(2) (Prerequisites: EDSL 255 and EDFE 255.) (Corequisites: EDFE 359, EDSL 447) (Restrictions: Open only to B.Ed. TESL students who have taken EDFE 255. Not open to students who have taken or are taking EDFE 259, EDSL 309 or EDSL 310.) Classroom processes such as teaching and learning strategies, lesson planning and implementation, classroom organization and management, and developing a reflective teaching and learning practice.

EDSL 320 Séminaire 3 professionnel.
(1) (Corequisites: EDFE 362 and EDSL 472) Ce séminaire professionnel porte sur l'analyse réflexive des pratiques stratégiques d'enseignement propres aux divers contextes scolaires au primaire. Ce séminaire vise également l'expérimentation de divers matériels pédagogiques et la simulation de techniques d'animation et de gestion de classe.

EDSL 330 L2 Literacy Development.
(3) (Prerequisite: EDSL 350) This course examines current theories of second language literacy development and their implications for teaching, including the use of literature as a tool for language learning. Key issues include the nature of literacy development, reading and writing processes, and appropriate pedagogical approaches.

EDSL 334 Teaching Oral Skills in ESL.
(3) (Prerequisite: LING 200 or LING 201) Application of the English sound system to practical ESL teaching situations, planning and integrating pronunciation (as well as other oral skills, such as fluency) into activities and projects, developing materials, and assessing progress.

EDSL 345 Enseignement du FLS-immersion.
(3) (Prerequisite: EDSL 402 or EDUM 402) (Corequisites: EDFE 461, EDSL 420.) Ce cours examine divers cheminements retrouvés en contexte immersif ainsi que diverses approches pédagogiques propices à l'enseignement du FLS par le biais de matières scolaires. Des recherches effectuées en contexte immersif seront également examinées par rapport au développement langagier des élèves en immersion.

EDSL 350 Essentials of English Grammar.
(3) (Restriction: Restricted to B.Ed. (TESL) students) (Restriction: This is a required course for B.Ed. TESL students. Students from other programs may be admitted at the discretion of the instructor.) Analysis of English phrases, clauses and sentences up to discourse level in connected text. Emphasis on distinguishing between grammatical form, meaning, and function. Identification, analysis and correction of common errors made by ESL learners.

EDSL 360 TESL/TFSL Practicum - Elementary.
(3) (Corequisites: EDSL 444 for TFSL students; EDSL 447 for TESL students) (Offered through Continuing Education) Supervised practice in the application of language teaching and learning theories: focus on the design and use of teaching units, the organization of communication activities, the selection and use of diagnostic and remedial materials.

EDSL 361 TESL/TFSL Practicum - Secondary.
(3) (Corequisites: EDSL 472 for TFSL students; EDSL 458 for TESL students) (Offered through Continuing Education) Supervised practice in the application of language teaching and learning theories: focus on curriculum development, and on the production of instructional, diagnostic and remedial

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

materials.

EDSL 390 Teaching English as a Second Language in the Community.
(3) Introduction to pedagogical, program and policy contexts of teaching ESL outside the formal K - 11 school setting, including teaching children, adolescents and adults, in the private and community sectors in Canada and abroad.

EDSL 412 Assessment in TESL.
(3) (Prerequisites: EDSL 447 and EDFE 359) This course deals with the role of assessment in TESL. Students will explore the kinds of information needed to make educational decisions in second language courses, different techniques for collecting that information, and ways for interpreting it. Principles and methods for assessment with and without tests are discussed and practiced.

EDSL 415 Fourth Professional Seminar.
(3) (Prerequisite: EDSL 310.) (Corequisite: EDFE 459 and EDSL 458) (Restriction: Not open to students who have taken EDSL 409) Focus is on development as a TESL professional, preparation for the workplace, and analysis, reflection, problem solving and support of actual teaching practice.

EDSL 420 Séminaire 4 professionnel.
(2) (Corequisites: EDFE 461, EDSL 345.) Ce séminaire professionnel porte sur l'analyse réflexive des pratiques stratégiques d'enseignement propres aux divers contextes scolaires au secondaire. Ce séminaire vise également l'expérimentation de divers matériels pédagogiques et la simulation de techniques d'animation et de gestion de classe.

EDSL 444 Laboratoire d'enseignement en français langue seconde.
(3) (Corequisites: EDSL 301, EDSL 260, EDFE 261.) Entraînement à l'observation et à l'analyse de situations d'enseignement du français langue seconde au primaire. Pratiques d'habiletés en situation microenseignement. Vidéoscopie et entraînement à la pratique réfléchie.

EDSL 447 Third-Year Methods in TESL.
(3) (Prerequisite: EDSL 350 and EDSL 311) (Corequisites: EDSL 315 and EDFE 359) Intermediate-level skills in planning and teaching appropriate lessons, activities, and projects for ESL learners in a variety of programs at the elementary and secondary school levels.

EDSL 449 Special Topics in Second Language Teaching.
(3) Selected topics in second language teaching. Possible topics include communicative competence, interlanguage/error analysis and functional-notional approach to second language teaching.

EDSL 458 Fourth-Year Methods in TESL.
(3) (Prerequisite: EDSL 447, EDSL 311) (Corequisites: EDSL 415 and EDFE 459) Advanced-level skills in planning appropriate lessons, activities, units and projects for ESL learners in a variety of programs at the elementary and secondary levels.

EDSL 472 Enseignement du français langue seconde-secondaire.
(3) (Prerequisites: EDSL 444, EDSL 301.) (Corequisites: EDFE 362, EDSL 320.) Le but de ce cours est de développer l'habileté à planifier des activités, des unités et des projets, dans des séquences d'enseignement, en fonction des programmes d'études : FLS, immersion et accueil. Le cours intègre les pédagogies de la communication orale et écrite de la langue seconde au secondaire.

EDSL 500 Foundations and Issues in Second Language Education.
(3) (Restriction: Restricted to students in the Graduate Certificate in TESL.) Introduction of second language (L2) education; an overview of contributing disciplines (e.g., linguistics, psychology, sociology and education). A history of theory and various methodological approaches to L2 teaching and learning is used to promote an understanding of current theory and practice.

EDSL 505 Second Language Acquisition Applied to Classroom Contexts.
(3) (Prerequisite: EDSL 500.) (Restriction: Restricted to students in the Graduate Certificate in TESL.) An overview of theory and research in second language acquisition, including developmental patterns, factors affecting how second languages are learned, and relevance for teachers in terms of applications to the classroom context.

EDSL 512 Grammar in Teaching English as a Second Language.
(3) (Summer) (Prerequisite: EDSL 505) (Restriction: Restricted to students in the Graduate Certificate in TESL) Analysis of English grammar at phonological, morphological, syntactic, semantic, and discourse levels. Applications are made to second language teaching and learning, focusing on integrating grammar into communicative language approaches.

EDUM-Education University of MTL

Offered by: Integrated Studies in Ed

EDUM 245 Français écrit pour futurs enseignants.
(3) Problèmes textuels, syntaxiques, orthographiques et lexicaux. Stratégies de révision.

EDUM 262 Système éducatif - profession enseignante.
(3) (Restriction: Not open to students who have taken UdeM: ETA 1900, McGill: EDEC 247 (formerly EDEM 405) or EDSL 262) Initiation aux institutions scolaires du Québec et, au premier chef, à l'école. Initiation au rôle professionnel des enseignants. Perspectives historique et contemporaine.

EDUM 263 Apprentissage et développement.
(3) (Restriction: Not open to students who have taken UdeM: PPA 1100 or EDSL 263) Théories de l'apprentissage scolaire. L'enseignant comme médiateur des apprentissages. Milieu scolaire et croissance de 4 à 12 ans. Entrée à l'école. Facteurs d'adaptation scolaire et sociale. Élèves à besoins particuliers.

EDUM 264 Phonétique et phonologie.
(3) (Restriction: Not open to students who have taken UdeM: LNG 1400 or EDSL 264) Introduction à la phonétique et à la phonologie. Techniques d'analyse et de description.

EDUM 265 Acquisition-apprentissage-langues secondes.
(3) (Restriction: Not open to students who have taken UdeM: DID 2102, McGill: EDSL 305 or EDSL 265) Connaissance des facteurs qui influent sur l'apprentissage et l'acquisition d'une langue seconde. Historique des méthodes d'enseignement. Approche communicative. Caractéristiques des clientèles de français langue seconde.

EDUM 266 Mathématiques au primaire.
(3) (Restriction: Not open to students who have taken UdeM: DID 1500 or EDSL 266) Les mathématiques enseignées : histoire, savoirs, rapport au savoir et transposition. Arrimage entre les différents ordres d'enseignement.

EDUM 267 Didactique des arts plastiques 1.
(3) (Restriction: Not open to students who have taken UdeM: DID 2910 or EDSL 267) Expérience des arts plastiques, médias plastiques, éléments du langage plastique. Programme des arts plastiques au primaire. Élaboration, animation d'activités et évaluation des apprentissages.

EDUM 268 Intégration des TIC.
(3) (Restriction: Not open to students who have taken UdeM: PPA 2100 or EDSL 268) Développement, mise à l'essai et analyse de situations pédagogiques intégrant stratégiquement les TIC. Réflexion critique et participation à une communauté apprenante dans une perspective de développement professionnel.

EDUM 269 École et environnement social.
(3) (Restriction: Not open to students who have taken UdeM: ETA 2200 or EDSL 269) L'école comme milieu de vie et lieu d'exercice de la citoyenneté. Impacts sur les acteurs éducatifs et les disparités économiques, sociales et culturelles. Critique des politiques et pratiques pertinentes.

EDUM 270 Morphologie et syntaxe.
(3) (Restriction: Not open to students who have taken UdeM: LNG 1540 or EDSL 270) Principaux concepts et méthodes de l'analyse morphologique et syntaxique en grammaire générative tranformationelle. Application à la structure du mot et de la phrase en français contemporain et analyse de constructions problématiques.

EDUM 271 Lexique et sémantique.
(3) (Restriction: Not open to students who have taken UdeM: LNG 1080 or EDSL 271) Types de sens : prédicats et objets sémantiques. Sens lexicaux vs grammaticaux; notion d'unité lexicale; lexique vs grammaire. Relations sémantiques de base (synonymie, antonymie).

EDUM 341 Littératie et Littérature Jeunesse en FLS.
(3) (Restriction: Not open to students who have taken EDSL 341) Développement de la littératie en langue seconde; les stratégies d'enseignement et d'apprentissage de la lecture et de l'écriture; l'exploration et l'utilisation de la littérature enfantine et de jeunesse propre à la francophonie dans divers contextes scolaires.

EDUM 391 Didactique du français en accueil 1.
(3) (Prerequisite: EDSL 301) (Restriction: Not open to students who have taken EDSL 391) Contenus et démarches en didactique de l'oral et de l'écrit au secondaire en classe d'accueil at autres formules de services d'aide à la françisation. Conception d'activités et de séquences d'apprentissage. Programmes d'étude.

EDUM 392 Gestion de classe en langues secondes.
(3) (Restriction: Not open to students who have taken UdeM: PPA 3222 or EDSL 392) Gestion de l'espace-temps en classe du primaire/secondaire. Modèles de gestion des environnements pédagogiques. Exploitation des ressources communautaires. Prévention et intervention. Prise en compte de l'hétérogénéité.

EDUM 393 Adolescent et expérience scolaire.
(3) (Restriction: Not open to students who have taken UdeM: PPA 1210 or EDSL 393) Développement psychosocial des élèves; influence des environnements sociaux; problématiques contemporains de l'adolescence (anxiété, suicide, abandon scolaire). Relations entre enseignants - élèves et entres pairs. Aperçu de la recherche récente.

EDUM 394 Séminaire de stage-3e.
(1) (Prerequisites: EDSL 260, EDFE 261) (Corequisite: EDFM 361) (Restriction: Not open to students who have taken UdeM: EDU 3080 or EDSL 394) Analyse réflexive des pratiques d'enseignement propres au secondaire.

EDUM 402 Évaluation en français langue seconde.
(3) (Prerequisite: EDFE 361 or EDFM 361 or EDFE 362.) (Restriction: Not open to students who have taken EDSL 402) Évaluation des compétences en enseignement du FLS : fonctions de l'évaluation; approches normative et critérielle; planification de situations d'évaluation authentiques; élaboration d'instruments; interprétation des résultats; modalités de consignation.

EDUM 491 Didactique des mathématiques en langues secondes.
(3) (Restriction: Not open to students who have taken UdeM: DID 3506 or EDSL 491) Problématique spécifique de l'enseignement des mathématiques à des élèves non francophones. Principaux savoirs arithmétiques at géométriques enseignés au primaire. Situations didactiques.Évaluation.

EDUM 492 Didactique des sciences-technologies.
(3) (Restriction: Not open to students who have taken UdeM: DID 2110 or EDSL 492) Apprentissages propres aux sciences et à la technologie au préscolaire et au primaire. Conception des élèves et démarche didactique. Résolution de problèmes et autres activités. Évaluation des apprentissages et du curriculum.

EDUM 493 Sciences humaines au primaire.
(3) (Restriction: Not open to students who have taken UdeM: DID 2205 or EDSL 493) Sciences humaines et culture. Nature de savoir élaboré, rapport au savoir et transposition sous forme de programme d'étude. Éducation à la citoyenneté.

EDUM 494 Didactique de l'univers social et TIC.
(3) (Restriction: Not open to students who have taken UdeM: DID 3237 or EDSL 494) Évaluation critique de logiciels et sites Internet relatifs à l'univers social. Production et diffusion de documents multimédias. Scénario d'intégration pédagogique des TIC.

EDUM 495 Recherche-résolution de problèmes.
(3) (Restriction: Not open to students who have taken UdeM: ETA 4000 or EDSL 495) Études des grands courants de la recherche actuelle en éducation comme facteurs de renouvellement des pratiques pédagogiques en classe hétérogène et de l'école dans un environnement culturel et technologique en mutation.

EDUM 496 Laboratoire de formation professionnelle.
(3) (Restriction: Not open to students who have taken UdeM: ETA 4410 or EDSL 496) Élaboration d'un projet permettant de faire la synthèse des connaissances et de les mettre en pratique dans le cadre d'une intervention planifiée en collaboration avec les divers intervenants du milieu scolaire.

EDUM 497 Problématique en éducation préscolaire.
(3) (Restriction: Not open to students who have taken UdeM: PPA 1205 or EDSL 497) Le rôle et l'évolution des services offerts à la petite enfance au Québec. Les facteurs socio-économiques, culture et familiaux qui affectent le développement du jeune enfant. La prévention auprés de l'enfant et sa famille.

EDUM 498 Didactique du français en accueil 2.
(3) (Prerequisite: EDSL 391 or EDUM 391) (Restriction: Not open to students who have taken UdeM: DID 4214 or EDSL 498) Contenus et démarches en didactique du français L2 au primaire en classe d'accueil et autres services d'aide à la francisation. Intégration des TIC. Élèves à besoins particuliers. Conception de projects d'enseignement. Programmes d'étude.

EDUM 499 Séminaire de stage-4e.
(2) (Prerequisite(s): EDSL 394 or EDUM 394 and EDFE 361 or EDFM 361) (Corequisite: EDFM 460.)
(Restriction: Not open to students who have taken UdeM: EDU 4061 or EDSL 499) Analyse réflexive des pratiques d'enseignement dans une perspective d'insertion professionelle.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

Faculty of Engineering

ARCH-Architecture

Offered by: Architecture

A limited number of courses are open to students not registered in the School of Architecture. Please consult Class Schedule for further information.

ARCH 201 Communication, Behaviour and Architecture.
(6) (2-10-6) Introduction to design; development of design judgement and communication skills in a series of exercises addressing light, scale, space, form and colour in the built environment; introduction to techniques of oral and graphic presentation, including model making, photography, sketching and architectural drawing. The course is based in the studio and includes lectures, seminars and field trips.

ARCH 202 Architectural Graphics and Elements of Design.
(6) (2-10-6) (Prerequisite: ARCH 201) Introduction to architectural design; consideration of building form in relation to program, structural system, material selection, site and climate; further development of skills in model making, conventional architectural drawing, axonometric and perspective drawing, sketching and architectural rendering. The course is based in the studio and includes lectures, seminars and field trips.

ARCH 217 Freehand Drawing 1.
(1) (0-2-1) Development of skills in drawing and observation through a series of exercises based on the study of the human figure in a studio setting. Media include pencil, charcoal, conte crayon, and pen and ink.

ARCH 218 Freehand Drawing 2.
(1) (0-2-1) (Prerequisite: ARCH 217) Continuation of ARCH 217. Development of graphic skills and visual literacy through exercises in life drawing. Introduction to basic colour theory: hue, intensity/dilution, temperature and emotional power. Additional media include coloured chalk and gouache.

ARCH 240 Organization of Materials in Buildings.
(3) (2-3-4) The characteristics of basic building materials: wood, steel, masonry and concrete. How building materials are shaped into building components, and how these components are integrated into the building envelope. Problems, laboratory projects and field trips to illustrate principles.

ARCH 241 Architectural Structures.
(3) (2-1-6) Introduction to the basic concepts and forms of structures in architecture.

ARCH 242 Digital Representation.
(2) (2-0-4) (Prerequisite: ARCH 201.) This course introduces students to digital representation in architecture. Students explore applications of state-of-the-art two- and three-dimensional computer modeling software in architectural design.

ARCH 250 Architectural History 1.
(3) (3-0-6) The study of architecture in relation to landscape, urban form and culture, from Antiquity to the end of the Middle Ages.

ARCH 251 Architectural History 2.
(3) (3-0-6) (Prerequisite: ARCH 250) Overview of early 20th century architecture with emphasis on a thematic approach to buildings and cities, architects and ideologies. The lectures will examine the origins, development and impact of canonical figures and buildings of Modernism.

ARCH 303 Design and Construction 1.
(6) (2-10-6) (Prerequisite: ARCH 202) An exploration of the design of buildings. Projects emphasize the major social, technological, environmental, and symbolic aspects of the design process. Introduction to specific modelling, presentation, and documentation techniques. Discussions, readings, field trips and practical exercises.

ARCH 304 Design and Construction 2.
(6) (2-10-6) (Prerequisite: ARCH 303) Continuation of Design and Construction I with projects of increasing complexity. Projects deal with particular aspects of architectural design and/or explore approaches to design methodology. Discussions, readings, field trips and practical exercises.

ARCH 321 Freehand Drawing 3.
(1) (0-2-1) (Prerequisite: ARCH 218) Continuation of ARCH 218. Refinement of graphic skills and visual literacy through exercises in life drawing. Introduction to the materials and methods of watercolour painting.

ARCH 322 Freehand Drawing 4.
(1) (0-2-1) (Prerequisite: ARCH 321) Synthesis of ARCH 217, 218 and ARCH 321. Further refinement of graphic skills and visual literacy through exercises in life drawing. Students select and combine various media and apply them to diverse drawing and painting surfaces.

ARCH 324 Sketching School.
(1) (Summer) ((0-0-3)) (Prerequisite: ARCH 218) (This course in the Faculty of Engineering is open only to McGill students.) An eight-day supervised field trip in the late summer to sketch places or things having specific visual characteristics. Students are required to include Sketching School I in the B.Sc.(Arch.) program.

❒ARCH 352 Art and Theory of House Design.
(3) (2-2-5) (Prerequisite: ARCH 202 or permission of instructor) An examination of the art and theory of the design of houses by architects who developed the form to perfection. Lectures and field trips will focus on the work of selected house architects from antiquity to the present.

ARCH 354 Architectural History 3.
(3) (3-0-6) (Prerequisite: ARCH 250 and Arch 251) General introduction to Modern Architecture in Western Europe from the Renaissance to the end of the 19th century. The course uses a thematic approach and sources on specific ideas and works drawn particularly from Italy, France, England and Germany.

ARCH 355 Architectural History 4.
(3) (3-0-6) (Prerequisite: ARCH 250 and ARCH 251) The study of architecture and cities in the postwar period. Emphasis placed on themes and approaches to architectural history, as opposed to traditional survey.

ARCH 375 Landscape.
(2) (2-2-2) Land form, plant life, microclimate; land use and land preservation; elements and methods of landscape design.

ARCH 377 Energy, Environment and Buildings.
(3) (3-0-6) (Prerequisite: ARCH 202 or permission of instructor) Exploration of the interrelationship between energy, environment and building. Topics include sustainability, assessment tools, the integrated design process, water conservation, energy conservation, renewable energy, materials and embodied energy, indoor environmental quality, environmental acoustics, and advanced building technology.

ARCH 378 Site Usage.
(3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor) The study of the creation, form and usage of the exterior space generated in various patterns of low-rise housing. Socio-cultural aspects of patterns; exterior space as a logical extension of the living unit; social control of the use of urban and suburban land; comparative model for low-rise housing patterns.

❒ARCH 379 Summer Course Abroad.
(3) (Summer) ((0-0-9)) (Prerequisite: ARCH 202 or permission of instructor) (Restriction: Departmental permission required) (This course in the Faculty of Engineering is open only to McGill students.) Studies in-situ of key buildings, landscapes and urban settings; techniques of graphic documentations, analysis of physical configuration, constructional details and present use. Excursions to neighbouring sites of architectural interest.

✶ARCH 383 Geometry and Architecture.
(3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor) (Given alternate years, alternating with ARCH 525) Geometry in the formal structure of design. Grids, lattices, polygons and polyhedra; proportional systems. Evidence of these figures and structures in natural objects and phenomena. Graphical and physical models. Application to architecture and the human environment. Case studies.

ARCH 405 Design and Construction 3.
(6) (2-10-6) (Prerequisite: ARCH 304) A structured investigation of architectural concepts; program interpretation with respect to relevant cultural, social and environmental contexts; applications of appropriate formal languages and building technologies in integrated proposals for a variety of building forms.

ARCH 406 Design and Construction 4.
(6) (2-10-6) (Prerequisite: ARCH 405) A detailed study and comprehensive development of architectural proposals for complex building types and site conditions; the exploration of coherent initial concepts with respect to programmatic requirements, image and form; subsequent elaboration leading to meaningful and technologically viable designs for the built environment.

ARCH 410 Design and Construction 5.
(6) A study of the function and structure of the urban environment, including surveys of selected urban areas by recording and analysing specific environmental factors. Architectural and urban design with reference to their social implications. Urban renewal and rehabilitation by means of systematic design methods. Techniques of visual communication including documentary film-making.

ARCH 447 Lighting.
(2) (2-2-2) (Prerequisite: ARCH 304) Concepts of natural and artificial lighting in architecture and urban design.

ARCH 451 Building Regulations and Safety.
(2) (2-2-2) (Prerequisite: ARCH 405) The study of building codes with specific emphasis on the National Building and National Fire Codes of Canada. Examples of existing buildings with assignments to illustrate regulations. Development of a systematic approach to the implementation of codes during the preliminary design stage of an architectural project.

ARCH 461 Freehand Drawing and Sketching.
(1) (0-3-0) (Prerequisite: ARCH 324) Drawing and sketching in pencil, charcoal and other media both in the studio and out-of-doors.

❒ARCH 471 Computer-Aided Building Design.
(2) (2-2-2) (Prerequisite: ARCH 202 or equivalent) An introduction to selected applications of interactive computing in architecture; emphasis on development of simple algorithms in graphic, as well as non-graphic, modes in hands-on situations in the lab; field trips to several in use installations.

ARCH 490 Selected Topics in Design.
(2) (2-0-4) (Prerequisite: ARCH 202 or permission of instructor) A course to allow the introduction of special topics in related areas of design.

ARCH 512 Architectural Modelling.
(3) (2-1-6) (Prerequisites: ARCH 304 and ARCH 471 or equivalent.) (Restrictions: Not open to students who have taken ARCH 364.) Architectural modelling using advanced applications in digital media. Topics include: 3-D modelling and rendering; image editing; digital animation; hypertext and the World Wide Web; issues of representation and methodology; comparison of publishing applications. Projects complement design studio courses and independent studies that are student or instructor initiated.

ARCH 514 Community Design Workshop.
(4) (4-20-15) (Prerequisite: ARCH 202.) A design-build studio that engages community-based projects with identified needs and a requirement for intervention on real sites. Exploration of selected problems in architectural design and develop solutions from first concept to implementation on-site.

ARCH 515 Sustainable Design.
(3) (3-0-6) (Prerequisite: ARCH 377 or permission of instructor.) This course will address sustainable design theory and applications in the built environment with students from a variety of fields (architecture, urban planning, engineering, sociology, environmental studies, economics, international studies). Architecture will provide the focus for environmental, socio-cultural and economic issues.

ARCH 519 Field Course Abroad.
(3) (Summer) (Prerequisite: ARCH 304 or permission of instructor) (Restrictions: Limited enrolment; departmental permission required) (Note: Excursions to neighbouring sites of architectural interest) (This course in the Faculty of Engineering is open only to McGill students.) Advanced and comprehensive studies in-situ of key buildings, landscapes and urban settings; techniques of graphic documentations, analysis of physical configuration, constructional details and present use.

✶ARCH 520 Montreal: Urban Morphology.
(3) (2-1-6) (Prerequisite: ARCH 251) (Given alternate years, alternating with ARCH 521) Historical, geographical, demographical, and regional evolution of the metropolis of Montreal. Topics include: important quartiers, the Montreal urban grid, industrialization, reform movements, geographical diversity, urban culture, local building techniques and materials. Basic concepts of urban morphology and their relationships to the contemporary urban context will be explored.

✶ARCH 521 Structure of Cities.
(3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor) (Given alternate years, alternating with ARCH 520) Nature, pattern and life of modern cities. Urban networks, special areas, problems and prospects.

❒ARCH 522 History of Domestic Architecture in Quebec.
(3) (2-0-7) (Prerequisite: ARCH 251) (Restriction: Departmental permission required) The architecture of houses in Quebec from 1650 to the present. Distinguished buildings are reviewed from the point of view of form, style, siting and material, as influenced by climate, culture and architectural antecedents in France, England and the United States. The course material is presented through alternating bi-weekly lectures and seminars.

✶❒ARCH 523 Significant Texts and Buildings.
(3) (2-0-7) (Prerequisite: ARCH 251) (Given alternate years, alternating with ARCH 524) (Restriction: Departmental permission required) Critical study of significant architectural thought since 1750 as it has been expressed in buildings and texts (treatises, manifestos, criticisms). A specific theme will be addressed every year to allow in-depth interpretations of the material presented and discussed.

✶❒ARCH 524 Critical Design Strategies.
(3) (2-0-7) (Prerequisite: ARCH 251) (Given alternate years, alternating with ARCH 523) (Restriction: Departmental permission required) Study of specific contemporary design practices with particular reference to their affinities with the development and current role of architectural criticism and its affinities with art, literature and philosophy.

✶❒ARCH 525 Seminar on Analysis and Theory.
(3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor) (Given alternate years, alternating with ARCH 383) (Restriction: Departmental permission required) Analysis and evaluation of significant architectural projects with reference to contemporary architectural theories.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ARCH 526 Philosophy of Structure.
(3) (2-0-7) (Prerequisite: ARCH 202 or permission of Instructor) (Restriction: Not open to students who have taken ARCH 374) Philosophy of Structure aims to investigate structure in its broadest sense. The course is divided in two halves; the first one gives an overview of the development of theoretical structural frameworks such as mathematics and geometry, while the second one highlights physical structures constructed by nature (geology, turbulence), man or animals.

ARCH 527 Civic Design.
(3) (2-0-7) (Prerequisite: ARCH 378) The elements of form in buildings and their siting design in the urban setting.

ARCH 528 History of Housing.
(3) (2-0-7) (Prerequisite: ARCH 251 or permission of instructor) Indigenous housing both transient and permanent, from the standpoint of individual structure and pattern of settlements. The principal historic examples of houses including housing in the age of industrial revolution and contemporary housing.

ARCH 529 Housing Theory.
(3) (2-0-7) (Prerequisite: ARCH 528 or permission of instructor) A review of environmental alternatives in housing; contemporary housing and the physical and sociological determinants that shape it; Canadian housing.

ARCH 531 Architectural Intentions Vitruvius - Renaissance.
(3) (2-0-7) (Prerequisite: ARCH 251) Architectural intentions embodied in buildings and writings of architects from antiquity to the Renaissance. Special emphasis is placed on the cultural connections of architecture to science and philosophy.

ARCH 532 Origins of Modern Architecture.
(3) (2-0-7) (Prerequisite: ARCH 251) Examination of architectural intentions (theory and practice) in the European context (especially France, Italy and England), during the crucial period that marks the beginning of the modern era.

❒ARCH 533 New Approaches to Architectural History.
(3) (2-0-7) (Prerequisite: ARCH 251 or permission of instructor) (Restriction: Departmental permission required) An exploration of the aims, tools, and methods of Architectural History as a discipline; the use of primary sources from the Canadian Centre for Architecture and other archives.

ARCH 534 Architectural Archives.
(3) (3-0-6) (Prerequisites: ARCH 250 and ARCH 251 or equivalent.) (Restriction: Open only to architecture students.) Role of archives in architectural culture. Methods of development, documentation and communication. Formats of architectural representation. Problems inherent in the creation and preservation of architectural records, and access to them. Case studies based on 19th and 20th century archives in the John Bland Canadian Architecture Collection, and other collections.

ARCH 535 History of Architecture in Canada.
(3) (Prerequisite: ARCH 251 or permission of instructor.) (Restriction: Not open to students who have taken ARCH 372) (Given alternate years, alternating with ARCH 536.) French, British and American influences in the history of Canadian architecture, with particular emphasis on the Eastern Provinces. Site visits and case studies.

ARCH 536 Heritage Conservation.
(3) (Given alternate years, alternating with ARCH 535) (Site visits and case studies.) (Prerequisite: ARCH 251 or permission of instructor.) Historic attitudes and terminologies of conservation; historic research techniques. Restoration technology of building materials and priniciples of interior design in the 19th and 20th century; current preservation planning.

ARCH 540 Selected Topics in Architecture 1.
(3) (2-0-7) A course to allow the introduction of new topics in Architecture as needs arise, by regular and visiting staff.

ARCH 541 Selected Topics in Architecture 2.
(3) (2-0-7) A course to allow the introduction of new topics in Architecture as needs arise, by regular and visiting staff.

ARCH 550 Urban Planning and Development.
(4) (3-1-8) (Prerequisite: B.Sc.(Arch.) or permission of instructor) (Restriction: Not normally open to Urban Planning students) A survey of municipal, regional and provincial actions to guide urban development in Canada, with a particular emphasis on Montreal and Quebec. It also introduces students to concepts in real-estate development and highlights the relationship between developers and planners.

ARCH 554 Mechanical Services.
(2) (2-0-4) (Prerequisite: ARCH 405 or permission of instructor) Problems encountered in providing mechanical services in buildings. Physiological and environmental aspects of heat, ventilation and air conditions, estimation of heating and cooling loads and selection and specification of equipment. Sprinkler systems and plumbing. Construction problems produced by installation of this equipment.

ARCH 555 Environmental Acoustics.
(2) (2-0-4) (Prerequisite: ARCH 405 or permission of instructor) Acoustics in architectural design, and in environmental control of buildings. Acoustical requirements in the design of auditoria such as theatres, lecture halls, opera houses, concert halls, churches, motion picture theatres, studios. Principles of noise and vibration control, sound insulating in building construction. Practical noise control in various types of buildings.

BMDE-Biomedical Engineering

Offered by: Biomedical Engineering

BMDE 500D1 (1.5), BMDE 500D2 (1.5) Seminars in

Biomedical Engineering.
(Students must register for both BMDE 500D1 and BMDE 500D2.) (No credit will be given for this course unless both BMDE 500D1 and BMDE 500D2 are successfully completed in consecutive terms)

BMDE 501 Selected Topics in Biomedical Engineering.
(3) (3-0-6) An overview of how techniques from engineering and the physical sciences are applied to the study of selected physiological systems and biological signals. Using specific biological examples, systems will be studied using: signal or finite-element analysis, system and identification, modelling and simulation, computer control of experiments and data acquisition.

BMDE 502 BME Modelling and Identification.
(3) (3-0-6) (Prerequisites: Undergraduate basic statistics and: either BMDE 519, or Signals and Systems (e.g., ECSE 303 & ECSE 304) or equivalent) Methodologies in systems or distributed multidimentional processes. System themes include parametric vs. non-parametric system representations; linear/non-linear; noise, transients and time variation; mapping from continuous to discrete models; and relevant identification approaches in continuous and discrete time formulations.

BMDE 503 Biomedical Instrumentation.
(3) (3-0-6) (Prerequisite(s): Experience with differential equations, in particular Laplace Transforms and complex numbers (e.g. MATH 263 or MATH 381 or equivalent) or permission of instructor.) The principles and practice of making biological measurements in the laboratory, including theory of linear systems, data sampling, computer interfaces and electronic circuit design.

BMDE 504 Biomaterials and Bioperformance.
(3) (3-0-6) (Restriction: graduate and final-year undergraduate students from physical, biological and medical science, and engineering.) Biological and synthetic biomaterials, medical devices, and the issues related to their bioperformance. The physicochemical characteristics of biomaterials in relation to their biocompatibility and sterilization.

BMDE 505 Cell and Tissue Engineering.
(3) (3-0-6) (1.5 hours lecture/1.5 hours seminar per week) (Restriction: graduate and final year undergraduate students from physical, biological, and medical science, and engineering.) Application of the principles of engineering, physical, and biological sciences to modify and create cells and tissues for therapeutic applications will be discussed, as well as the industrial perspective and related ethical issues.

BMDE 506 Molecular Biology Techniques.
(3) (1-5-3) (Prerequisites: MATH 222, BIOL 200 or BIOL 201, CHEM 212 or CHEM 213 or PHYS 253) (Restrictions: Limited to 18 students. Calculus required, physics or physical chemistry (thermodynamics, statistical mechanics) preferred. Primarily for graduate students or advanced undergraduate students in the physical sciences who are interested in learning molecular biology techniques. Preference given to graduate students in Biomedical Engineering and Physics. Students who have completed BIOC 300 or MIMM 366 are not eligible.) Introduction to major techniques of molecular biology for physical scientists.

BMDE 508 Introduction to Micro and Nano-Bioengineering.
(3) (This course is intended for graduate and advanced undergraduate students having a biological/medical background or an engineering, physical sciences background. Engineering students enrolled in the Minor in Biomedical Engineering, or Honours in Electrical Engineering and Honours in Mechanical Engineering, should be particularly interested.) (Prerequisite: Permission of instructor) The micro and nanotechnologies that drive and support the miniaturization and parallelization of techniques for life sciences research, including different inventions, designs and engineering approaches that lead to new tools and methods for the life sciences - while transforming them - and help advance our knowledge of life.

BMDE 519 Biomedical Signals and Systems.
(3) (3-0-6) (Prerequisites: Satisfactory standing in U3 Honours Physiology; or U3 Major in Physics-Physiology; or U3 Major Physiology-Mathematics; or permission of instructor.) An introduction to the theoretical framework, experimental techniques and analysis procedures available for the quantitative analysis of physiological systems and signals. Lectures plus laboratory work using the Biomedical Engineering computer system. Topics include: amplitude and frequency structure of signals, filtering, sampling, correlation functions, time and frequency-domain descriptions of systems.

CHEE-Chemical Engineering

Offered by: Chemical Engineering

CHEE 200 Introduction to Chemical Engineering.
(4) (3-1-8) (Restrictions: students with DCS in PAS, HS or equivalent) Introduction to the design of industrial processes. Survey of unit operations, and systems of units. Elementary material balances, first and second laws of thermodynamics, use of property tables and charts, steady flow processes, heat engines, refrigeration cycles. Relationships between thermodynamic properties, property estimation techniques. Laboratory and design exercise.

CHEE 204 Chemical Manufacturing Processes.
(3) (3-2-4) (Prerequisite: CHEE 200) Material and energy balances in chemical processes. Problem solving in the design of separation processes (evaporation, crystallization), reactor design, process control, and environmental applications.

CHEE 220 Chemical Engineering Thermodynamics.
(3) (3-1-5) (Prerequisite: CHEE 200) Application of thermodynamic equilibrium; free energy and equilibrium; phase rule; chemical reaction equilibrium for homogenous and multicomponent/multiphase systems. Application to the design of binary distillation. Laboratory exercise.

CHEE 230 Environmental Aspects of Technology.
(3) (3-0-6) The impact of urbanization and technology on the environment. Topics include urbanization: causes, effects, land use regulations; transportation technology and environmental implications; environmental impact of energy conversions; energy policy alternatives; formulation of energy and environmental policy; air pollution: sources, effects, control; water pollution: sources, effects, control.

CHEE 291 Instrumental Measurement Laboratory.
(4) (2-5-5) Elements of statistical analysis associated with instrumental measurements. Principles of operation and calibration of selected measuring instruments. Principles of modern data acquisition and processing. Introduction to instrument system selection in chemical engineering.

CHEE 310 Physical Chemistry for Engineers.
(3) (3-1-5) (Prerequisite: CHEE 220 or MIME 212.) (Restriction: Not open to students having taken CHEM 233.) Introduction to statistical thermodynamics, chemical kinetics, surface and colloid chemistry, spectroscopy, and electrochemistry from an engineering viewpoint. Topics emphasize applications of physical chemistry for chemical engineers.

CHEE 314 Fluid Mechanics.
(4) (3-3-6) (Prerequisite: CHEE 204.) (Corequisite: MATH 265 or MATH 264.) Fluid properties; dimensional analysis; drag; packed/fluidized beds; macroscopic energy balances, Bernoulli's equation and linear momentum theorem; flowmeters, pipeline systems, non-Newtonian fluids, microscopic balances leading to continuity and Navier-Stokes equations; boundary layer approximation; turbulence. Laboratory exercises.

CHEE 315 Heat and Mass Transfer.
(4) (3-2-7) (Prerequisite: CHEE 314) Transport of heat and mass by diffusion and convection; transport of heat by radiation; diffusion; convective mass transfer; drying; absorption; mathematical formulation of problems and equipment design for heat and mass transfer; laboratory exercises.

CHEE 340 Process Modelling.
(3) (3-1-5) (Prerequisites: MATH 261 or MATH 263; MATH 264 or MATH 265; CHEE 314) Principles of mathematical modelling in chemical engineering: problem formulation, solution, discrete systems; difference and difference-differential equations, methods of solution; understanding system behaviour, optimization.

CHEE 351 Separation Processes.
(3) (3-0-6) (Prerequisites: CHEE 204, CHEE 220. Corequisites: CHEE 315.) Concepts underlying separation processes. Equilibrium-based processes with staging and continuous contacting, distillation, evaporation, liquid-liquid extraction, leaching. Introduction to membrane based separations.

CHEE 360 Technical Paper 1.
(1) (0-0-3) A technical paper prepared according to instructions issued by the Department.

CHEE 363 Projects Chemical Engineering 1.
(2) (Summer) ((1-0-5)) (Prerequisite: CHEE 200 (A "D" grade is acceptable for prerequisite purposes only)) Projects on social or technical aspects of chemical engineering practice. Students must suggest their own projects to be approved and supervised by a member of the departmental staff. Students may work in groups.

CHEE 370 Elements of Biotechnology.
(3) (3-0-6) (Prerequisite: CHEM 234) Enzyme kinetics; proteins, carbohydrates and other biochemicals; industrially significant microbes; introduction to genetic engineering, cell structure and metabolism; laboratory exercises.

CHEE 380 Materials Science.
(3) (3-1-5) Structure/property relationship for metals, ceramics, polymers and composite materials. Atomic and molecular structure, bonds, electronic band structure and semi-conductors. Order in solids: crystal structure, disorders, solid phases. Mechanical properties and fracture, physico-chemical properties, design. Laboratory exercises.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

CHEE 392 Project Laboratory 1.
(4) (3-6-3) (Prerequisite: CHEE 291) Planning for the solution of experimental problems; design of experiments for logical and statistical interpretation; statistical analysis of experimental data; effective work in groups; selected laboratory exercises.

CHEE 393 Project Laboratory 2.
(5) (2-10-3) (Prerequisite: CHEE 392) Student groups execute and report on experimental projects.

CHEE 423 Chemical Reaction Engineering.
(4) (3-1-8) (Prerequisite: CHEE 310) Review of fundamental concepts in chemical reaction thermodynamics and kinetics. Mass and energy balances for homogenous ideal reactors. Batch, semi-batch and continuous operation. Minimization of by-product and pollution production. Heterogenous reactions, effect of heat and mass transfer on the global rate. Laboratory exercises.

CHEE 430 Technology Impact Assessment.
(3) (3-1-5) (Restriction: final year students by permission of instructor) The power of technology to shape man's physical, economic and social environment: effects of technological transitions on culture and ecology; (TIA) methodologies, public participation, engineering contributions, regulations; implications of TIA on social and economic development.

CHEE 438 Engineering Principles in Pulp and Paper Processes.
(3) (3-0-6) (Corequisite: CHEE 423) Characterization of wood, pulp and paper. Flowsheets of basic pulping processes. Applications of thermodynamics, fluid mechanics, heat and mass transfer, and reaction engineering principles in the pulp and paper processes.

CHEE 453 Process Design.
(4) (3-1-8) (Prerequisites: CHEE 315; CHEE 351) Analysis of design alternatives. Structure of process design systems, degrees of freedom, information flow. Computer-aided process and plant design programs, physical properties, specifications, recycle convergence, optimization, applications, economics. Safety, environmental control in plant design.

CHEE 455 Process Control.
(4) (3-2-7) (Prerequisites: CHEE 315; CHEE 351; CHEE 423) Dynamic modelling of processes, transfer functions, first and higher-order systems, dead-time, open and closed loop responses, empirical models, stability, feedback control, controller tuning, transient response, frequency response, feedforward and ratio control, introduction to computer control, sampling, discrete models, Z-transform, introduction to multivariable control. Laboratory exercises.

CHEE 456 Design Project 1.
(1) (1-0-2) (Corequisites: CHEE 393, CHEE 453 and CHEE 340) (Restriction: Must be taken in the semester preceding CHEE 457.) Introduction to a process design and economic evaluation project, including environmental and safety aspects, for a major industrial operation. Students work in small groups under an experienced plant design supervisor.

CHEE 457 Design Project 2.
(5) (1-2-12) (Prerequisite: CHEE 456.) (Restriction: Must be taken in the semester following CHEE 456.) A process plant design and economic evaluation, including environmental and safety aspects, for a major industrial operation. Students work in small groups, under an experienced plant design supervisor. Plant visit.

CHEE 458 Computer Applications.
(3) (2-3-4) (Prerequisites: COMP 208 and CHEE 393) Use of computers and software as problem solving aids in chemical engineering. Lectures on software engineering, computer architectures, and multitasking. In laboratory work, groups of students will produce software to be used and maintained by others.

CHEE 462 Technical Paper 2.
(1) (0-0-3) (Prerequisite: CHEE 360) A technical paper prepared according to instructions issued by the Department.

CHEE 464 Projects Chemical Engineering 2.
(2) (Summer) ((1-0-5)) (Prerequisite: CHEE 363) (This course in the Faculty of Engineering is open only to McGill students.) Projects on social or technical aspects of chemical engineering practice. Students must suggest their own projects to be approved and supervised by a member of the staff. Students may work in groups.

CHEE 474 Biochemical Engineering.
(3) (3-0-6) (Prerequisite: CHEE 370.) Bioreactor design for biotechnology and environmental applications; microbial growth kinetics; application of transport phenomena and selected chemical engineering unit operations. Bioreactor instrumentation and performance optimization. Air and media sterilization processes. Selected operations of downstream processing and product recovery.

CHEE 484 Materials Engineering.
(3) (3-0-6) (Prerequisites: CHEE 315, CHEE 380) Processes for forming and producing engineering materials such as amorphous, semicrystalline, textured and crystal-oriented substances and composites. Effect of processing variables on the properties of the finished article. Process of blending and alloying. Shaping and joining operations. Vessel equipment design for chemical engineering applications.

CHEE 494 Research Project and Seminar 1.
(3) (Summer) ((1-6-2)) (Prerequisite: CHEE 393) (This course in the Faculty of Engineering is open only to McGill students.) Independent study and experimental work on a topic chosen by consultation between the student and Departmental Staff.

CHEE 494D1 (1.5), CHEE 494D2 (1.5) Research Project and Seminar 1.
(Students must register for both CHEE 494D1 and CHEE 494D2.) (No credit will be given for this course unless both CHEE 494D1 and CHEE 494D2 are successfully completed in consecutive terms) (CHEE 494D1 and CHEE 494D2 together are equivalent to CHEE 494) Independent study and experimental work on a topic chosen by consultation between the student and Departmental Staff.

CHEE 495 Research Project and Seminar 2.
(4) (Summer) ((1-9-2)) (Prerequisite: CHEE 393) (This course in the Faculty of Engineering is open only to McGill students.) Independent study and experimental work on a topic chosen by consultation between the student and the Departmental staff.

CHEE 495D1 (2), CHEE 495D2 (2) Research Project and Seminar 2.
(Students must register for both CHEE 495D1 and CHEE 495D2.) (No credit will be given for this course unless both CHEE 495D1 and CHEE 495D2 are successfully completed in consecutive terms) (CHEE 495D1 and CHEE 495D2 together are equivalent to CHEE 495) Independent study and experimental work on a topic chosen by consultation between the student and the Departmental staff.

CHEE 496 Environmental Research Project.
(3) (Summer) ((1-6-2)) (Prerequisite: CHEE 393 or permission of instructor.) (This course in the Faculty of Engineering is open only to McGill students.) Independent study and experimental work on an environmental topic chosen by consultation between the student and Departmental staff.

CHEE 496D1 (1.5), CHEE 496D2 (1.5) Environmental Research Project.
(Students must register for both CHEE 496D1 and CHEE 496D2.) (No credit will be given for this course unless both CHEE 496D1 and CHEE 496D2 are successfully completed in consecutive terms) (CHEE 496D1 and CHEE 496D2 together are equivalent to CHEE 496) Independent study and experimental work on an environmental topic chosen by consultation between the student and Departmental staff.

CHEE 541 Electrochemical Engineering.
(3) (3-0-6) (Prerequisite: CHEE 310 or permission of instructor.) (Restriction: Not open to students who have taken CHEE 489.) Electrochemical systems: electrodes, reactors. Electrochemical stoichiometry, thermodynamics and kinetics. Mass and charge transport. Current and potential distribution in an electrochemical reactor. Electrocatalysis. Fuel cells technology. Batteries. Industrial electrochemical processes. Electrochemical sensors. Biomedical electrochemistry. Passivity, corrosion and corrosion prevention. Electrocrystalization. Experimental Methods.

CHEE 543 Plasma Engineering.
(3) (3-1-5) (Prerequisites: CHEE 220 and CHEE 314 or equivalent.) Description of the plasma state and parameters, plasma generation methods, and of the related process control and instrumentation. Electrical breakdown in gases and a series of discharge models are covered. Plasma processing applications such as PVD, PECVD, plasma polymerisation and etching, environmental applications, nanoparticle synthesis, spraying and sterilization are treated.

CHEE 561 Introduction to Soft Tissue Biophysics.
(3) (Prerequisite: CHEE 315 or permission of the instructor) Soft tissue structure and function: tissue, cell, and molecular scales. Interstitial solute transport, modeling effective transport properties (diffusivity, partitioning). Poroelastic mechanics, modeling of mechanical properties (modulus, permeability). The electrical double layer, electrostatic component of modulus, modeling electrokinetic phenomena (streaming potential, electroosmosis). Applications: biomechanics, mechanobiology, tissue engineering, functional assessment, biomedical entrepreneurship.

CHEE 562 Engineering Principles in Physiological Systems.
(3) (3-1-5) (Prerequisites: MATH 263 or MATH 315, CHEE 370 or BIOL 112 or equivalent, or permission of the instructor) Basic aspects of human physiology. Applications of general balance equations and control theory to systems physiology. The course will cover: circulatory physiology, nervous system physiology, renal physiology and the musculoskeletal system.

CHEE 563 Biofluids and Cardiovascular Mechanics.
(3) (3-0-6) (Prerequisites: CHEE 314 or MECH 331 or permission of instructor.) (Restriction: Not open to students who have taken MECH 563.) Basic principles of circulation including vascular fluid and solid mechanics, modeling techniques, clinical and experimental methods and the design of cardiovascular devices.

CHEE 571 Small Computer Applications: Chemical Engineering.
(3) (3-0-6) (Prerequisite: CHEE 458 or permission of the instructor.) The use of small computers employing a high level language for data acquisition and the control of chemical processes. Real-time system characteristics and requirements, analog to digital, digital to analog conversions and computer control loops are examined. Block level simulation.

CHEE 582 Polymer Science & Engineering.
(3) (3-0-6) (Prerequisite: CHEE 314 or equivalent.) (Restriction: Not open to students who have taken CHEE 481.) Application of engineering fundamentals to the preparation and processing of polymers emphasizing the relationship between polymer structure and properties. Topics include: polymer synthesis techniques, characterization of molecular weight, crystallinity, glass transition, phase behaviour, mechanical properties, visco-elasticity, rheology, and polymer processing for use in blends and composite materials.

CHEE 584 Polymer Processing.
(3) (3-0-6) (Corequisite: CHEE 215 or MIME 356 or equivalent.) (Restriction: Not open to students who have taken CHEE 684.) Survey of polymer processing operations with emphasis on the application of polymer rheology and transport phenomena to predict performance, including polymer rheology and constitutive equations, mixing, extrusion, injection molding, coating flows, fiber spinning, film blowing, blow molding, compression molding, thermoforming and composites processing.

CHEE 585 Foundations of Soft Matter.
(3) (3-0-6) Introduction to soft condensed matter. Atomic and molecular origins of hydrodynamics and elasticity. Microscale order and disorder, phase transitions and dynamics. Polymer solutions, melts and gels. Surfactants, self-assembled structures, and fluid membranes. Colloidal dispersions, their dynamics, gels and crystals. Liquid crystals. Integration of the foregoing topics with modern experimental techniques in soft-matter research.

CHEE 591 Environmental Bioremediation.
(3) (3-0-6) The presence and role of microorganisms in the environment, the role of microbes in environmental remediation either through natural or human-mediated processes, the application of microbes in pollution control and the monitoring of environmental pollutants.

CHEE 592 Industrial Air Pollution Control.
(3) (3-0-6) (Prerequisite: CHEE 314 or permission of instructor.) (Restriction: Not open to students who have taken CHEE 472.) Air pollution effects, control laws and regulations, measurements; emission estimates, meteorology for air pollution control engineers, dispersion models, nature of particulate pollutants, control of primary particulates, control of volatile organic compounds, sulfur oxides and nitrogen oxides; air pollutants and global climate.

CHEE 593 Industrial Water Pollution Control.
(3) (3-0-6) (Prerequisite: CHEE 314 or equivalent .) (Restriction: Not open to students who have taken CHEE 471.) Wastewater constituents of concern; legislation pertinent to wastewater treatment; wastewater sampling and analysis techniques; process analysis and selection; physical, chemical and biological processes; advanced wastewater treatment methods; integration of sciences and engineering principles to design wastewater treatment processes.

CHEE 594 Biocolloids in Environmental Systems.
(3) (3-0-6) (Prerequisite: CHEE 315 or equivalent.) Principles of colloid chemistry for solid-liquid separations of environmental interest: (i) transport and fate of biocolloids and colloid-associated contaminants in waters and solids, and (ii) membrane-based water and wastewater filtration. Topics include: biocolloid-surface interactions, membrane process design, fouling and biofouling, experimental techniques, novel research developments.

CHEE 595 Energy Recovery, Use, & Impact.
(3) (3-0-6) (Prerequisite: CHEE 423 or permission of instructor.) Application of chemical engineering fundamentals to energy recovery, conversion, and environmental impact. Topics include thermodynamics of fossil fuel deposits, reaction engineering of fuel upgrading, power generation, operation of power sources, production/use of alternative fuels, environmental impact and pollution mitigation technologies dealing with energy use.

CIVE-Civil Engineering

Offered by: Civil Engineering

CIVE 202 Construction Materials.
(4) (4-2-6) (Prerequisite: CIVE 290) Classification of materials; atomic bonds; phase diagrams; elementary crystallography, imperfections and their relationship to mechanical behaviour; engineering properties and uses of ferrous and non-ferrous metals, ceramics, cement, concrete, timber and timber products, polymers, composites; smart materials and systems; electrochemical reactions and corrosion, prevention and protection; environmental influences; group laboratory projects.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

CIVE 203 Solid Mechanics Laboratory.
(1)

CIVE 205 Statics.
(3) (3-2-4) Systems of forces and couples, resultants, equilibrium. Trusses, frames and beams, reactions, shear forces, bending moments. Centroids, centres of gravity, distributed forces, moments of inertia. Friction, limiting equilibrium, screws, belts.

CIVE 206 Dynamics.
(3) (3-2-4) (Prerequisite: CIVE 205.) (Corequisites: MATH 262 or MATH 260 and MATH 263 or MATH 261.) Kinematics and kinetics of particles, systems, and rigid bodies; mass-acceleration, work-energy, impulse-momentum. Moving coordinate systems. Lagrange's equations. Vibrations and waves.

CIVE 207 Solid Mechanics.
(4) (3-2-7) (Prerequisites: CIVE 205 (a D grade is acceptable for prerequisite purposes) or MECH 210 (under special circumstances, the Department may permit this course to be taken as a corequisite) or equivalent) (Four laboratory sessions and weekly tutorials) Stress-strain relationships; elastic and inelastic behaviour; performance criteria. Elementary and compound stress states, Mohr's circle. Shear strains, torsion. Bending and shear stresses in flexural members. Deflections of beams. Statically indeterminate systems under flexural and axial loads. Columns. Dynamic loading.

CIVE 208 Civil Engineering System Analysis.
(3) (3-1-5) (Prerequisite: COMP 208.) (Corequisite: MATH 264 or MATH 265.) Introduction to civil engineering systems; system modelling process; systems approach and optimization techniques; application of linear programming; simplex method; duality theory; sensitivity analysis; transportation problem; assignment problem; network analysis including critical path method; integer linear programming method.

CIVE 210 Surveying.
(2) (Summer) (Prerequisite: MECH 289 (formerly MECH 290)) (This course in the Faculty of Engineering is open only to McGill students.) The construction and use of modern survey instruments; transit, level, etc.; linear and angular measurements and errors; horizontal and vertical curves; error analysis, significance of figures; use of computers and software; recent developments.

CIVE 225 Environmental Engineering.
(4) (4-2-6) (Prerequisite: CIVE 290.) (Corequisite: MATH 261 or MATH 263.) Introduction to environmental chemistry; mass balance analyses in engineered and natural systems; water, soil and air pollution characterization and control; water quality parameters; drinking water and wastewater treatment technologies; global climate change: possible causes and effects; risk assessment for pollutant exposure; solid- and hazardous-waste management.

CIVE 281 Analytical Mechanics.
(3) (3-1-5) (Corequisites: MATH 260 or MATH 262, MATH 261 or MATH 263.) Kinematics of particles, dynamics of particles. Work, conservative forces, potential energy. Relative motion and general moving frames of reference. Central force fields and orbits. Dynamics of a system of particles. General motion of rigid bodies, angular momentum and kinetic energy of rigid bodies. Generalized coordinates and forces, Lagrange's equations.

CIVE 284 Structural Engineering Basics.
(4) (3-3-6) (Restriction: Not open to students who have taken CIVE 205 and CIVE 283.) Basic principles of statics; force systems; trusses; centroids and second moment of areas; stress and strain; beams; shearing and bending stresses; deflections; combined stresses; columns.

CIVE 290 Thermodynamics and Heat Transfer.
(3) (3-2-4) Macroscopic vs. microscopic viewpoint; states and processes; energy conservation and transformation. Phase equilibrium; equations of state; thermodynamic properties; work; heat; First Law of thermodynamics; internal energy; enthalpy; specific heat; thermodynamic processes: reversibility, polytrophic processes, applications of First Law; Second Law; entropy; introduction to heat transfer.

CIVE 302 Probabilistic Systems.
(3) (3-1-5) (Prerequisites: MATH 260 or MATH 262, COMP 208 (a D grade is acceptable for prerequisite purposes)) An introduction to probability and statistics with applications to Civil Engineering design. Descriptive statistics, common probability models, statistical estimation, regression and correlation, acceptance sampling.

CIVE 311 Geotechnical Mechanics.
(4) (3-3-6) (Prerequisite: CIVE 207) Identification and classification of soils; physical and engineering properties; principle of effective stress; permeability, compressibility, shear strength, stress-strain characteristics; groundwater flow and seepage; earth pressure and retaining structures; stress distributions in soils; settlement; bearing capacity of shallow foundations.

CIVE 317 Structural Engineering 1.
(3) (3-1-5) (Prerequisites: CIVE 202, CIVE 207 and MECH 289 (formerly MECH 290).) The design process; loads, sources, classifications, load factors, combinations; limit states design; structural systems and foundations; choice of materials; virtual work and energy methods; statical and kinematic indeterminacy; slope deflection method, introduction to matrix methods; analysis of indeterminate systems; force envelopes.

CIVE 318 Structural Engineering 2.
(3) (3-1-5) (Prerequisite: CIVE 317) Durability and service life; fire resistance and protection; steel, reinforced concrete and timber; behaviour and design of components in tension, compression, bending and shear; slenderness, global and local instability; axial load and moment interaction; curvature, deflection, ductility; connections; bond and anchorage of reinforcement; simple footings.

CIVE 319 Transportation Engineering.
(3) (3-1-5) (Prerequisites: CIVE 208 and COMP 208.) (Corequisite: CIVE 302) Introduction to design and operating principles and procedures for surface transportation systems, including vehicle motion and performance, pavements, geometric design of roadbeds, vehicle flow and capacity, traffic control, demand, supply and cost concepts.

CIVE 320 Numerical Methods.
(4) (3-3-6) (Prerequisites: COMP 208, MATH 264 or MATH 265.) Numerical procedures applicable to civil engineering problems: integration, differentiation, solution of initial-value problems, solving linear and non-linear systems of equations, boundary-value problems for ordinary-differential equations, and for partial-differential equations.

CIVE 323 Hydrology and Water Resources.
(3) (3-2-4) (Prerequisite: CIVE 302) Precipitation, evaporation and transpiration. Streamflow, storage reservoirs. Groundwater hydrology. Morphology of river basins. Statistical analysis in hydrology, stochastic modelling and simulation. Case studies in hydroelectric power development, flood damage mitigation, irrigation and drainage.

CIVE 324 Construction Project Management.
(3) (3-1-5) (Prerequisites: MIME 310 and CIVE 208) Construction fundamentals; procedures and responsibilities; tender documents, specifications, proposals, contracts; construction project organization, estimating, planning, scheduling, control; liability, claims procedures, arbitration; job safety; security and loss control; case histories, site visits.

CIVE 326 Fluids & Hydraulics Laboratory.
(1) (0-1-2) (Restriction: Not open to students who have taken CIVE 327) Laboratory experiments in fluid mechanics and hydraulics.

CIVE 327 Fluid Mechanics and Hydraulics.
(4) (3-6-3) (Prerequisites: CIVE 206, MATH 264 or MATH 265.) Fluid properties; hydrostatics; dimensional analysis and similitude, fluxes of mass, momentum and energy; Bemoulli's equation; method of control volume; streamline curvature; potential flow and boundary layers; pipe flow, hydraulic machinery and introduction to open-channel flow.

CIVE 385 Structural Steel and Timber Design.
(3) (3-1-5) (Prerequisite: CIVE 284.) (Corequisite: ARCH 240) Structural loadings, load factors, code requirements and design procedures. Characteristics of structural steel and structural timber in building construction. Structural design of axially loaded tension and compression members, joists, beams, girders, trusses and framing systems.

CIVE 388 Foundation and Concrete Design.
(3) (3-1-5) (Prerequisite: CIVE 284.) Physical properties of concrete; behaviour and design of reinforced concrete members in compression, tension, bending, shear and combined loadings; bond and anchorage; soil properties, soil testing, footings; pile foundation; shorting; retaining walls.

CIVE 416 Geotechnical Engineering.
(3) (3-2-4) (Prerequisite: CIVE 311) Earth pressure theory, retaining walls, sheet pile walls, braced excavations. Slope stability analysis. 2D flow through isotropic and anisotropic soils. Bearing capacity and settlement of shallow foundations, stress distribution. Deep foundations, single pile, pile groups. Geotechnical investigation and reports.

CIVE 418 Design Project.
(4) (1-2-6) (Prerequisite: Completion of an approved set of required and complementary courses; normally restricted to final semester.) Capstone design project.

CIVE 421 Municipal Systems.
(3) (3-2-4) (Prerequisite: CIVE 327) Design of water-related municipal services; sources of water and intake design; estimation of water demand and wastewater production rates; design, construction and maintenance of water distribution, wastewater and stormwater collection systems; pumps and pumping stations; pipe materials, network analysis and optimization; storage; treatment objectives for water and wastewater.

CIVE 428 Water Resources and Hydraulic Engineering.
(3) (3-3-3) (Prerequisite: CIVE 327) Application of continuity, energy and momentum concepts to open-channel flow; design of channels considering uniform flow and flow resistance, non-uniform flow and longitudinal profiles; design of channel controls and transitions; unsteady flow and flood routing; river ice engineering.

CIVE 430 Water Treatment and Pollution Control.
(3) (3-3-3) (Prerequisites: CIVE 225 and CIVE 327) Principles of water and sewage treatment. Water and sewage characteristics; design of conventional unit operations and processes; laboratory analyses of potable and waste waters.

CIVE 432 Technical Paper.
(1) (0-0-3) (Prerequisite: EDEC 206) A technical paper, on a suitable topic, is to be prepared in accordance with detailed instructions which are provided by the Department. This paper will normally be written in the U3 year and may be submitted in September or January.

CIVE 433 Urban Planning.
(3) (3-1-5) (Restriction: Not open to U0 and U1 students.) The City in History. The planning profession, evolution of planning in North America, Canada and Quebec. Planning theories, the general or master plan, planning processes and techniques, planning and design of residential subdivisions. Local planning issues, housing policies, planning laws.

CIVE 440 Traffic Engineering.
(3) (3-1-5) (Prerequisite: CIVE 319 (a D grade is acceptable for prerequisite purposes)) Driver, vehicle and traffic flow characteristics; origin-destination studies, traffic studies and analysis, accident studies, queuing theory applications, gap acceptance, simulation, highway capacity, traffic regulations and control measures, intersection control.

CIVE 446 Construction Engineering.
(3) (3-1-5) (Prerequisite: CIVE 208 and MIME 310.) Project management principles; construction equipment economics, selection, operation; characteristics of building, heavy, marine, underground and route construction projects; international projects.

CIVE 451 Geoenvironmental Engineering.
(3) (3-1.5-4.5) (Prerequisites: CIVE 225 and CIVE 311) Geoenvironmental hazards; land management of waste; regulatory overview, waste characterization; soil-waste interaction; geosynthetics; low permeability clay barriers; contaminant transport; containment systems; collection and removal systems; design aspects; strategies for remediation; rehabilitation technologies.

CIVE 452 Water Resources in Barbados.
(3) (Corequisites: None.) (Restrictions: Must be enrolled in the Barbados Field Study Semester.) Physical environment challenges, centered on water, being faced by an island nation. Guest speakers, field study tours and laboratory tests. Private, government and NGO institutional context of conservation strategies, and water quantity and quality analyses for water management specific to Barbados.

CIVE 460 Matrix Structural Analysis.
(3) (3-2-4) (Prerequisites: CIVE 206 and CIVE 317) Computer structural analysis, direct stiffness applied to two and three dimensional frames and trusses, matrix force method, nonlinear problems, buckling of trusses and frames, introduction to finite element analysis.

CIVE 462 Design of Steel Structures.
(3) (3-3-3) (Prerequisite: CIVE 318) Design of structural steel elements: plate girders, members under combined loadings, eccentrically loaded connections, structural systems. Design of structural steel systems: composite floor systems, braced frames, moment resisting frames.

CIVE 463 Design of Concrete Structures.
(3) (3-3-3) (Prerequisite: CIVE 318) Review of flexual behaviour and design concepts. Design of flexual members, columns, two-way slab systems, retaining walls, disturbed regions, and shear walls. Introduction to prestressed concrete design.

CIVE 469 Infrastructure and Society.
(3) (3-2-4) (Prerequisite: MIME 310) Infrastructure systems, historical background and socio-economic impact; planning, organization, communication and decision support systems; budgeting and management; operations, maintenance, rehabilitation and replacement issues; public and private sectors, privatization and governments; infrastructure crisis and new technologies; legal, environmental, socio-economic and political aspects of infrastructure issues; professional ethics and responsibilities; case studies.

CIVE 470 Undergraduate Research Project.
(3) (0-1-8) (Prerequisite: 60 credits in the Civil Engineering and Applied Mechanics program) Open to students with a high CGPA. A research project must be carried out and a technical paper prepared under the supervision of a member of staff. The project must be established with the consent of the Staff Supervisor, and must be approved by the Department before registration. May be taken in conjunction with the required course CIVE 418 and the project therefore can be carried out through two semesters.

CIVE 492 Structures.
(2) (2-2-2) (Prerequisites: CIVE 385 and CIVE 388) A study of structural systems in concrete, steel, timber; a philosophy of structure; choice of structure; economic factors in design; recent developments and trends in structure; lateral stability by frame action, bracing shear walls; mechanics of

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

certain structural forms.

CIVE 512 Advanced Civil Engineering Materials.
(3) (3-3-3) (Prerequisite: CIVE 202) Production, structure and properties of engineering materials; ferrous alloys, treatments, welding, special steels, cast iron; ceramic materials; polymers; composite materials; concrete, admixtures, structure, creep, shrinkage; asphalt and asphaltic materials; clay materials and bricks; impact of environment on material response, durability, quality assessment and control, industrial specifications; recent advances.

CIVE 519 Sustainable Development Plans.
(6) (1-9-8) (Restriction: Must be enrolled in the Barbados Field Study Semester.) Geared for solving real-world environmental problems related to water at the local, regional and international scale in Barbados. Projects to be designed by instructors in consultation with university, government and NGO partners and to be conducted by teams of 2 to 4 students in collaboration with them.

CIVE 527 Renovation and Preservation: Infrastructure.
(3) (3-2-4) (Prerequisite (Undergraduate): CIVE 202 and CIVE 318) Maintenance, rehabilitation, renovation and preservation of infrastructure; infrastructure degradation mechanisms; mechanical, chemical and biological degradation; corrosion of steel; condition surveys and evaluation of buildings and bridges; repair and preservation materials, techniques and strategies; codes and guidelines; case studies.

CIVE 540 Urban Transportation Planning.
(3) (3-1-5) (Prerequisite: CIVE 319 or permission of instructor.) Process and techniques of urban transportation engineering and planning, including demand analysis framework, data collection procedures, travel demand modelling and forecasting, and cost-effectiveness framework for evaluation of project and system alternatives.

CIVE 546 Selected Topics in Civil Engineering 1.
(3) (3-0-6) (Prerequisite (Undergraduate): Permission of instructor) Special topics related to Civil Engineering will be presented by staff and visiting lecturers.

CIVE 550 Water Resources Management.
(3) (3-0-6) (Prerequisite (Undergraduate): CIVE 323 or equivalent) State-of-the-art water resources management techniques; case studies of their application to Canadian situations; identification of major issues and problem areas; interprovincial and international river basins; implications of development alternatives; institutional arrangements for planning and development of water resources; and, legal and economic aspects.

CIVE 551 Environmental Transport Processes.
(3) (3-2-4) (Prerequisite: CIVE 225 or Permission of instructor.) Equilibrium partitioning of pollutants in multiphase systems, sorption isotherms, diffusive mass transport, inter-phase mass transfer kinetics, contaminant transport processes in the subsurface porous media and in natural aquatic systems, mass transport in water and wastewater treatment systems.

CIVE 553 Stream Pollution and Control.
(3) (3-2-4) (Prerequisite (Undergraduate): CIVE 225) Water quality standards. Physical and chemical pollution, and bacterial contamination of surface waters. Effects of specific types of pollution such as thermal, point and non-point sources. Stream self purification. Effects on lake eutrophication. Pollution surveys and methods of control.

CIVE 555 Environmental Data Analysis.
(3) (3-0-6) (Prerequisite (Undergraduate): CIVE 302 or permission of instructor) Application of statistical principles to design of measurement systems and sampling programs. Introduction to experimental design. Graphical data analysis. Description of uncertainty. Hypothesis tests. Model parameter estimation methods: linear and nonlinear regression methods. Trend analysis. Statistical analysis of censored data. Statistics of extremes.

CIVE 572 Computational Hydraulics.
(3) (3-0-6) (Prerequisite: CIVE 327 or equivalent) Computation of unsteady flows in open channels; abrupt waves, flood waves, tidal propogations; method of characteristics; mathematical modelling of river and coastal currents.

CIVE 573 Hydraulic Structures.
(3) (3-0-6) (Prerequisites: CIVE 323 and CIVE 327) Hydraulic aspects of the theory and design of hydraulic structures. Storage dams, spillways, outlet works, diversion works, drop structures, stone structures, conveyance and control structures, flow measurement and culverts.

CIVE 574 Fluid Mechanics of Water Pollution.
(3) (3-0-6) (Prerequisite: CIVE 327 or equivalent.) Mixing, dilution and dispersion of pollutants discharged into lakes, rivers, estuaries and oceans; salinity intrusion in estuaries and its effects on dispersion; biochemical oxygen demand and dissolved oxygen as water quality indicators; thermal pollution; oil pollution.

CIVE 577 River Engineering.
(3) (3-0-6) (Prerequisite (Undergraduate): CIVE 428 or permission of the instructor.) (Corequisite (Graduate): CIVE 428) Fluvial geomorphology; sediment properties; river turbulence; mechanics of the entrainment, transportation and deposition of solids by fluids; threshold of movement; bed forms; suspended load, bed load and total load equations; stable channel design and regime rivers; river modeling; river engineering and river management.

CIVE 584 Groundwater Engineering.
(3) (Prerequisite: CIVE 311 or Permission of Instructor.) Origins and types of groundwater; Darcy's law; hydraulic anisotropy; conservation laws; fundamental equations of porous media flow; Laplace's and Poisson's equations: analytical solution of potential flow problems; determination of hydraulic conductivity; flow in unconfined and confined acquifers; seepage modelling; unsaturated flow; transient flows in porous media; introduction to computational methods.

ECSE-Electrical Engineering

Offered by: Electrical & Computer Engr

ECSE 200 Electric Circuits 1.
(3) (Summer) ((3-1-5)) (Prerequisite: PHYS 142 or CEGEP equivalent.) (Corequisite: MATH 261 or MATH 263 or MATH 325.) (Tutorials assigned by instructor.) (This course in the Faculty of Engineering is open only to McGill students.) Circuit variables, analysis of resistive circuits. Network theorems (Kirchhoff's law, Ohm's law, Norton and Thevenin equivalent). Ammeters, voltmeters, and ohmmeters. Analysis methods (nodal and mesh analysis, linearity, superposition). Dependent sources and OpAmps. Energy Storage elements. First-order circuits.

ECSE 210 Electric Circuits 2.
(3) (Summer) ((3-2-4)) (Prerequisite: ECSE 200) (For Fall Term: Limited to Electrical Honours and Computer Engineering students only.) (For Winter Term: Limited to Regular Electrical Engineering students only.) (Tutorials assigned by instructor.) (This course in the Faculty of Engineering is open only to McGill students.) Second-order circuits. Sinusoidal sources and phasors. AC steady-state analysis. AC steady-state power. Laplace transform. Circuit analysis in the s-Domain. Frequency response. Mutual inductance and transformers. Two-port circuits.

ECSE 211 Design Principles and Methods.
(3) (3-3-3) (Prerequisites: ECSE 200 and COMP 202.) (Corequisite: ECSE 291 (Electrical Measurements Lab).) Engineering process: design specifications, parameters, optimization, implementation, troubleshooting and refinement; project management: scheduling, risk analysis, project control; case studies; design examples and project.

ECSE 212 Properties of Materials in Electrical Engineering.
(3) (3-1-5) (Restriction: Not open to students who have taken or are taking MIME 262.) Properties of a material continuum and crystalline state; properties of atoms in materials; conduction electrons in materials; electronic properties of semiconductors and metals; magnetic and thermal properties of materials;

applications of electronic materials in semiconductor technology, recording media and transducers.

ECSE 221 Introduction to Computer Engineering.
(3) (3-2-4) (Prerequisite: COMP 202) (Tutorials assigned by instructor.) Data representation in digital computers. Boolean algebra. Basic combinational circuits; their analysis and synthesis. Elements of sequential circuits: latches, flip-flops, counters and memory circuits. Computer structure, central processing unit, machine language. Assemblers and assembler language.

ECSE 291 Electrical Measurements Laboratory.
(2) (1-4-1) (Corequisite: ECSE 210) (Lab hours assigned by instructor.) Experiments with fundamental electric circuits are used to illustrate the principles and limitations of basic electrical and electronic instrumentation in typical measurement applications. Basic electrical laboratory practice and safety procedures are introduced. Introduction to error analysis and application to laboratory measurements.

ECSE 303 Signals and Systems 1.
(3) (3-2-4) (Prerequisites: ECSE 210, MATH 247 or MATH 270 or MATH 271.) (Corequisite: MATH 249 or MATH 381) (Tutorials assigned by instructor.) Elementary continuous and discrete-time signals, impulse functions, basic properties of discrete and continuous linear time-invariant (LTI) systems, Fourier representation of continuous-time periodic and aperiodic signals, the Laplance transform, time and frequency analysis of continuous-time LTI systems, application of transform techniques to electric circuit analysis.

ECSE 304 Signals and Systems 2.
(3) (3-2-4) (Prerequisite: ECSE 303) (Tutorials assigned by instructor.) Application of transforms to the analysis of LTI single-loop feedback systems, the discrete-time Fourier series, the discrete-time Fourier transform, the Z transform, time and frequency analysis of discrete-time LTI systems, sampling systems, application of continuous and discrete-time signal theory to communications LTI systems.

ECSE 305 Probability and Random Sig. 1.
(3) (3-1-5) (Prerequisite: ECSE 303 or ECSE 306.) (Tutorials assigned by instructor.) The basic probability model, the heuristics of model-building and the additivity of probability; classical models; conditional probability and Bayes rule; random variables and vectors, distribution and density functions, expectation; statistical independence, laws of large numbers, central limit theorem; introduction to random processes and random signal analysis.

ECSE 306 Fundamentals of Signals and Systems.
(3) (3-2-4) (Prerequisites: ECSE 210 and MATH 270 or MATH 271.) Review of complex functions. Discrete-and continuous-time signals, basic system properties. Linear time-invariant systems, convolution. Fourier series and Fourier transforms, frequency domain analysis, filtering, sampling. Laplace transforms and inversion, transfer functions, poles and zeros, solutions of linear constant-coefficient differential equations, transient and steady state response. Z-transforms

ECSE 321 Introduction to Software Engineering.
(3) (3-1-5) (Prerequisite: COMP 202 or COMP 208) (Tutorials assigned by instructor.) Design, development and testing of software systems. Software life cycle: requirements analysis, software architecture and design, implementation, integration, test planning, and maintenance. The course involves a group project.

ECSE 322 Computer Engineering.
(3) (3-2-4) (Prerequisites: ECSE 200 or MECH 383, and ECSE 221) (Tutorials assigned by instructor.) Data structures (arrays, lists, stacks, queues, dequeues and trees) and their machine representation and simple algorithms. Peripheral devices: printers, keyboards, magnetic type drives, magnetic disc drives. Peripheral interfacing and busses. Introduction to operating systems. System integration. Computer systems and networks.

ECSE 323 Digital System Design.
(5) (3-6-6) (Prerequisites: ECSE 221, ECSE 291, and EDEC 206) (Tutorials and lab hours assigned by instructor.) Minimization and synthesis of combinational logic and finite state machines. Synthesis of synchronous and asynchronous sequential circuits. Principles of control design. Basic concepts in design for testability. The laboratory experiments involve the design and testing of digital systems using small and medium scale integrated circuits. CAD software is used in the design process.

ECSE 330 Introduction to Electronics.
(3) (3-2-4) (Prerequisite: ECSE 210) (Tutorials assigned by instructor.) Introduction to electronic circuits using operational amplifiers, PN junction diodes, bipolar junction transistors (BJTs), and MOS field-effect transistors (MOSFETs), including: terminal characteristics, large- and small-signal models; configuration and frequency response of single-stage amplifiers with discrete biasing. Introduction to SPICE. Simulation experiments.

ECSE 334 Introduction to Microelectronics.
(3) (3-2-4) (Prerequisites: ECSE 291, ECSE 303 or ECSE 306, ECSE 330.) (Tutorials assigned by instructor.) Single-stage integrated-circuit amplifiers; differential and multistage amplifiers, integrated-circuit biasing techniques; non-ideal characteristics, frequency response; feedback amplifiers, output stages; digital CMOS logic circuits.

ECSE 351 Electromagnetic Fields.
(3) (3-1-5) (Prerequisites: ECSE 200, MATH 264 or MATH 265.) (Tutorials assigned by instructor.) Maxwell's equations, electrostatics, magnetostatics and induction for power-frequency electrical engineering problems.

ECSE 352 Electromagnetic Waves.
(3) (3-2-4) (Prerequisite: ECSE 351) (Tutorials assigned by instructor.) Transient and steady state wave propagation in transmission lines. Telephone and radio frequency lines. Smith's chart and impedance matching. Maxwell's equations, Helmholtz's equations, Poynting's theorem. Plane waves, polarization, Snell's law, critical and Brewster's angle. Rectangular waveguides, optical fibres, dispersion. Radiation and antennas. S-parameters.

ECSE 353 Electromagnetic Fields and Waves.
(3) (3-1-5) (Prerequisites: ECSE 210, MATH 264 or MATH 265.) (Tutorials assigned by instructor.) Maxwell's equations. Waves in free space and on transmission lines. Electric and magnetic force and energy. Magnetic materials. Faraday's law. Applications to engineering problems. S-parameters.

ECSE 361 Power Engineering.
(3) (3-1-5) (Prerequisites: ECSE 210, ECSE 351) (Tutorials assigned by instructor.) Characteristics and components of power systems. Generation, transmission and utilization of electric power. 3-phase ac and dc systems. Fundamentals of electromechanical energy conversion. Ampere and Faraday's law. Magnetic circuits. Systems of coupled coils. Torque and force. Rotating magnetic fields. Basic rotating machines.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ECSE 404 Control Systems.
(3) (3-0-6) (Corequisite: ECSE 304 or ECSE 306.) Modelling and simulation of control systems; basic concepts of linear systems; open and closed loop control; classical design of controllers - specifications in the step response and the frequency domain; state space design of controllers - pole placement and LQR; sampled data systems.

ECSE 405 Antennas.
(3) (3-0-6) (Prerequisites: ECSE 303 and ECSE 352.) (Restriction: Not open to students who have taken ECSE 593.) Fundamentals of antenna theory: sources, radiation pattern and gain. Classification of antennas. Main antenna types and their characteristics. Antenna temperature, remote sensing and radar cross-section. Self and mutual impedances. Special topics include adaptive antennas, very large array (VLA) used in radio astronomy and biomedical applications.

ECSE 411 Communications Systems 1.
(3) (3-1-5) (Prerequisites: ECSE 305, ECSE 304 or ECSE 306.) (Tutorials assigned by instructor.) Communication system models; AM and FM modulation, performance of AM and FM systems in noise; sampling, PCM and DPCM techniques; FDM and TDM multiplexing systems; baseband digital transmission over bandlimited channels, digital modulation and detection techniques; illustrative examples of subscriber loop telephone systems, cable TV systems and broadcasting systems.

ECSE 412 Discrete Time Signal Processing.
(3) (3-1-5) (Prerequisite: ECSE 304 or ECSE 306.) (Tutorials assigned by instructor.) Discrete-time signals and systems; Fourier and Z-transform analysis techniques, the discrete Fourier transform; elements of FIR and IIR filter design, filter structures; FFT techniques for high speed convolution; quantization effects.

ECSE 413 Communications Systems 2.
(3) (3-0-6) (Prerequisite: ECSE 411) (Tutorials assigned by instructor.) Introduction to radio communications; satellite communication systems; the cellular concept; fading channel models, digital modulation techniques over fading channels, diversity systems, spread spectrum techniques; fixed assignment multiple access (FDMA, TDMA, CDMA), duplexing methods (FDD, TDD); illustrative examples of terrestrial mobile systems, fixed wireless systems, LEOs, etc.; overview of standardization activities.

ECSE 414 Introduction to Telecommunication Networks.
(3) (3-0-6) (Prerequisites: ECSE 322, and ECSE 304 or ECSE 306.) Introduction to the physical and software architecture of modern networks; circuit and packet switching; layered design principles; wired and wireless access systems; flow and congestion control; addressing and routing for unicast, multicast, and broadcast transmission; multiple access protocols; client-server and peer-to-peer architectures. Examples: Ethernet, TCP/IP, 802.11, ARQ, OSPF. BGP.

ECSE 420 Parallel Computing.
(3) (3-2-4) (Prerequisite: ECSE 427) Modern parallel computing architectures for shared memory, message passing and data parallel programming models. The design of cache coherent shared memory multiprocessors. Programming techniques for multithreaded, message passing and distributed systems. Use of modern programming languages and parallel programming libraries.

ECSE 421 Embedded Systems.
(3) (3-0-6) (Prerequisites: ECSE 322, ECSE 323.) Definition, structure and properties of embedded systems. Real-time programming: interrupts, latency, context, re-entrancy, thread and process models. Microcontroller and DSP architectures, I/O systems, timing and event management. Real-time kernels and services. Techniques for development, debugging and verification. Techniques for limited resource environments. Networking for distributed systems.

ECSE 422 Fault Tolerant Computing.
(3) (3-0-6) (Prerequisite: ECSE 322.) Introduction to fault-tolerant systems. Fault-tolerance techniques through hardware, software, information and time redundancy. Failure classification, failure semantics, failure masking. Exception handling: detection, recovery, masking and propagation, termination vs. resumption. Reliable storage, reliable communication. Process groups, synchronous and asynchronous group membership and broadcast services. Automatic redundancy management. Case studies.

ECSE 423 Fundamentals of Photonics.
(3) (3-2-4) (Prerequisites: ECSE 352) Introduction to the fundamentals of modern optics and photonics. Geometric optics, wave optics, Gaussian beam optics and resonators, electromagnetic optics, polarization, Fourier optics. Attenuation and dispersion, interference, coherence, diffraction. Classical description of optical amplifiers, introduction to lasers. Experiments on physical and geometric optics.

ECSE 424 Human-Computer Interaction.
(3) (3-4-2) (Prerequisite: ECSE 322) The course highlights human-computer interaction strategies from an engineering perspective. Topics include user interfaces, novel paradigms in human-computer interaction, affordances, ecological interface design, ubiquitous computing and computer-supported cooperative work. Attention will be paid to issues of safety, usability, and performance.

ECSE 425 Computer Organization and Architecture.
(3) (3-1-5) (Prerequisites: ECSE 322 and ECSE 323) (Tutorials assigned by instructor.) Trends in technology. CISC vs. RISC architectures. Pipelining. Instruction level parallelism. Data and Control Hazards. Static prediction. Exceptions. Dependencies. Loop level paralleism. Dynamic scheduling, branch prediction. Branch target buffers. Superscalar and N-issue machines. VLIW. ILP techniques. Cache analysis and design. Interleaved and virtual memory. TLB translations and caches.

❒ECSE 426 Microprocessor Systems.
(3) (1-5-3) (Prerequisites: ECSE 323 and EDEC 206) (This course may be counted as a technical complementary or a lab complementary.) (Limited Enrolment (50)) (Lab hours assigned by instructor.) Introduction to current microprocessors, their architecture, programming, interfacing and operating systems. The course includes lectures, use of crossassemblers, and simulators as well as laboratory experiments on actual microprocessor hardware.

ECSE 427 Operating Systems.
(3) (3-3-3) (Prerequisite: ECSE 322 or COMP 273) (Tutorials assigned by instructor.) Operating system services, file system organization, disk and cpu scheduling, virtual memory management, concurrent processing and distributed systems, protection and security. Aspects of the DOS and UNIX operating systems and the C programming language. Programs that communicate between workstations across a network.

ECSE 428 Software Engineering Practice.
(3) (3-4-2) (Prerequisite: ECSE 321 or COMP 335) Software engineering practice in industry, related to the design and commissioning of large software systems. Ethical, social, economic, safety and legal issues. Metrics, project management, costing, marketing, control, standards, CASE tools and bugs. The course involves a large team project.

ECSE 429 Software Validation.
(3) (3-0-6) (Prerequisite: ECSE 321) Correct and complete implementation of software requirements. Verification and validation lifecycle. Requirements analysis, model based analysis, and design analysis. Unit and system testing, performance, risk management, software reuse. Ubiquitous computing.

ECSE 430 Photonic Devices and Systems.
(3) (3-2-4) (Prerequisites: ECSE 352, PHYS 271.) (Tutorials assigned by instructor.) Introduction to photonic devices and applications. Semiconductor lasers, optical amplifiers, optical modulators, photodetectors and optical receivers, optical fibers and waveguides, fiber and waveguide devices. Photonic systems (communications, sensing, biomedical). Experiments on characterizing photonic devices and systems. Optical test-and-measurement instrumentation.

❒ECSE 431 Introduction to VLSI CAD.
(3) (3-4-2) (Prerequisites: ECSE 323 and ECSE 330) (Limited enrolment - 30. Departmental permission required.) (Note: This course may be counted as a technical complementary or as a lab complementary.) (Lab hours assigned by instructor.) The computer-aided design of digital VLSI circuits. Hardware

description languages, automatic synthesis, design for testability, technology mapping, simulation, timing analysis, generation of test vectors and fault coverage analysis.

ECSE 432 Physical Basis: Transistor Devices.
(3) (3-0-6) (Prerequisites: ECSE 212 or MIME 262, ECSE 330, ECSE 351 and PHYS 271) Quantitative analysis of diodes and transistors. Semiconductor fundamentals, equilibrium and non-equilibrium carrier transport, and Fermi levels. PN junction diodes, the ideal diode, and diode switching. Bipolar Junction Transistors (BJT), physics of the ideal BJT, the Ebers-Moll model. Field effect transistors, metal-oxide semiconductor structures, static and dynamic behaviour, small-signal models.

ECSE 434 Microelectronics Laboratory.
(2) (1-3-2) (Prerequisites: EDEC 206, ECSE 334.) Designing, building, and debugging electronic hardware using discrete transistors and circuit building blocks; Designing, simulating, laying-out, and post-fabrication experimental testing of an integrated circuit (IC). The laboratory experiments are designed to reinforce the microelectronics circuit theory studied in ECSE 334.

ECSE 435 Mixed-Signal Test Techniques.
(3) (3-0-6) (Prerequisites: ECSE 304 and ECSE 334.) (Note: This course may be counted as a technical complementary or as a lab complementary.) Purpose and economics of mixed-signal test, DC measurements. Accuracy and repeatability. DSP-based theory and its applications to parametric testing of analog filters, DACs, and ADC. Timing and PLL measurements. Design for Testability.

ECSE 436 Signal Processing Hardware.
(3) (1-3-5) (Prerequisites: ECSE 322, ECSE 323, ECSE 304 or ECSE 306.) (Note: This course may be counted as a technical complementary or as a lab complementary. Limited enrolment (20).) Review of basic concepts in signals and microprocessors. Digital Signal Processing microprocessor architecture. Finite precision effects, real-time constraints, assembly language optimization. Implementation of DSP algorithms on a DSP microprocessor platform. Lab experiments on FIR filtering, IIR filtering, FFT computation, LPC analysis, circular and bit-reversed addressing, ping-pong buffering and frame-based processing.

ECSE 443 Introduction to Numerical Methods in Electrical Engineering.
(3) (3-2-4) (Prerequisites: ECSE 221, ECSE 330, ECSE 351 or ECSE 353.) (Corequisite: For CE students only: ECSE 353.) Symbolic vs. numerical computation. Number representation and numerical error; curve fitting and interpolation; numerical differentiation and integration; solutions of systems of linear equations and nonlinear equations; solutions of ordinary and partial differential equations; optimization. Applications in electrical engineering analysis and design. Evaluation of numerical software packages.

ECSE 450 Electromagnetic Compatibility.
(3) (2-4-3) (Prerequisites: ECSE 221, ECSE 334, ECSE 352 or ECSE 353.) Electromagnetic Compatibility (EMC), regulations and EMC requirements of electronic systems, non-ideal behaviour of circuit components, signal spectra, radiated emission and susceptibility, conducted noise, crosstalk, differential mode and common mode, shielding, and system design for EMC.

ECSE 451 EM Transmission and Radiation.
(3) (3-0-6) (Prerequisite: ECSE 352) Microwave transmission through waveguides: impedance matching, microwave devices, filters and resonators; microwave transmission though free space; near and far field behaviour of electromagnetic radiators, simple antennas, antenna arrays, practical antenna parameters; the physics of the radio communication channel: reflection, diffraction and scattering and their macroscopic impact (multipath, fading).

ECSE 460 Appareillage électrique (Electrical Power Equipment).
(3) (3-2-4) (Prerequisite: ECSE 361.) (Taught in French.) (This course is offered by the Power Engineering Institute.) Éléments d'un réseau de transport. Lignes: modélisation et paramètres. Transformateurs: circuits équivalents, pertes, enclenchement, protection. Disjoncteurs: fonctionnement et dimensionnement. Équipements de compensation: condensateurs, branchement série et shunt, inductances. Coordination d'isolement.

ECSE 461 Electric Machinery.
(3) (3-0-6) (Restriction: Not open to students in Electrical Engineering.) (Note: Tutorials assigned by instructor.) Electric and magnetic circuits. Notions of electromechanical energy conversion applied to electrical machines. Basic electrical machines - transformers, direct-current motors, synchronous motors and generators, three phase and single phase induction machines. Elements of modern electronically controlled electric drive systems.

ECSE 462 Electromechanical Energy Conversion.
(3) (3-0-6) (Prerequisite: ECSE 361) Lumped parameter concepts of electromechanics. Energy, co-energy in the derivation of torques and forces. Examples of electric machines: - dc, synchronous and induction types. Steady-state, transient and stability analysis. Power electronic controllers.

ECSE 463 Matériaux de l'électrotechnique.
(3) (3-0-6) (Prerequisite: ECSE 361.) (Note: Taught in french. This course is offered by the Power Engineering Institute.) Applications de matériaux en électrotechnique: appareillage, tranformateurs, machines électriques. Matériaux conducteurs: propriétés, pertes, isolation. Matériaux magnétiques: propriétés thermiques / mécaniques, pertes, types, aimants. Matériaux isolants: conduction, pertes, claquage et performances des isolants, contraintes. Caractérisation et diagnostic: essais et analyses, mécanismes de vieillissement et de défaillance, maintenance prédictive. Considérations et équipements typiques.

ECSE 464 Power Systems Analysis 1.
(3) (3-0-6) (Prerequisite: ECSE 361) (This course is offered by the Power Engineering Institute.) Basic principles of planning and operating interconnected power systems with emphasis on Canadian conditions. Mathematical models for system. Steady-state analysis of power systems, load flow formulation and solution algorithms. Operating strategies, economic dispatch, voltage reactive power regulation, frequency and tie-line power control.

ECSE 465 Power Electronic Systems.
(3) (3-2-4) (Prerequisites: ECSE 334, ECSE 361.) (This course is offered by the Power Engineering Institute.) Introduction to power electronics: definition, applications and classification of converters. Review of analytical techniques. Overview of power semiconductor switches. Line communicated rectifiers and inverters. Switch mode power converters and modulation techniques. Choppers, inverters and rectifiers. Resonant mode converters. Application to power systems and energy conversion.

ECSE 467 Comportement des réseaux électriques.
(3) (3-0-6) (Prerequisite: ECSE 361.) (Note: Taught in French. This course is offered by the Power Engineering Institute.) Introduction: classification des phénomènes, structure d'un réseau électrique. Modélisation des composants: lignes, transformateurs, machines électriques, charges. Systèmes d'excitation des machines. Régime permanent. Stabilité de transitoire, de tension, des petits signaux. Méthodes de

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

compensation: stabilisateurs, compensation série et shunt. Oscillations sous synchrones. Phénomènes électromagnétiques transitoires. Méthodes et outils de simulation numérique.

ECSE 468 Electricité industrielle (Industrial Power Systems).
(3) (3-2-4) (Prerequisite: ECSE 361.) (This course is offered by the Power Engineering Institute.) (Taught in French.) Structure des réseaux électriques industriels. Niveau de tension. Installations électriques, codes et normes. Court-circuits, protection et coordination. Mise à la terre. Qualité de l'onde. Facteur de puissance, tarification et gestion de l'énergie électrique.

ECSE 469 Protection des réseaux électriques.
(3) (3-0-6) (Prerequisite: ECSE 361.) (Note: Taught in French. This course is offered by the Power Engineering Institute.) Généralités sur les systèmes de protection. Calculs de défauts symétriques et asymétriques. Transformateurs de mesure. Système de mise à la terre. Types de relais de protection. Protection de transformateur, de barres, de ligne de transport : philosophie et application. Conception des systèmes de protection. Homologation et essais de relais.

ECSE 474 Design Project 1.
(1) (Summer) ((0-2-1)) (Prerequisites: ECSE 211, ECSE 322, ECSE 323 and ECSE 330) A laboratory design project undertaken with close supervision by a staff member. The project consists of defining an engineering problem, reviewing relevant background and literature, and seeking the solution through numerical simulation and/or experimental investigation. A literature review, written project proposal, and seminar presentation are required.

ECSE 475 Design Project 2.
(2) (Summer) ((0-5-1)) (Prerequisite: ECSE 474.) A laboratory design project undertaken with close supervision by a staff member. A continuation of ECSE 474 Design Project 1. The work consists of carrying out the project plan developed in ECSE 474 Design Project 1 producing a report summarizing the results, and a seminar presentation.

ECSE 476 Software Engineering Design Project 1.
(1) (Summer) (Prerequisite(S): EDEC 206, COMP 302, ECSE 306, ECSE 321, and ECSE 322) Design project in software engineering.

ECSE 477 Software Engineering Design Project 2.
(2) (Summer) (Prerequisite: ECSE 476) Design project in software engineering.

❒ECSE 485 IC Fabrication Laboratory.
(2) (1-3-2) (Prerequisites: ECSE 334, EDEC 206.) (Corequisite: ECSE 432 or ECSE 533) (Limited Enrolment - 12) (Lab hours assigned by instructor.) Essential processes for silicon semiconductor device fabrication: etching, diffusion, photolithography. Fabrication of large area PN junctions, selective area PN junctions and MOSFETs. Design and fabrication of simple MOS circuits. Electrical characterization of devices and circuits.

❒ECSE 486 Power Laboratory.
(2) (1-3-2) (Prerequisites: ECSE 334, ECSE 361 and EDEC 206) (Limited Enrolment - 14) (Lab hours assigned by instructor.) Techniques of electric power, efficiency, torque, speed measurements. Starting, running and control of electric machines: dc, synchronous, induction types. Power electronic controllers. Each group of students has access to a compact experiment bench containing a set of micro-machines and all the necessary equipment.

❒ECSE 487 Computer Architecture Laboratory.
(2) (1-3-2) (Prerequisite: EDEC 206.) (Corequisite: ECSE 425) (Limited enrollment -50) (Requires Permit to Register. See Department web site.) (Lab hours assigned by instructor.) Basic software tools used in the design, synthesis and analysis of computer and communication systems such as data-paths, switching circuits, and arithmetic and logic circuits. Behavioral and structural modeling of hardware designs in the IEEE standard hardware description language VHDL. Synthesis and implementation of hardware designs using Programmable Logic Devices.

❒ECSE 488 High Frequency Laboratory.
(2) (1-3-2) (Prerequisites: ECSE 291, EDEC 206.) (Corequisite: ECSE 451.) (Limited Enrolment - 20) (Lab hours assigned by instructor.) High frequency measurement techniques. Vector network analyzer and spectrum analyzer. Resistors, capacitors and inductors at high frequencies. High-level signal handling of a high-frequency bandpass amplifier. Electromagnetic interference (EMI) and spectrum coordination. Cavity resonators. Standing waves in waveguides. Reciprocity of microwave networks. Scattering parameters of a microstrip network.

ECSE 489 Telecommunication Network Laboratory.
(2) (0-3-3) (Prerequisite: EDEC 206) (Corequisite: ECSE 414 or ECSE 528 or COMP 535.) (Lab hours assigned by instructor.) Practical insight into IP networking through hands on experience with network simulation software as well as common Internet monitoring and measurement tools. The experiments address MAC protocols, routing protocols, TCP, queuing disciplines and quality-of-service, network security and multimedia applications.

❒ECSE 490 Digital Signal Processing Laboratory.

(2) (0-3-3) (Prerequisites: ECSE 291 and EDEC 206.) (Corequisite: ECSE 412 or ECSE 512) (Limited Enrolment - 30) (Restriction: Departmental approval required) (Requires Permit to Register. See Department web site.) (Lab hours assigned by instructor.) Experiments involving the digital processing of signals using computer-aided design tools for design, processing and visualization and real-time processing using DSP chips. Filter structures and design, multi-rate signal processing, filter banks, fast transforms, adaptive filtering, signal coding and quantization.

❒ECSE 491 Communication Systems Laboratory.

(2) (0-3-3) (Prerequisites: ECSE 291 and EDEC 206.) (Corequisite: ECSE 411 or ECSE 511) (Limited Enrolment - 30) (Lab hours assigned by instructor.) Experimental studies and simulation of analog and digital transmission techniques. Performance of AM and FM systems. FSK and PSK modulation techniques and spectra. Sampling of analog signals, PCM and TDM techniques.

❒ECSE 492 Optical Communications Laboratory.

(2) (0-3-3) (Prerequisite: EDEC 206.) (Corequisite: ECSE 423 or ECSE 527.) (Lab hours assigned by instructor.) Hands-on experience of the physical layer of optical communications systems. Experiments involving optical fiber link characterization, laser measurements, beam divergence, coupling efficiency. Use of lasers, optical spectrum analyser, data generator, beam profiler, photodetectors, optical filters. Experiments are supported with simulation and analysis software.

❒ECSE 493 Control and Robotics Laboratory.

(2) (1-3-2) (Prerequisites: ECSE 291 and EDEC 206.) (Corequisite: ECSE 404 or ECSE 501.) (Limited Enrolment - 20) (Lab hours assigned by instructor.) Experimental studies for the design of control systems, with particular emphasis on motion control as applicable to robotics. Modeling of DC motors and electro-mechanical systems. Controller design in the time and frequency domain as well as state space. Experimental examples of PID, lead-lag, full state feedback and LQR controllers.

❒ECSE 494 Electrical Engineering Design Project.

(3) (0-5-4) (Prerequisites: EDEC 206 and at least 42 Departmental credits) (Limited Enrolment - 50) A laboratory design project undertaken with close supervision by a staff member. The project consists of defining an engineering problem and seeking the solution through experimental investigation. Results are reported in a seminar at the end of term and in a technical paper.

ECSE 495 Software Engineering Design Project.
(3) (Summer) ((0-5-4)) (Prerequisites: ECSE 321 and at least 42 Departmental credits from Electrical and Computer Eng. and Computer Science) Self-managed design and implementation of a complex software system according to a set or prescribed specifications.

ECSE 498 Honours Thesis 1.
(3) (Summer) ((0-3-6)) (Prerequisites: EDEC 206 and at least 42 Departmental credits) A research project undertaken with close supervision by a staff member. The work consists of defining an engineering problem, reviewing the associated literature, and seeking the solution through experimental investigation. A literature review and a written thesis proposal are required along with a seminar presentation at end of term.

ECSE 499 Honours Thesis 2.
(3) (Summer) ((0-3-6)) (Prerequisite: ECSE 498) A research project undertaken with close supervision by a staff member. A continuation of ECSE 498. The work consists of carrying out the research plan developed in ECSE 498 along with a seminar presentation at end of term.

ECSE 500 Mathematical Foundations of Systems.
(3) (3-0-6) (Restriction: Open only to graduate students within the Faculty of Engineering.) Basic set theories and algebraic structures, linear spaces, linear mappings, topological and metric spaces, separable spaces, continuity, compactness, Lebesque measure on Euclidean spaces, measurability, Banach spaces, Hilbert spaces, linear bounded operators in Banach spaces, dual spaces, adjoint operators, the Orthogonal Projection Theorem, properties of the Fourier series, convergence in probability.

ECSE 501 Linear Systems.
(3) (3-0-6) (Corequisite: ECSE 500 or permission of instructor.) Mathematical models of linear systems, fundamental solution and transition matrices, non-homogeneous linear equations, controllability and observability of linear systems, reachable subspaces, Cayley-Hamilton's Theorem, Kalman's controllability and observability rank conditions, minimal realizations, frequency response, invariant subspaces, finite and infinite horizon linear regulator problems, uniform, exponential, and input-output stability, the Lyapunov equation.

ECSE 504 Sampled Data Control.
(3) (3-0-6) (Prerequisite: ECSE 304 or ECSE 306.) (Corequisites: ECSE 404 or ECSE 501.) Sampling and aliasing. Conversion of continuous-time controllers using s-to-z transformations; pre-and post-filtering. Discrete time state representation and z-transfer function of sampled linear, time-invariant systems. Correspondence between system theoretic results for continuous- and discrete-time systems. Sampled-data design, including pole placement, LQR control and model predictive control.

ECSE 505 Nonlinear Control Systems.
(3) (3-0-6) (Prerequisite: ECSE 501) Basic ODE formulation of non-linear systems; structural properties; Lyapunov and LaSalle stability theory and nonlinear and multivariable controller design; input-output stability; small gain theorem, conservation, passivity; system linearization, zero and inverse dynamics and regulator design; discontinuous and sliding mode control; applications to deterministic adaptive control.

ECSE 506 Stochastic Control & Decision Theory.
(3) (3-0-6) (Prerequisites: ECSE 509 and ECSE 500.) Gaussian processes and tail bounds; Bandit problems and optimal policies; Markov decision processes; Dynamic programming and optimal control in discrete time; learning models control from data; the ODE method and stochastic approximation; Q-learning; Approximate dynamic programming, linear stochastic systems; linear Gaussian systems; linear-quadratic control; system identification and stochastic adaptive control.

ECSE 507 Optimization and Optimal Control.
(3) (3-0-6) (Prerequisites: MATH 264 or MATH 265 or MATH 248, MATH 270 or MATH 247) General Introduction to optimization methods including steepest descent, conjugate gradient, Newton algorithms. Generalized matrix inverses and the least squared error problem. Introduction to constrained optimality; convexity and duality; interior point methods. Introduction to dynamic optimization; existence theory, relaxed controls, the Pontryagin Maximum Principle. Sufficiency of the Maximum Principle.

ECSE 508 Multi-Agent Systems.
(3) (3-0-6) (Prerequisite: ECSE 305 or equivalent.) Introduction to game theory, strategic games, extensive form games with perfect and imperfect information, repeated games and folk theorems, cooperative game theory, introduction to mechanism design, markets and market equilibrium, pricing and resource allocation, application in telecommunication networks, applications in communication networks, stochastic games.

ECSE 509 Probability and Random Sig. 2.
(3) (3-0-6) (Prerequisites: ECSE 304 and ECSE 305) Multivariate Gaussian distributions; finite-dimensional mean-square estimation (multivariate case); principal components; introduction to random processes; weak stationarity: correlation functions, spectra, linear processing and estimation; Poisson processes and Markov chains: state processes, invariant distributions; stochastic simulation.

ECSE 510 Stochastic Processes and Systems.
(3) (3-0-6) (Prerequisite: ECSE 500 and ECSE 509 or equivalent.) Basic notions. Linear state space (SS) systems. Least squares estimation and prediction: conditional expectations; Orthogonal Projection Theorem. Kalman filtering; innovations; Riccati equation. ARMA and SS systems. Stationary processes; Wold decomposition; spectral factorization; Weiner filtering. The Weiner process; linear stochastic differential equations; continuous time filtering. Chapman-Kolmogorov, Fokker-Plank equations. Applications.

ECSE 511 Introduction to Digital Communication.
(3) (3-1-5) (Prerequisite: ECSE 304.) (Corequisite: ECSE 509) (An advanced version of ECSE 411) (Tutorials assigned by instructor.) Amplitude and angle modulation including AM, FM, FDM and television systems; introduction to random processes; sampling and quantization, PCM systems, TDM; digital modulation techniques, Maximum-Likelihood receivers, synchronization issues; elements of information theory including information sources, source coding and channel capacity.

ECSE 512 Digital Signal Processing 1.
(3) (3-1-5) (Prerequisites: ECSE 304 and ECSE 305) Review of discrete-time transforms, sampling and quantization, frequency analysis. Structures for IIR and FIR filters, coefficient quantization, roundoff noise. The DFT, its properties, frequency analysis and filtering using DFT methods, the FFT and its implementation. Multirate processing, subsampling and interpolation, oversampling techniques.

ECSE 513 Robust Control Systems.
(3) (3-0-6) (Prerequisites: ECSE 304 and ECSE 500.) Feedback interconnections of LTI systems; Nominal stability and performance of feedback control systems; Norms of signals and systems; H2-optimal control; H-infinity-optimal control; Uncertainty modeling for robust control; Robust closed-loop stability and performance; Robust H-infinity control; Robustness check using mu-analysis; Robust controller design via mu-synthesis.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ECSE 514 Probabilistic Reasoning and Artificial Intelligence.
(3) (3-0-6) (Prerequisites: COMP 206, COMP 360, COMP 424 or ECSE 526, and MATH 323 or ECSE 305.) (Restriction: Not open to students who have taken COMP 526.) Belief networks, utility theory, Markov decision processes, learning algorithms.

ECSE 515 Optical Fibre Communications.
(3) (Prerequisite(s): ECSE 304, ECSE 305 and ECSE 571) Optical fibre communication technology and principles of optical transport: modulation formats, signal propagation and impairments in optical fibres, sources of noise, amplification and regeneration, optical signal processing technologies, system design.

ECSE 516 Hybrid Control Systems.
(3) (Prerequisite(s): ECSE 500 and ECSE 501 or equivalent) (Restriction (s): Accessible only to Honours Electrical Engineering students and Graduate students in Engineering) Hybrid Control Systems specified via ODEs and automata: continuous and discrete states and dynamics; controlled and autonomous discrete state switching. Regular and exotic (e.g. chaotic and Zeno) trajectories. Stability and controllability. Hybrid Maximum Principle and Hybrid Dynamic Programming; optimal control theory and computational algorithms. Engineering, industrial and aerospace examples.

ECSE 517 Neural Prosthetic Systems.
(3) (Prerequisite(s): ECSE 303 or ECSE 306 and ECSE 305 or permission of instructor) (Restriction (s): Accessible only to Honours Electrical Engineering students and Graduate students in Engineering) Selected topics in bioengineering focusing on the principles of neural prosthetics systems (brain machine interfaces). Paralysis as a communication problem. Motor control theory receptive fields. Electrical properties of the central nervous system, modern measurement technologies, encoding and mutual information, statistical data analysis, decoding and thought prediction.

ECSE 518 Telecommunication Network Analysis.
(3) (Prerequisite(s): ECSE 414 or ECSE 528 or COMP 535 and ECSE 509) (Restriction (s): Accessible only to Honours Electrical Engineering students and Graduate students in Engineering) Mathematical modeling and analysis techniques for the control and management of modern networks. Introduction to queuing networks; birth/death processes; routing optimization and fairness; multi-commodity network flow; traffic modeling; effective bandwidth and network calculus; performance modeling.

ECSE 520 Parallel Computing Systems.
(3) (3-2-4) (Prerequisite: ECSE 427.) (Restriction: Credit will only be given for one of ECSE 420 and ECSE 520.) Parallel computing models: shared memory, message passing and data parallel. Single-chip multiprocessors. Techniques for designing scalable cache coherent shared memory multiprocessors. Programming shared memory and message passing systems. Multithreading and synchronization; interplay between parallel programming and architecture.

ECSE 521 Digital Communications 1.
(3) (3-0-6) (Prerequisite: ECSE 411 or ECSE 511.) (Corequisite: ECSE 509) Modulation: orthogonal and biorthogonal signalling, MPSK, QAM, modulation with memory. Detection: coherent, noncoherent and differentially coherent detection, performance issues and channel capacity, synchronization. Coding: block and convolutional codes, fast Hadamard Transform decoding, Viterbi algorithm, turbo-codes. Bandlimited channels: intersymbol interference, spectral shaping, correlative coding, data estimation and channel equalization.

ECSE 523 Speech Communications.
(3) (3-0-6) (Prerequisite: ECSE 412 or ECSE 512) Articulatory and acoustic descriptions of speech production, speech production models, speech perception, digital processing of speech signals, vocodors using formant, linear predictive and cepstral techniques, overview of automatic speech recognition systems, speech synthesis systems and speaker verification systems.

ECSE 524 Interconnects and Signal Integrity.
(3) (3-0-6) (Prerequisites: ECSE 334 and ECSE 352 or ECSE 353.) Interconnect structures, signal integrity issues: reflection, crosstalk, noise, electromagnetic interference, Lossy transmission lines, RLGC matrix representations, wave propagation in multilayered substrates, periodically loaded lines, Floquet's theorem, power distribution network, simultaneous switching noise, packaging structures, chip interconnection technologies, substrate integrated waveguides, methods for experimental characterization of interconnects, signal integrity CAD tools.

ECSE 526 Artificial Intelligence.
(3) (3-0-6) (Prerequisite: ECSE 322) Design principles of autonomous agents, agent architectures, machine learning, neural networks, genetic algorithms, and multi-agent collaboration. The course includes a term project that consists of designing and implementing software agents that collaborate and compete in a simulated environment.

ECSE 527 Optical Engineering.
(3) (3-0-6) (Prerequisites: ECSE 352) A structure introduction to modern optical engineering. Topics covered include the propagation of light through space, refraction, diffraction, polarization, lens systems, ray-tracing, aberrations, computer-aided design and optimization techniques, Gaussian beam analysis, micro-optics and computer generated diffractive optical elements. Systems and applications will be stressed throughout.

ECSE 528 Telecommunication Network Architecture.
(3) (3-0-6) (Prerequisite: ECSE 304 and ECSE 322) (Corequisite: ECSE 509) Introduction to the architecture of telecommunication networks; OSI Layer Model and Internet protocol stack; Peer-to-peer and overlay networks; basic queuing theory; congestion control and reliable data transfer; addressing and routing for unicast and multicast transmission; traffic scheduling and shaping; quality-of-service principles; multiple access protocols; streaming media and network security.

ECSE 529 Computer and Biological Vision.
(3) (3-0-6) (Prerequisite: ECSE 304 or ECSE 306.) Vision in man and machine, imaging process, spatial and frequency domain filters, biological vision, edge detection, intermediate features, connecting biological and psychophysical vision, science of colour.

ECSE 530 Logic Synthesis.
(3) (3-2-4) (Prerequisite: ECSE 323) The place of logic synthesis in microelectronics. Representations of Boolean functions: logic covers, binary decision diagrams. Two-level synthesis algorithms, Espresso. Multi-level synthesis to Boolean networks: don't care methods, algebraic optimizations, delay modelling. Sequential synthesis: state-based optimizations, state assignment, network optimizations. Technology mapping: library cell and FPGA mapping.

ECSE 532 Computer Graphics.
(3) (3-0-6) (Prerequisite: ECSE 322) Introduction to computer graphics systems and display devices: raster scan, scan conversion, graphical input and interactive techniques - window environments; display files: graphics languages and data structures: 2D transformations; 3D computer graphics, hidden line removal and shading; graphics system design; applications. Laboratory project involving the preparation and running of graphics programs.

ECSE 533 Physical Basis of Semiconductor Devices.
(3) (3-0-6) (Prerequisites: ECSE 330, ECSE 351 and PHYS 271) Quantitative analysis of diodes and transistors. Semiconductor fundamentals, equilibrium and non-equilibrium carrier transport, and Fermi levels. PN junction diodes, the ideal diode, and diode switching. Bipolar Junction Transistors (BJT), physics of the ideal BJT, the Ebers-Moll model. Field effect transistors, metal-oxide semiconductor structures, static and dynamic behaviour, small-signal models.

ECSE 534 Analog Microelectronics.
(3) (3-0-6) (Prerequisite: ECSE 334) Design of analog ICs using specialized analog CAD tools such as SPICE. Voltage and current amplifier design which encompasses the study of biasing circuits, current sources and mirrors, input and output stages, and frequency compensation; precision

reference sources; analog multipliers; oscillators; waveform generators and shaping circuits, and analog switches.

ECSE 535 Nanoelectronic Devices.
(3) (3-0-6) (Prerequisites: ECSE 352, PHYS 271) Physical principles and modeling of nanoelectronic devices. Bandstructure and electronic density of states, Quantum wells, wires and dots. Ballistic electron transport, tunneling and scattering mechanisms. Electrical and optical properties of nanostructures, fundamental performance limits. Research devices and materials.

ECSE 536 RF Microelectronics.
(3) (3-3-3) (Prerequisite: ECSE 334.) (Restriction: Instructor's permission required.) Introduction to Radio Frequency Integrated Circuits and wireless transceiver architectures. Modeling of passive/active integrated devices. Design of monolithic bipolar and CMOS LNAs, mixers, filters, broadband amplifiers, RF power amplifiers, VCOs, and frequency synthesizers. Analysis of noise and non-linearity in RFICs. Project using modern RFIC simulation/layout CAD tools.

ECSE 543 Numerical Methods in Electrical Engineering.
(3) (3-0-6) (Prerequisites: ECSE 322, ECSE 334 and ECSE 352) DC resistor networks and sparse matrix methods. Nonlinear electric and magnetic circuits: curve-fitting; the Newton-Raphson method. Finite elements for electrostatics. Transient analysis of circuits: systems of Ordinary differential equations; stiff equations. Transient analysis of induced currents. Solution of algebraic eigenvalue problems. Scattering of electromagnetic waves: the boundary element method; numerical integration.

ECSE 545 Microelectronics Technology.
(3) (3-0-6) (Prerequisite: ECSE 432 or ECSE 533) Basic techniques in the fabrication of microelectronic circuits. Four-point probe, alloyed contacts, diffusion processes, ion implantation epitaxy, silicon dioxide, photolithography, selected diffusion and metallization, transistor fabrication, dry etching, monolithic integrated circuits, isolation, mask making, thin and thick film components, MOS gate voltage and integrated circuits.

ECSE 547 Finite Elements in Electrical Engineering.
(3) (3-0-6) (Prerequisites: ECSE 322 and ECSE 352) Finite elements for electrostatics. Energy minimization. Semi-conductors. Nonlinear magnetics and Newton-Raphson. Axisymmetric problems. Capacitance, inductance, and resistance through finite elements. Resonance: cavities, waveguides. High order and curvilinear elements.

❒ECSE 548 Introduction to VLSI Systems.
(3) (2-2-5) (Prerequisites: ECSE 334 and ECSE 323) (Restriction: Instructor's permission required.) (Lab hours assigned by instructor.) An interdisciplinary course for electrical engineering and computer science students. A structured design methodology for managing the complexity of VLSI system design. Sufficient information on integrated devices, circuits, digital subsystems and system architecture is presented to enable students to span the range of abstractions from device physics to VLSI digital systems.

ECSE 549 Expert Systems in Electrical Design.
(3) (3-0-6) (Prerequisites: ECSE 323 and ECSE 361) Design processes in electrical engineering. Hierarchical design. Computer aided design. Expert system technology. Device representations, heuristics and structures, algebraic models. Design versus diagnosis, "Shallow" and "Deep" systems, second generation (multi-paradigm) systems. Shells and their uses in design systems. Knowledge acquisition systems.

ECSE 559 Flexible AC Transmission Systems.
(3) (3-0-6) (Prerequisites: ECSE 334 and ECSE 361) Operating principles of controllers of flexible AC transmission systems (FACTS). Transformer, thyristor and gate- turn- off thyristor (GTO) technologies. Modulation methods: harmonic elimination, pulse width modulation. Applications in: shunt and series advanced static VAR Controllers (ASVC), phase shifters, unified power flow controllers (UPFC).

ECSE 563 Power Systems Operation and Planning.
(3) (3-0-6) (Prerequisite: ECSE 361) Design and operation of large scale power systems: Temporal, spatial and hierarchical decomposition of tasks. Local vs. distributed control. Load-frequency control. Voltage and speed regulation. Interconnected power systems. Power flow. Security states. Optimal operation of power systems. Power system reliability.

ECSE 565 Introduction to Power Electronics.
(3) (3-0-6) (Prerequisite: ECSE 334) Semiconductor power switches - thyristors, GTO's, bipolar transistors, MOSFET's. Switch mode power amplifiers. Buck and boost principles. Modulation methods -PWM, delta, hysteresis current control. Rectifiers, inverters, choppers.

ECSE 570 Automatic Speech Recognition.
(3) (3-0-6) (Prerequisites: ECSE 305 and ECSE 322.) Acoustic phonetics and signal representations. Pattern classification, stochastic modeling, language modeling and search algorithms as applied to speech recognition. Techniques for robustness, integration of speech recognition with other user interface modalities, and the role of automatic speech recognition in speech understanding.

ECSE 571 Optoelectronic Devices.
(3) (3-0-6) (Prerequisites: ECSE 352) (Corequisite: ECSE 533) Physical basis of optoelectronic devices including Light Emitting Diodes, semiconductor optical amplifiers, semiconductor lasers, quantum well devices, and solid state lasers. Quantitative description of detectors, optical modulation, optical logic devices, optical interconnects, and optomechanical hardware. Throughout the course, photonic systems applications will be addressed.

ECSE 572 Nonlinear Optics.
(3) (3-0-6) (Prerequisite: ECSE 352) Nonlinear optical processes and their applications: optical fibres, waveguides and crystals. Origin of second- and third-order nonlinear susceptibility, symmetry properties, coupled-wave propagation, phase-matching techniques, sum- and difference frequency generation, parametric amplification, four-wave mixing, self- and cross-phase modulation, soliton propagation, Raman scattering and the electro-optic effect.

ECSE 573 Microwave Electronics.
(3) (3-0-6) (Prerequisite: ECSE 432 or ECSE 533) Physical basis of modern microwave devices and circuits. Microwave transistors and tunnel diodes, transferred electron devices, transit time devices and infra red devices. Microwave generation and amplification, microwave FET circuits. Noise and power amplification.

ECSE 574 CMOS Sensor Microsystems.
(3) (3-0-6) (Prerequisite: ECSE 485) CMOS sensor microsystems, fundamentals of microfabrication, micromachining technology, recognition elements, CMOS signal detection components, and sensor system integration and packaging.

ECSE 593 Antennas and Propagation.
(3) (3-0-6) (Prerequisites: ECSE 303 and ECSE 352.) Fundamentals of antenna theory: sources, radiation pattern and gain. Classification of antennas. Main antenna types and their characteristics. Antenna temperature, remote sensing and radar cross-section. Self and mutual impedances. Special topics include adaptive antennas, very large array (VLA) used in

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

radio astronomy and biomedical applications.

ECSE 596 Optical Waveguides.
(3) (3-0-6) (Prerequisite: ECSE 352) An in-depth analysis to guided-wave propagation. Dielectric waveguides (slab, 2D, nonlinear, spatial solitons), optical fibers (modes, dispersion relations, propagation in dispersive, nonlinear fibers, temporal solitons), beam propagation method, coupled mode theory, waveguide devices (couplers, gratings, etc.). Selection of current research topics of interest (e.g. photonic crystals, optical signal processing, etc.)

ECSE 597 Circuit Simulators.
(3) (3-0-6) (Prerequisites: ECSE 303, ECSE 330 and ECSE 352) Principles of circuit simulation. Formulation of network equations. Frequency domain analysis. Nonlinear networks. Transient analysis. Sensitivity analysis and optimization. Model order reduction. High-speed interconnect analysis. Complex frequency hopping. Analysis of radio frequency circuits.

FACC-Faculty Course

Offered by: Engineering - Dean's Office

FACC 100 Introduction to the Engineering Profession.
(1) (1-0-2) Introduction to engineering practice; rights and code of conduct for students; professional conduct and ethics; engineer's duty to society and the environment; sustainalbe development; occupational health and safety; overview of the engineering disciplines taught at McGill.

FACC 200 Industrial Practicum.
(0) (Must be taken as early as possible in the student's program, typically the first term) The purpose of this course is to expose engineering students to engineering practice in industry. It consists of a minimum of three months of full-time remunerated work in industry, typically done during the summer. The course is administered by the McGill Engineering Career Centre.

FACC 220 Law for Architects and Engineers.
(3) (3-0-6) Aspects of the law which affect architects and engineers. Definition and branches of law; Federal and Provincial jurisdiction, civil and criminal law and civil and common law; relevance of statutes; partnerships and companies; agreements; types of property, rights of ownership; successions and wills; expropriation; responsibility for negligence; servitudes/easements, privileges/liens, hypothecs/ mortgages; statutes of limitations; strict liability of architect, engineer and builder; patents, trade marks, industrial design and copyright; bankruptcy; labour law; general and expert evidence; court procedure and arbitration.

FACC 500 Technology Business Plan Design.
(3) (3-0-6) (Prerequisite: MIME 310 or permission of Instructor.) (Recommended to be taken in combination with FACC 501.) This course combines several management functional areas such as marketing, financial, operations and strategy with the skills of creativity, engineering innovation, leadership and communications. Students learn how to design an effective and winning business plan around a technology or engineering project in small, medium or large enterprises.

FACC 501 Technology Business Plan Project.
(3) (1-0-8) (Prerequisite: FACC 500 or Permission of Instructor.) (Restrictions: Not open to students who have taken FACC 480.) (Recommended to be taken in combination with FACC 500.) Students work in teams to develop a comprehensive business plan project based on a technological or engineering innovation while utilizing site visits.

MECH-Mechanical Engineering

Offered by: Mechanical Engineering

MECH 201 Introduction to Mechanical Engineering.
(2) (3-0-3) The practice of Mechanical Engineering: its scope and context. The role of Design. Introduction to the Design process. The role of engineering analysis and socio-economic factors in Design. Introduction to the individual mechanical engineering subjects and their role in Design. Case studies.

MECH 210 Mechanics 1.
(2) (2-1-3) Static equilibrium of particles and rigid bodies. Beams, trusses, frames and machines. Concept of work and energy. Static equilibrium and stability.

MECH 220 Mechanics 2.
(4) (4-1-7) (Prerequisites: MECH 210 and (MATH 260 or MATH 262). Pre-/Co-requisite: MATH 261 or MATH 263.) Kinematics of particles and rigid bodies. Particle dynamics: force-momentum and work-energy approaches. Kinematics and kinetics of rigid bodies.

MECH 240 Thermodynamics 1.
(3) (3-1-5) Thermodynamic systems and properties. First law of thermodynamics: energy, work and heat. State principle, p-v-T surfaces, phase equilibrium, ideal gas model. Second law of thermodynamics, entropy, exergy analysis. Energy analysis applied to steady and transient engineering systems including heat engines, refrigerators and heat pumps, air compressors.

❒MECH 260 Machine Tool Laboratory.
(2) (Summer) ((1-3-2)) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) (This course in the Faculty of Engineering is open only to McGill students.) Basic machine tool operations, numerical control of machine tools, and metrology. The use of hand tools, and sheet metal work. Introduction to rapid prototyping and nontraditional machining methods. Extensive laboratory hands-on exercises.

MECH 261 Measurement Laboratory.
(2) (2-3-1) (Restriction: Civil Engineering students) Basic experimental laboratory measurements, such as measurement of strain, pressure, force, position, and temperature.

MECH 262 Statistics and Measurement Laboratory.
(3) (3-3-3) Introduction to probability: conditional probability, binomial and Poisson distributions, random variables, laws of large numbers. Statistical analysis associated with measurements; regression and correlation. Basic experimental laboratory techniques, including the measurement of strain, pressure, force, position, and temperature.

MECH 289 Design Graphics.
(3) (3-3-3) (Restriction: Not open to students who have taken MECH 290 or MECH 291.) Preliminary concepts of design, including free-hand sketching; fundamentals of geometry construction; and technology of object representation.

MECH 292 Conceptual Design.
(3) (1-3-5) (Prerequisites: MECH 260 and MECH 289 or MECH 291. Pre-/Co-requisite: CIVE 207) Introduction to design. Problem formulation; idea generation; feasibility study; preliminary design; design; analysis, design evaluation, project management, and optimal design.

MECH 309 Numerical Methods in Mechanical Engineering.
(3) (3-1-5) (Prerequisites: MATH 261 or MATH 263, MATH 266 or MATH 271, COMP 208.) Numerical techniques for problems commonly encountered in Mechanical Engineering are presented. Chebyshev interpolation, quadrature, roots of equations in one or more variables, matrices, curve fitting, splines and ordinary differential equations. The emphasis is on the analysis and understanding of the problem rather than the details of the actual numerical program.

MECH 314 Dynamics of Mechanisms.
(3) (3-1-5) (Prerequisite: MECH 220.) First principles of analysis; motion; position; displacement; velocity; acceleration; force; inertia and its effects. Kinematic and dynamic analysis of rigid bodies in pure rotation and in pin-connected systems; dynamic balance. Rigid bodies in rolling contact; planetary gear-trains. Bodies in sliding contact; lower and higher sliding pairs.

MECH 315 Mechanics 3.
(4) (4-1-7) (Prerequisites: MECH 220 and (MATH 266 or MATH 271). Pre-/Co-requisite: CIVE 207.) Single-degree-of-freedom systems; free vibrations; effect of damping; response to harmonic, periodic and arbitrary excitation. Lagrange's equations of motion. Vibrations of multi-degree-of-freedom systems. Continuous systems.

MECH 321 Mechanics of Deformable Solids.
(3) (3-1-5) (Prerequisite: CIVE 207) Modern phenomenological theories of the behaviour of engineering materials. Stress and strain concepts and introduction to constitutive theory. Applications of theory of elasticity and thermoelasticity. Introduction to finite element stress analysis methods.

MECH 331 Fluid Mechanics 1.
(3) (3-1-5) (Prerequisite: MECH 210. Pre-/Co-requisites: MECH 220, MECH 240 and (MATH 266 or MATH 271).) Physical properties of fluids. Kinematics and dynamics of fluid flow: stress in a continuum, rates of strain, rotation. Control volume analysis; conservation of mass, linear momentum and energy; Euler and Bernoulli equations; Flow measurement. Dimensional analysis and dynamical similarity. Laminar and turbulent flow in pipes and boundary layers.

MECH 341 Thermodynamics 2.
(3) (4-0-5) (Prerequisite: MECH 240) Generalized thermodynamics relations. Real gas effects, gas tables, dense gas equations of state and generalized compressibility, enthalpy, and entropy charts. Vapour and gas power cycles (coal/nuclear power plants). Refrigerators and heat pumps. Psychrometry and air conditioning processes. Thermodynamics of reactive gas mixtures.

MECH 346 Heat Transfer.
(3) (3-1-5) (Prerequisites: MECH 240 or BREE 301, MECH 331 or BREE 305, MATH 266 or MATH 271 or AEMA 305 or BREE 319) Basic concepts and overview. Steady and unsteady heat conduction. Fin Theory. Convective heat transfer: governing equations; dimensionless parameters; analogy between momentum and heat transfer. Design correlations for forced, natural, and mixed convection. Heat exchangers. Radiative heat transfer: black- and gray-body radiation; shape factors; enclosure theory. Thermal engineering design project.

MECH 362 Mechanical Laboratory 1.
(2) (0-3-3) (Prerequisite: MECH 261 or MECH 262 or BREE 216) Experiments will be performed in four areas: MECH 240 Thermodynamics, MECH 315 Vibrations, MECH 331 Fluid Mechanics 1, and MECH 346 Heat Transfer. Students should sign up to do experiments in one or more areas the term following the completion of one or more of the above courses. Students will not formally register for this course until the term in which they will complete all of the experiments.

MECH 383 Applied Electronics and Instrumentation.
(3) (3-2-4) (Prerequisites: MECH 261 or MECH 262, and (MATH 261 or MATH 263).) Discrete and integrated components, both analogue and digital. Characteristics of passive elements. Semiconductors, amplifiers, filters, oscillators, modulators, power supplies and nonlinear devices. Introduction to digital electronics. Transducer/signal conditioner interfacing considerations.

MECH 393 Machine Element Design.
(3) (3-1-5) (Prerequisites: MECH 260 and (MECH 289 or MECH 291) and CIVE 207 and EDEC 206. Pre-/co-requisites: MECH 292 and MECH 314 and MIME 260.) The design of machine elements for strength requirements in consideration of various methods of manufacture. Synthesis of mechanical systems to fulfill performance requirements, following the engineering design process. Static and fatigue failure prevention. Students form groups to work on a design project.

MECH 403D1 (3), MECH 403D2 (3) Thesis (Honours).
(0-6-12) (Prerequisite: Candidates must have completed courses in the Mechanical Engineering Program weighted at a minimum of 60 credits.) (Students must register for both MECH 403D1 and MECH 403D2.) (No credit will be given for this course unless both MECH 403D1 and MECH 403D2 are successfully completed in consecutive terms) This course, together with course MECH 404 involves a research project containing an explicit component of design, encompassing interrelated aspects of engineering theory and requiring a theoretical and/or experimental investigation. Students will work under the supervision of one or more staff members; completed work will be submitted in the form of a thesis.

MECH 403N1 (3), MECH 403N2 (3) Thesis (Honours).
(Students must also register for MECH 403N2) (No credit will be given for this course unless both MECH 403N1 and MECH 403N2 are successfully completed in a twelve month period) This course, together with course MECH 404 involves a research project containing an explicit component of design, encompassing interrelated aspects of engineering theory and requiring a theoretical and/or experimental investigation. Students will work under the supervision of one or more staff members; completed work will be submitted in the form of a thesis.

MECH 404 Honours Thesis 2.
(3) (0-6-3) (Corequisite: MECH 403) This course is part of the same thesis project as course MECH 403.

MECH 412 Dynamics of Systems.
(3) (3-1-5) (Prerequisites: MECH 309 or MATH 317, MECH 315. Pre-/Co-requisite: MECH 331) Modelling of physical systems by lumped-parameter linear elements. Unified treatment of mechanical, fluid, electrical, and thermal devices and systems. State space, formulation of state equations, time response. Frequency-response methods. Dynamic response specifications. Stability. Elementary feedback control systems. Extensive use of engineering examples and software tools.

MECH 419 Advanced Mechanics of Systems.
(4) (3-0-9) (Prerequisites: MECH 220, CIVE 207, (MATH 264 or MATH 265) and (MATH 266 or MATH 271).) Lagrange's equations of motion. Hamilton's principle. Variational methods. Discrete linear systems: analytical and numerical methods. Distributed parameter systems: exact solutions and discretization techniques. Electrical-mechanical-acoustical analogies. Stability of systems. Nonlinear dynamics: phase-plane, perturbation and other methods of solution.

MECH 430 Fluid Mechanics 2.
(3) (3-1-5) (Prerequisites: MECH 331 and MECH 240.) Review of thermodynamics of gases, one dimensional isentropic flow and choking. Nozzles and wind tunnels. Normal shock waves. Flow in constant area ducts with friction and heat exchange. Compressible irrotational flow. Oblique shock waves and Prandtl-Meyer expansion. Supersonic aerofoil and wing theory.

MECH 432 Aircraft Structures.
(3) (3-0-6) (Prerequisites: MECH 331 and MECH 321) Plane stress and strain. Theories of failure. Plastic and viscoelastic stress-strain relations. External and internal forces in spars. Bending, deflection of beams, plastic deformation and aeroelastic distortion of wings and fuselage. Structural characteristics of wings. Torsion of wings and related critical aeroelastic design parameters; divergence and aeroelastic twist. Energy methods. Buckling in aeronautical structures. Flutter.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MECH 434 Turbomachinery.
(3) (3-0-6) (Prerequisite: MECH 331) A broad general treatment of energy transfer between a fluid and a rotor, velocity vector diagrams, and non-dimensional characteristics. Applications to hydraulic pumps and turbines. Two dimensional cascade theory leading to study of axial gas compressors and turbine stages. Three dimensional free and forced vortex configurations. Centrifugal compressors and radial inflow turbines.

MECH 447 Combustion.
(3) (3-0-6) (Prerequisite: MECH 240) Equilibrium analysis of reacting systems, Hugoniot analysis, flame propagation mechanisms, introduction to chemical kinetics, models for laminar flame propagation, ignition, quenching, flammability limits, turbulent flames, flame instability mechanisms, detonations, solid and liquid combustion.

MECH 463D1 (3), MECH 463D2 (3) Mechanical Engineering Project.
(1-3-5) (Prerequisite: MECH 393) (Students must register for both MECH 463D1 and MECH 463D2.) (No credit will be given for this course unless both MECH 463D1 and MECH 463D2 are successfully completed in consecutive terms) Team project work typically involving the design, fabrication, verification, and application of a mechanical device/system, or experimental facility. The project work is complemented with lectures in the Fall term on topics related to design and management of design projects. Emphasis is on the completion of a project of professional quality.

MECH 474 Selected Topics in Operations Research.
(3) (3-0-6) (Prerequisites: (MATH 266 or MATH 271) and COMP 208) Introduction to the general mathematical programming problem in the context of engineering design; linear programming, queuing theory, Monte Carlo simulation. The above techniques will be used to study the optimization of engineering systems.

MECH 494 Honours Design Project.
(3) (0-6-3) (Prerequisite: MECH 292) (Restriction: Mechanical Engineering Honours students.) An advanced design project course with emphasis on analytical solutions, performance prediction and validation, and planning for production.

MECH 497 Value Engineering.
(3) (0-8-1) (Prerequisites: MECH 393 and completion of 45 credits) Value Engineering is an in-depth analysis of an industrial product or process with a view to improving its design and/or performance to increase its worth. This is a workshop type of course. Projects will be supplied by industrial firms and students will work in teams with industrial personnel.

MECH 498 Interdisciplinary Design Project 1.
(3) (1-2-6) Completion of an individual project on an interdisciplinary theme with emphasis on a balanced combination on analysis and synthesis.

MECH 499 Interdisciplinary Design Project 2.
(3) (1-2-6) (Corequisite: MECH 498.) The individual project initiated in MECH 498 is continued and finalized in this course.

MECH 500 Selected Topics in Mechanical Engineering.
(3) (3-0-6) A course to allow the introduction of new topics in Mechanical Engineering as needs arise, by regular and visiting staff.

MECH 501 Special Topics: Mechanical Engineering.
(3) (3-0-6) A course to allow the introduction of new topics in Mechanical Engineering as needs arise, by regular and visiting staff.

MECH 502 Topics in Mechanical Engineering.
(3) A course to allow the introduction of new topics in Mechanical Engineering as needs arise, by regular and visiting staff.

MECH 513 Control Systems.
(3) (3-1-5) (Prerequisite: MECH 412 or MECH 419.) (Restriction: Not open to students who have taken MECH 413.) Stability: Lyapunov, Routh-Hurwitz and Nyquist criteria. Root-locus design of feedback control systems. Controller design based on polynomial methods and internal model principle. Frequency-response controller design. State feedback control. Controllability, observability, LQR, full- and reduced-order observer design. Robust control design. Optimization problems in control.

MECH 515 Unsteady Gasdynamics 1.
(3) (3-1-5) (Prerequisites: MECH 341, MECH 430.) (Restriction: Not open to students who have taken MECH 615) Fundamentals of unsteady gasdynamics. Shock and detonation waves in gases and condensed material. Condensed explosives: hydrodynamic theory, equations of state, initiation. Shock interactions. Blast wave theory, similarity methods, blast scaling.

MECH 516 Computational Gasdynamics.
(3) (Prerequisite(s): MECH 430 or permission of instructor) Fundamentals of computational fluid dynamics. Numerical methods for hyperbolic conservation laws: first- and higher-order upwind schemes; monotonicity and Godunov theorem; total-variation-diminishing schemes; Riemann solvers; treatment of source terms; multi-dimensional methods. Introduction to grid generation and adaptation. Methodology for the comparison of numerical and experimental results.

MECH 522 Production Systems.
(3) (3-0-6) Characteristics of production systems. System boundaries, input-output, feedback time-lag effects, dynamics of production systems. Design for manufacturability. Process planning, process/machine tool selection, break-even analysis, CAPP. Production planning, scheduling and control of operations; quality management. Competitive strategies; FMS, CIM. Hands-on experience with production modelling and industrial simulation software.

❒MECH 524 Computer Integrated Manufacturing.

(3) (3-0-6) (Prerequisite: Permission of the instructor) A study of the present impact of computers and automation on manufacturing. Computer-aided systems. Information modelling. Information system structures. Study of several types of production systems. Integration issues: inter-and intra-enterprise. Laboratory experience with manufacturing software systems.

❒MECH 526 Manufacturing and the Environment.

(3) (Summer) ((3-0-6)) (Prerequisite (Undergraduate): Permission of the instructor) (This course in the Faculty of Engineering is open only to McGill students.) Course topics include: clean manufacturing, product and process design for minimizing materials and energy use, the product life cycle, impact of technology on the environment, environmental impact assessment, regulatory process, and managing the "political" process.

❒MECH 528 Product Design.
(3) (3-0-6) (Prerequisite (Undergraduate): Permission of the instructor) A study of the design issues present in product life cycle demands. Computer-aided systems. Rapid prototyping. Design for manufacturability. Integration of mechanics, electronics and software in products. Effect on design of product cost, maintainability, recycling, marketability.

❒MECH 529 Discrete Manufacturing Systems.

(3) (Summer) ((3-0-6)) (Prerequisite (Undergraduate): Permission of the instructor) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) (This course in the Faculty of Engineering is open only to McGill students.) An overview of present day production machines and systems with special emphasis on automation, computer control and integration techniques. Material handling, automatic inspection, process monitoring, maintenance. Socio-economic and environmental issues. Laboratory experience with factory simulation.

MECH 530 Mechanics of Composite Materials.
(3) (3-0-6) (Corequisite: MECH 321 or equivalent/instructor's permission.) Fiber-reinforced composites. Stress, strain, and strength of composite laminates and honeycomb structures. Failure modes and failure criteria. Environmental effects. Manufacturing processes. Design of composite structures. Computer modelling of composites. Computer techniques are utilized throughout the course.

MECH 531 Aeroelasticity.
(3) (3-1-5) (Prerequisite (Undergraduate): MECH 419 or MECH 315 and MECH 533) (Prerequisite (Graduate): MECH 533) Wing divergence using strip-theory aerodynamics. Effect of aircraft flexibility on the control and stability. Flutter calculations for two-dimensional wings with discussion of three-dimensional effects. Some examples of aeroelastic instability, and the relevant analysis of non-aeronautical problems.

MECH 532 Aircraft Performance, Stability and Control.
(3) (3-1-5) (Prerequisite (Undergraduate): (MECH 412 or MECH 419), MECH 533) (Prerequisite (Graduate): MECH 533) Aircraft performance criteria such as range, endurance, rate of climb, maximum ceiling for steady and accelerated flight. Landing and take-off distances. Static and dynamic stability in the longitudinal (stick-fixed and stick-free) and coupled lateral and directional modes. Control response for all three modes.

MECH 533 Subsonic Aerodynamics.
(3) (3-1-5) (Prerequisite (Undergraduate): MECH 331) Kinematics: equations of motion; vorticity and circulation, conformal mapping and flow round simple bodies. Two-dimensional flow round aerofoils. Three-dimensional flows; high and low aspect-ratio wings; airscrews. Wind tunnel interference. Similarity rules for subsonic irrotational flows.

MECH 534 Air Pollution Engineering.
(3) (3-0-6) (Prerequisite (Undergraduate): MECH 331, MECH 341.) Pollutants from power production and their effects on the environment. Mechanisms of pollutant formation in combustion. Photochemical pollutants and smog, atmospheric dispersion. Pollutant generation from internal combustion engines and stationary power plants. Methods of pollution control (exhaust gas treatment, absorption, filtration, scrubbers, etc.).

MECH 535 Turbomachinery and Propulsion.
(3) (Prerequisite: MECH 331.) (Restriction: Not open to students who have taken MECH 434.) Introduction to propulsion: turboprops, turbofans and turbojets. Review of thermodynamic cycles. Euler turbine equation. Velocity triangles. Axial-flow compressors and pumps. Centrifugal compressors and pumps. Axial-flow turbines. Loss mechanisms. Dimensional analysis of turbomachines. Performance maps. 3-D effects. Introduction to numerical methods in turbomachines. Prediction of performance of gas turbines.

MECH 537 High-Speed Aerodynamics.
(3) (3-0-6) (Pre/Corequisite (Undergraduate): MECH 533) Equations of compressible flows. Planar and conical shock waves. Expansion and shock wave interference; shock tubes. Method of characteristics. Supersonic nozzle design. Aerofoil theory in high subsonic, supersonic and hypersonic flows. Conical flows. Yawed, delta and polygonal wings; rolling and pitching rotations. Wing-body systems. Elements of transonic flows.

MECH 538 Unsteady Aerodynamics.
(3) (3-0-6) (Prerequisite (Undergraduate): MECH 533) Fundamental equations of unsteady compressible flows in fixed or moving reference frames. Unsteady flows past bodies in translation and having oscillatory motions. Oscillations of cylindrical pipes or shells subjected to internal flows. Vortex theory of oscillating aerofoils in incompressible flows. Theodorsen's method. Unsteady compressible flow past oscillating aerofoils.

MECH 539 Computational Aerodynamics.
(3) (3-0-6) (Prerequisite: MECH 309 or MATH 317, MECH 533.) Fundamental equations. Basic flow singularities. Boundary element methods. Source, doublet and vortex panel methods for 2D and 3D incompressible and compressible flows. Method of characteristics. Euler equations for inviscid rotational flows. Finite-difference and finite-volume methods. Explicit and implicit time-integration methods. Quasi 1D solutions. Nozzle and confined aerofoil applications.

MECH 541 Kinematic Synthesis.
(3) (3-0-6) (Prerequisite: MECH 309 or MATH 317 or permission of the instructor.) The role of kinematic synthesis within the design process. Degree of freedom. Kinematic pairs and bonds. Groups and subgroups of displacements. Applications to the qualitative synthesis of parallel-kinematics machines with three and four degrees of freedom. Function, motion and path generation problems in planar, spherical and spatial four-bar linkages. Extensions to six-bar linkages. Cam mechanisms.

MECH 542 Spacecraft Dynamics.
(3) (3-0-6) (Prerequisite (Undergraduate): MECH 220. Corequisite: MECH 412 or MECH 419) Review of central force motion; Hohmann and other coplanar transfers, rotation of the orbital plane, patched conic method. Orbital perturbations due to the earth's oblateness, solar-lunar attraction, solar radiation pressure and atmospheric drag. Attitude dynamics of a rigid spacecraft; attitude stabilization and control; attitude manoeuvers; large space structures.

MECH 543 Design with Composite Materials.
(3) (3-3-3) (Prerequisite: MECH 530) Material systems/selection process. Cost vs. performance. Laminate layup procedures. Theory and application of filament winding of composite cylinders. Regular oven and autoclave oven curing, analysis of resulting material performance. Practical design considerations and tooling. Analysis of environmental considerations. Joining techniques. Analysis of test methods. Theory of repair techniques.

MECH 544 Processing of Composite Materials.
(3) (3-0-6) (Prerequisite: MECH 530 or permission of instructor.) (Restriction: This course requires the use of a finite element software, so experience with finite elements is recommended.) Composite processing science basic principles. Reinforcement properties; permeability, compaction. Resin properties; curing, viscosity, shrinkage. Heat transfer and cure kinetics; cure cycle optimization. Resin flow; infusion, thickness variations, fiber volume fraction distribution. Residual stresses; tool-part interaction, warpage control, spring-back, tool design. Thermoplastic composites; crystallization control, melting and consolidation.

MECH 545 Advanced Stress Analysis.
(3) (3-1-5) (Prerequisite (Undergraduate): CIVE 207 and MECH 321) Tensor Analysis: Review of continuum mechanics. Equilibrium and constitutive equations in tensor form. Finite element methods. Torsion of non-circular cross-sections; spherical problems; advanced Airy stress function problems. Introduction to plates and shells. Thermal deformations and stresses. Introduction to plasticity and viscoelasticity.

MECH 546 Finite Element Methods in Solid Mechanics.
(3) (3-0-6) (Prerequisites: MECH 315 or MECH 419, and MECH 321, or Instructor's permission.) (Restriction: Not open to students who have taken MECH 645.) Discrete systems; variational formulation and approximation for continuous systems; direct and variational methods of element formulation in 1- 2- and 3 dimensions; formulation of isoparametric finite elements; plate and shell elements; finite element method for static analysis, vibration analysis and structural dynamics;

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

introduction to nonlinear problems.

MECH 553 Design and Manufacture of Microdevices.
(3) (3-0-6) (Prerequisite: Instructors' Permission.) Introduction to microelectromechanical systems (MEMS). Micromachining techniques (thin-film deposition; lithography; etching; bonding). Microscale mechanical behaviour (deformation and fracture; residual stresses; adhesion; experimental techniques). Materials- and process-selection. Process integration. Design of microdevice components to meet specified performance and reliability targets using realistic manufacturing processes.

MECH 554 Microprocessors for Mechanical Systems.
(3) (2-3-4) (Prerequisite (Undergraduate): MECH 383 and COMP 208) Digital logic and circuits - asynchronous and synchronous design. Microcontroller architectures, organization and programming - assembly and high-level. Analog/ digital/hybrid sensors and actuators. Sensing and conditioning subsystems. Interfacing issues. Real-time issues. Operator interfaces. Laboratory exercises on digital logic design, interfacing and control of peripherals with a final team project.

MECH 557 Mechatronic Design.
(3) (3-1-5) (Prerequisite (Undergraduate): ECSE 461, MECH 383 and (MECH 412 or MECH 419)) Team project course on the design, modelling, model validation, and control of complete mechatronic systems, constructed with modern sensors, actuators, real-time operating systems, embedded controllers, and intelligent control.

MECH 561 Biomechanics of Musculoskeletal Systems.
(3) (3-0-6) (Prerequisite (Undergraduate): MECH 321 and (MECH 315 or MECH 419)) The musculoskeletal system; general characteristics and classification of tissues and joints. Biomechanics and clinical problems in orthopaedics. Modelling and force analysis of musculoskeletal systems. Passive and active kinematics. Load-deformation properties of passive connective tissue, passive and stimulated muscle response. Experimental approaches, case studies.

MECH 562 Advanced Fluid Mechanics.
(3) (3-0-6) (Prerequisite: MATH 271 or permission of instructor.) Conservation laws, control volume analysis, Navier stokes equations, dimensional analysis and limiting forms of N-S equation, laminar viscous flows, boundary layer theory, inviscid potential flows, lift and drag, introduction to turbulence.

MECH 563 Biofluids and Cardiovascular Mechanics.
(3) (3-0-6) (Prerequisites: CHEE 314 or MECH 331 or permission of instructor) (Restriction: Not open to students who have taken CHEE 563) Basic principles of circulation including vascular fluid and solid mechanics, modeling techniques, clinical and experimental methods and the design of cardiovascular devices.

MECH 565 Fluid Flow and Heat Transfer Equipment.
(3) (3-1-5) (Prerequisite (Undergraduate): MECH 240, MECH 309 or MATH 317, MECH 331, MECH 341, MECH 346 or permission of the instructor.) Pipes and piping systems, pumps, and valves. Fans and building air distribution systems. Basic thermal design methods for fins and heat exchangers. Thermal design of shell-and-tube and compact heat exchangers.

MECH 566 Fluid-Structure Interactions.
(3) (3-0-6) (Prerequisite: MECH 315 or MECH 419 or equivalent.) Pipes and cylindrical shells containing flow: fundamentals and applications in ocean mining, Coriolis mass-flow meters, heat exchangers, nuclear reactors and aircraft engines; chaos. Cylinders in axial flow and in cross-flow; vortex-shedding and galloping. Cylinder arrays in cross-flow; fluidelastic instabilities. Ovalling of chimneys.

MECH 572 Introduction to Robotics.
(3) (3-0-6) (Prerequisite (Undergraduate): (MATH 266 or MATH 271) and MECH 220 or permission of the instructor) (Restriction: Not open to students who have taken MECH 573) Overview of the field of robotics. Kinematics, statics, singularity analysis and workspace of serial robots with decoupled architecture. Direct and inverse kinematics and dynamics. Algorithms for manipulator kinematics and dynamics.

MECH 573 Mechanics of Robotic Systems.
(3) (3-0-6) (Prerequisite: MECH 309 or MATH 317, and MECH 572 or permission of the instructor.) (Since the course is open to both undergraduate and graduate students, and B- is the minimum passing mark for graduate students, this minimum mark will be relaxed for undergraduates. The regulations applicable to undergraduates will apply accordingly.) Manipulator performance and design. Pick-and-place and continuous-path operations. Computation of rigid-body angular velocity and acceleration from point-data measurements. Inverse kinematics of serial manipulators with coupled architectures; kinetostatics of multifingered hands and walking machines. Kinematics and dynamics of parallel manipulators and wheeled mobile robots.

MECH 576 Computer Graphics and Geometrical Modelling.
(3) (2-3-4) (Prerequisite (Undergraduate): (MATH 266 or MATH 271) and (MECH 309 or MATH 317) and (MECH 289 or MECH 290 or MECH 291) or permission of the instructor.) Review of pertinent linear algebra and projective geometry. Explicit, implicit and parametric polynomial forms. Splines: curves and surfaces. Properties: curvature, twist, continuity. Ruled surfaces and other quad patches. Constructive solid models; Octree/Voxel, sweep wire frame, Boolean, boundary representation. Mechanical Engineering applications.

MECH 577 Optimum Design.
(3) (2-3-4) (Prerequisite: MECH 309 or MATH 317 or permission of the instructor) The role of optimization within the design process: Design methodology and philosophy. Constrained optimization: The Kuhn-Tucker conditions. Techniques of linear and non-linear programming. The simplex and the complex methods. Sensitivity of the design to manufacturing errors. Robustness of the design to manufacturing and operation errors.

MECH 578 Advanced Thermodynamics.
(3) (3-0-6) Review of classical mechanics; Boltzmann statistics, thermodynamics of ideal gases; Fermi-Dirac and Bose-Einstein statistics, Gibbsian ensembles; elementary kinetic theory of transport processes, Boltzmann equation, Boltzmann H-theorem and entropy, KBG approximation, discussion on the solution of Boltzmann equation; Maxwell transport equations, derivation of Navier Stokes equations.

MECH 593 Design Theory and Methodology.
(3) (3-0-6) (Prerequisite: Permission of instructor.) The overall design process is scrutinized within a discipline-independent framework. The nature of design as a creative engineering activity. The polarity of design. The role of knowledge in design. Design representation. History of design and design schools. Design trends in the 21st century. Design engineering schools. Design models.

MIME-Mining & Materials Engineering

Offered by: Mining & Materials Engineering

MIME 200 Introduction to the Minerals Industry.
(3) (3-3-3) Economic importance of the minerals industry. Mining: legislation, regulations, criteria for exploiting an ore: mining methods, equipment. Extractive metallurgy: mineral processing, hydrometallurgy, pyrometallurgy. Environmental protection.

MIME 202 Engineering Communication Skills.
(2) (1-2-3) Basic forms of engineering communication: memoranda, executive summaries, letters, proposals, evaluations, oral presentations and presentation graphics, email, groupware, workflow, internet, graphics and presentation tools. Adaptation into engineering. Short assignments and oral presentations.

MIME 203 Mine Surveying.
(2) (Summer) ((3-3-0)) (Prerequisite: MIME 200 or permission of instructor) (This course in the Faculty of Engineering is open only to McGill students.) Introduction to surveying. Definitions & mathematics. Measurement of levels, angles and distances. Fundamentals of control surveying. Underground mine surveying. GPS and laser applications.

MIME 209 Mathematical Applications.
(3) (3-2-4) Introduction to stochastic modelling of mining and metallurgical engineering processes. Description and analysis of data distributions observed in mineral engineering applications. Modelling with linear regression analysis. Taylor series application to error and uncertainty propagation. Metallurgical mass balance adjustments.

MIME 212 Engineering Thermodynamics.
(3) (3-1-5) Macro versus microscopic approach: patterns of Nature. First and second laws and their uses. Property relationships: free energies, chemical potentials, activities, heat capacity. Chemical equilibrium. Reaction kinetics. Phase equilibrium for a pure substance. Experimental methods. Engineering applications: high-temperature metallurgical reactors, turbines, mixtures and solutions, phase diagrams, superconductivity.

MIME 221 Engineering Professional Practice.
(2) (3-1-2) Introduction to the engineering profession. Rights and code of conduct for students. Regulation of the engineering profession. Law/liability. Principles of engineering ethics. Ethical problems of engineers in industry, management, and private practice. The engineer's duty to society and the environment. Occupational health and safety. Engineering case histories.

MIME 250 Introduction to Extractive Metallurgy.
(3) (3-2-4) (Corequisite: MIME 202.) Introduction to physical, hydrochemical, electrochemical and thermochemical processing in the production of metals and materials; description of the industries, basic processing concepts, unit operations and an introduction to environmental exchanges. Size reduction and classification, particle separation, stoichiometric and mass balance calculations, chemical equilibria, aqueous processing, smelting and refining.

MIME 260 Materials Science and Engineering.
(3) (2-2-5) Structure properties and fabrication of metals, polymers, ceramics, composites; engineering properties: tensile, fracture, creep, oxidation, corrosion, friction, wear; fabrication and joining methods; principles of materials selection.

MIME 261 Structure of Materials.
(3) (3-2-4) Classification of materials, electrons in atoms, molecules and solids, bonding in solids, elements of crystallography, common crystal structures, atoms positions, directions and planes in crystal structures, defects in crystalline solids, point defects, dislocations, structure of polycrystalline materials, grains, grain boundaries, non-crystalline solids.

MIME 262 Properties of Materials in Electrical Engineering.
(3) (3-1-5) (Restriction: Not open to students who have taken or are taking ECSE 212.) Properties of a material continuum and crystalline state; properties of atoms in materials; conduction electrons in materials; electronic properties of semiconductors and metals; magnetic and thermal properties of materials; applications of electronic materials in semiconductor technology, recording media and transducers.

MIME 280 Industrial Training 1.
(2) (Summer) (Prerequisites: MIME 202. Department permission required. Must also have obtained a minimum of 40 credits of the core program.) (This course in the Faculty of Engineering is open only to McGill students.) Four-month training period in a materials engineering industrial or research environment.

MIME 290 Industrial Work Period 1.
(2) (Summer) (Prerequisites: MIME 200 or MIME 203) (This course in the Faculty of Engineering is open only to McGill students.) A four-month work period in the mineral industry, to expose the student to an industrial environment. Candidates will receive basic industrial training. A complete report must be submitted at the end of the term.

MIME 291 Industrial Work Period 2.
(2) (Summer) (Prerequisite: MIME 290) (This course in the Faculty of Engineering is open only to McGill students.) A four-month industrial work period in a mining company, research laboratory or government agency. The student will receive formal industrial training in a technical position. A complete report must be submitted at the end of the term.

MIME 308 Social Impact of Technology.
(3) (3-0-6) (Enrolment encouraged by students outside the Faculty of Engineering) Critical examination of the socio-economic costs and benefits of technology, case studies of old engineering works and new technologies. The integration of applied ethics and engineering practice, analysis of basic concepts of technology assessment, the inter-connected processes of risk assessment, management, and communication.

MIME 310 Engineering Economy.
(3) (Summer) ((3-1-5)) (This course in the Faculty of Engineering is open only to McGill students.) Introduction to the basic concepts required for the economic assessment of engineering projects. Topics include: accounting methods, marginal analysis, cash flow and time value of money, taxation and depreciation, discounted cash flow analysis techniques, cost of capital, inflation, sensitivity and risk analysis, analysis of R and D, ongoing as well as new investment opportunities.

MIME 311 Modelling and Automatic Control.
(3) (3-2-4) (Prerequisite: MIME 356) Mass and energy conservation laws. Dynamic versus steady state models, dynamic behaviour of first and higher order metallurgical systems, linear and nonlinear models, interacting and noninteracting systems. Laplace domain dynamics and transfer functions. Feedback control, control valves and controllers, transducers. Feedback-feedforward control, introduction to cascade, adaptive and statistical control strategies. Digital computer control, instruments and interfaces.

MIME 313 Mining Science and Technology Seminar.
(1) (1-0-2) (Prerequisites: MIME 322 and MIME 333.) Review of mining-related technological advances in fragmentation, materials handling, processing, ventilation and ground control.

MIME 317 Analytical and Characterization Techniques.
(3) (Summer) ((2-3-4)) (Prerequisite: MIME 261) (This course in the Faculty of Engineering is open only to McGill students.) Bulk, surface and microanalytical techniques for materials characterization. Bulk analysis: spectrophotometry using UV, visible, flame and atomic absorption, x-ray diffraction and x-ray fluorescence. Surface and microanalysis: infrared spectroscopy, scanning and transmission electron microscopy, Auger electron and x-ray photoelectron spectroscopy.

MIME 320 Extraction of Energy Resources.
(3) (Summer) ((3-0-6)) (This course in the Faculty of Engineering is open only to McGill students.) The extraction of energy resources, i.e. coal, gas, oil and tar sands. After a brief geological review, different extraction techniques for these substances will be discussed. Emphasis on problems such as northern mining and offshore oil extraction with reference to Canadian operations. Transportation and marketing.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MIME 322 Rock Fragmentation.
(3) (3-3-3) (Prerequisite (Undergraduate): MIME 200) Principles of drilling, penetration rates, performance and factors to consider in the choice of a drilling method. Characteristics of explosives, firing systems and blast patterns. Blasting techniques in surface and underground workings and in permafrost. Special blasting techniques at excavation perimeters. Vibration and noise control. Economics of drill/blast practice, interface with transport and crushing systems. Legislation and safety in explosives use and handling. Ripping and fullface boring machines.

MIME 323 Rock and Soil Mass Characterization.
(3) (3-3-3) (Prerequisite (Undergraduate): EPSC 221 and MIME 200) Characteristics of soil and rock masses and the stability of mine workings. Mechanical properties of rocks and soils related to physical/chemical properties. Characterization of rock mass discontinuities. Laboratory and in-situ techniques to define mechanical properties of soils, rocks and discontinuities. Permeability and groundwater flow principles. In-situ stresses and their measurement. Rock mass quality and classification systems.

MIME 325 Mineral Industry Economics.
(3) (3-2-4) (Prerequisite: MIME 310) Geographical distribution of mineral resources. Production, consumption and prices of minerals. Market structure of selected minerals. Economic evaluation aspects: grade-tonnage considerations; capital and operating cost estimation; assessment of market conditions; estimation of revenue; taxation; sensitivity and risk analyses; economic optimization of mine development and extraction.

MIME 333 Materials Handling.
(3) (3-3-3) (Prerequisite: MIME 200) Physical and mechanical characteristics of materials related to loading, transport and storage. Dynamics of particles, systems and rigid bodies, mass-acceleration, work-energy, impulse-momentum. Types and selection of excavation and haulage equipment. Layout of haul roads. Rail transport. Conveyor belts and chain conveyors. Mine hoists. Layout of mine shafts.

MIME 337 Electrotechnology.
(2) (3-1-2) Emphasize role of electrical equipment in the mining, metals and materials industry sectors. Operating theory and technical standards of prime electrical equipment, transformers, motors, generators, rectifiers, variable speed drives, circuit breakers, starters. DC and AC theory for circuit components, resistance, capacitance, inductance and impedance. Distribution system single line diagrams.

MIME 340 Applied Fluid Dynamics.
(3) (3-3-3) (Prerequisite: CIVE 205) Flow analysis and manometry. Conservation of mass and momentum. Flow in pipes and ducts, analysis of pipe networks. First and second law of thermodynamics and their applications. Open channel flows. Dimensional analysis and similitude. Flow measurements. Settling and separation of particles. Non-Newtonian flow and slurry transport. Fluidized beds. Filtration of liquid/solid mixtures.

MIME 341 Introduction to Mineral Processing.
(3) (2-3-4) (Prerequisite (Undergraduate): MIME 200 or MIME 250) Theory and practice of unit operations including: size reduction-crushing and grinding; size separation-screening and classification; mineral separation-flotation, magnetic and gravity separation. Equipment and circuit design and selection. Mass balancing. Laboratory procedures: grindability, liberation, magnetic and gravity separation, flotation and solid-liquid separation.

MIME 345 Applications of Polymers.
(3) (3-3-3) (Prerequisite: MIME 261 or permission of instructor.) Applications of synthetic and natural polymers and composites as engineering materials e.g. in biomedical, automotive and aerospace applications. Thermoplastics, thermosets and elastomers. Animal and plant origin, degradable and non-degradable polymers. Particulate and fibre reinforced polymer matrix composites. Manufacturing routes, and characterization tools for their physical, thermal, mechanical and chemical properties.

MIME 350 Extractive Metallurgical Engineering.
(3) (Summer) ((2-3-4)) (Prerequisites: MIME 200 or MIME 250, MIME 212) (This course in the Faculty of Engineering is open only to McGill students.) Principle non-ferrous base-metal pyrometallurgical extraction processes, relevant thermodynamics, heat and mass balances, transport phenomena (copper, nickel, lead, zinc, aluminum, magnesium). Ores, gangue, fuels, slag, fluxes, recovery, refining, minor elements, byproducts and the environment. Roasting, drying, smelting, converting, reverberatory furnaces, flash furnaces, continuous and batch operations, injection practices and oxygen enrichment. Simulation, modelling, control and optimization.

MIME 352 Hydrochemical Processing.
(3) (3-2-4) (Prerequisites: CHEM 233, MIME 212, MIME 200 or MIME 250) (Corequisite: MIME 356) Analysis and description of dissolution (leaching), solute separation (solvent extraction, ion exchange, carbon adsorption) and deposition operations (precipitation, crystallization, electrolysis) in aqueous reaction media as these apply to: (i) the hydrometallurgical extraction of metals from primary/secondary sources; (ii) the treatment of effluents and (iii) the production of inorganic materials.

MIME 356 Heat, Mass and Fluid Flow.
(4) (4-4-4) (Prerequisites: MIME 212, MATH 261 or MATH 263.) Fluid statics and dynamics. Newton's laws of viscosity and motion, control volume analyses. Navier Stokes, Euler. Bemoulli and Steady Flow Energy Equations. turbulence and Reynolds stress equations. Molecular conduction/diffusion processes in heat and mass transfer). Convective flows. Transport coefficients in slags, metals and gases. Radiative heat transfer. Transient/steady state flow.

MIME 360 Phase Transformations: Solids.
(3) (2-3-4) (Pre/Corequisite: MIME 212.) (Prerequisite: MIME 260 or MIME 261.) Free energy (equilibrium) and kinetic (non-equilibrium) considerations, phase diagrams and TTT diagrams, solid state diffusion, diffusional (nucleation and growth) and shear (martensitic) transformations.

MIME 362 Mechanical Properties.
(3) (2-3-4) (Prerequisite: MIME 360) Stress-strain behaviour. Elasticity and plasticity of metals, ceramics and polymers. Dislocations theory. Single crystal and polycrystalline slip. Mechanical twinning. Strengthening mechanisms. Process-property and microstructure-property relationships. Notch toughness and fracture mechanics. Failure, fracture and damage accumulation. Fatigue. Creep and creep rupture. Fractography. Design considerations in materials selection.

MIME 367 Electronic Properties of Materials.
(3) (Summer) ((3-3-3)) (Prerequisite: MIME 261) (This course in the Faculty of Engineering is open only to McGill students.) Structure of materials, electronic structure, electrical and thermal conductivity, semiconducting materials, fundamentals of magnetism, hard and soft magnetic materials, superconductivity and superconductive materials, dielectric materials, optical properties of materials, thermoelectricity. Advanced materials and their technological applications.

MIME 380 Industrial Training 2.
(2) (Summer) (Prerequisite: MIME 280) (This course in the Faculty of Engineering is open only to McGill students.) 2 Four-month work periods in industry. Work term report required upon completion.

MIME 392 Industrial Work Period 3.
(2) (Summer) (Prerequisite: 75 credits including MIME 291) (This course in the Faculty of Engineering is open only to McGill students.) A four-month industrial work period in a mining company, research laboratory or government agency. Based on the experience gained during the first two work periods, the student may be asked to undertake more challenging technical tasks. A complete report must be submitted at the end of the term.

MIME 410 Research Project.
(3) (Summer) ((0-6-3)) (Prerequisite: Recommendation of Instructor) (This course in the Faculty of Engineering is open only to McGill students.) A research project will be carried out, usually in groups, under the guidance of a staff member. A technical report will be prepared at the end and a formal presentation will be made on the research topic.

MIME 412 Corrosion and Degradation.
(3) (2-3-4) (Prerequisites: MIME 261; MIME 352) Electrochemical principles of metal oxidation in aqueous environments, Use of polarization diagrams for corrosion rate prediction. Characteristics of stress corrosion and related phenomena. High temperature, non-aqueous degradation; growth kinetics and structure of oxide films. Corrosion prevention in aqueous systems; fundamentals and applications of cathodic and anodic protection, inhibitors, metallic coatings and industrial priming paints. Use of non-metallics and their degradation; glasses, cement, plastics. Corrosion as a factor in selection of materials; use of iso-corrosion charts.

MIME 419 Surface Mining.
(3) (Summer) ((3-3-3)) (Prerequisite (Undergraduate): MIME 322, MIME 333 and MIME 325) (This course in the Faculty of Engineering is open only to McGill students.) Choice of a surface mining method. Analysis of soil and rock mass properties related to surface mining. Calculation and monitoring of stripping ratios, ultimate pit depth, slope stability, rock reinforcement, bench and berm dimensioning and ramp design. Loading and hauling systems. Surface layout and development. Water drainage systems. Production and cost analysis. Computerized design techniques.

MIME 420 Feasibility Study.
(3) (1-2-6) (Prerequisite (Undergraduate): MIME 333, MIME 419, MPMC 421) This course consists of a case study exercise in the application of the specialist skills which the student has developed in the mining engineering program. The objective is to combine these skills in carrying out a professional appraisal of the technical feasibility and economic viability of developing a mineral deposit. Students are required to prepare a professional level report and present seminars on particular aspects of the feasibility analysis.

MIME 422 Mine Ventilation.
(3) (Summer) ((3-3-3)) (Prerequisite: MIME 340) (Restriction: Not open to students who have taken MPMC 422.) (This course in the Faculty of Engineering is open only to McGill students.) Statutory regulations and engineering design criteria. Occupational health hazards of mine gasses, dusts, etc. Ventilation system design. Natural and mechanical ventilation. Measuring and modelling air flow in ventilation networks. Calculation of head losses. Selection of mine ventilation fans. Air heating and cooling. Aspects of economics.

MIME 426 Development and Services.
(3) (3-3-3) (Prerequisite: MIME 337 or ECSE 461) Selection and design of the facilities required to start production at both surface and underground mines, based on design criteria dictated by mining plans, geography, geology and government regulations. Scheduling of development and construction. Staffing and health and safety considerations during development, construction and operations.

MIME 442 Analysis, Modelling and Optimization in Mineral Processing.
(3) (3-3-3) (Prerequisite: MIME 341) Tools and methods of process analysis, modelling and optimization using flotation and comminution examples: sampling theory and statistics, data reconciliation, statistical experimental design. Kinetic models of flotation and comminution; simulation software. Residence time distributions: tanks-in-series and axial dispersion models. Combined flotation/comminution models. Introduction to geostatistics and data mining.

MIME 452 Process and Materials Design.
(4) (4-2-6) Design of new metallurgical plants, processes, materials and products based on 3 previous core courses; materials and heat balances, metal economics, design and optimization; materials selection, design and failure problems in various materials systems.

MIME 455 Advanced Process Engineering.
(3) (3-1-5) (Prerequisite: MIME 356) Transport phenomena in non-idealized systems. Solutions for transient heat and mass transfer processes involving thermal and molecular diffusion in materials processing systems. Natural and forced convection in heat and mass transfer. Dimensionless correlations. Fick's Laws and Fourier's Laws. Exact solutions. Numerical approximations for transient systems. Equivalences between heat and mass transfer. Finite difference modelling of conduction, convection and radiation heat transfer and diffusion and convection mass transfer.

MIME 456 Steelmaking and Steel Processing.
(3) (2-2-5) (Prerequisite: MIME 360. Pre/corequisite: MIME 455) The production and refining of liquid iron in the iron blast furnace, the production and refining of liquid steel, secondary refining operations, continuous casting and thermomechanical processing (hot rolling). Specialty steels and newly emerging technologies (e.g. thin slab casting, direct ironmaking) are also discussed in terms of process/environment and productivity. "Downstream" topics will include cold rolling, batch and continuous annealing, and coating operations.

MIME 465 Metallic and Ceramic Powders Processing.
(3) (2-3-4) (Prerequisite: MIME 360) Powder metallurgy and ceramic processing. Fabrication, characterization and properties of powders. Powder consolidation techniques. Sintering and densification mechanisms. Properties of porous compacts. Design of fabrication process. Particularities and classification of ceramic systems.

MIME 470 Engineering Biomaterials.
(3) (3-3-3) (Prerequisite: MIME 261 or equivalent. Permission of instructor.) Key definitions, clinical need, desired materials properties, current and future materials, materials assessments and performance. Materials of the body. Characterisation techniques for bulk and mechanical properties of biomaterials. Engineering processing and design of biomaterials.

MIME 480 Industrial Training 3.
(2) (Summer) (See details listed under MIME 481) (Prerequisite: MIME 380) (This course in the Faculty of Engineering is open only to McGill students.) Four-month work period in industry. Work term report due upon completion of MIME 481.

MIME 481 Industrial Training 4.
(2) (Summer) (Prerequisite: MIME 480) (This course in the Faculty of Engineering is open only to McGill students.) Four-month work period in industry. This course is intended to be taken immediately after MIME 480 at the same work location. One work term report and one seminar are required upon completion of this course. If MIME 480 and MIME 481 are in different work locations, the work term report should be in two parts following the co-op handbook guidelines.

MIME 484 Mining Project.
(3) (0-0-9) (Corequisites: MIME 419, MIME 426, MPMC 328 and MPMC 421) A mining research project to be completed during one semester. The project must be approved by an academic advisor. A comprehensive report and a seminar presentation are required for the project.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MIME 494 Industrial Work Period 4.
(2) (Summer) (Prerequisites: MIME 419, MIME 426, MPMC 328 and MPMC 421) (This course in the Faculty of Engineering is open only to McGill students.) A four-month industrial work period after which the student must submit a report.

MIME 512 Corrosion and Degradation of Materials.
(3) (3-3-3) (Prerequisites: MIME 261 and MIME 352 or permission of instructor.) (Restriction: Not open to students who have taken MIME 412.) Electrochemical theory of metal corrosion, Evans Diagrams, corrosion rate controlling mechanisms, mixed corrodents, alloying effects, passivation. Discussion and analysis of the various forms of corrosion. Corrosion prevention methods. Oxidation of alloys-mechanisms and kinetics. Degradation of ceramics and polymers. Case studies.

MIME 513 Mine Planning Optimization Under Uncertainty.
(3) (Summer) ((3-3-3)) (Prerequisite: Permission of instructor.) (This course in the Faculty of Engineering is open only to McGill students.) Strategic mine planning and optimization under uncertain demand and supply. Modern optimization techniques in mine design and production scheduling. Metal supply and orebody modelling. Market forecasting and planning with flexibility. Valuing information. Stochastic mine optimization and applications in open pit and underground metal mines.

MIME 520 Stability of Rock Slopes.
(3) (3-0-6) (Prerequisite: permission of instructor.) The properties of rock masses and of structural discontinuities. Influence of geological structure on stability. Linear, non-linear, and wedge failures. Site investigations. Methods of slope stabilization.

MIME 521 Stability of Underground Openings.
(3) (Summer) ((3-3-3)) (Prerequisite: permission of instructor) (This course in the Faculty of Engineering is open only to McGill students.) The properties of rock masses and stability classification systems. The influence and properties of geological structural features. Stability related to the design of underground openings and mining systems. Site investigations. Methods of stabilization.

MIME 522 Mineral Reserve Assess Techs.
(3)

MIME 524 Mineral Resources Economics.
(3) (3-0-6) (Prerequisite: MIME 310 or equivalent, or permission of instructor) Analysis of significant factors affecting mineral supply, including oil and gas. Role of governments, concept of economic rent and determinants of a mineral policy. Objectives, strategies and concerns of mining and oil and gas companies. International resource environment, commodity associations, mineral investment and trade patterns.

MIME 525 Stochastic Orebody Modelling.
(3) (3-3-3) (Prerequisite: Permission of instructor.) Uncertainty in modelling orebodies. Conventional modelling methods. Ore reserve estimation and risk. Geostatistical basics . Sequential simulation methods. Fast and efficient simulation of large orebodies. Simulation of multi-element deposits. Simulation of geology. Geometallurgical modelling. Integration and effects on mine planning and financial evaluation. Drilling optimization; reserve classification; grade control. Practical applications.

MIME 526 Mineral Economics.
(3) (3-2-5) (Prerequisite: MIME 310 or equivalent) Mineral project evaluation techniques and applications. Topics covered include grade-tonnage relationships, capital and operating cost estimation techniques, assessment of mineral market conditions, taxation, discounted cash flow analysis, risk analysis, and optimization of project specifications with respect to capacity and cutoff grade.

MIME 528 Mining Automation.
(3) (3-3-3) (Prerequisite: MIME 426) System analysis and design in the frequency domain. Review of optimization methods. Mining system modelling applied to rock cutting, materials transport, and bunkerage, pitch, yaw and roll steering of mining machines. Control and robotics: digitization, discrete systems, sensors, actuators and real time algorithms. Data communication in mines. Simulation exercises.

MIME 542 Transmission Electron Microscopy.
(3) (2-2-4) (Prerequisite: Permission of instructor) Comprehensive study of transmission electron microscopy (TEM). Theory, principles and practical application of imaging, analysis and advanced sample preparation relevant to biological and non-biological materials.

MIME 544 Analysis: Mineral Processing Systems 1.
(3) (2-3-4) (Prerequisite (Undergraduate): MIME 341) The course covers three main topics: principles of separation, including data presentation, properties of recovery/ yield plots, technical and economic efficiency and identification of limits to separation; column flotation, hydrodynamics of collection and froth zones, mixing, scale-up and design, measurements and control; surface and electrochemistry, including absorption, surface charge, coagulation, electron transfer reactions, electrochemistry in plant practice.

MIME 545 Analysis: Mineral Processing Systems 2.
(3) (4-2-3) (Prerequisite (Undergraduate): MIME 341) Gold recovery (as a Professional Development Seminar): methods of recovery (gravity, flotation, cyanidation), refractory gold (roasting, pressure oxidation, bacterial leaching), dissolved gold recovery (Merrill-Crowe) and activated carbon methods. Sampling: definition of errors, sample extraction, size, and processing. Mass balancing: basic considerations, definition of networks, software. Blending: auto-correlation functions, transfer functions, blending systems. Effect of feed variability.

MIME 551 Electrochemical Processing.
(3) (3-2-4) (Prerequisite: MIME 352) Characterization of aqueous, fused salt and solid electrolytes; laws of electrolysis; ion transport mechanisms; interfacial phenomena (electrolyte-electrolyte, electrode-electrolyte); reversible cells and potentials; electrode kinetics, overpotential and potential-current laws; industrial applications; electrolytic winning and refining, electroplating, surface cleaning and coating, electrodialysis and electrochemical sensors.

MIME 552 Environmental Controls in Metallurgical Plants.
(3) (3-3-3) (Prerequisites: MIME 341, 350 and 352 or permission of instructor.) (Restriction: Not open to students who have taken MIME 451.) Generation, characterization and abatement of pollutants in the minerals and metals industries. Environmental regulations. Control technologies for gaseous, aqueous and solid waste streams. Heavy metal removal, arsenic control, cyanide destruction, prediction of acidic drainage, greenhouse gas effects, control of SO2 and NOx emissions, destruction of organic pollutants.

MIME 553 Impact of Materials Production.
(3) (3-0-6) (Prerequisite: Permission of instructor.) Impact on the environment of the production of major materials. Pollution control practices, emerging technologies, cost, resources and conservation. Review of flowsheets for various production methods. Analysis of the use of materials, prices, consumption, fabrication, and recycling of waste materials.

MIME 556 Sustainable Materials Processing.
(3) (3-1-5) (Prerequisite: Permission of Instructor.) Sustainability, population and environment impact, environmental impact indicators, materials flows, enthalpy flows, the carbon cycle, materials intensity, energy intensity, global warming potential, acidification potential, FACTOR-Two, -Four and -Ten, life-cycle-inventory/assessment, end-of-pipe strategies, supply-chain and flow-sheet redesign, recycling, waste treatment and materials case studies.

MIME 558 Engineering Nanomaterials.
(3) (3-2-4) (Prerequisite: MIME 260 or MIME 261 and MIME 362 or equivalent or permission of instructor.) Aspects of manufacturing bulk-nanostructured materials. Fabrication of nanosized and nanostructured precursors (metals, ceramics, intermetallics, CNT). Reactivity, handling and safety of nano-particles. Processes developed to fabricate bulk nanostructured materials (pressing and sintering, hot pressing and extrusion, ECAP, electrodeposition, spray forming, shockwave campaction). Characterisation of nanostructures. Physical and mechanical properties of nanomaterials.

MIME 559 Aluminum Physical Metallurgy.
(3) (3-3-3) (Prerequisites: MIME 360 and MIME 362, or permission of instructor.) Crystal structure, deformation characteristics, strengthening and softening mechanisms, hot and cold working. Microstructure property relationships in aluminum alloys. Physical metallurgy of aluminum casting alloys and their uses. Properties, and physical metallurgy of aluminum wrought alloys and their industrial applications.

MIME 560 Joining Processes.
(3) (3-3-3) (Prerequisite: MIME 200, MIME 360) Physics of joining; interfacial requirements; energy sources, chemical, mechanical and electrical; homogeneous hot-joining, arc-, Mig-, Tig-, gas-, thermite- and Plasma-welding; Autogeneous hot-joining, forge-, pressure-, friction-, explosive-, electron beam- and laser-welding; Heterogeneous hot-joining, brazing, soldering, diffusion bonding; Heterogeneous cold joining, adhesives, mechanical fastening; Filler materials; Joint metallurgy; Heat affected zone, non-metallic systems; joint design and economics; defects and testing methods.

MIME 561 Advanced Materials Design.
(3) (0-4-5) (Prerequisite: MIME 362 or equivalent) Advanced topics in materials design problems. Discussion and laboratory work, supplemented by detailed technical reports. Special attention is given to selection, design and failure problems in various materials systems.

MIME 563 Hot Deformation of Metals.
(3) (2-2-5) (Prerequisite (Undergraduate): MIME 360 and MIME 362) (Prerequisite (Graduate): MIME 362 or equivalent.) High temperature deformation processing of metallic materials. Topics include static and dynamic recrystallization, recovery, precipitation; effect of deformation on phase transformations and microstructural evolution during industrial processing. Mathematical modelling of microstructural evolution.

MIME 564 X-Ray Diffraction Analysis of Materials.
(3) (2-3-4) (Prerequisite: MIME 317 or equivalent) The techniques of X-ray and neutron diffraction are discussed as applied to the minerals and materials production industries. Special emphasis is placed upon automated X-ray powder diffractometry as employed for determining the structure and composition of materials. The application of X-ray techniques to studies of crystal structure, crystal orientation, residual stress, short-range order in liquid metals, phase diagram determination, order-disorder transformation and chemical analysis are presented.

MIME 565 Aerospace Metallic-Materials and Manufacturing Processes.
(3) (3-0-6) (Prerequisites: MIME 260 or MIME 261 or Permission of Instructor.) (Restriction: Permission of Instructor required.) Integrated approach to aerospace materials, manufacturing and repair; materials and selection criteria for airframe, engines and coatings; repair concepts and technologies; application of new and emerging manufacturing technologies for the forming, joining and repair of aerospace products.

MIME 566 Texture, Structure & Properties of Polycrystalline Materials.
(3) (2-3-4) (Prerequisite: MIME 317) Concepts and quantitative methods for the description of the structure of minerals and materials are discussed. Special emphasis is placed on experimental techniques of texture measurement. Procedures are demonstrated for the control of deformation and recrystallization textures in order to obtain the properties required for industrial products. Finally, the correlation between texture and the anisotropy of elastic, plastic and magnetic properties of engineering materials is described and analyzed.

MIME 568 Topics in Advanced Materials.
(3) (3-0-6) (Prerequisite: MIME 362 or equivalent) New and emerging materials. Composites. Coatings. Electronic materials. Current and future technologies. Specialized property requirements. Novel processing and fabrication techniques. Future developments.

MIME 569 Electron Beam Analysis of Materials.
(3) (2-3-4) (Prerequisite: MIME 317) Emphasis on operation of scanning and transmission electron microscopes. Topics covered are electron/specimen interactions, hardware description; image contrast description; qualitative and quantitative (ZAF) x-ray analysis; electron diffraction pattern analysis.

MIME 571 Surface Engineering.
(3) (3-0-6) (Prerequisite: MIME 362 Mechanical Properties.) Surface science. Surface characterization. Surface modification. Coatings and thin films. Tribology. Surface engineering and control of surface properties.

MIME 572 Computational Thermodynamics.
(3) (3-0-6) (Prerequisite: MIME 212 or equivalent) Computational thermodynamics; materials design; process optimization; chemical reactions; phase diagrams; phase transformation; numerical simulation techniques.

MIME 576 Advanced Steelmaking and Processing.
(4) (4-5-3) (Prerequisite: Permission of instructor) (Restriction: Not open to students taking or have taken MIME 456) (This course is given with MIME 456) The role of thermodynamics and mass transport phenomena in the production of liquid iron and steel in blast furnaces and basic oxygen/electric arc furnaces, followed by refining, and continuous casting of steel sheet, blooms and billets. The physical metallurgy of steels. Thermo-mechanical processing, rolling, and strengthening mechanisms. Phases, microstructures, and associated mechanical properties.

MPMC-McGill/Poly Mining Coop

Offered by: Mining & Materials Engineering

MPMC 320 CAO et informatique pour les mines.
(3) (2-3-4) Présentation de techniques informatisées et de logiciels permettant d'appliquer l'informatique dans le cadre des diverses opérations reliées à l'exploitation des mines. Utilisation de logiciels de support: chiffrier électronique, traitement de texte, éditeur graphique, utilitaires de DOS. Utilisation de graphisme, de traceurs à plumes, de tablettes numérisantes, d'interfaces pour capteurs analogique/numérique et numérique/analogique. Notions de géométrie descriptive appliquées à des problèmes miniers.

MPMC 321 Mécanique des roches et contrôle des terrains.
(3) (3-3-3) (Prérequis : MIME 323) Pressions de terrains au pourtour des excavations: solutions analytiques et numériques. Stabilité des excavations souterraines et à ciel ouvert: analyse des instabilités structurales par projection stéréographique méridienne, analyse des instabilités causées par les excès de contraintes. Soutènement. Surveillance. Études de cas.

MPMC 326 Recherche opérationnelle I.
(3) (3-3-3) (Prérequis : MATH 260 ou MATH 262.) Logistique minière. Modèles de localisation optimale: Steiner, HAP, construction itérative. Modèles de détermination des contours optimaux des exploitations à ciel ouvert: conventionnels, Lerchs et Grossman, Ford et Fulkerson. Programmation dynamique et modèles d'optimisation du taux de production et de la teneur de coupure. Modèles de planification: cheminement critique et PERT, programmation linéaire et non-linéaire, théorie des graphes. Modèles de capacité: théorie des files d'attente, simulation, silos et stockage. Modèles de

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

mélange.

MPMC 328 Environnement et gestion des rejets miniers.
(3) (Summer) ((3-3-3)) (Prérequis : MIME 200 et MIME 291) (Ce cours offert par la Faculté de génie s'adresse aux étudiants de McGill seulement.) Effets du milieu de travail sur l'homme (hygiène du travail) : législation; contraintes thermiques, problèmes de bruit, de contaminants gazeux et de poussières; techniques de mesures. Effets de l'exploitation d'une mine sur le milieu (environnement et écologie) : législation; études d'impacts; effluents miniers: origine, nature et traitement des effluents; entreposage des résidus; restauration des sites.

MPMC 329 Géologie minière.
(2) (2-2-2) (Prérequis : EPSC 221, MIME 200 et MIME 209.) Méthodes de cartographie minière, de sondages et d'échantillonnage. Notion de teneur de coupure, calcul des réserves par les méthodes conventionnelles. Évaluation des réserves par les méthodes géostatistiques.

MPMC 330 Géotechnique minière.
(3) (3-3-3) (Prérequis : MIME 323.) Propriétes mécaniques des matériaux meubles. Conception d'empilements et de digues de rétention pour les matériaux miniers. Conception de structures enfouies. Problèmes particuliers avec les résidus miniers: liquéfaction, déposition, etc. Écoulement gravitaire des matériaux meubles.

MPMC 421 Exploitation en souterrain.
(3) (Summer) ((3-3-3)) (Prérequis : MIME 322, MIME 325 et MIME 333.) (Ce cours offert par la Faculté de génie s'adresse aux étudiants de McGill seulement.) Étude des caractéristiques des principales méthodes d'abattage utilisées en souterrain. Méthodes d'analyse simplifiée d'un gisement quant à son exploitation en fosse ou en souterrain. Dimensionnement des ouvrages et choix des équipements. Calculs des quantités, des équipements et des coûts reliés aux excavations souterraines. Conception d'un circuit de remblai hydraulique.

URBP-Urban Planning

Offered by: Urban Planning

URBP 201 Planning the 21st Century City.
(3) (3-1-5) The study of how urban planners respond to the challenges posed by contemporary cities world-wide. Urban problems related to the environment, shelter, transport, human health, livelihoods and governance are addressed; innovative plans to improve cities and city life are analyzed.

URBP 501 Principles and Practice 1.
(2) (2-0-4) This six-week intensive course exposes students to issues and techniques that are applicable in diverse professional planning contexts. The subject matter, geographic area, scale of intervention and institutional location of planning varies from semester to semester. The course focuses on a specific case study and is taught by a visiting lecturer with professional experience in the selected subject matter.

URBP 505 Geographic Information Systems.
(3) (0-2-7) An introduction to fundamental geographic information system (GIS) concepts and a range of GIS applications in urban and regional planning.

URBP 506 Environmental Policy and Planning.
(3) (3-0-6) (Restriction: This course is open to students in U3 and above) Analytical and institutional approaches for understanding and addressing urban and other environmental problems at various scales; characteristics of environmental problems and implications; political-institutional context and policy instruments; risk perception and implications; cost-benefit analysis, risk assessment, multiple-objectives approaches, life-cycle analysis; policy implementation issues; case studies.

URBP 507 Planning and Infrastructure.
(3) (8-.5-.5) (Restriction: Must be enrolled in the Barbados Field study Semester.) An exploration of the interrelationship between land-use planning and infrastructure provision, especially water and sewerage. An examination of their policy and regulatory frameworks and other methodology of plan making and evaluation.

URBP 519 Sustainable Development Plans.
(6) (0-10-8) (Restrictions: Must be enrolled in Barbados Field Study Semester. Not open to students who have taken or are taking AGRI 519 or CIVE 519.) Geared for solving real-world environmental problems related to water at the local, regional and international scale in Barbados. Projects to be designed by instructors in consultation with university, government and NGO partners and to be conducted by teams of 2 to 4 students in collaboration with them.

URBP 520 Globalization: Planning and Change.
(3) (3-3-3) (Restriction: Must be enrolled in the Barbados Field study Semester.) Economic and social issues related to planning for sustainable development, with a focus on water. Political and environmental determinants of resource use. Impact of global, regional and local institutions, programs and plans in Barbados and in the field locale in general.

URBP 530 Urban Environmental Planning.
(3) (Note: Not open to students who have taken URBP 614.) Urban environmental planning with a focus on sustainability and smart growth. Consideration is given to the tools, techniques and processes that planners use to promote sustainable urban development. Local applications and community initiatives are addressed.

McGill School of Environment

ENVR-Environment

Offered by: McGill School of Environment

ENVR 200 The Global Environment.
(3) (Fall) (Section 001: Downtown Campus) (Section 051: Macdonald Campus) A systems approach to study the different components of the environment involved in global climate change: the atmosphere, biosphere, hydrosphere, and lithosphere. The interactions among these components. Their role in global climate change. The human dimension to global change.

ENVR 201 Society and Environment.
(3) (Fall) (Section 001: Downtown Campus) (Section 051: Macdonald Campus) An introduction to human societies and their relations with the biophysical environment, focusing on how economy, technology, and institutions interact to give rise to environmental problems. Analytical treatment of key concepts from distinct disciplinary perspectives in the social and life sciences, including "carrying capacity", "renewable resources", "environmental equity", and "sustainability".

ENVR 202 The Evolving Earth.
(3) (Winter) (Section 001: Downtown Campus) (Section 051: Macdonald Campus) Formation of the Earth and the evolution of life. How geological and biological change are the consequence of history, chance, and necessity acting over different scales of space and time. General principles governing the formation of modern landscapes and biotas. Effects of human activities on natural systems.

ENVR 203 Knowledge, Ethics and Environment.
(3) (Fall - Macdonald Campus; Winter - Downtown) (Section 001: Downtown Campus) (Section 051: Macdonald Campus) Introduction to cultural perspectives on the environment: the influence of culture and cognition on perceptions of the natural world; conflicts in orders of knowledge (models, taxonomies, paradigms, theories, cosmologies), ethics (moral values, frameworks, dilemmas), and law (formal and customary, rights and obligations) regarding political dimensions of critical environments, resource use, and technologies.

ENVR 301 Environmental Research Design.
(3) (Fall-Downtown Campus: Section 001) (Winter-Downtown Campus: Section 001; Macdonald Campus: Section 051) (Restrictions: Restricted to U2 or higher) Techniques used in design and completion of environmental research projects. Problem definition, data sources and use of appropriate strategies and methodologies. Principles underlying research design are emphasized, including critical thinking, recognizing causal relationships, ideologies and bias in research, and when and where to seek expertise.

ENVR 380 Topics in Environment 1.
(3) (Restriction: Normally open only to students who have completed MSE U1 core courses) Lectures and discussion of interdisciplinary aspects of current problems in environment led by staff and/or special guests. This course is offered on an irregular basis.

ENVR 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

ENVR 400 Environmental Thought.
(3) (Fall - Macdonald Campus; Winter - Downtown) (Section 001: Downtown Campus) (Section 051: Macdonald Campus) Students work in interdisciplinary seminar groups on challenging philosophical, ethical, scientific and practical issues. They will explore cutting-edge ideas and grapple with the reconciliation of environmental imperatives and social, political and economic pragmatics. Activities include meeting practitioners, attending guest lectures, following directed readings, and organizing, leading and participating in seminars.

ENVR 401 Environmental Research.
(3) (Fall) (Prerequisite: ENVR 301) (Restriction: B.A. Faculty Program in Environment, B.A.&Sc. Faculty Program in Environment , B.Sc.(Ag.Env.Sc.) and B.Sc. Major in Environment, and Diploma in Environment.) Students work in an interdisciplinary team on a real-world research project involving problem definition, methodology development, social, ethical and environmental impact assessment, execution of the study, and dissemination of results to the research community and to the people affected. Teams begin defining their projects during the preceding spring.

ENVR 451 Research in Panama.
(6) (Winter) (Restriction: students in the Panama Field Semester program. Offered in Panama only) Research projects will be developed by instructors in consultation with Panamanian universities, government agencies and non-governmental organizations. Project groups will consist of four to six students working with a Panamanian institution. Topics will be relevant to Panama: e.g., protection of the Canal watershed, economical alternatives to deforestation, etc.

ENVR 480 Topics in Environment 2.
(3) (Restriction: Normally open only to U3 MSE students) Intermediate-level seminars and discussion of interdisciplinary aspects of current problems in environment led by staff and/or special guests. This course is offered on an irregular basis.

ENVR 485 Readings in Environment 1.
(3) (Restriction: Normally open only to U3 MSE students) Interdisciplinary literature project/essays related to environment, enabling independent study under guidance of qualified MSE staff in areas outside the scope of individual departments. Proposed topic and method of evaluation must be approved by the Associate Director one month before the beginning of term. Contact the Program Advisor for information.

ENVR 490 Independent Study in Environment.
(3) (Prerequisite: Permission of instructor.) (Restrictions: Normally open only to U3 MSE students. Proposed topic and method of evaluation must be approved by the Director one month before the beginning of term. Contact the Program Advisor for information.) Interdisciplinary research projects related to environment, enabling independent study under guidance of qualified MSE staff in areas outside the scope of individual departments.

ENVR 491 Independent Project in Environment.
(1) (Prerequisite: Permission of instructor.) (Restrictions: Normally open only to U3 MSE students. Proposed topic and method of evaluation must be approved by the Director one month before the beginning of term. Contact the Program Advisor for information.) Interdisciplinary research projects related to environment, enabling independent study under guidance of qualified MSE staff in areas outside the scope of individual departments.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ENVR 495D1 (3), ENVR 495D2 (3) Honours Research.
(Prerequisites: ENVR 301. Acceptance to Honours Program in Environment.) (Restrictions: For U3 B.A., B.Sc., and B.A.&Sc. Honours Program in Environment students. Not open to students in the B.Sc.(Ag.Env.Sc.) Honours in Environment program.) (Students must register for both ENVR 495D1 and ENVR 495D2.) (No credit will be given for this course unless both ENVR 495D1 and ENVR 495D2 are successfully completed in consecutive terms.) Preparation of an honours thesis.

ENVR 495N1 (3), ENVR 495N2 (3) Honours Research.
(Prerequisites: ENVR 301. Acceptance to Honours Program in Environment.) (Restrictions: For U3 B.A., B.Sc., and B.A.&Sc. Honours Program in Environment students. Not open to students in the B.Sc.(Ag.Env.Sc.) Honours in Environment program.) (Students must register for both ENVR 495N1 and ENVR 495N2.) (No credit will be given for this course unless both ENVR 495N1 and ENVR 495N2 are successfully completed in a twelve month period.) Preparation of an honours thesis.

ENVR 496 Honours Research Part 1.
(3) (Prerequisite: ENVR 301. Acceptance to Honours Program in Environment.) (Restrictions: For U3 B.Sc.(Ag.Env.Sc.) Honours Program in Environment students. Normally, credit for ENVR 496 will not be given unless ENVR 497 is completed; the courses may be evaluated together and the same mark will be given for both ENVR 496 and ENVR 497; ENVR 496 and ENVR 497 must be taken in consecutive semesters. Not open to students in the BA Honours, BSc Honours, or BA&Sc Honours programs in Environment.) Preparation of an honours thesis.

ENVR 497 Honours Research Part 2.
(3) (Prerequisite: ENVR 496. Acceptance to Honours Program in Environment.) (Restrictions: For U3 B.Sc.(Ag.Env.Sc.) Honours Program in Environment students. Normally, credit for ENVR 496 will not be given unless ENVR 497 is completed; the courses may be evaluated together and the same mark will be given for both ENVR 496 and ENVR 497; ENVR 496 and ENVR 497 must be taken in consecutive semesters. Not open to students in the BA Honours, BSc Honours, or BA&Sc Honours programs in Environment.) Continuation of the preparation of an honours thesis.

ENVR 519 Global Environmental Politics.
(3) (Prerequisite: ENVR 201 or ENVR 203 or permission of instructor) (Restrictions: Open to students in the Environment Graduate Option (available to other students with permission of instructor). (Not open to students who have taken ENVR 580 -- section 001 -- in Winter 2002, Fall 2003, or Fall 2004) (Note: This course has been offered three times as a Topics in Environment Course) How the problem of environmental degradation is dealt with at the international level. The scope and nature of global environmental protection issues that cross boundaries, both physical and conceptual. Actors, structures and processes of international society. Consideration of global commons and transnational resources and of environmental externalities.

ENVR 540 Ecology of Species Invasions.
(3) (Winter) (3 hours lecture) (Prerequisite: BIOL 308 or permission of instructor.) (Restrictions: Not open to U1 or U2 students. Not open to students who are taking or have taken BIOL 540.) Causes and consequences of biological invasion, as well as risk assessment methods and management strategies for dealing with invasive species.

ENVR 544 Environmental Measurement and Modelling.
(3) (Prerequisites: NRSC 430 or GEOG201 or URBP 505 or permission of instructor) (Restriction: Students registered in Environment Graduate Option (or permission of instructor)) Utility of geographic information systems, remote sensing and spatially-explicit modelling for environmental planning in conjunction with analytical frameworks used in the decision-making process (e.g., cost-benefit analysis, life-cycle analysis and multi-criteria decision making).

ENVR 580 Topics in Environment 3.
(3) (Prerequisite: Permission of instructor) Advanced-level seminars and discussion of interdisciplinary aspects of current problems in environment led by staff and/or special guests. This course is offered on an irregular basis.

ENVR 585 Readings in Environment 2.
(3) (Prerequisites: ENVR 400 and ENVR 401, or permission of instructor) Interdisciplinary literature project/essays related to environment, enabling advanced-level study under guidance of qualified MSE staff in areas outside the scope of individual departments. Proposed topic and method of evaluation must be approved by the Associate Director one month before the beginning of term. Contact the Program Advisor for information.

Desautels Faculty of Management

ACCT-Accounting

Offered by: Management

ACCT 351 Intermediate Financial Accounting 1.
(3) (Summer) (Prerequisite: MGCR 211) An examination of the theoretical foundation for financial reporting and revenue recognition. The tools of accounting, including a review of the accounting process and compound interest concepts. Asset recognition, measurement and disclosure. Partnership accounting.

ACCT 352 Intermediate Financial Accounting 2.
(3) (Prerequisites: ACCT 351 and MGCR 341 or ACCT 311 and MGCR 341) A continuation of Intermediate Financial Accounting 1. An examination of liability recognition, measurement and disclosure, including leases, pension costs and corporate income tax. Shareholders' equity, dilutive securities and earnings per share. The statement of changes in financial position, basic financial statement analysis and full disclosure in financial reporting.

ACCT 354 Financial Statement Analysis.
(3) (Summer) (Prerequisite: MGCR 211) Interpretative nature of the conceptual framework underlying a multitude of financial reporting standards, including the impact of alternative accounting methods, management biases and stakeholder interests in the analysis and valuation of the firm.

ACCT 356 International Accounting.
(3) (Prerequisites: ACCT 351 and ACCT 361) Current international issues in financial and management accounting including different reporting models and standards, the International Accounting Standards Committee, international transfer pricing and control systems in multinationals.

ACCT 361 Intermediate Management Accounting 1.
(3) (Summer) (Prerequisite: MGCR 211) The role of management accounting information to support internal management decisions and to provide performance incentives.

ACCT 362 Intermediate Management Accounting 2.
(3) (Prerequisites: ACCT 361 or ACCT 313) An examination of a number of recurring issues in the area of decision-making and control, including cost allocation, alternative costing systems, and innovations in costing and performance measurement.

ACCT 385 Principles of Taxation.
(3) (Prerequisite: MGCR 211) An introduction to the concepts underlying the Canadian tax system and how they are applied in relation to the taxation of individuals and businesses.

ACCT 434 Topics in Accounting.
(3) (Restriction: Open to advanced students only) Topics will be selected from current issues in the Accounting Area.

ACCT 452 Financial Reporting Valuation.
(3) (Prerequisite: ACCT 354.) Models to determine firm value from accounting information and a broader perspective on key sources of information, key value drivers, in a setting where evaluating firm value is the ultimate purpose.

ACCT 453 Advanced Financial Accounting.
(3) (Prerequisites: ACCT 352 or ACCT 312) Reporting relevant financial information subsequent to long term intercorporate investments. The preparation of consolidated financial statements with emphasis on their economic substance rather than legal form.

ACCT 454 Financial Reporting.
(3) (Prerequisites: ACCT 352 or ACCT 312) An in-depth study of Canadian accounting standards and how Canadian corporations apply them in their financial reporting.

ACCT 455 Development of Accounting Thought.
(3) (Prerequisites: ACCT 352 or ACCT 312) The conceptual underpinning of accounting thought, including its historical development and the modifications that have occurred over time. A review of accounting literature and its relevance to practice.

ACCT 463 Advanced Management Accounting.
(3) (Prerequisites: ACCT 362 or ACCT 415) The theoretical frameworks for the examination and evaluation of management accounting and control systems. The technical aspects of accounting along with behavioural issues of management control.

ACCT 471 Non-Profit Accounting.
(3) (Prerequisites: ACCT 352 or ACCT 312) The foundations and practices of non-profit accounting for organizations including government, volunteer, charitable, health care and educational. The framework to evaluate and understand emerging issues.

ACCT 475 Principles of Auditing.
(3) (Prerequisites: ACCT 352 or ACCT 312) An introduction to basic auditing concepts and internal controls of an accounting system. Topics include current auditing standards, ethical conduct, legal liability, planning of an audit, sampling techniques, non-audit engagements, the study and evaluation of internal controls in an accounting system.

ACCT 476 Internal Auditing.
(3) (Prerequisites: ACCT 475) The modern internal audit approach including operational and management audit practices within the internal audit framework. Topics include objectives of an internal audit, communication by internal auditors, planning audit projects, audit of EDP systems, audit testing, operational areas.

ACCT 477 External Auditing.
(3) (Prerequisites: ACCT 475) The theory of auditing financial statements and the various complexities encountered in these audit environments. A thorough study of auditing standards, ethical conduct, communication by auditors, auditing in an EDP environment, audit of a small business, other reports and services provided by auditors and public accountants.

ACCT 486 Business Taxation 2.
(3) (Prerequisite: ACCT 385) A study of the Income Tax Act as it applies to the taxation of individuals and corporations, including capital cost allowances, capital gains, corporate reorganisations, trusts and partnerships and administrative regulations. A review of consumption taxes.

BUSA-Business Admin

Offered by: Management

BUSA 356 Management in Global Context.
(3) (Restriction(s): U2 and U3 students only) Contemporary issues in international management illustrating unique challenges faced in IB, including legal and political foundations of international management, cross-cultural awareness, global mindset, global leadership, building effective international workforce and operations.

BUSA 364 Business Law 1.
(3) (Summer) (Restriction: This course cannot be double-counted from the Certificate in Management.) An introduction to the legal system and basic legal principles affecting business. Tort negligence, contracts, forms of business organization, creditors' rights and bankruptcy.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

BUSA 368 Business Law 2.
(3) (Prerequisite: BUSA 364) An outline of the application of law to professional negligence, product liability, competition, corporate governance and employment. Review of particular contracts; sale, agency, mortgages, lease, insurance.

BUSA 391 International Business Law.
(3) (Summer) (Prerequisite: MGCR 382) Introduction to the legal aspects of foreign trade and investment transactions. Forms and documentation of types of foreign trade contracts. Conflict avoidance, arbitration, and litigation arising from international transactions. Government regulation of foreign trade. Legal aspects of the international transfer of investments and technology. Conventions and institutions of international economic cooperation (e.g. GATT, ICC, IMF, etc.).

BUSA 394 Managing in Asia.
(3) (Prerequisite: MGCR 382.) (Corequisite: BUSA 356) (Restriction: Restricted to U2/U3 students.) Environmental aspects, Eastern value systems and distinct patterns of management in the Asia-Pacific region. Patterns of Chinese, Japanese, Korean, Taiwanese and other management philosophies, practices and styles. Interaction between these theories and practices and those of the West and Canada will be contrasted.

BUSA 395 Managing in Europe.
(3) (Prerequisite: MGCR 382) (Corequisite: BUSA 356) Current social, economic and trade developments in the rapidly-evolving European arena. Focus on both the expanding EU and integrating with emerging market economies and Central and Eastern Europe. Emphasis on managing in the expanded opportunities and challenges facing international and Canadian managers.

BUSA 399 Internship Project.
(1) Upon completion of the internship, students must submit a paper on the integration of the applied and academic aspects of their BCom courses and the Internship experience.

BUSA 400 Independent Studies in Management.
(3) (Prerequisite: U3 students only. CGPA of at least 3.00 required.) Research reading or field projects, permitting independent study under the guidance of a Faculty member. Projects to be arranged individually with instructors. A detailed student proposal must be submitted to the instructor and the Director during the first week of term.

BUSA 401 Independent Studies in International Business.
(3) (Note 1: Projects to be arranged individually with instructors. A detailed student proposal must be submitted to the instructor and the BCom Office during the first week of term.) (Restriction(s): U3 students only. CGPA of at least 3.00 required.) Independent study in international business.

BUSA 433 Topics in International Business 1.
(3) (Prerequisite: MGCR 382) (Restriction(s): U2 and U3 students only.) Current topics in the area of international business. Topics will be selected from important current issues in international business.

BUSA 434 Topics in General Management.
(3) (Summer) (Prerequisite: MGCR 382) (Restriction: Restricted to U2/U3) (Note: Topics vary from year to year) Topics in management.

BUSA 462 Management of New Enterprises.
(3) (Prerequisite: MGCR 341) Evaluation of new business ventures, recognition and treatment of associated risks. Detailed consideration is given to sources of risk funds in the form of venture capital, public, private and government programs. Emphasis on the critical importance of the entrepreneur, the demands and the risks faced as well as the rewards and satisfactions.

BUSA 464 Management of Small Enterprises.
(3) (Prerequisite: MGCR 341) The distinctive characteristics, risks, opportunities and rewards inherent in the ownership and management of a small enterprise. It will assist students in judging the appropriateness of an entrepreneurial career and in selecting and timing a specific venture.

BUSA 465 Technological Entrepreneurship.
(3) (Prerequisite: MIME 310 or MGCR 341) Concentrating on entrepreneurship and enterprise development, particular attention is given to the start-up, purchasing and management of small to medium-sized industrial firms in an environment that would appeal to Engineering students. The focal point is in understanding the dilemmas faced by entrepreneurs, resolving them, developing a business plan and the maximum utilization of the financial, marketing and human resources that make for a successful operation.

BUSA 466 Technological Entrepreneurship Project.
(3) (Restriction: students registered in Minor in Technological Entrepreneurship program) (Prerequisite: 12 credits in the MTE program and BUSA 465) Project involving a small to medium company in the high technology field.

BUSA 481 Managing in North America.
(3) (Prerequisite: MGCR 382) (Corequisite: BUSA 356) (Restriction: U2 and U3 students) Analysis of corporate strategies in the context of Canada-United States-Mexico Free Trade Agreement. Emphasis on public policy's impact on corporate decision-making and implications for management. Examines bilateral experience of major industrial sectors compared with global corporate strategies. Theoretical and empirical literature combined with industrial histories, policy and management case studies.

BUSA 493 Global Economic Competitiveness.
(3) (Prerequisite: MGCR 382.) How nations achieve and maintain competitiveness in the rapidly globalizing world economy. Studies the stages of evolution of world competitiveness in 46 nations, incorporating the latest practical business theories and case studies on the dynamics of effective globalization ventures.

BUSA 497 Internship in International Business.
(3) (The internship will consist of a minimum of 150 hours of work over a period of 8 to 12 weeks at an approved host institution. The institution should be located either overseas or have an international focus. Major in International Management students who are enrolled in Minor Concentrations in the Faculty of Arts may complete Internship courses in the Faculty of Arts. Please consult the Faculty of Arts Internship Program section in the Undergraduate Programs Calendar or refer to the Arts Internships Website: www.mcgill.ca/arts-internships for requirements, including hours and weeks required and CGPA cut-offs.) (Restriction(s): U2 and U3 Major in International Management students only) Internship with an approved host institution.

BUSA 499 Case Analysis and Presentation.
(3) (Prerequisite: BCom Core and 3.0 CGPA or better.) Integration of core knowledge and practice for preparing and presenting case studies, including professor coaching, preparation and presentation feedback, presentation skills, leadership skills, team building skills, analytical skills, logical thinking, debating, persuasive communications and cross discipline work.

FINE-Finance

Offered by: Management

FINE 342 Finance 2.
(3) (Summer) (Restriction: For Finance Concentration/Major/Honours) (Prerequisite: MGCR 341) (Restriction: Only one of FINE 342 or FINE 343 can be counted for credit) In depth study of corporate finance, risk, diversification, portfolio analysis, and capital market theory.

FINE 343 Managerial Finance.
(3) (Restriction: For non-Finance students) (Prerequisite: MGCR 341) (Restriction: Only one of FINE 342 or FINE 343 can be counted for credit) (Continuing education: requirement for CGA, CMA, the Institute of Internal Auditors and the Canadian Institute of Management (in addition to these, the course "Introduction to Business," CGMG 282 is also required for C.I.M.)) A second course in Finance for students not pursuing the Finance Concentration. Topics include short and long term asset and liability management, risk and diversification, and the nature of capital markets. Cases,

lectures, projects and discussions.

FINE 434 Topics in Finance.
(3) Topics will be selected from current issues in the Finance Area.

FINE 441 Investment Management.
(3) (Summer) (Prerequisite: MGCR 341) Application of investment principles and security analysis to the selection and comparison of equity and fixed income securities in the current economic and financial environment. Also covered are: determinants of stock prices, growth models and portfolio diversification.

FINE 442 Capital Markets and Institutions.
(3) (Prerequisite: MGCR 341) (Restriction: Only one of FINE 442 or ECON 302 can be counted for credit.) Functions of the capital market through flow of funds analysis and an examination of portfolio activities of financial intermediaries. Also covered are: securities regulations and ethical considerations, the term structure of interest rates and risk and rates of return in debt and equity markets.

FINE 443 Applied Corporate Finance.
(3) (Prerequisite: FINE 342) Concepts and techniques are applied to problems faced by managers in Corporate Finance, such as working capital management, capital budgeting, capital structure, dividend policy, cost of capital, and mergers and acquisition. Application of theory and techniques through case studies.

FINE 444 Risk Management and Insurance.
(3) (Prerequisite: MGCR 341) Risk exposures of the individual and the firm. A wide variety of techniques for reducing risk exposure are studied including Life, Property and Casualty Insurance. In addition, the course treats the problems faced by insurers such as re-insurance and investment policy.

FINE 445 Real Estate Finance.
(3) (Prerequisite: MGCR 341) Fundamentals of mortgages from the viewpoint of both consumer and the firm. Emphasis on legal, mathematical and financial structure, provides a micro basis for analysis of the functions and performance of the mortgage market, in conjunction with the housing market. A weekly series of one-hour tutorials are mandatory for the first six weeks of class.

FINE 448 Financial Derivatives.
(3) (Summer) (Prerequisite: MGSC-272 or equivalent) The course will concentrate on both the analytical and practical aspects of investments in options and futures. The first part of the course concentrates on option and futures valuation, considering both discrete and continuous time models. The second part of the course concentrates on the practical aspects of options and futures trading.

FINE 449 Market Risk Models.
(3) (Prerequisites: FINE 441 and MGSC 272 or equivalent.) Dynamic market risk models including GARCH volatility models, dynamic conditional correlation models, non-normal return distributions, option pricing allowing for skewness and kurtosis, and option risk management using delta, delta-gamma and full-valuation.

FINE 451 Fixed Income Analysis.
(3) (Prerequisites: FINE 441.) Fixed income financial instruments and their uses for both financial engineering and risk management (at the trading desk and aggregate firm level). This will involve coverage of fixed income mathematics, risk management concepts, term structure modeling, derivatives valuation and credit risk analysis.

FINE 455 Hedge Fund Investing.
(3) (Prerequisite(s): FINE 441) (Corequisite(s): FINE 448 and FINE 451) (This course is restricted to students in the Honours Investment Management program.) Common hedge fund strategies, emphasizing statistical tools, hedge fund industry, and operational issues.

FINE 480 Global Investments.
(3) (Prerequisite: FINE 441, FINE 482) Major principles of international investments and global asset allocation, focusing on recent developments in modeling and predicting global asset returns. Main approaches to stock selection, style investing, and special issues such as indirect diversification and country and industry effects in equity pricing. Use of Datastream and other financial data sources.

FINE 482 International Finance 1.
(3) (Summer) (Prerequisite: MGCR 341) The international financial environment as it affects the multinational manager. Balance of payments concepts, adjustment process of the external imbalances and the international monetary system. In depth study of the institutional and theoretical aspects of foreign exchange markets; International capital markets, including Eurobonds and eurocredit markets.

FINE 492 International Finance 2.
(3) (Prerequisite: FINE 482) Focus on the operational problems of financial management in the multinational enterprise: Financing of international trade, international capital budgeting, multinational cost of capital, working capital management; International banking and recent developments in international capital markets.

FINE 541D1 (1.5), FINE 541D2 (1.5) Applied Investments.
(Prerequisite: MGCR 341) (Students must register for both FINE 541D1 and FINE 541D2.) (No credit will be given for this course unless both FINE 541D1 and FINE 541D2 are successfully completed in consecutive terms) (FINE 541D1 and FINE 541D2 together are equivalent to FINE 541) Students are exposed to practical aspects of managing investment portfolios. A principal activity of students is participation in the management of a substantial investment fund.

FINE 541N1 (1.5), FINE 541N2 (1.5)
(Prerequisite (Undergraduate): FINE 441. Limited enrolment) (Prerequisite (Graduate): Permission of the instructor.) (Students must also register for FINE 541N2) (No credit will be given for this course unless both FINE 541N1 and FINE 541N2 are successfully completed in a twelve month period) (Restriction(s): Open to U2 students only.)

FINE 547 Advanced Finance Seminar.
(3) (Prerequisite: MGCR-651 Managing Resources.) (Corequisites: FINE-646 and FINE-622.) (Restriction: Not open to students who have taken FINE 647.) (Note: Lectures for this course span both the fall and winter semesters.) Selected topics will be discussed by Faculty members, invited guest speakers, and the students. Each student is required to select a topic for study and prepare a written report for presentation.

INDR-Industrial Relations

Offered by: Management, Arts - Dean's Office

INDR 294 Introduction to Labour-Management Relations.

(3) An introduction to labour-management relations, the structure, function and government of labour unions, labour legislation, the collective bargaining process, and the public interest in industrial relations.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

INDR 449 Occupational Health and Safety.
(3) (Prerequisite: INDR 294) Examines the public policy of occupational health and safety in Canada as well as the dynamics of contemporary occupational health and safety management. Topics include occupational safety and health, human rights and workers' compensation legislation, accident prevention and investigation, ergonomics, safety training, and workers' compensation claims management.

INDR 459 International Labour Relations.
(3) (Prerequisite: INDR 294) Examines industrial relations systems of other nations, including those of the EEC and the Pacific rim. Includes a discussion of the existing institutional structure, the historical and recent developments in these systems, the role of multi-national corporations, as well as the current economic and political context.

INDR 492 Public Policy in Industrial Relations.
(3) (Prerequisite: INDR 294) Development and structure of legislative framework governing labour-management relations. Court cases, arbitration precedents, labour relations board activities, and public attitudes; the formation of a public policy for labour relations. Major issues in shaping labour policy, and the linkages between policy and experience in labour management relations. The federal and Quebec jurisdictions.

INDR 494 Labour Law.
(3) (Prerequisite: INDR 294) (Restriction: Management: Open to Labour-Management Relations Major students in U3) Introduction to the basic concepts of labour law relevant to the practice of industrial relations. Historical development of labour law in certain social and legal systems and the culmination in the legislative enactments and jurisprudence of Canadian jurisdictions and certain comparative foreign models.

INDR 495 Labour Relations: Public Sector.
(3) (Prerequisite: INDR 294) Labour relations in federal, provincial, municipal, and quasi-public services such as hospitals, schools, government agencies and boards. Contentious current issues in public service labour relations and compare and analyze the alternative methods that have been evolved to deal with them.

INDR 496 Collective Bargaining.
(3) (Prerequisite: INDR 294) Principles of collective bargaining in Canada and abroad. Problem oriented. Mock collective bargaining sessions provide an opportunity for students to apply knowledge gained.

INDR 497 Contract Administration.
(3) (Prerequisite: INDR 294) The processes of grievance handling and arbitration under the terms of collective bargaining agreements. Substantive and procedural issues as well as behavioural and policy aspects of contract administration.

INDR 499 Internship in Industrial Relations.
(3) (Restriction: Open to U-2 and U-3 students after completing 30 credits of a 90 credits program or 45 credits of a 96-120 credit program, a minimum CGPA of 2.7, and permission of the departmental Internship Advisor. This course will normally not fulfill program requirements for seminar or 400-level courses. A letter from a supervisor at the institution must attest to successful completion of the student's tenure.) Internship with an approved host institution or organization.

INSY-Information Systems

Offered by: Management

INSY 331 Managing Information Technology.
(3) (Prerequisite: MGCR 331) Tools and concepts necessary to manage information systems in an organization: hardware/software/telecom administration, knowledge discovery/management, web-technologies, and computer security. Focuses on both mechanical aspects of IT and conceptual understanding with regard to impact on business organizations.

INSY 332 Accounting Information Systems.
(3) (Prerequisites: MGCR 331 and MGCR 211) Accounting cycles and information flows and the systems that manage those flows. Principals of systems development and data management as relates to accounting information. Relationship between accounting applications and transaction processing systems. Practical experience with accounting packages.

INSY 333 Systems Analysis and Modeling.
(3) (Prerequisite: MGCR 331) First two phases of the software development life cycle. Techniques used to conduct system requirement analysis, practical application of the analyst role in identifying operational problems, defining information system requirements, working with technical and non-technical staff, and making recommendations for system improvement.

INSY 341 Developing Business Applications.
(3) (Prerequisite: MGCR 331) Fundamental programming techniques, concepts, and data structures. Discusses modularization and maintainability. Emphasis on facilitating communication and understanding between systems analysts and programmers to support decision-making.

INSY 342 Advanced Application Development.
(3) (Prerequisite: INSY 341) Object oriented design, modeling (UML) and programming techniques, including the creation of classes, the use of objects, inheritance, and other object oriented principles. Strong focus on problem solving techniques and ways in which programmers can support decision-making within an organization.

INSY 422 Object Oriented Design.
(3) (Prerequisite: INSY 342) (Restriction: Not open to students having taken COMP 202, COMP 203) Principles of the object oriented paradigm. Object technology, data management, and design principals related to business application development.

INSY 431 System Design and Implementation.
(3) (Prerequisites: INSY 333, INSY 437, and INSY 341) (Prerequisite-Continuing Education: CCCS 300, INSY 333, INSY 437) Latter phases of the software development life cycle. Techniques used to design and implement the results of the systems analysis. Practical application of IS team roles.

INSY 432 Information Technology in Business.
(3) (Prerequisite: INSY 333) Discusses the role of the information systems department within an organization, information systems resource management, staff organization and leadership, strategic systems, planning, and end-user computing. Focuses on key IT trends in industries such as banking, insurance, manufacturing, retailing & distribution, and health.

INSY 434 Advanced Topics.
(3) (Prerequisite: MGCR 331) Current topics in the area of information systems.

INSY 436 Telecommunications Management.
(3) (Prerequisites: MGCR 331 and INSY 333) This course addresses the challenges and issues managers face in delivering telecommunications and data networking services to their organizations. Using case studies and lectures, it explores technical and managerial aspects of data communications; local, wide-area and wireless networks; network protocols; Internet/intranets; client/server computing; network security and management.

INSY 437 Managing Data & Databases.
(3) (Prerequisite: INSY 333) (Management: students are encouraged to take this course as early as possible in their program.) Management of organizational data, implementation of database management systems, and the roles and responsibilities of data management personnel. Explores different models of data representation with an emphasis on the relational model; simple and complex SQL queries.

INSY 438 Interface Design & Prototyping.
(3) (Prerequisites: INSY 333 & INSY 341) (Corequisite: INSY 342) (Prerequisite-Continuing Education: CCCS 300) Practical and theoretical interface design & prototyping principles and tools. Practical application of principles in an event-driven development environment.

INSY 440 Information Technology Challenges in Electronic Business.
(3) (Prerequisite: MGCR 331) Build the knowledge base and skills needed to face today's electronic business challenges, opportunities, and issues. Explore important concepts, models, tools and applications related to e-business.

INSY 444 Managing Knowledge with Information Technology.
(3) (Prerequisite: MGCR 331) Types of organizational knowledge and their value for organizations, analyzing knowledge processes, and assessing tools and technologies for managing knowledge.

INSY 450 Information Systems Project Management.
(3) (Prerequisite: MGCR 331) Practical principles of project management essential to successful IS development projects or other complex undertakings within an organization; includes methods for defining, planning, and scheduling activities and resources. Discusses managerial and behavioural issues.

INSY 454 Technological Foundation for E-Commerce.
(3) (Prerequisite: MGCR 331) (Restriction: A basic understanding of HTML is necessary.) Technology trends and vocabulary pertaining to current technology developments in E-Commerce. Practical IT skills in web application design, including ASP, XML, etc. Discusses business issues affected by the introduction of e-technologies.

INSY 533 Information Systems Auditing and Security.
(3) (Prerequisite: INSY 332 or CCCS 300) (Requirement for the Institute of Internal Auditors) This course considers problems and methods of establishing effective controls of computer systems at an advanced level. The student will learn how to review, and evaluate controls in a computer environment through the use of case studies. The student will also learn how to use computer assisted audit techniques to test computer controls.

MGCR-Management Core

Offered by: Management

MGCR 211 Introduction to Financial Accounting.
(3) The role of financial accounting in the reporting of the financial performance of a business. The principles, components and uses of financial accounting and reporting from a user's perspective, including the recording of accounting transactions and events, the examination of the elements of financial statements, the preparation of financial statements and the analysis of financial results.

MGCR 222 Introduction to Organizational Behaviour.
(3) Individual motivation and communication style; group dynamics as related to problem solving and decision making, leadership style, work structuring and the larger environment. Interdependence of individual, group and organization task and structure.

MGCR 271 Business Statistics.
(3) (Summer) (Prerequisite: MATH 122 and 123 or equivalent) (Restriction: Not open to students who have taken or are taking MATH 204, MATH 324, PSYC 204, ECON 227, ECON 257) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Statistical concepts and methodology, their application to managerial decision-making, real-life data, problem-solving & spreadsheet modeling. Topics include: descriptive statistics; normal distributions, sampling distributions and estimation, hypothesis testing for one and two populations, goodness of fit, analysis of variance, simple and multiple regression.

MGCR 293 Managerial Economics.
(3) The course focuses on the application of economic theory to management problems and the economic foundations of marketing, finance, and production. Attention is given to the following topics: price and cost analysis; demand and supply analysis, conditions of competition.

MGCR 331 Information Systems.
(3) (Restriction: Fall sections restricted to BCom students.) (A special seminar will be available to those students who do not possess the above basic computer skills, at the students' own expense.) Introduction to principles and concepts of information systems in organizations. Topics include information technology, transaction processing systems, decision support systems, database and systems development. Students are required to have background preparation on basic micro computer skills including spreadsheet and word-processing.

MGCR 341 Finance 1.
(3) (Summer) (Prerequisites: MGCR 271 or equivalent) An introduction to the principles, issues, and institutions of Finance. Topics include valuation, risk, capital investment, financial structure, cost of capital, working capital management, financial markets, and securities.

MGCR 352 Marketing Management 1.
(3) Introduction to marketing principles, focusing on problem solving and decision making. Topics include: the marketing concept; marketing strategies; buyer behaviour; Canadian demographics; internal and external constraints; product; promotion; distribution; price. Lectures, text material and case studies.

MGCR 360 Social Context of Business.
(3) This course examines how business interacts with the larger society. It explores the development of modern capitalist society, and the dilemmas that organizations face in acting in a socially responsible manner. Students will examine these issues with reference to sustainable development, business ethics, globalization and developing countries, and political activity.

MGCR 382 International Business.
(3) An introduction to the world of international business. Economic foundations of international trade and investment. The international trade, finance, and regulatory frameworks. Relations between international companies and nation-states, including costs and benefits of foreign investment and alternative controls and responses. Effects of local environmental characteristics on the operations of multi-national enterprises.

MGCR 423 Organizational Policy.
(3) (Restriction: Open to U2, U3 students only) Focus on the primary functions of general management: the formation of a corporate strategy that relates the company's opportunities to its resources, competence, and leadership style. Measures to improve organization effectiveness.

MGCR 472 Operations Management.
(3) (Prerequisite: MGCR 271 or equivalent) (Requirement for the Canadian Institute of Management) Design, planning, establishment, control, and improvement of the activities/processes that create a firm's final products and/or services. The interaction of operations with other business areas will also be discussed. Topics include forecasting, product and process design, waiting lines, capacity planning, inventory management and total quality management.

MGPO-Management Policy

Offered by: Management

MGPO 365 Business-Government Relations.
(3) (Restriction(s): U2 & U3 students only) The political environment in which business organizations operate: how governments control, regulate, promote, and compete with the private sector and how corporate policy responds to, and seeks to influence, these activities.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MGPO 383 International Business Policy.
(3) (Prerequisites: MGCR 382) (Restriction: Open to U2, U3 students only) Development and application of conceptual approaches to general management policy and strategy formulation in multinational business involvement (exporting, licensing, contractual arrangements, turnkey projects, joint ventures, consortia); technology transfer, location and ownership strategies: competitive multinational relationships. Emphasis on pragmatic analysis, using case studies.

MGPO 434 Topics in Policy.
(3) (Restriction: Open to U2, U3 students only) This is a specialized course covering an advanced topic in strategy and organization.

MGPO 440 Strategies for Sustainability.
(3) (Restriction: Open to U2, U3 students only) This course explores the relationship between economic activity, management, and the natural environment. Using readings, discussions and cases, the course will explore the challenges that the goal of sustainable development poses for our existing notions of economic goals, production and consumption practices and the management of organizations.

MGPO 445 Industry Analysis & Competitive Strategy.
(3) (Restriction: Open to U3 students only) Analysis of industry structure, macro-environment, and evolution. Evaluation of strategic position, behaviour, and intent of organizations within industry context. Development of strategic recommendations for these firms.

MGPO 450 Ethics in Management.
(3) (Restriction: U2 and U3 students only) An examination of the economic, legal and ethical responsibilities of managers in both private and public organizations. Through readings, case studies, discussions and projects the class evaluates alternative ethical systems and norms of behaviour and draws conclusions as to the right, proper and just decisions and actions in the face of moral dilemmas. The focus of this course is on the decision process, values and consistency of values of the individual and on the impact of systems control and incentives on managerial morality.

MGPO 460 Managing Innovation.
(3) (Restriction: Open to U2, U3 students only) Firms face difficulties in developing new products. This course examines the new product development process to understand why problems occur and what managers can do. Topics include the creative synthesis of market and technology; the coordination of functions; and the strategic connection between the project and the strategy.

MGPO 468 Managing Organizational Politics.
(3) (Restriction: Open to U2, U3 students only) Power and politics can be mechanisms of control that maintain the status quo or they can be used as a force for change. Students learn how to recognize politics and use power. There is also a strong focus on the ethical implications.

MGPO 469 Managing Globalization.
(3) (Recommended: MGCR 423) (Restriction: Open to U2, U3 students only) This course exposes students to global competition. Many critical questions will be explored, such as: why do industries globalize? how do firms expand and grow internationally? what are strategies that firms can use to compete internationally? Many industries will be covered, such as: telecommunications, airlines, footwear, and automobiles.

MGPO 470 Strategy and Organization.
(3) (Restriction: Open to U2, U3 students only) This course explores how strategic change affects the organization and how the organization can be designed to realize its strategy more effectively. It will examine how strategic choices affect organizational structures, processes, culture, human resource policies, leadership styles, etc. and how the organization can be aligned with the organizational mission.

MGPO 475 Strategies for Developing Countries.
(3) (Restriction: Open to U2, U3 students only) Strategic management challenges in developing and emerging economies. Focus on strategies that foster both firm competitiveness and economic development, including: technological capabilities, new forms of organization, small and large firms, global production, social impact, global standards and governance.

MGPO 567 Business in Society.
(3) (Restriction: U2 and U3 students only) Examines different ideologies; business ethics and values; the corporation and its constituencies; the social impact of corporate decisions. The focus of this course is on the interaction between business organizations and society and on incorporating social impact analysis into strategic management.

MGSC-Management Science

Offered by: Management

MGSC 272 Advanced Business Statistics.
(3) (Prerequisite: MGCR 271) (Restriction: Not open to students who have taken MGCR 272) A practical managerial approach to advanced simple and multiple regression analysis, with application in finance, economics and business, including a review of probability theory, an introduction to methods of least squares and maximum likelihood estimation, autoregressive forecasting models and analysis of variance.

MGSC 373 Operations Research 1.
(3) (Prerequisite: MGCR 271) (Prerequisite (CE): MGCR 273) (Restriction: Not open to students who have taken MGCR 373) (Note: Continuing Education: CMA Requirement) A realistic experience of analytical models which have been successfully applied in several areas of managerial decision-making like marketing, finance and IS. Emphasis on the formulation of problems, their solution approaches, limitations, underlying assumptions and practical use. Topics include: decision analysis, project management, simulation, linear and integer programming, sensitivity analysis.

MGSC 402 Operations Strategy.
(3) (Summer) (Restriction: Not open to U0 and U1 students) Effective management at the operating unit level, including the concept of "operations strategy", action-oriented tools and frameworks for designing and managing operations innovation, effective use of operations-related technologies and supply chain strategy.

MGSC 403 Introduction to Logistics Management.
(3) (Prerequisite: MGCR 472.) Managing logistics systems, including transportation management, facility location, procurement, distribution management, and supply chain management.

MGSC 405 Quality Management.
(3) (Restriction: Not open to U0 and U1 students and other faculties.) Integrated view of quality management, quality systems and improvement techniques including tools and methodologies for quality improvement, six-sigma methodology.

MGSC 415 Supplier Management.
(3) (Summer) (Restriction: Not open to U0 and U1 students) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Strategic role of purchasing, supplier selection, supplier relationship management, international sourcing, E-procurement, price determination, purchasing services, and auctions.

MGSC 431 Operations Analysis.
(3) (Summer) (Prerequisite: MGCR 472.) Optimizing cycle-time, throughput and inventory performance of operations, including analytical modeling as well as simulation.

MGSC 434 Topics in Management Science.
(3) Topics will be selected from current issues in the Management Science Area.

MGSC 479 Applied Optimization.
(3) (Prerequisite: MGSC 373.) Applications of optimization models to management problems, including Linear Programming, Integer Programming and Nonlinear Programming.

MGSC 575 Applied Time Series Analysis Managerial Forecasting.
(3) (Prerequisite (Undergraduate): MGCR 271.) (Restriction: Not open to students who have taken MGSC 675.) Management applications of time series analysis. Starting with ratio-to-moving average methods, the course deals successively with Census 2, exponential smoothing methods, the methodology introduced by Box and Jenkins, spectral analysis and time-series regression techniques. Computational aspects and applications of the methodology are emphasized.

MGSC 578 Simulation of Management Systems.
(3) (Prerequisite: (Undergraduate) MGCR 271.) (Restriction: Not open to students who have taken MGSC 678.) Building simulation models of management systems. Design of simulation experiments and the analysis and implementation of results. Students are expected to design a complete simulation of a real problem using a standard simulation language.

MRKT-Marketing

Offered by: Management

MRKT 354 Marketing Management 2.
(3) (Prerequisite: MGCR 352) The decision areas in marketing. Emphasis on the use of marketing theory and concepts in the solution of realistic marketing problems. Decision making in a marketing context using cases, some of which will be computer assisted, and readings.

MRKT 355 Services Marketing.
(3) (Prerequisite: MGCR 352) Services are fleeting and involve direct contact between the supplier and the buyer. Inventories disappear every time an aircraft takes off or the night passes for an hotel. Yet services have become the largest sector in modern Western economy and their importance shows every sign of continuing to grow. This course focuses on the key differences between product and services marketing and the skills that are necessary for the services sector.

MRKT 357 Marketing Planning 1.
(3) (Prerequisites: MRKT 354, MRKT 451, and MRKT 452 (Restriction: Management: U3 students only) Marketing Planning is designed as a capstone to previous marketing courses; Structured approach to developing a marketing plan, proceeding from corporate mission and objectives through to detailed marketing mix programs. Lectures, discussions and cases. A field project provides marketing planning experience.

MRKT 360 Marketing of Technology.
(3) (Restriction: non-Management students) The analysis, planning, and control of marketing activities in a high technology business environment through the application of a good conceptual framework that is useful in addressing marketing management problems.

MRKT 365 New Products.
(3) (Prerequisite: MGCR 352) New products will follow the new product introduction process from idea generation to post introduction. It will use ideas developed in marketing, production and policy. It will use cases and projects and will involve a real life new product project. In the average firm today, 40% of sales come from products not being sold five years ago. The ability of the firm to innovate is at the heart of long term success.

MRKT 434 Topics in Marketing 1.
(3) (Prerequisite: MGCR 352) (Corequisite (Summer Abroad course taught in Brazil.) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Current topics in marketing.

MRKT 438 Brand Management.
(3) (Prerequisite: MGCR 352) Looks at the decisions a brand manager in a major consumer goods company takes. It examines, in particular, the breakdown of advertising and sales promotion expenditures. It looks at the short term nature of the decisions taken. It will concentrate on the vast amount of new information available to brand managers today, especially in the form of scanner data.

MRKT 451 Marketing Research.
(3) (Prerequisites: MGCR 352 and MGCR 271) Theoretical techniques and procedures common in marketing research. Topics include: research design, sampling, questionnaire design, coding, tabulating, data analysis (including statistical techniques). Specialized topics may encompass advertising, motivation and product research; forecasting and location theory.

MRKT 452 Consumer Behaviour.
(3) (Prerequisite: MGCR 352) A study of basic factors influencing consumer behaviour. Attention is focused on psychological, sociological and economic variables including motivation, learning, attitude, personality, small groups, social class, demographic factors and culture, to analyze their effects on purchasing behaviour.

MRKT 453 Advertising Management.
(3) (Prerequisite: MRKT 452) Surveys advertising and promotion in Canadian context. Examines activities as they relate to advertisers, the advertising agency and media. Stresses advertising by objectives as the approach to developing strategy and tactics. Real examples from current campaigns are the focal point of class discussions.

MRKT 455 Sales Management.
(3) (Prerequisite: MGCR 352) Responsibilities of the sales manager as they relate to the sales force. These include the selection of process, training alternatives, compensation and incentive plans, supervision and evaluation and budgeting and forecasting. Case studies and discussions of sales force models are used.

MRKT 456 Business to Business Marketing.
(3) (Prerequisite: MGCR 352) Decision-making and management of the marketing effort in a business to business (b-to-b) context, including the b-to-b marketing system; b-to-b purchasing; researching the b-to-b market; product, price distribution, selling and advertising decisions; strategies for business markets.

MRKT 459 Retail Management.
(3) (Prerequisite: MGCR 352) Principles and methods of marketing management as applied to retailing, including strategy and tactics: market structure; consumer behaviour; competition; financial management; human resources planning; promotion; presentation; merchandising; operations; pricing; planning and attaining retail profits. Lectures, text material, outside reading, planned retail visiting, cases.

MRKT 461 Advertising Practicum.
(3) (Corequisite: MRKT 453) Primarily designed as a practical course in measuring advertising effectiveness. Emphasis on understanding the dynamics of persuasion in an advertising context and developing projects focused on specific aspects of campaign strategies. Knowledge of basic techniques of statistical hypothesis testing is essential.

MRKT 483 International Marketing Management.
(3) (Prerequisites: MGCR 382 and MGCR 352) (Formerly MGMT 483) Marketing management considerations of a company seeking to extend beyond its domestic market. Required changes in product, pricing, channel, and communications policies. Attention to international trade and export marketing in the Canadian context.

ORGB-Organizational Behaviour

Offered by: Management

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

- ✶ Denotes courses taught only in alternate years.
- ‡ Professional Practice (Stage) in Dietetics involving special prerequisites
- ✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
- † Denotes courses not available as Education electives.
- ❒ Denotes courses with limited enrolment.
- ● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
- ▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
- ❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ORGB 321 Leadership.
(3) (Prerequisite: only BCom students require MGCR 222.) Leadership theories provide students with opportunities to assess and work on improving their leadership skills. Topics include: the ability to know oneself as a leader, to formulate a vision, to have the courage to lead, to lead creatively, and to lead effectively with others.

ORGB 325 Negotiations and Conflict Resolution.
(3) A conceptual framework to guide participants through negotiation and conflict resolution process.

ORGB 380 Cross Cultural Management.
(3) (Summer) (Summer Abroad course taught in Brazil.) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Cross-cultural awareness and communication skills necessary to manage in multicultural organizations. Focus on the relationship between cultural values and communication style as they affect inter and intra cultural communication of managers, personnel and clients of multinational and multicultural organizations.

ORGB 409 Organizational Research Methods.
(3) (Prerequisite: MGCR 222) Field research in organizational behaviour.

ORGB 420 Managing Organizational Teams.
(3) (Prerequisite: MGCR 222) Theory, research, and applications. Principles of team processes and effectiveness in organizational settings, specifically the theoretical developments and empirical findings of group dynamics and team effectiveness, and practical strategies and skills for successful management of organizational teams.

ORGB 421 Managing Organizational Change.
(3) (Prerequisite: MGCR 222) Organizational change theory and techniques are examined with an emphasis on techno-structural interventions such as Quality-of-Work-Life approaches. Through simulations and case-studies, the course explores initiatives in organizational change, primarily in contemporary Canadian organizations. It also includes opportunities for "hands-on" experience in work and organization redesign.

ORGB 423 Human Resources Management.
(3) (Prerequisite: MGCR 222) (Requirement for the Institute of Internal Auditors) Issues involved in personnel administration. Topics include: human resource planning, job analysis, recruitment and selection, training and development, performance appraisal, organization development and change, issues in compensation and benefits, and labour-management relations.

ORGB 424 Employment.
(3) (Prerequisite: ORGB 423) (Prerequisite-Continuing Education: ORGB 423) Reviews in sequence all aspects of the hiring of employees. Topics covered will include manpower planning, recruiting, selection, placement orientation, retirement and dehiring. Each area will be covered from legal, technical and theoretical perspectives.

ORGB 426 Human Resource Training and Development.
(3) (Prerequisite: ORGB 423) Planning, conceptualization, design, implementation and evaluation of training and career development programs. Review of the major techniques in each area. Training and development approached from a systems point of view.

ORGB 429D1 (3), ORGB 429D2 (3) Organizational Behaviour for Course Counsellors.
(Prerequisite: MGCR 222) (Students must register for both ORGB 429D1 and ORGB 429D2.) (No credit will be given for this course unless both ORGB 429D1 and ORGB 429D2 are successfully completed in consecutive terms) Examination of behaviour in organizations, coupled with training in teaching methods, to prepare students to team teach a section of MGCR 222. Selection of course counsellors is made toward the end of the preceding winter term. Only students thus selected will be permitted to register for this course.

ORGB 434 Advanced Topics in Organizational Behaviour.
(3) (Prerequisite: MGCR 222) This is an advanced course for students with a special interest in Organizational Behaviour. Topics will be selected from current issues or themes in literature.

ORGB 435 Women as Global Leaders and Managers.
(3) (Prerequisite: MGCR 222) Women are assuming leadership roles in many fields heretofore almost exclusively led by men. Yet even in the 1990s, less than 5% of international managers are women and less than 3% of international business cases portray women in leadership roles. This seminar will review the major trends affecting women's power and influence in society in general and in organizations in particular. Participants will develop the vision, skills, and competencies needed for global leadership.

ORGB 525 Compensation Management.
(3) (Prerequisite (Undergraduate): ORGB 423) Compensation policies and practices, consistent with motivational theories, are examined. Topics include: design and evaluation of job evaluation systems, salary structures, and performance-based pay; compensation of special employee groups; and current pay equity laws. Projects and simulations provide "hands-on" experience in the use of compensation techniques.

Schulich School of Music

MUCO-Composition

Offered by: Music Research, Music

MUCO 240D1 (3), MUCO 240D2 (3) Tonal Composition.
(3 hours) (Prerequisites: MUTH 110 and MUTH 111 OR their equivalent.) (Corequisites: MUSP 229 and MUSP 231 AND MUSP 170 and MUSP 171.) (Restriction: Open only to students in Composition) (Students must register for both MUCO 240D1 and MUCO 240D2.) (No credit will be given for this course unless both MUCO 240D1 and MUCO 240D2 are successfully completed in consecutive terms) A writing course based on the stylistic concepts and resources of European music - 1770-1850 - and designed to develop control of factors such as phrase structure, melodic shape, rhythm, linear continuity, economy of means, notation, and basic contrapuntal procedures. Extensive and detailed analysis of characteristic forms.

MUCO 245D1 (2), MUCO 245D2 (2) Composition.
(2 hours) (Prerequisites: MUTH 110 and MUTH 111.) (Corequisites: MUSP 229 and MUSP 231 AND MUSP 170 and MUSP 171.) (Restriction: Open only to students in Composition) (Students must register for both MUCO 245D1 and MUCO 245D2.) (No credit will be given for this course unless both MUCO 245D1 and MUCO 245D2 are successfully completed in consecutive terms) 20th Century techniques and approaches. Basic dimensions such as pitch, rhythm and timbre, and their inter-relationship at all structural levels. Notation and score preparation. Performance practice. Analysis of selected 20th Century scores. Writing of short pieces for solo instruments and small ensembles, including voice.

MUCO 260 Instruments of the Orchestra.
(2) (2 hours) (Prerequisite: MUTH 111 or equivalent) An introductory study of the instruments of string, woodwind and brass families, elementary acoustics of the instruments. Techniques of playing including embouchure, fingering, bowing, hand-stopping, transposing instruments. Evolution of the instruments, their technique and their music from the 18th century to the present.

MUCO 261 Elementary Orchestration.
(2) (2 hours) (Prerequisite: MUCO 260) Study of traditional orchestration through analysis. Transcription of piano works for small ensembles (string quartet, woodwind quintet, brass quintet). Reduction of orchestral scores for piano.

MUCO 340D1 (3), MUCO 340D2 (3) Composition.
(2 hours) (Prerequisites: MUCO 240 AND MUCO 245 with "B" standing in each.) (Corequisites: MUSP 329 and MUSP 331) (Students must register for both MUCO 340D1 and MUCO 340D2.) (No credit will be given for this course unless both MUCO 340D1 and MUCO 340D2 are successfully completed in consecutive terms) Free composition.

❒MUCO 341 Digital Studio Composition 1.
(3) (3 hours lecture-demonstration and 3 hours studio time) (Prerequisites: MUCO 240D1/D2 and MUCO 245D1/D2.) Composition with MIDI, audio recording, digital audio signal processing software and hardware. Creation of small-scale composition studies using technological resources in the context of electroacoustic music. The hands-on activities will include critical listening and evaluation of electronic and computer music repertoire.

❒MUCO 342 Digital Studio Composition 2.
(3) (3 hours lecture-demonstration and 3 hours studio time) (Prerequisite: MUCO 341) Advanced composition with MIDI, audio recording, digital audio signal processing software and hardware. Creation of complete electroacoustic pieces and/or production of audio media materials.

MUCO 373 Special Topic in Composition 1.
(3) (Prerequisites: MUHL 184, MUHL 185, MUTH 211 or MUCO 240, MUSP 231.) Special topic in composition.

MUCO 374 Special Topic in Composition 2.
(3) (Prerequisites: MUHL 184, MUHL 185, MUTH 211 or MUCO 240, MUSP 231.) Special topic in composition.

MUCO 440D1 (3), MUCO 440D2 (3) Composition.
(2 hours) (Prerequisite: MUCO 340) (Students must register for both MUCO 440D1 and MUCO 440D2.) (No credit will be given for this course unless both MUCO 440D1 and MUCO 440D2 are successfully completed in consecutive terms) Free composition.

MUCO 441 Special Projects: Composition.
(6) (2 hours) (Prerequisite: MUCO 440)

MUCO 441D1 (3), MUCO 441D2 (3) Special Projects: Composition.
(Students must register for both MUCO 441D1 and MUCO 441D2.) (No credit will be given for this course unless both MUCO 441D1 and MUCO 441D2 are successfully completed in consecutive terms) (MUCO 441D1 and MUCO 441D2 together are equivalent to MUCO 441)

MUCO 460D1 (2), MUCO 460D2 (2) Advanced Orchestration.
(2 hours) (Prerequisites: MUCO 240 and MUCO 261) (Students must register for both MUCO 460D1 and MUCO 460D2.) (No credit will be given for this course unless both MUCO 460D1 and MUCO 460D2 are successfully completed in consecutive terms) A short survey of the history of instrumentation and orchestration. Various orchestration theories and practices used by composers, particularly in the twentieth century. Analysis of orchestration techniques. Major orchestration project to be rehearsed by the McGill Symphony Orchestra. Other projects may be linked to electroacoustic and to world music practices.

MUCO 541 Advanced Digital Studio Composition 1.
(3) (Prerequisite: MUCO 342 or permission of the instructor.) Advanced topics in digital studio composition. Aesthetics and poetics of electroacoustic composition. Analytical approaches to this repertoire. Use of digital signal processing and synthesis techniques. Creation of complete pieces incorporating music technology which may include a live performance component.

MUCO 542 Advanced Digital Studio Composition 2.
(3) (Prerequisite: MUCO 541.) Further advanced topics in digital studio composition culminating in a complete large-scale work incorporating music technology, including computer-assisted composition, analysis/resynthesis techniques, and new gestural controllers for live performance of digital musical instruments.

MUCT-Choral Techniques

Offered by: Music Research

❒MUCT 235 Vocal Techniques.
(3) (3 hours and 2 hours lab) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) Development of basic singing skills through group voice lessons, lectures, and Choral Lab performances. Emphasis will be on: text production, breathing, projection, clarity of vowels and consonants, the International Phonetic Alphabet, and definition of voice categories. Simple diagnostic teaching skills will be developed through observation of group voice lessons.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

❒MUCT 315 Choral Conducting 1.
(3) (3 hours and 2 hours lab) (Prerequisites: MUTH 211, MUSP 229, MUCT 235 AND MUGT 215 or permission of instructor.) The fundamental skills of choral conducting, including baton technique, score reading, and rehearsal procedures. Conducting materials will be selected from representative choral works.

MUEN-Ensemble

Offered by: Performance

MUEN 496 Opera Studio.
(4) (3-6 hours) (Prerequisites for B.Mus. (Majors & Honours) & L.Mus.: MUHL 184, MUHL 185, MUTH 110, MUTH 111, MUSP 129, MUSP 131. Other prerequisites for B.Mus. (Majors & Honours) only: MUHL 210, MUHL 211, MUSP 229. Open to Voice Performance students by audition and with practical teacher's approval; open to others by special permission; may be repeated for credit.) .

MUEN 560 Chamber Music Ensemble.
(1) .

MUEN 561 2nd Chamber Music Ensemble.
(1) (1 hour) (Prerequisite: Audition.) Chamber music of the Medieval, Renaissance and Baroque periods.

MUEN 563 Jazz Vocal Workshop.
(2) .

MUEN 567 Beethoven Orchestra.
(1) (Prerequisite: Audition.) (Note: Open to all students registered at McGill.) A reading orchestra that also functions as a conductor's workshop orchestra. Repertoire includes the complete Beethoven Symphonies.

MUEN 568 Multiple Ensemble 1.
(1) .

MUEN 570 Jazz Combo.
(1) (1 hour) (Prerequisite: Audition.) A Jazz Improvisation Ensemble of approximately 4 to 9 players.

MUEN 571 Contemporary Improvisation Ensemble.
(1) (Prerequisite: Audition.) (Restriction: Open to advanced performance majors.) Ensembles of 4-6 players will explore the creative performance practice of improvisatory contemporary music.

MUEN 572 Cappella Antica.
(2) (4 hours) (Prerequisite: Audition.) An ensemble of 8 to 12 voices specializing in early music. N.B. This ensemble may substitute as a Basic Ensemble in programs that specify Choral Ensemble, with Departmental approval.

MUEN 573 Baroque Orchestra.
(2) (4 hours) (Prerequisites: Audition AND MUEN 480 AND a prerequisite or corequisite of MUPP 381. Additional prerequisite for keyboard players: MUPG 372 with a grade of A-.) Open to singers and instrumentalists, this ensemble specializes in chamber music primarily of the Baroque era.

MUEN 578 Song Interpretation 1.
(1) (2 hours) (Prerequisite: Audition.) Normally open only to Voice and Piano Performance students. Study of the standard song repertoire with emphasis on the singer and pianist as partners. A public recital will be given at the end of each term.

MUEN 579 Song Interpretation 2.
(1) .

MUEN 580 Early Music Ensemble.
(1) (Prerequisite: Audition. Prerequisite or corequisite for keyboard players: MUPG 272.) An ensemble of 4-6 vocalists and instrumentalists which performs music of the Medieval, Renaissance and Baroque periods.

MUEN 581 Piano Ensemble Seminar 1.
(1) (1 hour) (Prerequisite: Piano Concentration 1 Examination or Audition.) Concentration on interpretation and performance of piano duet and two piano repertoire.

MUEN 582 Piano Ensemble Seminar 2.
(1) (Prerequisite: MUEN 581 or permission of the instructor.) Ensemble playing in two-piano and piano 4-hand repertoire.

MUEN 583 Introduction to Collaborative Piano.
(1) (2 hours) (Prerequisite: Audition.) A limited number of qualified students will be accepted for intensive work in this field. Singers and other instrumentalists will be admitted.

MUEN 584 Studio Accompanying.
(1) (4 hours) (Prerequisite: MUEN 583 (formerly MUEN 483).) Highly qualified accompanists will be assigned to work independently with studio teachers and their students.

MUEN 585 Sonata Masterclass.
(1) (Prerequisite: MUEN 583, or permission of the instructor.) (Restriction: Limited to 4 advanced pianists and 4 instrumentalists.) Exploration of the vast literature for sonatas with piano and instrument, including multiple issues of ensemble preparation and performing.

MUEN 586 OPERA COACHING.
(1) (3-6 hours) (Prerequisite: open to advanced pianists by audition and with the approval of Director of Opera Studies; may be repeated for credit) Supervised playing of Opera McGill scenes and productions; repetiteur and rehearsal pianist responsibilities; playing of performance of operatic scenes.

MUEN 587 Cappella McGill.
(2) (4 hours) (Prerequisite: Audition.) (Note: May be taken instead of Choral Ensemble.) An ensemble of 16 voices performing challenging repertoire from the Renaissance to the present day. Since the expectation is a level of performance equivalent to a professional chamber ensemble, singers wishing to join this group should have had considerable ensemble experience, and advanced vocal and sight-reading skills.

MUEN 588 Multiple Ensemble 2.
(1) .

MUEN 589 Woodwind Ensembles.
(1) (2-3 hours) (Prerequisite: Audition.) .

MUEN 590 McGill Winds.
(2) (4-6 hours) (Prerequisite: Audition.) .

MUEN 591 Brass Ensembles.
(1) (2-3 hours) (Prerequisite: Audition.) .

MUEN 592 Chamber Jazz Ensemble.
(2) (Restriction: Open to Jazz Performance students only.) This ensemble will deal with the extensive repertoire of music which exists for small jazz orchestra (9-13 instruments).

MUEN 593 Choral Ensembles.
(2) (4 hours) (Prerequisite: Audition.) (Section 001 Chamber Singers: a group of approximately 24 mixed voices which explores the a cappella repertoire of all periods as well as works with chamber accompaniment.) (Section 002 Concert Choir: an ensemble of approximately 60 voices (S.A.T.B.) which performs the repertoire from all periods appropriate to a group of this size.) (Section 003 University Chorus: a mixed chorus of approximately 100 which performs a variety of choral material including both traditional and popular selections.) (Section 004 Women's Chorale: an ensemble of approximately 40 women stressing the fundamentals of singing and ensemble participation.) Students enrolling in Choral Ensembles will be assigned to one of the above groups.

MUEN 594 Contemporary Music Ensemble.
(2) (4 hours) (Prerequisite: Audition.) .

MUEN 595 Jazz Ensembles.
(2) (3-4 hours) (Prerequisite: Audition.) .

MUEN 596 Opera Repetiteur.
(2) (6 hours) (Restriction: Open by audition to advanced pianists, and to students in conducting, who are interested in training as operatic coaches. Students enrolled for piano instruction at McGill must also have their practical teacher's approval) Supervised coaching of singers, and playing of scenes and productions; rehearsal pianists and backstage conducting responsibilities.

MUEN 597 Orchestral Ensembles.
(2) (6-7 hours) (Prerequisite: Audition.) .

MUEN 598 Percussion Ensembles.
(1) (2-3 hours) .

MUGT-General Music Techniques

Offered by: Music Research

MUGT 205 Psychology of Music.
(3)

❒MUGT 215 Basic Conducting Techniques.
(1) (1 hour) (Prerequisites: MUTH 110, MUTH 111, MUSP 129.) Development of basic manual dexterity and rehearsal skills. Topics include: preparatory posture, establishing tempo, releases, simple duple and triple metre beat patterns, cueing, dynamics, fermata, transposition, terminology, score preparation, and listening.

MUGT 301 Technology and Media for Music Education.
(3) (3 hours) Introduction to the use of microcomputers and electronic music instruments in the music classroom and in individualized instruction. Topics include: computer-assisted instruction, MIDI, sequencing and notation software, hard disk recording, NICT, and object-oriented authoring software.

❒MUGT 305 Introduction to Music Therapy.
(3) (3 hours) (Prerequisites: MUTH 210 and MUSP 229) Introduction to basic principles and techniques of music therapy. Topics will include: definitions of music therapy; identifying and developing an understanding of the individual's special needs; simple social, emotional, and physiological therapeutic applications; and music as a motivational tool. Will include limited field observation.

MUGT 354 Music for Children.
(3) (Restriction(s): Not open to students who have taken or are taking MUGT 356 or MUGT 357) Using child centered approaches such as Orff, Kodaly and Dalcroze, students will explore techniques and philosophies for cultivating musical understanding in children aged 6-12. Research related to musical development and the fostering of creativity will also be investigated. A field experience and curriculum organization component is included.

MUGT 355 Music in Early Childhood.
(3) (3 hours) Organized as a laboratory, this course will explore the musical growth and development of children from birth to age six, with topics including heredity and environment, music skills and concept development, affective development, creativity, and musical activities.

MUGT 356 Music for Children 1: Philosophy and Techniques.
(3) (3 hours) (Prerequisite: none) Introduction to techniques for cultivating musical understanding and creativity in children from age 6 to 12. Traditional and contemporary approaches such as Orff, Kodaly, Dalcroze, Montessori, Gordon, and Carabo-Cone, plus relevant research will be examined for underlying principles of musical development. Will include guided field observation.

MUGT 357 Music for Children 2: Philosophy and Techniques.
(3) (3 hours) (Prerequisite: MUGT 356) Continued exploration of techniques for cultivating musical understanding, with emphasis on needs and musical development of older children, and creativity begun in MUGT 356. Will include guided field observation and planning of activity sequences.

MUGT 358 General Music for Adults and Teenagers.
(3) (Prerequisite: MUTH 210 and MUSP 131.) .

MUGT 401 Issues in Music Education.
(3)

MUGT 475 Special Project.
(3) (Restriction: Open only to honours students in School Music) A student may engage in an individual research project with the approval of the Departmental Chair and under appropriate supervision.

MUGT 475D1 (1.5), MUGT 475D2 (1.5) Special Project.
(Students must register for both MUGT 475D1 and MUGT 475D2.) (No credit will be given for this course unless both MUGT 475D1 and MUGT 475D2 are successfully completed in consecutive terms) (MUGT 475D1 and MUGT 475D2 together are equivalent to MUGT 475) A student may engage in an individual research project with the approval of the Departmental Chair and under appropriate supervision.

MUHL-Music History and Literature

Offered by: Music Research

MUHL 184 History Survey Before 1750.
(3) (Summer) (Corequisites: MUTH 110 and MUSP 129 OR permission of instructor) Representative works from the Carolingian Renaissance to 1750 and their relation to the social and cultural milieu. Basic reference works. Developments in notation, instruments, and performance practice.

MUHL 185 History Survey After 1750.
(3) (Summer) (Corequisites: MUTH 111 and MUSP 131 OR permission of instructor) Historical and stylistic investigation of music and musical life from circa 1750 to the present, i.e., the transition to the Classical period, the period of C.P.E. Bach and the Mannheim, Berlin, and Viennese symphonists, to recent developments, including electronic and music technology.

MUHL 220 Women in Music.
(3) (3 hours) (Prerequisites: MUAR 201 and/or MUAR 211 and/or MUHL 184/185 or permission of the instructor.) Case studies in contributions of selected women to various areas of music (including composition, teaching, performance, and patronage), in Europe and North America, chosen mainly from 19th and 20th centuries. Topics include: women as amateurs and professionals; past restrictions; movement for full acceptance into "musical mainstream" especially during twentieth century.

MUHL 330 Music and Film.
(3) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231.) The modern genre of music for films, and its changing styles (symphonic, jazz, pop compilation) from the silent era to today. Includes study of major film composers in North America and other traditions; analysis of the role of music in cinematic narrative, expression and symbolism.

MUHL 342 History of Electroacoustic Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Restriction: Open to non-music students by permission of instructor) (Normally offered in alternate years) Investigation of the repertoire and techniques of electroacoustic music and the historical developments at important centres for research and creative activities. The roles of electronic and computer technologies in commercial and concert music are examined.

MUHL 362 Popular Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) History, criticism, and analysis of twentieth-century repertoires of popular musics. Detailed examination of special topics. These include genre and style in 1970s rock and soul, history of the Broadway musical, approaches to the transcription of pop music, and/or constructions of race and gender in music video.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUHL 366 The Era of the Fortepiano.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Survey of the repertoire for keyboard 1750-1850: the instruments, Empfindsamkeit, gallant style, London, Paris, Vienna, the Czech school, Haydn, Mozart, Beethoven, sonatas, variations, character pieces, "high" and "low" salon music, virtuosos and the virtuoso repertoire, Schubert, Chopin, Schumann, Mendelssohn, early Liszt.

MUHL 372 Solo Song Outside Germany and Austria.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Topics in American and European non-German song repertoire from the eighteenth century to the present. Issues discussed may include the role of song in national music culture, art song and folk song, national styles and poetic traditions, text-music relationships, and performance practice.

MUHL 373 Special Topic.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231)

MUHL 374 Special Topic.
(3) (Summer) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231)

MUHL 375 Introduction to Ethnomusicology.
(3) (Prerequisite: MUHL 184, MUHL 185, MUTH 211 or MUCO 240, MUSP 231, or permission of instructor) Central themes and methods in contemporary ethnomusicology. Music and its meanings in several contrasting cultural regions and groups. Topics include: colonialism, politics, globalization, and the impact of technology. Techniques of transcription, ethnography, and fieldwork.

MUHL 377 Baroque Opera.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) History of opera from its origins in the musical, literary, and philosophical models available to the Florentine Camerata to the end of the baroque. The development of opera will be studied from the perspective of artistic style and in the light of historical, political, social, and economic conditions.

MUHL 380 Medieval Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Corequisites: MUTH 210 and MUSP 229) (Normally alternates with MUHL 381) The medieval style - an intensive study of one or more selected topics from the repertoire. Possible subjects include liturgical chant, Notre Dame, the medieval motet, secular developments, and instrumental literature.

MUHL 381 Renaissance Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Corequisites: MUTH 210 and MUSP 229) (Normally alternates with MUHL 380) Sacred and secular musical genres of the 15th and 16th Centuries. Various phases of imitative practice, cantus firmus and parody techniques. The emergence of homophonic textures in peripheral areas of the repertoire. Selected problems in the fields of theory, bibliography and aesthetics.

MUHL 382 Baroque Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Normally offered in alternate years) A detailed examination of several selected areas of Baroque music. Topics will be drawn from different geographical regions (e.g., Italy, France, Germany, etc.) and encompass church, chamber and theatre music, as well as performance practice. Each topic will be related to general musical developments of the period.

MUHL 383 Classical Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Normally offered in alternate years) The period covered will be from approximately 1740-1828, from the schools of the Italian keyboard composers, opera buffa and seria, and composers centered at Mannheim, Paris, London, Berlin and Vienna, through the Viennese Classic period of Haydn, Mozart and Beethoven, to the death of Schubert.

MUHL 384 Romantic Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Normally offered in alternate years) The Romantic style as traced by an analysis of works by the major composers of Lied, symphony, symphonic poem, chamber music, and opera.

MUHL 385 Early Twentieth-Century Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Development of European, Russian, and American music from the 1890s until the early 1940s, tracing its roots in late 19th-century Romanticism and following its evolution in central Europe, France, and the United States. The music of major innovators such as Debussy, Stravinsky, Schoenberg, Ives, and Varèse will be discussed.

MUHL 386 Chamber Music Literature.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) The course will concentrate on the forms and media for chamber ensembles during the 18th, 19th and 20th centuries: accompanied sonatas, duos, trios, quartets, quintets, sextets, divertimenti, and works for small chamber orchestra. Major works of the most representative composers will be discussed.

MUHL 387 Opera from Mozart to Puccini.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Mozart's operas and the seria, buffa, and Singspiel traditions. Ottocento opera, grand opera, and cross-fertilization between France and Italy. German Romantic opera. Wagner. Eastern European opera. Verismo and fin-de-siècle opera in Vienna and Paris. Sociology of opera. Emphasis on critical understanding of music's role in articulating drama.

MUHL 388 Opera After 1900.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Major early twentieth-century works by Debussy, Strauss, Schreker, Bartók, Stravinsky and Schoenberg. Opera in Europe between the Wars including operas of Berg, Milhaud, Krenek, Hindemith and Weill. Politics, sociology, and literature in relationship to musical style. Approaches since 1945 in selected works by Britten, Henze, Zimmermann, Ligeti, Somers and Glass.

MUHL 389 Orchestral Literature.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Study of the literature for orchestra alone, composed since the early 18th Century. The material will be divided as follows: 1) orchestral music to the time of Beethoven; 2) orchestral music from 1800 to 1860; 3) orchestral music from 1860 to 1900; 4) orchestral music of the 20th Century.

MUHL 390 The German Lied.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Survey of the German Lied from the late eighteenth to the early twentieth century, focusing on songs and song cycles by Schubert, Schumann, Brahms, Wolf, Mahler, Schoenberg, Berg, and Webern. Topics include text, musical form and text-music relationships, melodic style and harmonic organization, accompaniment, and performance practice.

MUHL 391 Canadian Music.
(3) (3 hour) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Survey of music in Canada from the 16th Century to the present. Current musical organizations and institutions, and contemporary Canadian music will be stressed. Time permitting, brief reference will be made to the folk music of indigenous and immigrant groups.

MUHL 392 Music since 1945.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Appearance and evolution of such post-war phenomena as total serialism, "chance" music of various kinds, and electronic music as seen in major figures such as Boulez, Stockhausen, Cage and others in Europe and the United States. Important developments during the 1960s. Rise of "minimalism" and "neo-Romanticism" during the 1970s and 80s.

MUHL 393 History of Jazz.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Prerequisite for Jazz Performance Majors: permission of instructor) The evolution of jazz from its origins to the present day. The course centers upon musical issues and will include careful analysis of style based upon recordings, live performances and transcriptions. Ragtime, blues, the Twenties, big-band, swing, bebop, cool, third stream, hard bop and free jazz will be explored.

MUHL 395 Keyboard Literature before 1750.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) The solo repertoire for organ, harpsichord, and clavichord from 1400 to 1750: intabulation, cantus firmus treatment, indigenous keyboard genres, German organ literature, French harpsichord repertoire.

MUHL 396 Era of the Modern Piano.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Survey of keyboard repertoire from 1850 to the present: instruments, the crisis at mid-century, character pieces, Brahms, late Liszt, national schools, commercialization - the concert hall, music for the bourgeois - salon music, Scriabin, the Second Viennese School, Impressionism, Neo-Classicism, Neo-Romanticism, serialism, the sonata in the 20th-century, North American composers.

MUHL 397 Choral Literature after 1750.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) The development of sacred and secular choral music from 1750 to the present. Selected liturgical and secular works will be included; the Mass, the cantata, the oratorio and other genres. Form and stylistic considerations will be examined in representative works.

MUHL 398 Wind Ensemble Literature after 1750.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) Study of wind ensemble music from Handel to Xenakis as it evolved under the influences of changing musical taste and technological advance. Topics include wind chamber music, music of the French Revolution, the 19th-century military band and the development of school, college and professional bands since 1900.

MUHL 475 Special Project.
(3) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) For details contact the Department of Theory.

MUHL 475D1 (1.5), MUHL 475D2 (1.5) Special Project.
(Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Students must register for both MUHL 475D1 and MUHL 475D2.) (No credit will be given for this course unless both MUHL 475D1 and MUHL 475D2 are successfully completed in consecutive terms) (MUHL 475D1 and MUHL 475D2 together are equivalent to MUHL 475) For details contact the Department of Theory.

MUHL 475N1 (1.5), MUHL 475N2 (1.5) Special Project.
(Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Students must also register for MUHL 475N2) (No credit will be given for this course unless both MUHL 475N1 and MUHL 475N2 are successfully completed in the same calendar year) (MUHL 475N1 and MUHL 475N2 together are equivalent to MUHL 475) For details contact the Department of Theory.

MUHL 529 Proseminar in Musicology.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Prerequisite: open to all students in a Major or Honours program in Music History, and to students in other programs by permission of instructor) (Normally alternates with MUHL 591) Study of selected methodologies in musicology through critical examination of significant texts. Topics may include approaches to historiography, biography, editing and source studies, as well as aesthetics, literary criticism, semiology, feminist musicology, and ideology critique. Works by Adler, Adorno, Dahlhaus, Kerman, McClary, Meyer, Nattiez, and Subotnik, among others, will be addressed.

MUHL 570 Research Methods in Music.
(3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231. Additional prerequisite: one MUHL or MUPP course at the 300 level or higher, or permission of instructor.) Survey and critical evaluation of research- and performance-related tools: composers' collected editions, monuments of music, bibliographies of music and music literature, discographies, directories, and databases. Topics will include: developing bibliographies, structuring written arguments, assessing academic and popular writings about music, and understanding the task of the music editor.

MUHL 591D1 (1.5), MUHL 591D2 (1.5) Paleography.
(1 hour) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Restriction: U3 honours students in History) (Normally alternates with MUHL 529) (Students must register for both MUHL 591D1 and MUHL 591D2.) (No credit will be given for this course unless both MUHL 591D1 and MUHL 591D2 are successfully completed in consecutive terms) The theory and practice of musical transcription for the period 1100 to 1600. Black modal notation, Franconian notation, French and Italian Ars Nova notation, Mannerism, white mensural notation, proportions, and lute and keyboard tablatures will be studied.

MUIN-Practical Instrument

Offered by: Performance

MUIN 110 Elective Practical Instruction 1.
(2)

MUIN 111 Elective Practical Instruction 2
(2)

MUIN 120 Practical Instruction 1.
(2) (1 hour) (Prerequisite: Admission to the B.Mus. program by audition) (Restriction: Open to students entering directly from High Schools outside Quebec.)

MUIN 121 Practical Instruction 2.
(2) (1 hour) (Prerequisite: MUIN 120) (Restriction: Open to transfer students and high school students entering directly from outside Quebec.)

MUIN 130 Performance Practical Instruction 1.
(4) (1 hour) (Prerequisite: Admission to the B.Mus.) (Performance program by audition) (Restriction: Open to students entering directly from high school outside Quebec.)

MUIN 131 Performance Practical Instruction 2.
(4) (1 hour) (Prerequisite: MUIN 130) (Restriction: Open to transfer students and high school students entering directly from outside Quebec.)

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUIN 180 Flute Doubling Proficiency Test.
(0)

MUIN 181 Clarinet Doubling Proficiency Test.
(0)

MUIN 210 Elective Practical Instruction 3.
(2)

MUIN 211 Elective Practical Instruction 4.
(2)

MUIN 220 Practical Instruction 3.
(2) (1 hour) (Prerequisite: MUIN 121)

MUIN 221 Practical Instruction 4.
(2) (1 hour) (Prerequisite: MUIN 220) .

MUIN 222 Concentration 1 Examination.
(0) .

MUIN 230 Performance Practical Instruction 3.
(4) (1 hour) (Prerequisite: MUIN 131)

MUIN 231 Performance Practical Instruction 4.
(4) (1 hour) (Prerequisite: MUIN 230)

MUIN 232 Performance 1 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 250 L.Mus. Practical Instruction 1.
(8) (1 hour) (Prerequisite: Admission to the L.Mus. program by audition)

MUIN 251 L.Mus. Practical Instruction 2.
(8) (1 hour) (Prerequisite: MUIN 250) .

MUIN 252 L.Mus. Performance 1 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 300 Voice Coaching 1.
(2)

MUIN 301 Voice Coaching 2.
(2)

MUIN 320 Practical Instruction 5.
(2) (1 hour) (Prerequisite: MUIN 221)

MUIN 321 Practical Instruction 6.
(2) (1 hour) (Prerequisite: MUIN 320) .

MUIN 322 Concentration 2 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 330 Performance Practical Instruction 5.
(4) (1 hour) (Prerequisite: MUIN 231)

MUIN 331 Performance Practical Instruction 6.
(4) (1 hour) (Prerequisite: MUIN 330) .

MUIN 332 Performance 2 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 333 Piano Techniques 2.
(0) (pass/fail) (Mandatory test for pianists to be taken prior to the Performance 2 Exam.)

MUIN 340 Honours Practical Instruction 5.
(4) (1 hour) (Prerequisite: MUIN 231)

MUIN 341 Honours Practical Instruction 6.
(4) (1 hour) (Prerequisite: MUIN 340) .

MUIN 342 Honours Performance 2 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 350 L.Mus. Practical Instruction 3.
(8) (1 hour) (Prerequisite: MUIN 251)

MUIN 351 LMus Practical Instruction 4.
(8) (1 hour) (Prerequisite: MUIN 350) .

MUIN 352 L.Mus. Performance 2 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 369 Concerto.
(0) (pass/fail) (Mandatory test for pianists)

MUIN 400 Voice Coaching 3.
(2) (Restriction: Open only to students in the Artist Diploma in Voice program.) A course in which the student will have individual coaching sessions on repertoire, with emphasis in musical and linguistic nuance.

MUIN 401 Voice Coaching 4.
(2) (Restriction: Open only to students in the Artist Diploma in Voice program.) Continued individual coaching sessions on repertoire, with emphasis in musical and linguistic nuance.

MUIN 430 Performance Practical Instruction 7.
(4) (1 hour) (Prerequisite: MUIN 331)

MUIN 431 Performance Practical Instruction 8.
(4) (1 hour) (Prerequisite: MUIN 430) .

MUIN 432 Performance 3 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 433 Piano Techniques 3.
(0) (pass/fail) (Mandatory test for pianists to be taken prior to the Performance 3 Exam.)

MUIN 440 Honours Practical Instruction 7.
(4) (1 hour) (Prerequisite: MUIN 341)

MUIN 441 Honours Practical Instruction 8.
(4) (1 hour) (Prerequisite: MUIN 440) .

MUIN 442 Honours Performance 3 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 450 L.Mus. Practical Instruction 5.
(8) (1 hour) (Prerequisite: MUIN 351)

MUIN 451 LMus Practical Instruction 6.
(8) (1 hour) (Prerequisite: MUIN 450) .

MUIN 452 L.Mus. Performance 3 Examination.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 460 Artist Diploma Practical Instruction 1.
(8) (1.5 hours) (Prerequisite: admission to the Artist Diploma program by audition.)

MUIN 461 Artist Diploma Practical Instruction 2.
(8) (1.5 hours) (Prerequisite: MUIN 460) .

MUIN 462 Artist Diploma Recital 1.
(0) (Note: Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 469 Artist Diploma Concerto 1.
(1) (Prerequisite: MUIN 460)

MUIN 560 Artist Diploma Practical Instruction 3.
(8) (1.5 hours) (Prerequisite: MUIN 461)

MUIN 561 Artist Diploma Practical Instruction 4.
(8) (1.5 hours) (Prerequisite: MUIN 560) .

MUIN 562 Artist Diploma Recital 2.
(0) (Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) .

MUIN 563 Artist Diploma Recital 3.
(0) (Complete descriptions are to be found under Examinations and Goals in Practical Subjects in the Music Chapter of the University Calendar.) (Restriction: Not open to students who have taken MUIN 562 prior to 200509.) .

MUIN 569 Artist Diploma Concerto 2.
(1) (Prerequisite: MUIN 469)

MUIT-Instrumental Techniques

Offered by: Music Research

❒**MUIT 201 String Techniques.**
(3) (3 hours and 2 hours lab) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) The fundamental techniques in performance of four common stringed instruments, i.e., violin, viola, cello, and bass. Principles of sound production on stringed instruments, historical development of the strings,

purchase of new and used instruments, maintenance and repairs, teaching procedures and reference materials.

❒MUIT 202 Woodwind Techniques.
(3) (3 hours and 2 hours lab) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) The fundamental techniques in performance of five common woodwind instruments, i.e., clarinet, flute, oboe, bassoon, and saxophone. Principles of sound production, historical development of the woodwinds, purchase of new and used instruments, maintenance and repairs, teaching procedures and reference materials.

❒MUIT 203 Brass Techniques.
(3) (3 hours and 2 hours lab) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) The fundamental techniques in performance of five common brass instruments, i.e., trumpet, horn, trombone, baritone, and tuba. Principles of sound production, historical development of the brass, purchase of new and used instruments, maintenance and repairs, teaching procedures and reference materials.

❒MUIT 204 Percussion Techniques.
(3) (3 hours and 2 hours lab) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) The fundamental techniques in performance of percussion instruments commonly in use in symphonic bands and orchestras. Principles of sound production, historical development of the percussion, purchase of new and used instruments, maintenance and repairs, teaching procedures and reference materials.

❒MUIT 250 Guitar Techniques.
(3) (3 hours) (Corequisites: MUTH 110 or MUTH 111 AND MUSP 129 or MUSP 131 AND MUHL 184 or MUHL 185.) The fundamental techniques in guitar performance. Basic principles of beginning and intermediate pedagogy, sound production, historical development of the instrument, purchase of new and used instruments, maintenance and repair, and teaching materials and repertoire for solo and ensemble performance.

❒MUIT 302 Advanced Wind Techniques.
(3) (3 hours and 2 hours lab) (Prerequisites: MUIT 202, MUIT 203.) Continued exploration of brass and woodwind pedagogy. Methods for developing technique and musical sensitivity in beginning and intermediate performers will be explored through in-depth study of heterogeneous and homogeneous instrumental methods. Skill on secondary instruments and diagnostic and prescriptive teaching abilities will be extended through Lab performances and individual coaching projects.

❒MUIT 315 Instrumental Conducting.
(3) (3 hours and 2 hours lab) (Prerequisites: MUTH 211, MUSP 229, MUGT 215, MUIT 201 or MUIT 250, MUIT 202, MUIT 203, MUIT 204.) (Restriction: Open to non-music education students with permission of instructor.) The fundamental skills of instrumental conducting, including baton technique, score analysis, and rehearsal procedures; conducting materials are selected from representative orchestral works.

❒MUIT 356 Jazz Instruction: Philosophy and Techniques.
(3) (3 hours) (Prerequisites: MUIT 202, MUIT 203, MUIT 204. May be taken by Jazz Performance students with approval of instructor.) Introduction to techniques for the development of school and community-based jazz programs. Topics will include: philosophy of jazz instruction, rhythm section, musical materials, techniques to develop improvisation and aural skills, jazz styles, score preparation, rehearsal techniques, and administration of jazz programs. Will include observation of rehearsals and coaching opportunities.

MUJZ-Jazz Studies

Offered by: Performance

MUJZ 160 Jazz Materials 1.
(3) (4 hours) (Prerequisite: none. Open to non-jazz majors, space permitting, but not for elective credit in B.Mus. or Artist Diploma programs) Fundamental aural and theoretical skills associated with the jazz idiom. Nomenclature, chord construction, chord/scale relationships, harmonic progression, circle of 5ths, simple turnarounds, simple substitution, symmetrical scales and chord relationships, voice leading.

MUJZ 161 Jazz Materials 2.
(3) (4 hours) (Prerequisite: MUJZ 160. Open to non-jazz majors, space permitting, but not for elective credit in B.Mus. or Artist Diploma programs) Simple and advanced substitution, borrowed chords, reharmonisation, modes of harmonic minor and melodic minor diatonic systems, unresolved tensions, odd and infrequent modulations, mixed two-five-ones, introduction to polychords, slashchords and non-functional harmony.

MUJZ 170 Jazz Keyboard Proficiency 1.
(1) (1 hour) (Prerequisite: none. Open only to Jazz Performance Majors. May not be taken for elective credit in B.Mus. or Artist Diploma programs) Basic piano skills, basic comping techniques, standard 3 note rootless voicings in 7, 3 and 3, 7 position with one extension, two-five-ones in major and minor - limited keys. Simple substitution and reharmonisation.

MUJZ 171 Jazz Keyboard Proficiency 2.
(1) (1 hour) (Prerequisite: MUJZ 170. Open only to Jazz Performance Majors. May not be taken for elective credit in B.Mus. or Artist Diploma programs) Continuation of previous semester. Two-five-ones and mixed two-five-ones using 4 note close position voicings and 4 and 5 note spreads, in all keys, diminished passing chords, half step shifts, voice leading extensions, quartal and modal voicing, sight reading of standard jazz repertoire.

MUJZ 213 Non-Performance Jazz Improvisation 1.
(3) (Prerequisites: MUTH 110, MUTH 111, MUSP 129, MUSP 131.) (Note: Open to jazz instrumentalists who are not in Performance programs, with preference given to Jazz Concentration students.) Introduction to basic improvisation concepts of phrasing, articulation, melodic development, harmonic control, musical vocabulary and style. Pedagogical techniques will be discussed.

MUJZ 214 Non-Performance Jazz Improvisation 2.
(3) (Prerequisite: MUJZ 213 or permission of instructor.) (Note: Open to jazz instrumentalists who are not in Performance programs, with preference given to Jazz Concentration students.) A continuation of development of basic improvisation concepts of phrasing, articulation, melodic development, harmonic control, musical vocabulary and style. Pedagogical techniques will be discussed.

MUJZ 223 Jazz Improvisation/Musicianship 1.
(3) (3 hours) (Prerequisite: none.) (Restriction: Open only to Jazz Performance Majors) Basic improvisational concepts with emphasis on time feel, phrasing, articulation, melodic development, voice leading, harmonic control and stylistic nuance. Memorization and aural recognition of standard jazz repertoire also stressed. The aural tradition of the music is emphasized through rhythmic/melodic dictation.

MUJZ 224 Jazz Improvisation/Musicianship 2.
(3) (3 hours) (Prerequisite: MUJZ 223.) (Restriction: Open only to Jazz Performance Majors) Continuation of Jazz Improvisation/Musicianship MUJZ 223.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUJZ 260 Jazz Arranging 1.
(3) (Corequisite: MUJZ 223.) (Restriction: Open only to Jazz Performance Majors. Not open to students who have taken MUJZ 261D1/D2.) Introduction to concepts and techniques commonly used in jazz arranging. Notation, calligraphy and score preparation are discussed; including study of classical and contemporary scores by prominent jazz arrangers.

MUJZ 261 Jazz Arranging 2.
(3) (Prerequisite: MUJZ 260.) (Corequisite: MUJZ 224.) (Restriction: Open only to Jazz Performance Majors. Not open to students who have taken MUJZ 261D1/D2.) Consolidation of knowledge of basic concepts and techniques used in jazz arranging.

MUJZ 340 Jazz Composition 1.
(3) (Prerequisites: MUJZ 224, MUJZ 260, MUJZ 261.) (Restriction: Open only to Jazz Performance Majors. Not open to students who have taken MUJZ 340D1/D2.) Jazz composition based on the stylistic concepts of leading jazz composers. Development of a personal and creative compositional style and of control of factors such as: rhythmic, harmonic, and melodic continuity, vertical modal, and linear modal harmony, polychordal techniques, and non-functional harmonic concepts.

MUJZ 341 Jazz Composition 2.
(3) (Prerequisites: MUJZ 260, MUJZ 261, MUJZ 340.) (Restriction: Open only to Jazz Performance Majors. Not open to students who have taken MUJZ 340D1/D2.) A continuation of development of a personal and creative jazz compositional style.

MUJZ 356 Jazz Pedagogy.
(3) (3 hours) (Prerequisites: MUHL 393 and MUJZ 224.) (Restriction: Open only to Jazz Performance Majors) Techniques for development of school, community-based and post-secondary jazz programs. Topics include: philosophy of jazz instruction, curriculum development, rhythm section, musical materials, techniques to develop improvisation and aural skills, jazz styles, idiomatic instrumental techniques, score preparation, rehearsal techniques and administration of jazz programs. May include coaching opportunities.

MUJZ 423 Jazz Improvisation/Musicianship 3.
(3) (3 hours) (Prerequisite: MUJZ 224.) (Corequisite: MUJZ 340.) (Restriction: Open only to Jazz Performance Majors) Refinement of improvisational concepts in conjunction with ear training, leading towards the establishment of a personal style of playing. Complex forms and harmonies, and contemporary techniques. Memorization of large and varied repertoire is stressed. The ability to identify, transcribe and perform various melodies, rhythms, and complex harmonies by ear will be stressed.

MUJZ 424 Jazz Improvisation/Musicianship 4.
(3) (3 hours) (Prerequisite: MUJZ 423.) (Restriction: Open only to Jazz Performance Majors) Continuation of Jazz Improvisation/Musicianship MUJZ 423.

MUJZ 440D1 (2), MUJZ 440D2 (2) Advanced Jazz Composition.
(Students must register for both MUJZ 440D1 and MUJZ 440D2.) (No credit will be given for this course unless both MUJZ 440D1 and MUJZ 440D2 are successfully completed in consecutive terms) (MUJZ 440D1 and MUJZ 440D2 together are equivalent to MUJZ 440) A continuation of MUJZ 340. This course will emphasize and facilitate the development of a personal and creative compositional style. Jazz aesthetics will be emphasized and explored in greater depth.

MUJZ 461D1 (2), MUJZ 461D2 (2) Advanced Jazz Arranging.
(2 hours) (Prerequisites: MUJZ 261 and MUJZ 340 OR permission of instructor.) (Corequisite: MUJZ 423.) (Restriction: Open only to Jazz Performance Majors) (Students must register for both MUJZ 461D1 and MUJZ 461D2.) (No credit will be given for this course unless both MUJZ 461D1 and MUJZ 461D2 are successfully completed in consecutive terms) This course introduces advanced concepts in jazz writing by examining scores by historically-important jazz composers/arrangers, as well as contemporary masters. Student writing, including expanded combo, big band, and small group string projects, is geared toward public performance by McGill jazz ensembles and combos.

MUJZ 493 Jazz Performance Practice.
(3) (3 hours) (Prerequisites: MUHL 393, MUJZ 224.) (Restriction: Open only to Jazz Performance Majors) An in-depth exploration of the performance practice of leading jazz figures, primarily through the study of solo transcriptions. Comparative study of conceptual differences in time feel, ornamentation, tone quality, articulation and harmonic and melodic approach. Detailed study of major rhythm sections and their interaction with soloists.

MUMT-Music Technology

Offered by: Music Research

MUMT 201 Introduction to Music Technologies.

(3) (3 hours) (Prerequisite: none) (Restriction: Not open to students in the following programs: B.Mus. Honours in Music Technology; B.Mus. Minor in Music Technology; B.A. Minor Concentration in Music Technology; B.Sc., Minor in Music Technology) A general introduction to the history and techniques of music technology to include: synthesis, MIDI, sequencing, sampling, digital audio, music and audio for the Internet, sound recording, interactive music systems, and notation systems.

❒MUMT 202 Fundamentals of New Media.
(3) (3 hours) (Prerequisites: none) (Restriction: Open to all students though priority will be given to students in the Music Technology MAT Minor, followed by Schulich School of Music students.) A theoretical and practical introduction to selected areas of music technology. Topics include digital audio and sampling theory, MIDI and sequencing, audio editing and mixing, elementary sound recording, score editing software and current areas of research interest.

❒MUMT 203 Introduction to Digital Audio.

(3) (3 hours) (Restriction(s): Open only to students in the Music Technology MST Minor or by permission of the instructor.) An introduction to the theory and practice of digital audio. Topics include: sampling theory; digital sound synthesis methods (additive, subtractive, summation series); sound processing (digital mixing, delay, filters, reverberation, sound localization); software-based samplers; real-time sound processing; interactive audio systems. Hands-on exercises are included.

MUMT 250 Music Perception and Cognition.
(3) Basic processes by which the brain transforms sound waves into musical events, dimensions, systems and structures and the processes by which musicians imagine new musical sounds and structures and plan movements that produce music on instruments.

❒MUMT 301 Music and the Internet.
(3) (3 hours) (Prerequisite: MUMT 201 OR MUMT 202) Technologies and resources of the Internet (access tools, data formats and media) and Web authoring (HTML) for musicians; locating, retrieving and working with information; putting information online; tools for music research, music skills development, technology-enhanced learning, music productivity, and promotion of music and musicians. Evaluation of Internet music resources.

❒MUMT 302 New Media Production 1.
(3) (3 hours) (Prerequisite: MUMT 202) (Restriction: Open only to students in the Music Technology MAT Minor or by permission of the instructor.) Techniques for producing and manipulating music and sound for new media applications. Synthesis techniques including FM, granular and physical modeling. Audio effects including delay, reverberation, dynamics processing, and filtering. Audio compression, HCI and MIR concepts.

❒MUMT 303 New Media Production 2.
(3) (3 hours) (Prerequisite: MUMT 302) (Restriction: Open only to students in the Music Technology MAT Minor or by permission of the instructor.) Advanced audio processing with general considerations of aesthetics in sonic art. Introduction to theory and practice of digital video processing using Jitter.

❒MUMT 306 Music and Audio Computing 1.
(3) (3 hours) (Prerequisites: Previous digital audio and object-oriented programming experience) (Restriction(s): Open only to students in the Music Technology MST Minor or by permission of the instructor.) Concepts, algorithms, data structures, and programming techniques for the development of music and audio software, ranging from musical instrument design to interactive music performance systems.

❒MUMT 307 Music and Audio Computing 2.
(3) (3 hours) (Prerequisite: MUMT 306) (Restriction(s): Open only to students in the Music Technology MST Minor by permission of the instructor.) Theory and implementation of signal processing techniques for sound synthesis and audio effects processing using Matlab, C++, and Max/MSP.

❒MUMT 402 Advanced Multimedia Development.
(3) (3 hours) (Prerequisite: MUMT 307) Design, programming, and deployment of music and audio in multimedia production. Topics include: compression and decompression schemes, music and audio support in C++, JAVA, and applications languages. Development of platform independent software for interactive and networked music and audio.

MUMT 475 Special Project.
(3) (Prerequisite: permission of Dept. of Theory) Undergraduate research project in music technology.

MUMT 501 Digital Audio Signal Processing.
(3) (Prerequsite: MUMT 307 and MATH 133 or equivalent) (Music students and students enrolled in the MST Minor will be given priority for this course) Discrete-time signal processing concepts and techniques. Discrete-time fourier transform and series, linear time-invariant systems, digital filtering, spectral analysis of discrete-time signals, and the z-transform.

❒MUMT 502 Senior Project: Music Technology.
(3) (3 hours) (Prerequisites: MUMT 307 and Honours standing in Music Technology) Independent senior project in Music Technology. Students will design and implement a medium-scale project in consultation with their advisor. Evaluation will be based on concept, background research, implementation, reliability, and documentation.

MUPD-Music Professional Development

Offered by: Music Research

MUPD 200 Introduction to Music Marketing.
(3) Business models for monetizing music effectively in the digital era; music marketing fundamentals; music value chain; traditional and new marketing tools; publicity, advertising and promotion; the e-press kit; touring and merchandising; online distribution; social network marketing strategies; rebirth of video content; viral marketing; marketing for subscriptions, wireless; global perspectives.

MUPD 204 Audio Prod for Digital Media.
(3) (Prerequisite: Permission of the instructor.) (Restriction: Enrolment will be limited to 12.) (A MAC laptop will be an asset.) Audio production techniques for music. Sound recording fundamentals. Creative use of microphones and recording techniques. Console functions. Post-production: ProTools for sound editing and stereo mixing. Practical applications of audio tools, such as filters, equalizers, compressors, reverberators, and special effects. Basic audio to video synchronization. Critical listening skills.

MUPD 205
(3)

MUPG-Performance

Offered by: Performance

MUPG 100 Life as Professional Musician.
(1) (1 hour) (Prerequisite: none. May not be taken for elective credit in B.Mus. or Artist Diploma programs) An introduction to the responsibilities and skills required of a professional musician; job options, stage presence, rehearsal etiquette, contracts, professional organizations, freelancing, auditions, special health problems, etc.

MUPG 201 Basic Lyric Diction 1.
(1) (2 hours.) (Restriction(s): for voice concentration students, and others with permission of instructor. Not available to vocal performance students.) Practical application of the fundamentals of English, Italian and Latin pronunciation in singing, utilizing the International Phonetic Alphabet in song, opera, oratorio and choral texts.

MUPG 202 Basic Lyric Diction 2.
(1) (Restriction(s): for voice concentration students, and others with permission of instructor. Not available to vocal performance students.) Practical application of the fundamentals of German, French and Spanish pronunciation in singing, utilizing the International Phonetic Alphabet in song, opera, oratorio and choral texts.

❒MUPG 210 Italian Diction.
(2) (2 hours) (Prerequisite: none) Study of International Phonetic Alphabet. Study of Italian pronunciation in singing using song and opera texts.

❒MUPG 211 French Diction.
(2) (2 hours) (Prerequisite: MUPG 210) Study of French pronunciation in singing using song and opera texts.

❒MUPG 212 English Diction.
(2) (2 hours) (Prerequisite: none) Study of International Phonetic Alphabet. Study of Standard English pronunciation in singing using song and opera texts with a special emphasis on problematic vowels, diphthongs and consonants.

❒MUPG 213 German Diction.
(2) (2 hours) (Prerequisite: MUPG 212) Study of German pronunciation in singing using song and opera texts.

MUPG 272D1 (2), MUPG 272D2 (2) Continuo.
(2 hours) (Prerequisites: MUTH 111 AND permission of instructor. Enrolment limited to 6) (Students must register for both MUPG 272D1 and MUPG 272D2.) (No credit will be given for this course unless both MUPG 272D1 and MUPG 272D2 are successfully completed in consecutive terms) An historically-oriented study of the principles of figured-bass. The student will realize at sight elementary bass patterns. Standard idioms from historical treatises will be introduced.

MUPG 315D1 (2), MUPG 315D2 (2) Introduction to Orchestral Conducting.
(2 hours) (Prerequisites: MUTH 211, MUSP 229, MUCO 261, MUGT 215, and permission of instructor) (Students must register for both MUPG 315D1 and MUPG 315D2.) (No credit will be given for this course unless both MUPG 315D1 and MUPG 315D2 are successfully completed in consecutive terms) Emphasis on classical repertoire (Haydn, Mozart, Beethoven). Practical analysis and score preparation, style, and interpretation. Development of clear and expressive technique. Some practical experience.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUPG 370 Keyboard Improvisation 1.
(2) (2 hours) (Prerequisites: audition and Piano Major Performance 1 Examination or audition for students in programs other than Performance. Open to all keyboard instruments except Jazz) Development of harmonic skills necessary for simple improvised accompaniment, using classical folk and popular music examples. Left-hand accompaniment in varied metres. Different forms of arpeggiation and left-hand accompaniment. Modal materials. Pedal-point. Free improvisation within simple formal structures. Recordings and published materials used to support individual development.

MUPG 372D1 (1), MUPG 372D2 (1) Continuo.
(1 hour) (Prerequisites: MUPG 272 AND permission of instructor. Enrolment limited to 4) (Students must register for both MUPG 372D1 and MUPG 372D2.) (No credit will be given for this course unless both MUPG 372D1 and MUPG 372D2 are successfully completed in consecutive terms) A study of 17th and 18th Century styles of figured-bass accompaniment as revealed in contemporary sources. The emphasis will be on the realization at the keyboard of representative works using original sources.

MUPG 473 Special Project in Performance.
(1) For details, contact the Department of Performance.

MUPG 474 Special Project in Performance.
(2) For details, contact the Department of Performance.

MUPG 475 Special Project in Performance.
(3) For details, contact the Department of Performance.

MUPG 541 Senior Piano Seminar 1.
(2) (3 hours) (Prerequisite(s): MUIN 331 and 4 semesters of MUEN 493) (Restriction: Only open to Faculty of Music Piano Performance students) In-class performance and analysis of solo and ensemble repertoire, including historical and modern recordings.

MUPG 542 Senior Piano Seminar 2.
(2) (3 hours) (Prerequisite: MUPG 541) (Restriction: Only open to Faculty of Music Piano Performance students.) Issues of piano pedagogy and preparation for competitions.

MUPG 590 Vocal Styles and Conventions.
(3) (3 hours) (Restriction: Not open to students who have taken MUPG 690.) Emphasis on vocal performance practices through practical application: text, language, inflection, pronunciation and interpretation considered with individuality of each student's voice and technical development. After examining historical treatises, students will discuss and present musical selections utilizing modern performance standards yet remaining true to stylistic demands of each period.

MUPP-Performance Practice

Offered by: Music Research

MUPP 381 Topics: Performance Practice before 1800.
(3) (3 hours) (Restriction: Enrolment limited to 20. May not be taken by students who have had MUPP 381, MUPP 382, or MUPP 384, except by permission of instructor) Issues in performance practice of prenineteeth-century music. Topics may include rhythmic interpretation, voices and instruments in Medieval and Renaissance polyphony, ornamentation, improvisation, performance venues and context. Sources include original notation and modern editions, treatises, iconography, organology, analysis, criticism, and recordings.

MUSP-Musicianship

Offered by: Music Research

MUSP 129 Musicianship 1.
(2) (2 hours, plus 2 hours Choral Solfège Lab) (Prerequisite: Admission to the B.Mus. or L.Mus. program through audition and placement tests in Musicianship (including Keyboard Proficiency) and Theory. Open to students from other Faculties with permission of Musicianship Co-ordinator; McGill Conservatory Secondary V or equivalent level in Ear Training. Corequisites: MUTH 110 and MUSP 170) Rhythm (basic duple-triple divisions); Isolated Sonorities (intervals, triads, tonal-modal collections); non-modulating Tonal Melodic Structures; Score Reading with treble-bass-alto clefs; Atonal Structures (cells with intervals to fifth excluding tritone); species-counterpoint-like Multipart Structures; Repertoire Building (MUTH 110).

MUSP 129D1 (1), MUSP 129D2 (1) Musicianship 1.
(Students must register for both MUSP 129D1 and MUSP 129D2.) (No credit will be given for this course unless both MUSP 129D1 and MUSP 129D2 are successfully completed in consecutive terms) (MUSP 129D1 and MUSP 129D2 together are equivalent to MUSP 129) Rhythm (basic duple-triple divisions); Isolated Sonorities (intervals, triads, tonal-modal collections); non-modulating Tonal Melodic Structures; Score Reading with treble-bass-alto clefs; Atonal Structures (cells with intervals to fifth excluding tritone); species-counterpoint-like Multipart Structures; Repertoire Building (MUTH 110).

MUSP 131 Musicianship 2.
(2) (Summer) (2 hours, plus 2 hours Choral Solfège Lab) (Prerequisite: MUSP 129) (Corequisites: MUTH 111 and MUSP 171) (Students must complete three of five Listening Tasks (one of which must be Tonal Melodic Structures) in the final segments of both MUSP 129 and MUSP 131 before proceeding to the next Musicianship course.) Rhythm (quadruple-mixed divisions); Isolated Sonorities (voiced triads, dominant sevenths); chromatically-embellished modulating Tonal Melodic Structures; Score Reading with treble-bass-alto-tenor clefs; Atonal Structures (cells with intervals to seventh); diatonic Harmonic Progressions; Repertoire Building (MUTH 111).

MUSP 170 Keyboard Proficiency.
(1) (1 hour) (Prerequisite: Admission to the B.Mus. or L.Mus. program through audition and placement tests in Musicianship and Theory) A remedial piano skills course for students who have been admitted to the B.Mus. or L.Mus. program but who were unable to pass the basic Keyboard Proficiency Test administered to all incoming students (with the exception of those students whose principal instrument is keyboard, who are automatically exempt from MUSP 170). The course focuses on preparing students to retake the Test (see Keyboard Proficiency Test).

MUSP 171 Keyboard Lab 1.
(1) (Summer) (1 hour) (Prerequisite: completion of, or concurrent re-enrolment in, MUSP 170) (Corequisites: MUTH 111 and MUSP 131) (Restriction: All students admitted to B.Mus and L.Mus. programs, including those with keyboard or guitar as their principal instrument, are required to take MUSP 171 Keyboard Lab, unless exempt on the basis of a placement test. Students who are exempt from MUTH 111 through placement tests must still take MUSP 171 (unless exempt) since this course forms the foundation of keyboard-based musicianship tasks at upper levels. (All Majors in Jazz Performance substitute MUJZ 171 for MUSP 171. Students in Jazz Performance who have completed MUJZ 170 and MUJZ 171, and who transfer to a Department of Theory program, will be required to complete MUSP 171.) Students who do not achieve a continuation pass in MUSP 171 must reregister for the course in the semester immediately following. Students who do not achieve a continuation pass after repeating the course will not be allowed to proceed with further Musicianship or Theory studies until a continuation pass is achieved. Tests for MUSP 171 are held in August-September, December-January, and April-May [as well as during the Summer Session when course(s) offered], the exact dates determined by the Department of Music Research.) Course contents parallel those of MUTH 111 with emphasis on memorization of diatonic paradigmatic harmonic progressions (prolongational and cadential) and on their combination in phrases; realization of elementary figured bass; additional tasks include harmonization of simple melodies and elementary score reading using treble, bass, and alto clefs (also some tenor clef).

MUSP 172 Keyboard Lab 2.
(1) (Summer) (Prerequisites: MUSP 131, MUSP 171 and MUTH 111) (Corequisites: MUSO 229, MUTH 210) (Course contents parellel those of MUTH 210, MUSP 229) Keyboard studies with emphasis on memorization and transposition of diatonic sequences; use of seventh chords in diatonic and chromatic contests; augmented sixth and Neapolitan sixth chords, pivot chords, enharmonic and common-tone modulation; practical

command of orchestral score analysis at the keyboard.

MUSP 229 Musicianship 3.
(2) (Summer) (2 hours) (Prerequisite: MUSP 131) (Corequisite: MUTH 210 and MUSP 172) Rhythm (six-, five- and seven-part subdivisions); Isolated Sonorities (triads, dominant, supertonic, leading-tone sevenths); Tonal Melodic Structures tonicizing V, III (also vi, v); Score Reading with treble-bass-alto-tenor clefs; Atonal Structures (basic cell combinations); dance-suite Multipart Structures; Harmonic Progressions including sequential paradigms; Repertoire Building (MUTH 210).

MUSP 231 Musicianship 4.
(2) (Summer) (2 hours, plus Keyboard lab) (Prerequisite: MUSO 172 and MUSP 229) (Corequisite: MUTH 211) Rhythm (eight-part subdivisions, smaller note values); Isolated Sonorities (applied, neapolitan, augmented sixth chords); Tonal Melodic Structures tonicizing related scale-steps; Score Reading with treble-bass-alto-tenor-soprano clefs; Atonal Structures (basic cell combinations); instrumental-texture Multipart Structures; applied chords and tonicizations in Harmonic Progression; Repertoire Building (MUTH 211).

MUSP 329 Musicianship 5.
(2) (Summer) (2 hours) (Prerequisite: MUSP 231) (Corequisite: MUTH 310 or MUTH 327) Rhythm (mixed divisions, basic polyrhythms); Isolated Sonorities (dominant ninths, thirteenths, diminished sevenths, augmented sixths); chromaticism, mixture, enharmonicism in 19th-century Tonal Melodic Structures; Atonal Structures (extended melodies with basic cells); instrumental-texture Multipart Structures; Harmonic Progression with early-19th-century uses of chromatic chords; Score Reading (19th-century repertoire).

MUSP 331 Musicianship 6.
(2) (Summer) (2 hours) (Prerequisite: MUSP 329) (Corequisite: MUTH 311 or MUTH 427) Rhythm (20th-century practices); Isolated Sonorities (trichordal set-classes); chromatically-complex shorter or longer common-practice Tonal Melodic Structures; Atonal Structures (20th-century repertoire items); two-part 20th-century Multipart Structures; Harmonic Progression with late-19th-century chromatic and extended-modulatory paradigms; Score Reading (20th-century repertoire).

MUSR-Sound Recording

Offered by: Music Research

❒MUSR 232 Introduction to Electronics.
(3) (2 hours lecture plus 2 hours laboratory.) (Prerequisite or corequisite: MATH 112. Available as Arts/Science elective in B.Mus. programs.) (Restriction: Not open to students who have taken MUMT 232.) Basics of electricity including: Ohm's law, electronic components, DC circuits, block diagram, amplifiers, filters, power supplies, electrical measurements (frequency levels, distortion). Emphasis will be placed on electronics applied to audio.

❒MUSR 300D1 (3), MUSR 300D2 (3) Introduction to Music Recording.
(3 hours lecture plus 4 hours studio time.) (Prerequisite: MUCO 242 or MUCO 341. Prerequisites or corequisites: MUTH 211 and permission of instructor.) (It is recommended that all students taking this course register concurrently for PHYS 224 Physics and Psychophysics of Music if they do not already have a background in this subject.) (Students must register for both MUSR 300D1 and MUSR 300D2.) (No credit will be given for this course unless both MUSR 300D1 and MUSR 300D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 300D1/D2.) The theory and practice of music recording including a study of recording environments, equipment and studio techniques. The analysis of music scores and recordings with respect to the requirements and possibilities of the recording studio. Studio work will include recording sessions, recording of live concerts, editing, mixing and music p.a.

❒MUSR 339 Introduction to Electroacoustics.
(3) (2 hours lecture plus 2 hours laboratory.) (Prerequisite: MUSR 232 (previously MUMT 232). Available as Arts/Science elective in B.Mus. programs.) (Restriction: Not open to students who have taken MUMT 339.) Basic principles of operation and design of electroacoustical devices and systems; transducers and signal processing devices; magnetic tape sound recording - reproducing systems; disc recording, motion picture sound recording and reproducing systems; practical demonstration of some of these devices and associated measuring, testing and analyzing equipment and techniques.

MUTH-Music Theory and Analysis

Offered by: Music Research

MUTH 110 Melody and Counterpoint.
(3) (Summer) (4 hours) (Prerequisite: Matriculation Music or McGill Conservatory Theory Secondary V or its equivalent. Corequisites: MUSP 129 and MUSP 170 or permission of co-ordinator or instructor) Introduction to principles of melodic and contrapuntal structure through the traditional species of counterpoint: first through fifth species in two parts; first species in three parts. Analysis and compositional modeling of repertoire in medieval-renaissance and 20th-century idioms. Notation, elementary acoustics, review of rudiments.

MUTH 111 Elementary Harmony and Analysis.
(3) (Summer) (4 hours) (Prerequisite: MUTH 110) (Corequisites: MUSP 131 and MUSP 171) Diatonic chords, harmonic progression, the concept and practice of tonality, simple modulation, seventh chords and secondary dominants. Small forms from c.1700 to the early 19th Century will be analyzed. Written four-part exercises will be required.

MUTH 210 Tonal Theory and Analysis 1.
(3) (Summer) (3 hours) (Prerequisites: MUTH 110 and MUTH 111) (Corequisite: MUSP 229) (Prerequisite or corequisite: MUSP 171) Compositional resources of early and mid-18th Century music. Thorough review of elementary harmonic procedure. Introduction to chromatic alteration and linear chords, and to analysis of imitative and invertible counterpoint. Analysis of common forms of the period c.1700 - 1770, including principal Baroque forms, but not including the Classical sonata.

MUTH 211 Tonal Theory and Analysis 2.
(3) (Summer) (3 hours) (Prerequisite: MUTH 210) (Corequisite: MUSP 231) Compositional resources of late 18th and early 19th Century music. Analysis of forms common to the period c.1770 - 1830, including Classical sonata forms in several media. Writing of short pieces for keyboard, piano and voice, and string quartet.

MUTH 301 Modal Counterpoint 1.
(3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Polyphonic techniques of the Renaissance period studied through analysis of works by Palestrina and others and through written exercises in two to three voices.

MUTH 302 Modal Counterpoint 2.
(3) (3 hours) (Prerequisite: MUTH 301) Continuation of Modal Counterpoint I. Study of more advanced techniques through further analysis and written exercises in three or more voices.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MUTH 303 Tonal Counterpoint 1.
(3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) The contrapuntal techniques of J.S. Bach studied through detailed technical analysis of his work and through written exercises in two to three parts.

MUTH 304 Tonal Counterpoint 2.
(3) (3 hours) (Prerequisite: MUTH 303) Continuation of Tonal Counterpoint 1. Further analysis and written exercises in three to four parts with special emphasis on fugal techniques.

MUTH 310 Mid and Late 19th-Century Theory and Analysis.
(3) (Summer) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Expanded harmonic resources of the late 19th Century (e.g., foreign modulation, chromatic harmony). Analysis of characteristic small and large forms. Development of writing and analytical skills with a goal toward perceiving how levels of musical structure interact.

MUTH 311 20th-Century Theory and Analysis.
(3) (Summer) (3 hours) (Prerequisite: MUTH 310) Exploration of 20th-Century systems of pitch organization and attitudes toward counterpoint (e.g., polytonality, modal systems, neo-classical tonality, serialism, linear counterpoint, etc.). Examination of the relationship of these systems to earlier practices. Development of written and analytical skills for the purpose of gaining insight into 20th-Century principles and techniques.

❒MUTH 312 19th-Century Theory and Analysis/Jazz Majors.
(3) (3 hours) (Prerequisites: MUTH 211 or MUJZ 261 AND MUJZ 161.) (Restriction: Open only to Jazz Performance Majors) Expanded harmonic resources of the late 19th-Century (e.g., foreign modulation, chromatic harmony). Analysis of characteristic small and large forms. Development of writing and analytical skills with a goal toward perceiving how levels of musical structure interact. This course is oriented towards students with Jazz theoretical background.

❒MUTH 313 20th-Century Theory and Analysis/Jazz Majors.
(3) (3 hours) (Prerequisite: MUTH 312.) (Restriction: Open only to Jazz Performance Majors) 20th-Century systems of musical organization (e.g., polytonality, modal systems, neo-classical tonality, serialism, linear counterpoint) and their relationship to earlier practices. Development of writing and analytical skills to gain insight into 20th-Century principles and techniques. This course is oriented towards students with Jazz theoretical background. Unless otherwise indicated the following courses are prerequisites to 300-, 400- and 500- level theory courses: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171.

MUTH 327 19th-Century Analysis.
(4) (2 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) The analysis of representative works of the 19th Century, selected from various genres of the period encompassed by late Beethoven, Schubert, and Berlioz to Mahler and Wolf. Some preliminary work in Schenkerian analysis will be undertaken.

MUTH 327D1 (2), MUTH 327D2 (2) 19th-Century Analysis.
(Students must register for both MUTH 327D1 and MUTH 327D2.) (No credit will be given for this course unless both MUTH 327D1 and MUTH 327D2 are successfully completed in consecutive terms) (MUTH 327D1 and MUTH 327D2 together are equivalent to MUTH 327) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) The analysis of representative works of the 19th Century, selected from various genres of the period encompassed by late Beethoven, Schubert, and Berlioz to Mahler and Wolf. Some preliminary work in Schenkerian analysis will be undertaken.

❒MUTH 426 Analysis of Early Music.
(3) (3 hours) (Prerequisites: MUTH 211, MUHL 184) Music from before 1700 is analyzed using recently developed techniques as well as materials gathered from treatises contemporaneous with the music. The implications of analysis for performance are considered.

MUTH 427D1 (2), MUTH 427D2 (2) 20th-Century Analysis.
(2 hours) (Students must register for both MUTH 427D1 and MUTH 427D2.) (No credit will be given for this course unless both MUTH 427D1 and MUTH 427D2 are successfully completed in consecutive terms) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Analysis of a cross-section of 20th Century music from Debussy and Mahler to the present to: 1) provide analytical tools necessary for the understanding of pitch organization, form, rhythm, timbre, etc., in individual works; 2) introduce salient theoretical approaches pertaining to 20th Century music.

MUTH 461 Choral and Keyboard Arranging.
(2) (2 hours) (Prerequisite: MUTH 311 OR permission of instructor) An introduction to arranging techniques, and their application in settings for keyboard and choral resources. Materials include folksongs, carols, popular and originally composed melodies. The emphasis is on creative arrangement as opposed to transcription.

MUTH 462 Instrumental Arranging.
(3) (2 hours) (Prerequisites: MUTH 461 AND MUIT 201, MUIT 202, MUIT 203 and MUIT 204 OR permission of instructor) The application of the general techniques studied in MUTH 461 to woodwind, brass and string ensembles, to various of which may be added keyboard, chorus, and percussion. Major assignments are prepared and recorded in workshops, and are subsequently discussed in class.

MUTH 475 Special Project.
(3) (Summer) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) For details contact the Department of Music Research.

MUTH 475D1 (1.5), MUTH 475D2 (1.5) Special Project.
(Students must register for both MUTH 475D1 and MUTH 475D2.) (No credit will be given for this course unless both MUTH 475D1 and MUTH 475D2 are successfully completed in consecutive terms) (MUTH 475D1 and MUTH 475D2 together are equivalent to MUTH 475) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) For details contact the Department of Music Research.

MUTH 476 Special Project.
(6) For details contact the Department of Music Research.

MUTH 502 Theory Review 2.
(3) (3 hours) (For incoming graduate students who, on the basis of placement tests, are deemed deficient in tonal theory and analysis; may not be taken by students enrolled in B.Mus. programs; may not be taken as elective in M.Mus. and M.A. programs) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Analytical approaches to larger forms of 18th- and 19th-century repertoire, particularly sonata and other forms in solo, chamber, and orchestral genres. Various analytical methods are applied to the study of advanced chromatic vocabulary and syntax, and to large-scale tonal and formal design.

MUTH 503 Theory Review 3.
(3) (3 hours) (For incoming graduate students who, on the basis of placement tests, are deemed deficient in post-tonal theory and analysis; may not be taken by students enrolled in B.Mus. programs; may not be taken as elective in M.Mus. and M.A. programs) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Analytical approaches to 20th-century repertoire in extended tonal, atonal, twelve-tone, and later idioms. Analysis of pitch and pitch-class structure, and of rhythmic, timbral, and formal developments in 20th-century compositions.

MUTH 528 Schenkerian Techniques.
(3) (3 hours) (Prerequisite: MUTH 310 or MUCO 240 OR Corequisite: MUTH 327 OR permission of instructor.) (Restriction: Limited enrolment with preference given to students in Honours Theory) Introduction to the principles and techniques of Schenkerian analysis. Interpretation and construction of reductive graphs through the analysis of a diversified repertoire of tonal works. Comparison with traditional methods of harmonic analysis (Rameau, Riemann, etc.).

MUTH 529 Proseminar in Music Theory 1.
(3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) (Corequisites: MUTH 327 and MUHL 570 OR permission of instructor. Preference given to students in Honours Theory) A survey of various topics in contemporary music theory, including experimental aesthetics, indeterminacy, information theory, linguistics, microtonality, music technology, psycho-acoustics, and rhythmic theory.

MUTH 538 Mathematical Models/Musical Analysis.
(3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) A survey of the theoretical and analytical writings from 1955 to the present, with emphasis on the following topics: a) atonal music (the works of Forte, Lewin, Rahn, Clough, Benjamin); b) twelve-tone music (Babbitt, Lewin, Mead); c) contour theory (Friedmann, West Marvin, Morris); and d) mathematical groups and transformational models (Lewin, Morris, Starr).

MUTH 541 Analysis of Popular Music.
(3) (Prerequisite(s): MUTH 211 or MUCO 240, MUSP 231, MUSP 171 or permission of instructor.) Different approaches to the analysis of popular music. Issues of transcription, notation, analytical pertinence, aesthetics, hermeneutics, and semiotics will be explored through transcription exercises, readings, and analysis of selected recordings.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

Faculty of Religious Studies

RELG-Religious Studies

Offered by: Religious Studies

RELG 201 Religions of the Ancient Near East.
(3) (Fall) Introduction to the religions of Mesopotamia, Egypt and Syria-Palestine (excluding Israelite religion) from the fourth to first millennium B.C.E. Themes that will be discussed include: gods and goddesses, divine kingship, deification of kings, temple cult, death and afterlife, magic, piety, oracles, prayer, lament, myth and epic.

RELG 202 Religion of Ancient Israel.
(3) (Winter) An examination of the religion of Ancient Israel by a study of selected texts (narratives, laws, prophetic sayings, wisdom traditions, and psalms) from the Hebrew Scriptures/Old Testament in translation.

RELG 203 Bible and Western Culture.
(3) (Fall and Winter) To provide students of the humanities with knowledge of the Bible as a tool for interpreting religious references in Western literature, art and music. Biblical stories (e.g. Creation, Exodus), key figures (e.g. David, Job, Mary), and common motifs (e.g. Holy City, Pilgrimage, Bride) are explored, then illustrated by later cultural forms.

RELG 204 Judaism, Christianity and Islam.
(3) (Winter) An introduction to the beliefs, practices, and religious institutions of these three world religions.

RELG 207 The Study of World Religions 1.
(3) (Winter) An introduction to the study of Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity, Islam and Primal Religions.

RELG 210 Jesus of Nazareth.
(3) (Fall) A critical study of selected ancient and modern accounts of the aims and person of Jesus. Attention will be given also to the question of the historical sources and to the relationship between faith and history.

RELG 252 Hinduism and Buddhism.
(3) (Fall) The interaction of Hinduism and Buddhism in India with special reference to the law of Karma, caste, women, ritual, death, yoga, and liberation. Determination of interpretative principles for understanding the religious psychology of Hindus and Buddhists.

RELG 253 Religions of East Asia.
(3) (Winter) Harmony with nature, society, and cosmos to be explored through the religions of the Far East (Confucianism, Taoism, Buddhism and Shinto).

RELG 254 Introduction to Sikhism.
(3) (Fall and Winter) An introduction to the historical and religious context in which the Sikh religion developed, its principal doctrines, practices and institutions and its evolution from its origins to the present, both inside and outside India.

RELG 256 Women in Judaism and Islam.
(3) The role of women in Judaism and Islam from the point of view of institutionalized religious traditions and of women's religious subjectivity; how women's spiritual and social roles within their religious traditions are shaped by Revealed Law, Holy Text and the Authority of Interpretation. Comparative sociology of religion approach.

RELG 257D1 (3), RELG 257D2 (3) Introductory Sanskrit.
(Students must register for both RELG 257D1 and RELG 257D2.) (No credit will be given for this course unless both RELG 257D1 and RELG 257D2 are successfully completed in consecutive terms) To develop basic language and reading skills.

RELG 264 Introductory Tibetan 1.
(3) (Fall) An introduction to the language of Classical Tibetan, specifically Tibetan script and basic grammar.

RELG 265 Introductory Tibetan 2.
(3) (Winter) (Prerequisite: RELG 264) A continuation of the introduction to the language of Classical Tibetan, specifically Tibetan script and basic grammar.

RELG 266 Introductory Tamil 1.
(3) An introduction to the basic grammar and syntax of Tamil, a classical and modern language from South India. Students will acquire basic skills in reading, writing and speaking Tamil.

RELG 267 Introductory Tamil 2.
(3) (Prerequisite: RELG 266) Advanced basic grammar and syntax of Tamil, a classical and modern language from South India. Students will acquire basic skills in reading, writing and speaking Tamil.

RELG 270 Religious Ethics and the Environment.
(3) (Fall: Macdonald Campus (Ste. Anne-de-Bellevue). Winter: Downtown Campus.) Survey of issues and debates in environmental ethics. The challenge posed to human and religious values by the present ecological crisis and some ethical and religious responses to this challenge, Native American spirituality, Eastern and African religions, ecofeminism and liberation theology will be discussed, as will recent environmental debates concerning technology and large scale development projects. Lectures supplemented by guest speakers and audiovisual presentations.

RELG 271 Sexual Ethics.
(3) (Fall and Winter) A study of the social construction of sexual identity and of selected issues regarding sexual behaviour.

RELG 280 Elementary New Testament Greek.
(6) (Summer) (Open to students in the Honours and Major programs in Religious Studies. Other Arts and Science students may take the course as an elective outside their faculty, in accordance with Arts and Science regulations) An introduction to the grammar and syntax of New Testament Greek.

RELG 280D1 (3), RELG 280D2 (3) Elementary New Testament Greek.
(Students must register for both RELG 280D1 and RELG 280D2.) (No credit will be given for this course unless both RELG 280D1 and RELG 280D2 are successfully completed in consecutive terms) (RELG 280D1 and RELG 280D2 together are equivalent to RELG 280) An introduction to the grammar and syntax of New Testament Greek.

RELG 285 The Gnostic Worldview.
(3) On the basis of newly-discovered gnostic writings, forms of gnosticism will be studied in their relationship to Platonists, Jewish and Christian circles in the Graeco-Roman world. Attention to Manicheism, Mandeism and some medieval and modern representatives of the gnostic worldview.

✶RELG 300 Second Temple Judaism.
(3) (Fall) A survey of Jewish history and thought from Ezra to the Mishnah; religious developments and groups, e.g., apocalypticism, Hellenistic Judaism, Essenes, Pharisees, Early Christianity and Rabbinic Judaism; and Biblical Interpretation in the Dead Sea Scrolls, Philo, Paul, Mishnah and Midrashim.

✶RELG 301 Jewish Thought 200 B.C.E - 200 C.E.

(3) (Prerequisite: RELG 300 or the consent of the instructor) The religion and literature of sectarian groupings; Apocalyptic thought; Wisdom; Dead Sea Scrolls; Josephus.

RELG 302 Old Testament Studies 1.
(3) (Fall) An introduction to the literature of Ancient Israel in English translation. Reading and interpreting representative selections.

RELG 303 Literature of Ancient Israel 2.
(3) (Winter) Approaches to historical-critical scholarship and to the historical background of the Old Testament. Part of the course will be an examination of methods of biblical analysis through the use of learning cells.

RELG 306 Rabbinic Judaism.
(3) (Prerequisite: RELG 202 or RELG 204 or permission of instructor) (Restriction: Not open to students who have taken RELG 206) The beliefs, practices and religious institutions of the Jews from ancient times to the present.

✶RELG 307 Bible, Quran & Interpretations.

(3) (Winter) Jewish, Christian and Muslim scriptures as responses to earlier sacred texts and in the light of post-scriptural interpretations. The debates, polemics, interpretative strategies, and intellectual and spiritual sharing produced by these three religions in accepting,

explaining, amplifying, modifying, and selectively rejecting their and other sacred scriptures.

RELG 308 Ancient Bible Translations.
(3) (Prerequisites: One of RELG 202, 302 or JWST 211, 327, 328, 329, 330.) Canonical changes, literary alterations, translation techniques, hermeneutical strategies, variant readings, and textual histories of the books of the Hebrew Bible as evidenced in the ancient versions, primarily the Septuagint. (No knowledge of Greek or Hebrew is required.)

RELG 311 New Testament Studies 1.
(3) (Fall) An introduction to the interpretation of the New Testament.

RELG 312 New Testament Studies 2.
(3) (Winter) An introduction to the critical study of the Gospels.

RELG 313 Topics in Biblical Studies 1.
(3) (Winter) .

RELG 314 Topics in Biblical Studies 2.
(3) Topics of current interest in or between world religions.

RELG 315 Special Topics in Religion 1.
(3) (Fall and Summer) (Prerequisites: RELG 204 or RELG 252 or RELG 253) (Restriction: Not open to students who have taken RELG 496) Topics of current interest in or between world religions.

RELG 316 New Religious Movements.
(3) (Prerequisites: RELG 204 or RELG 252 or RELG 253) A critical analysis of the origins, character and influence of one or more religious movements of the 19th C. and beyond, with special attention to their religious principles and social function.

RELG 317 Special Topics in Religion 2.
(3) (Summer) (Prerequisites: RELG 204 or RELG 252 or RELG 253.) (Restriction: Not open to students who have taken RELG 496.) (Due to the intensive nature of this course, the standard add/drop and withdrawal deadlines do not apply. Add/drop is the second lecture day and withdrawal is the fourth lecture day.) Topics of current interest in, or between, world religions.

RELG 318 Special Topics in Religion 3.
(3) (Summer) (Prerequisites: RELG 204 or RELG 252 or RELG 253.) (Restriction: Not open to students who have taken RELG 496.) Topics of current interest in, or between, world religions.

RELG 319 Special Topics in Religion 4.
(3) (Summer) (Prerequisites: RELG 204 or RELG 252 or RELG 253) (Restriction: Not open to students who have taken RELG 496) Topics of current interest in, or between, world religions.

RELG 322 The Church in History 1.
(3) (Fall) A survey of major developments in the history of Christianity from the end of the apostolic age to 1500. Selected readings from primary and secondary sources will be used.

RELG 323 The Church in History 2.
(3) (Winter) Significant events and persons in the history of western Christianity from 1500 - 1948 will be studied. Attention is focused on mainline denominations in Britain and continental Europe.

RELG 324 Armenian Apostolic Tradition.
(3) (Prerequisite: RELG 322) History of the Armenian Orthodox Apostolic Church from its foundation to the present: apostolic beginnings; St. Gregory the Illuminator and the establishment of Christianity in Armenia in the fourth century; development of doctrine, ecumenical discussions; theology, mystical thought, liturgy, sacred art and architecture.

RELG 325 Varieties Religious Experience in Christianity.
(3)

✶RELG 326 Ancient Christian Church AD54 - AD604.
(3) (Fall) (Restriction: Not open to students who have taken RELG 322 or RELG 323) Significant persons and events from Nero's reign to the papacy of Gregory I. Attention to major Christian centres within the Roman Empire before Constantine, to the development of the Eastern Byzantine Church, and to the growth of the papacy in the West. Leading Christian theologians and thinkers will be studied.

RELG 330 Reformed Theology.
(3) (Fall) Selected topics illustrating the Reformers' theological agenda, with special reference to Luther, Zwingli and Calvin.

RELG 333 Principles of Christian Theology 1.
(3) (Winter) An introduction to the central categories of Christian theology. The course will include discussion of the nature of theology, and of all the primary areas of doctrine (Theology, Christology, Pneumatology, Anthropology, Ecclesiology, Eschatology). Throughout, a conscious attempt will be made to reflect on the Christian faith in the light of the contemporary apologetic situation.

RELG 334 The Christian Faith.
(3) (Winter) (Prerequisites: One of RELG 202, 204, 210, 302, 311, 312 or the equivalent.) A study of core Christian ideas and their relation to doxology, morality, history and culture.

RELG 336 Contemporary Theological Issues.
(3) (Fall and Summer) (Prerequisite: RELG 320 or RELG 338 or permission of instructor)

RELG 337 Themes in Buddhist Studies.
(3) (Prerequisite: RELG 252 or RELG 253 or permission of instructor) A focused examination of major themes within a branch of Theravada, Mahayana or Vajrayana Buddhism. Emphasis will be placed on both the close study of primary texts (in translation) in historical context and the application of recent methods to fundamental Buddhist concepts, ritual practices and community institutions.

RELG 338 Women and the Christian Tradition.
(3) (Fall) (Core course for the Women's Studies Minor program) Survey of women's involvement in the Christian tradition. Topics include feminist interpretation of scripture, ideas of virginity, marriage and motherhood, mysticism, asceticisms, European witchhunts, contemporary women's liberation theories.

RELG 339 Gender & Sexuality in Buddhism.
(3) (Summer) (Core course for the Women's Studies Minor program) (Prerequisite: RELG 252 or permission of the instructor) Religious perspectives on the body, gender and sexual activity in Buddhist cultures.

RELG 340 Religion and the Sciences.
(3) (Fall) Philosophies of science and of religion have created a more positive dialogue on questions of method, symbolism and rationality. Examines key issues (e.g. creation and evolution; objectivity and involvement; determinism and freedom) raised by natural and social sciences, and various possible solutions.

RELG 341 Introduction: Philosophy of Religion.
(3) (Fall) Introduction to the subject. Faith and reason, theistic arguments, values and destiny, the problem of evil, religious language.

✶RELG 342 Theravada Buddhist Literature.
(3) (Prerequisite: RELG 252 or permission of instructor) The evolution of doctrines, practices and institutions explored through critical survey of Pali Canon (in translation), focusing on the dialogues of Gotama Buddha and his community during its first five centuries and on the historical accounts contained in the codes of monastic discipline.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

RELG 343 Topics: Philosophy of Religion.
(3) (Fall and Summer)

RELG 344 Mahayana Buddhism.
(3) (Fall) (Prerequisites: RELG 252 or RELG 253.) Investigation of Mahayana schools of thought based on reading of key sutras and commentarial literature.

RELG 345 Religion and the Arts 1.
(3) (Fall, Winter and Summer) Topics of current interest in Religion and the Arts.

RELG 346 Myth and Symbol in Hindu and Buddhist Art.
(3)

RELG 347 Topics in Religion and the Arts.
(3)

✶RELG 348 Classical Hinduism.
(3) (Winter) (Prerequisite: RELG 252 or permission of the instructor) The study of classical Hindu values in historical context with reference to the goals and stages of life, traditional Hindu laws, ethics (including biomedical ethics), axiology and moral dilemmas in the Epics, gender differences, notions of orthodoxy, and the expansion of Hinduism.

RELG 350 Bhakti Hinduism.
(3) (Fall) (Prerequisite: RELG 252 or permission of the instructor) Foundation of theism in the Upanisads, Epics, Gita and puranas; image worship and temple religion in the Agamas; Vaisnavism, Saivism, Saktism, and competition with Buddhism and Jainism; the relation of Bhakti and Tantra; interaction of Hinduism, Islam, and Sikhism.

✶RELG 352 Japanese Religions.
(3) (Winter) (Prerequisite: RELG 253 or permission of instructor) A study of early Shinto mythology, Shinto-Buddhist syncretism, Neo-Confucianism and its influence upon the resurgence of Shinto during the Tokugawa period, folk religion and the New Religions.

RELG 353 Gandhi: His Life and Thought.
(3) (Winter)

RELG 354 Chinese Religions.
(3) (Winter) This course studies the Confucian classics, philosophical and religious Taoism, and Neo-Confucianism and also examines the syncresis between the Chinese religions and Indian Buddhism.

RELG 355 Religion and the Arts 2.
(3) Topics of current interest in Religion and the Arts.

RELG 356 Gender & Sexuality in Hinduism.
(3) (Winter) (Prerequisite: RELG 252 or Permission of the instructor.) Religious perspectives on the body, gender and sexual activity in Hindu cultures. Topics include: dharma and sexual practice; female sexuality; Bhakti and Tantra; same-sex relations; hijras; eroticism in the literary, visual, and performing arts; colonialism, Hindu nationalism, and the politics of gender.

RELG 357D1 (3), RELG 357D2 (3) Sanskrit 2.
(Prerequisite: RELG 257 or permission of the instructor) (Students must register for both RELG 357D1 and RELG 357D2.) (No credit will be given for this course unless both RELG 357D1 and RELG 357D2 are successfully completed in consecutive terms) Advanced grammar and vocabulary with readings in epic and similar texts.

RELG 361 Religious Behaviour.
(3) (Winter) A study of the psychological origins of religion, of some aspects of the religious life (e.g. prayer, conversion, mystical experiences), and of some contemporary religious phenomena (e.g. marginal religious groups, the charismatic movement, glossolalia). The views of Freud and Jung are also considered.

RELG 363 Religion and the Arts in India.
(3) Aspects of the arts in India (dance, music, drama, novels, film, sculpture and/or painting) as they relate to Hinduism.

RELG 364 Intermediate Tibetan 1.
(3) (Fall) (Prerequisite: RELG 265 or permission of the instructor.) Advanced Tibetan grammar, and translation of selected Tibetan texts.

RELG 365 Intermediate Tibetan 2.
(3) (Winter) (Prerequisite: RELG 364 or permission of the instructor.) Continuation of advanced Tibetan grammar and translation of selected Tibetan texts.

RELG 369 Tibetan Buddhism.
(3) (Summer) (Prerequisite(s): RELG 252 or RELG 253) (This course is expected to be offered every 3 years) Buddhism has been central to Tibetan culture and identity since the 7th century CE. This course introduces key aspects of the history and practices of Tibetan Buddhism, including: early history, political and sectarian developments, the spread of Tibetan Buddhism outside of Tibet, and the myth of "Shangri-La".

RELG 370 Religion and Human Rights.
(3) (Winter) Social justice and human rights issues as key aspects of modem religious ethics. Topics include: the relationship of religion to the modem human rights movement; religious perspectives on the universality of human rights; the scope and limits of religious freedom; conflicts between religion and rights.

RELG 371 Ethics of Violence/Non-Violence.
(3) (Summer) Forms of violence and the reaction of religious groups are assessed both for their effectiveness and for their fidelity to their professed beliefs. Different traditions, ranging from the wholesale adoption of violent methods (e.g., the Crusades) to repudiation (e.g., Gandhi; the Peace Churches).

RELG 372 Hindu Goddesses.
(3) (Summer) The mythology, theology, soteriology, history, ritual, and texts of the goddess-centred (Sakta) branches of Hinduism.

RELG 373 Topics in Christian Ethics.
(3)

RELG 374 Topics: Philosophy of Religion.
(3)

RELG 375 Religion and Society.
(3) (Fall and Summer) (Restriction: U2 and U3 students) A study of the sociology of religion in the light of the contemporary debates regarding secularization, the relation of religion and politics, and the emergence of new religious movements.

RELG 376 Religious Ethics.
(3) (Summer) A discussion of ethical theory will provide the background for an analysis of the relationship between religious world views and moral reason. Attention will be given to the way in which the dominant religious traditions view the exemplars of religious virtue, and to how the virtues exemplified are related to and justified by the faith tradition in which they operate.

RELG 377 Religious Controversies.
(3) (Winter) A comparative survey of types and topics of argumentation developed in the literature of controversy. Texts discussed include disputations, missionary sermons and polemical treatises.

RELG 379 Eastern Orthodox Christianity.
(3) (Summer) (Restriction(s): For U2 students and above and not open to students who have taken RELG 232.) Topics in the history, theology, spiritual practices, liturgical arts, and literatures of the Greek, Slavonic, Syriac, Coptic, Armenian, and related Christian traditions.

RELG 381 Advanced New Testament Greek.
(3) (Fall) (Prerequisite: RELG 280 or equivalent, with a minimum grade of 70%) A review of grammar and syntax with an emphasis on rapid reading of sections chosen from different parts of the New Testament.

RELG 389 Introduction to the Bahai Faith.
(3) A study of the Bahá'i Faith with an emphasis on its sacred practices, philosophical principles, practical ethics, history (including historical precedents), administrative structure, sacred texts, and theology of others regions.

RELG 390 Elementary Biblical Hebrew.
(6) An introduction to the grammar and syntax of Biblical Hebrew. Emphasis is placed on both the oral and the written language.

RELG 390D1 (3), RELG 390D2 (3) Elementary Biblical Hebrew.
(Students must register for both RELG 390D1 and RELG 390D2.) (No credit will be given for this course unless both RELG 390D1 and RELG 390D2 are successfully completed in consecutive terms) An introduction to the grammar and syntax of Biblical Hebrew. Emphasis is placed on both the oral and the written language.

✶RELG 399 Christian Spirituality.
(3) Seminar exploring the phenomena of internal religious experience in their relation to received formularies of Christian thought and practice.

RELG 404 Post Exilic Biblical Literature.
(3) (Fall)

✶RELG 407 The Writings.
(3) (Prerequisites: RELG 202, or RELG 302 and RELG 303, or equivalent) A study of Job with some attention to Proverbs and Ecclesiastes (in English translation).

RELG 408 The Prophets.
(3) (Fall) (Prerequisites: RELG 202, or RELG 302 and RELG 303) A study of significant texts selected from the prophetic tradition in the Old Testament.

RELG 411 New Testament Exegesis.
(3) (Winter) (Prerequisites: RELG 311 and RELG 312) A seminar in exegesis on the basis of representative passages chosen from different parts of the New Testament in English.

RELG 420 Canadian Church History.
(3) (Winter) (Prerequisite: RELG 323) A survey of the major Christian traditions in Canada from the settlement of New France to the present. Lectures and seminars with use, where possible, of primary source materials.

✶RELG 423 Reformation Thought.
(3) (Fall) An examination of issues and persons in Europe and the British Isles that contributed to ecclesiastical and social change during the 16th and early 17th centuries.

RELG 434 Principles of Christian Theology 2.
(3) (Fall) (Prerequisite: RELG 333) This course is a continuation of RELG 333.

RELG 438 Topics in Jewish Theology.
(3) A topic in Jewish Theology will be studied from a variety of approaches, including historical sociological and phenomenological.

RELG 439 Religious Dialogues.
(3) (Winter) (Prerequisite: RELG 204 or RELG 207.) A comparative survey of the literature of Western religious dialogues, addressing the history and diversity of debates concerning religion. Texts to be discussed include dialogues by Plato, Cicero, Augustine, Boethius, Anselm, Cusanus, Leo Hebraeus, Erasmus, Thomas More, Jean Bodin, Leibniz and Hume.

RELG 442 Pure Land Buddhism.
(3) (Prerequisite: RELG 252 and RELG 253, or RELG 342 or RELG 344, or permission of instructor) The concept of Buddha Countries and Pure Lands in Buddhism, the Western Pure Land of Amida (Jodokyo) and its basic scriptures, the Chinese Buddhist schools, the introduction to Japan and the foundation of the Pure Land school by Honen, the Pure Land School of Shinran and its development, and the other Pure Land related schools.

RELG 443 Japanese Esoteric Buddhism.
(3) (Prerequisites: RELG 252 and RELG 253, or RELG 342, or RELG 344) The development of esoteric Buddhism in India and Tibet; its Chinese formation and introduction to Japan; Kukai, Shingonshu and Tendai esotericism; the Tachikawa traditions of sexual esotericism; Mandal, iconography and liturgy.

✶RELG 451 Zen: Maxims and Methods.
(3) (Prerequisites: RELG 252, RELG 342 or RELG 344, or permission of instructor) Through the reading of such key Zen writings as The Platform Sutra and selections from Zen Masters Chinul of Korea and Dôgen of Japan, an attempt will be made to relate Zen anecdote to meditational practice.

RELG 452 East Asian Buddhism.
(3) (Prerequisite: RELG 253 or RELG 344) Topic for 2000: Precept and Ritual in East Asian Buddhism and Confucianism.

RELG 453 Vajrayana Buddhism.
(3) (Winter) (Prerequisite: RELG 344.) A study of the history, philosophy and practices of Vajrayana Buddhism.

RELG 454 Modern Hindu Thought.
(3) (Prerequisite: RELG 252) A study of the developments in religious thought with special reference to such thinkers as Ram Mohan Roy, Dayananda Saraswati, Ramakrishna, Vivekananda, Gandhi, Tilak, Aurobindo, and Radhakrishnan.

✦RELG 456 Theories of Religion.
(3) (Fall and Winter) (Restriction: For Religious Studies Majors and Honours students or with permission of the Chair of the Religious Studies B.A. Committee) The history of the academic study of religion from its beginnings in the 19th century until the present. Key texts by figures such as Max Muller, Sigmund Freud, Emile Durkheim, Max Weber, Mircea Eliade, Claude Levi-Strauss and Clifford Geertz will be studied.

RELG 457D1 (3), RELG 457D2 (3) Advanced Sanskrit.
(Prerequisite: RELG 357 or permission of instructor) (Students must register for both RELG 457D1 and RELG 457D2.) (No credit will be given for this course unless both RELG 457D1 and RELG 457D2 are successfully completed in consecutive terms) Critical reading of selected Sanskrit texts.

RELG 464 Advanced Tibetan 1.
(3) (Fall) (Prerequisite: RELG 365 or permission of instructor.) Translation of specially selected Tibetan texts.

RELG 465 Advanced Tibetan 2.
(3) (Winter) (Prerequisite: RELG 464 or permission of the instructor.) Continuation of translation of specially selected Tibetan texts.

RELG 470 Theological Ethics.
(3) (Fall) (Prerequisite: RELG 341 or RELG 333) A study of the biblical and theological foundations of Christian ethics, and the nature, application and relevance of the Christian norm.

RELG 479 Christianity in Global Perspective.
(3) (Winter) (Prerequisites: RELG 333 and RELG 334.) This course examines traditional Western Christianity, aiming at theological integration in light of religious and cultural pluralism and with reference to issues of world wide concern (e.g., gender, ethnicity, poverty, work, environment).

RELG 482 Exegesis of Greek New Testament.
(3) (Winter) (Prerequisite: RELG 381 or equivalent, and RELG 311, RELG 312) An intensive seminar in exegesis on the basis of representative passages chosen from different parts of the New Testament.

RELG 491 Hebrew Texts.
(3) (Fall) Translation and exegesis of selected texts.

RELG 492 Hebrew Texts.
(3) Translation and exegesis of selected texts.

RELG 494 B.Th. Honours Seminar 1.
(3) (Fall) (Prerequisite: permission of the Chair of the B.Th. Committee) Open to students in the final year of B.Th. Honours. Provides opportunity for advanced development of research interests and methods in the student's area of Honours specialization.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

RELG 495 B.Th. Honours Seminar 2.
(3) (Winter) (Prerequisite: RELG 494 and permission of the Chair of the B.Th. Committee) Open to students in the final year of B.Th. Honours. Provides further opportunity for advanced development of research interests and methods in the student's area of Honours specialization.

RELG 496 Special Studies.
(3) (Fall and Winter)

RELG 497 Research Seminar.
(3) (Fall and Winter) (Students wishing to take this course must have the permission of the Religious Studies Adviser)

RELG 498 Special Studies.
(3) (Fall and Winter) (Prerequisite: permission of the Chair of the B.Th. Committee)

RELG 501 Honours Seminar.
(3)

RELG 502 Greco-Roman Judaism.
(3) (Prerequisite: Permission of instructor.) The religion and literature of wisdom and apocalyptic traditions, the Dead Sea Scrolls, Philo and Josephus, with special attention to the Jewish matrix of Early Christianity.

RELG 520 Biblical Theology.
(3) (Fall and Winter) (Restriction: Limited to S.T.M. students.) Tutorials and guided reading in the field of Biblical Theology.

RELG 530 Church History.
(3) (Fall and Winter) Limited to S.T.M. students. Tutorials and guided reading in the field of church history.

RELG 531 Christian Theology.
(3) (Fall and Winter) Limited to S.T.M. studies. Tutorials and guided reading in the field of Christian Theology.

RELG 532 History of Christian Thought 1.
(3) (Fall) (Prerequisite: At least six (6) credits at the 300-level in Christianity or the Christian Bible.) (Restriction: Not open to students who have taken RELG 320) The development of Christian theology in the Patristic and Medieval periods. Focus on the controversial development of Christian doctrines and disciplines through intensive exposure to primary texts.

RELG 533 History of Christian Thought 2.
(3) (Prerequisite: At least six (6) credits at the 300-level in Christianity or the Christian Bible.) (Restriction: Not open to students who have taken RELG 327) The development of Christian theology in the Reformation, Post Reformation and Modern periods through intensive exposure to primary texts.

RELG 540 Philosophy of Religion.
(3) (Fall and Winter) (Restriction: Limited to S.T.M. students.) Tutorials and guided reading in the field of Philosophy of Religion.

RELG 541 Theological Ethics.
(3) (Fall and Winter) (Restriction: Limited to S.T.M. students.) Tutorials and guided reading in the field of Theological Ethics.

RELG 545 Ramayana: Multiple Lives.
(3) (Prerequisite: RELG 252 Hinduism & Buddhism) Focus on the Rama story in South Asia. Exploration of the multiple versions of the narrative from classical Sanskrit textual versions, to rural vernacular retellings, to contemporary TV versions, and examination of the various religious, social, cultural and political significations of the narrative in these contexts.

RELG 546 Indian Philosophy.
(3) (Winter) (Prerequisites: 6 credits in Indian religions, philosophy of religion, philosophy, or permission of the instructor) Introduction to the orthodox systems of Hindu Philosophy leading up to Vedanta i.e. Nyaya, Vaisesika, Sankhya, Yoga and Mimamsa, which will include discussion of such topics as: grounds for belief and disbelief in God, the nature of revelation, means of knowledge, etc.

RELG 547 Special Topics in Hinduism.
(3) (Prerequisites: 6 credits in Indian religions, philosophy of religion, philosophy, or permission of the instructor) A research-oriented seminar dealing with topics in Hindu studies.

RELG 548 Indian Buddhist Philosophy.
(3) (Prerequisites: RELG 252 or RELG 342 or permission of instructor) The rise of buddhist schools of philosophy, especially the Theravada and Sauntrantika, as an attempt to systematize the canonical teachings and defend Buddhism against its critics.

✶RELG 549 Japanese Buddhist Philosophy.
(3) (Prerequisites: RELG 344, or RELG 451, or permission of the instructor.) (Note: Taught in alternate years.) Major figures of the Kyoto School of Buddhist philosophy (Nishida, Tanabe, Nishitani), emphasizing their intellectual debts to both modern European philosophy (Hegel, Neitzsche, Heidegger) and Mahayana Buddhism (Zen and Pure Land Buddhism).

RELG 550 Comparative Religion.
(3) Tutorials and guided reading in the field of Comparative Religion.

RELG 551 Special Topics in Buddhism.
(3) (Prerequisite: RELG 344 or Permission of instructor.) A research-oriented seminar dealing with topics in Buddhist studies.

RELG 552 Advaita Vedanta.
(3) (Prerequisites: 6 credits in Indian religions) The relation of Nyaya-Vaisesika and Mimamsa to Kevaladvaita with concentration on Sankara's Brahmasutrabhasya, Pada 1 and 2.

RELG 553 Religions of South India 1.
(3) (Prerequisite: 6 credits in Indian religions) Topics include: definitions of Tamil identity, the relation of akam to bhakti poetry, the theology of the Alvars and Nayanmars, inter-religious and sectarian competition, the motif of pilgrimage, questions of caste and women.

RELG 554 Religions of South India 2.
(3) (Prerequisite: RELG 553) Analysis of the following: sampradaya; ubhayavedanta; comparison of Visistadvaita and Saiva Siddhanta with reference to selected themes that illustrate the Tamil contribution; the relationship of theology to the sociology of knowledge in Tamilnad.

RELG 555 Honours Seminar.
(3) (Winter) (Restriction: For Religious Studies Honours students or with permission of the Chair of the Religious Studies B.A. Committee) Current trends in the study of religion, including the approaches of critical theory, feminism, post-modernism, and post-colonialism.

RELG 556 Issues in Buddhist Studies.
(3) (Fall) (Prerequisite: permission of instructor) A graduate seminar taught by the Numata Visiting Professor on critical issues in contemporary Buddhist Studies. Emphasis will be placed on the intensive application of different methods - philological, philosophical or social scientific - to some area of modern Buddhist research.

RELG 557 Asian Ethical Systems.
(3) (Prerequisites: RELG 252, RELG 253, or permission of instructor) An examination of the ethical ideals that have evolved in Asia with reference to Hinduism, Buddhism, Confucianism, and Taoism. Issues to be explored include competing views of the individual's duties to social and political institutions, the individual's right to non-conformity, the relationship between morality and metaphysics, and a comparison of moral principles in theistic and atheistic contexts.

RELG 558 Indian Tantric Traditions.
(3) (Winter) (Prerequisites: Any two 300-level courses in Hinduism or Buddhism.) Study of esoteric Tantric culture (philosophy, ritual, pilgrimage, art, and iconography) with focus on either Hindu or Buddhist Tantric traditions.

RELG 560 Buddhist Poetry.
(3) (Prerequisite (s): RELG 252 or RELG 253 or RELG 344 or permission of the instructor) (This course is expected to be offered every 3 years) (Readings will be English translations of the original texts) Since the time of Buddha, poetry has been used by Buddhist to express devotion, to compose philosophical treatises, and to communicate insight into the

experience of awakening. The seminar's content will vary, treating the history, poetics, esthetics, roles and genres of Buddhist poetry in India, Tibet, China and Japan.

RELG 571 Religion and Medicine.
(3) A study of the resources of major world religions (Judaism, Christianity, Islam, Hinduism, Buddhism, Taoism and Shinto) for thinking about ethical issues related to modern medicine, e.g., health, illness, suffering; new reproductive technologies; genetic engineering; euthanasia; palliative care; animal research; transplants.

RELG 583 Hellenistic Religious Texts.
(3) (Prerequisite: RELG 482 or permission of the instructor.) Translation and discussion of Hellenistic Greek texts pertaining to the study of topics in Early Christianity and Greco-Roman religions.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.

‡ Professional Practice (Stage) in Dietetics involving special prerequisites

✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.

† Denotes courses not available as Education electives.

❒ Denotes courses with limited enrolment.

● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.

▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.

❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

Faculty of Science

ANAT-Anatomy & Cell Biology

Offered by: Anatomy and Cell Biology

ANAT 205 Astrobiology.
(3) (Winter) (3 hours lecture) (Restriction: Not open to students who have taken or are taking EPSC 205) Astrobiology is the search for the origin, evolution and destiny of life in the universe. The course will provide insight into the formation and evolution of habitable worlds, the evolution of life and the biogeochemical cycles in the Earth's oceans and atmosphere, and the potential for biological evolution beyond an organism's planet of origin.

ANAT 212 Molecular Mechanisms of Cell Function.
(3) (Winter) (Prerequisite: BIOL 200) (Restriction: This course is also listed as BIOC 212. Not open to students who have taken or are taking BIOC 212 or BIOL 201) An introductory course describing the biochemistry and molecular biology of selected key functions of animal cells, including: gene expression; mitochondrial production of metabolic energy; cellular communication with the extra-cellular environment; and regulation of cell division.

ANAT 214 Systemic Human Anatomy.
(3) (Fall) (2 hours lectures, 2 hours practical tutorial) (Restriction: Open to students in biological sciences) (Recommended: to U2 students in Anatomy and Cell Biology) Introduction to the gross anatomy of the various organ systems of head, neck and trunk regions of the human body. Practical tutorials include studies of prepared specimens, use of the anatomical museum and audio-visual materials. This course is limited in size. Selection of students (other than those requiring the course as part of their program) will be made after the first lecture. (Admission is guaranteed for all students enrolled in programs in the Department of Anatomy and Cell Biology for which ANAT 214 is a required course.)

ANAT 261 Introduction to Dynamic Histology.
(4) (Fall) (3 hours lectures, 2 hours laboratory) (Must be taken in U1 by students in Anatomy and Cell Biology programs) (Restriction: Open to students in biological sciences and others by special permission) An introduction to light and electron microscopic anatomy in which cell and tissue dynamics will be explored in the principal tissues and organs of the body.

ANAT 262 Introductory Molecular and Cell Biology.
(3) (Winter) (3 hours lecture) (Corequisites: ANAT 212 or BIOC 212 or BIOL 201) (Restriction: Open to students in biological sciences and others by special permission) The architectural, functional and temporal continuity of organelles and the cytoskeleton of mammalian cells is introduced as well as their functional integration in the phenomena of exocytosis, endocytosis, protein trafficking and cell motility and adhesion.

ANAT 315 Anatomy/Limbs and Back.
(4) (Fall) (2 hours lectures, 4 hours laboratory) (Restriction: Open to students in Physical and Occupational Therapy; and to Honours students in Anatomy and Cell Biology, with permission of instructor.) The regional human gross anatomy of the skeleton, joints, muscles and neurovascular structures of the limbs and back.

ANAT 316 Human Visceral Anatomy.
(2) (Winter) (2 hour lecture, 2 hours laboratory) (Prerequisite: ANAT 315) (Restriction: Open to students in Physical and Occupational Therapy, and to others by special permission) The gross anatomy of the various organ systems of the human body, with emphasis on those aspects of greatest relevance to physical and occupational therapists. Laboratories include studies of prepared specimens, use of the anatomical museum and audiovisual materials.

ANAT 321 Circuitry of the Human Brain.
(3) (Fall) (2 hour lectures, 2 hours laboratory/tutorial) (Prerequisite: at least one 3-credit university level course in biology or psychology) (Restriction: Open to U3 students only, except for P&OT students.) This course explores the functional organization of the human brain and spinal cord. The course focuses on how neuronal systems are designed to subserve specific motor, sensory, and cognitive operations.

ANAT 322 Neuroendocrinology.
(3) (Winter) (3 hours lecture) (Prerequisite: ANAT 261.) A lecture course describing brain-endocrine relationships. Emphasis on modern experimental evidence and conceptual developments within the field.

ANAT 365 Cellular Trafficking.
(3) (Fall) (2 hours lectures, 2 hours conference) (Prerequisites: ANAT 261, BIOL 200, BIOL 201 or by special permission.) An intensive study of the processes of protein secretion and cell membrane biogenesis. Emphasis on morphological aspects of the above processes, and on the major techniques which have provided experimental evidence, namely, subcellular fractionation, cytochemistry and quantitative electron microscope radioautography.

ANAT 381 Basis of Embryology.
(3) (Fall) (3 hour lectures) (Prerequisites: ANAT 261, BIOL 202 or permission of instructor) The basic processes of reproduction and embryonic development, such as molecular signaling; cell-cell interaction; differentiation; cell fate determination; genetic and epigenetic control of embryonic development.

ANAT 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

ANAT 416 Development, Disease and Regeneration.
(3) (Winter) (3 hours lecture) (Prerequisite(s): ANAT 381 or BIOL 303 or special permission of instructor) Importance of developmental biology for disease and regeneration. Topics: advanced developmental biology principles; molecular basis for stem cells and their potential applications; organogenesis and its applications to various diseases.

● **ANAT 432 Honours Research Project.**
(9) (Summer) (Restriction: For students in the Honours program.) (Course opened to all Anatomy & Cell Biology students and other BSc students by special permission only.) Supervised honours research project in biological sciences.

ANAT 432D1 (4.5), ANAT 432D2 (4.5) Honours Research Project.
(Restriction: For students in the Honours program.) (Course opened to all Anatomy & Cell Biology students and other BSc students by special permission only.) (Students must register for both ANAT 432D1 and ANAT 432D2.) (No credit will be given for this course unless both ANAT 432D1 and ANAT 432D2 are successfully completed in consecutive terms) (ANAT 432D1 and ANAT 432D2 together are equivalent to ANAT 432) Supervised honours research project in biological sciences.

ANAT 458 Membranes and Cellular Signaling.
(3) (Winter) (3 hours lectures) (Prerequisites: BIOC 212 or ANAT 212 or BIOL 201, ANAT 262, one of PHGY 201, PHGY 209 or BIOL 205; one of BIOC 312 or ANAT 365; BIOC 311 recommended) (Restriction: This course is also listed as BIOC 458. Not open to students who are taking or who have taken BIOC 458) An integrated treatment of the properties of biological membranes and of intracellular signaling, including the major role that membranes play in transducing and integrating cellular regulatory signals. Biological membrane organization and dynamics; membrane transport; membrane receptors and their associated effectors; mechanisms of regulation of cell growth, morphology, differentiation and death.

ANAT 499 Supervised Library Research.
(1) (Fall) (Winter) (Prerequisite: ANAT 262, BIOL 202, or by permission of the instructor.) Supervised exploration of the current scientific literature as it pertains to the advanced field of anatomy and cell biology.

ANAT 541 Cell and Molecular Biology of Aging.
(3) (Winter) (3 hours lecture) (Prerequisites: ANAT 212 (or BIOC 212 or BIOL 201), ANAT 261, ANAT 262, or permission of instructor.) (Corequisite: BIOL 301.) Complex aging process, including theories and mechanisms of aging, animal model systems used to study aging, age-dependent diseases, for example, Alzheimer's, osteoporosis, and cancer, and age-related diseases, for example, Werner's syndrome and dyskeratosis congenita.

ANAT 542 Transmission Electron Microscopy.
(3) (Prerequisite (s): Permission of instructor) (2 hours of lecture per week, 3 hours of laboratories per week with an optional 2 hours of tutorials per week. The maximum number of students is 20. For students in science, engineering and life sciences.) Comprehensive study of transmission electron microscopy (TEM). Theory, principles and practical applications of imaging, analysis and advanced sample preparation relevant to biological and non-biological materials.

ATOC-Atmospheric & Oceanic Sciences

Offered by: Atmospheric & Oceanic Sciences

ATOC 104 The Earth System.
(3) (Winter) (Restriction: Not open to students who are taking or have taken EPSC 104 or GEOG 104.) Earth system science examines the complex interactions among the atmosphere, biosphere, geosphere and hydrosphere. It focuses on physical, chemical, and biological processes that extend over spatial scales ranging from microns to the size of planetary orbits, and spans time scales from fractions of a second to billions of years.

ATOC 210 Introduction to Atmospheric Science.
(3) (Winter) (3 hours lectures) (Restriction: Open to all students except those who have taken ATOC 214) A survey of the Earth's atmosphere, weather and climate system. Topics include the fundamental processes that determine interactions between the atmosphere, ocean and biosphere; anthropogenic effects such as global warming, the ozone hole and acid rain; a perspective on future climate change.

ATOC 214 Introduction: Physics of the Atmosphere.
(3) (Fall) (3 hours lectures) (Prerequisite: CEGEP Physics) An introduction to physical meteorology designed for students in the physical sciences. Topics include: composition of the atmosphere; heat transfer; the upper atmosphere; atmospheric optics; formation of clouds and precipitation; instability; adiabatic charts.

ATOC 215 Oceans, Weather and Climate.
(3) (Winter) (3 hours lectures) (Prerequisite: ATOC 214) Laws of motion, geostrophic wind, gradient wind. General circulation of the atmosphere and oceans, local circulation features. Air-sea interaction, including hurricanes and sea-ice formation, extra-tropical weather systems and fronts, role of the atmosphere and oceans in climate.

✶ ● **ATOC 219 Introduction to Atmospheric Chemistry.**
(3) (Winter) (3 hours lectures) (Prerequisite: CEGEP DEC in Science or permission of instructor) (Restriction: Not open to students who have taken CHEM 219, CHEM 419 or ATOC 419) (Offered in odd years. Students should register in CHEM 219 in even years) An introduction to the basic topics in atmospheric chemistry. The fundamentals of the chemical composition of the atmosphere and its chemical reactions. Selected topics such as smog chamber, acid rain, and ozone hole will be examined.

ATOC 220 Introduction to Oceanic Sciences.
(3) (Fall) (3 hours lectures) (Restriction: Not open to students who have taken EPSC 360 or EPSC 560.) Air-sea interaction; oceanic properties; global climate change, carbon cycle; polar oceans, sea ice, polynyas; El Niño; remote sensing of oceans; physical control of biological processes in the sea.

ATOC 230 Climate and Climate Change.
(3) (Winter) (3 hours lectures) The atmosphere, ocean and sea-ice distribution characteristic of the current climate, as seen through observational data and computer model results. Physics of naturally occurring variability on time scales of months to years, such as El Niño. Global circulation models of the atmosphere, ocean and coupled atmosphere-ocean system, and global warming simulations.

ATOC 240 Science of Storms.
(3) (Winter) Physical processes associated with severe and hazardous weather affecting the Earth. Topics are taught at a fundamental level, without equations, to provide a complete and up-to-date understanding of such extreme events as blizzards, ice storms, tornadoes, hurricanes, floods and droughts.

ATOC 250 Natural Disasters.
(3) (Fall) (3 hours lectures) (Restriction: Not open to students who have taken or are taking EPSC 250) This course examines the science behind different types of disasters and our ability or inability to control and predict such events. From this course the student will gain an appreciation of natural disasters beyond the newspaper headlines, and will better understand how the effects of disasters can be reduced.

ATOC 309 Weather Radars and Satellites.
(3) (Winter) (3 hours lecture) (Prerequisite: ATOC 215) Basic notions of radiative transfer and applications of satellite and radar data to mesoscale and synoptic-scale systems are discussed. Emphasis will be put on the contribution of remote sensing to atmospheric and oceanic sciences.

ATOC 315 Water in the Atmosphere.
(3) (Fall) (3 hours lectures) (Prerequisite: ATOC 214) Global distribution of water in the atmosphere. Moist processes. Global and mesoscale precipitation systems. Quantitative forecasting of precipitation. Extreme precipitation events. Large-scale influences. Precipitation modification.

ATOC 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

●**ATOC 400 Indep Study of an Env Problem.**
(3) (Restriction: students taking a joint program in Atmospheric and Environmental Science or with permission of Department.) A reading or research project, conducted under the guidance of an instructor, on the meteorological processes related to an environmental problem. A written report will be required. Students should consult the departmental undergraduate student adviser for the names of available supervisors.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

ATOC 412 Atmospheric Dynamics.
(3) (Fall) (Prerequisites: MATH 314, MATH 315.) Equations of motion in rotating coordinates, elementary applications, circulation and vorticity, the planetary boundary layer, synoptic scale motions, Rossby waves and inertial oscillations.

✶ ● **ATOC 419 Advances in Chemistry of Atmosphere.**
(3) (Winter) (3 hours lectures) (Prerequisites: CHEM 243, and CHEM 263 or CHEM 213 and CHEM 273, MATH 222 and MATH 315 (or equivalents) or permission of instructor.) (Restriction: Not open to students who have taken CHEM 419, CHEM 619, and ATOC 619) (Offered in odd years. Students should register in CHEM 419 in even years) Selected areas of atmospheric chemistry from field and laboratory to theoretical modelling are examined. The principles of atmospheric reactions (gas, liquid and heterogeneous phases in aerosols and clouds) and issues related to chemical global change will be explored.

ATOC 480 Honours Research Project.
(3) (Restriction: U3 Honours students) The student will carry out a research project under the supervision of a member of the staff. The student will be expected to write a report and present a seminar on the work.

ATOC 512 Atmospheric and Oceanic Dynamics.
(3) (Fall) (3 hours lectures) (Prerequisite (Undergraduate): Permission of instructor) Introduction to the fluid dynamics of large-scale flows of the atmosphere and oceans. Stratification of atmosphere and oceans. Equations of state, thermodynamics and momentum. Kinematics, circulation, and vorticity. Hydrostatic and quasi-geostrophic flows. Brief introduction to wave motions, flow over topography, Ekman boundary layers, turbulence.

ATOC 513 Waves and Stability.
(3) (Winter) (3 hours lectures) (Prerequisite (Undergraduate): Permission of instructor) Linear theory of waves in rotating and stratified media. Geostrophic adjustment and model initialization. Wave propagation in slowly varying media. Mountain waves; waves in shear flows. Barotropic, baroclinic, symmetric, and Kelvin-Helmholtz instability. Wave-mean flow interaction. Equatorially trapped waves.

ATOC 515 Turbulence in Atmosphere and Oceans.
(3) (Winter) (3 hours lectures) (Prerequisite (Undergraduate): ATOC 512 or permission of instructor) Application of statistical and semi-empirical methods to the study of geophysical turbulence. Reynolds' equations, dimensional analysis, and similarity. The surface and planetary boundary layers. Oceanic mixed layer. Theories of isotropic two- and three- dimensional turbulence: energy and enstrophy inertial ranges. Beta turbulence.

ATOC 530 Paleoclimate Dynamics.
(3) (Winter) (3 hours lectures) (Prerequisite (Undergraduate): Permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) Introduction to the components of the climate system. Review of paleoclimates. Physical processes and models of climate and climate change.

ATOC 531 Dynamics of Current Climates.
(3) (Fall) (3 hours lectures) (Prerequisite (Undergraduate): Permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) The general circulation of the atmosphere and oceans. Atmospheric and oceanic general circulation models. Observations and models of the El Niño and Southern Oscillation phenomena.

ATOC 540 Synoptic Meteorology 1.
(3) (Fall) (2 hours lectures; 2 hours laboratory) (Prerequisite (Undergraduate): Permission of instructor) Analysis of current meteorological data. Description of a geostrophic, hydrostatic atmosphere. Ageostrophic circulations and hydrostatic instabilities. Kinematic and thermodynamic methods of computing vertical motions. Tropical and extratropical condensation rates. Barotropic and equivalent barotropic atmospheres.

ATOC 541 Synoptic Meteorology 2.
(3) (Winter) (2 hours lectures; 2 hours laboratory) (Prerequisite (Undergraduate): ATOC 412 and ATOC 540 or permission of instructor.) Analysis of current meteorological data. Quasi-geostrophic theory, including the omega equation, as it relates to extratropical cyclone and anticyclone development. Frontogenesis and frontal circulations in the lower and upper troposphere. Cumulus convection and its relationship to tropical and extratropical circulations. Diagnostic case study work.

ATOC 546 Current Weather Discussion.
(1) (Winter) (2 hours) (Prerequisite (Undergraduate): ATOC 540 or permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) Half-hour briefing on atmospheric general circulation and current weather around the world using satellite data, radar observations, conventional weather maps, and analyses and forecasts produced by computer techniques.

ATOC 550 Special Topics Meteorology and Oceanography.
(1) (Fall) (1 hour lecture) (Prerequisite (Undergraduate): Permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) Lectures and seminars on special topics such as hydrology, agricultural meteorology, the limits of predictability, planetary atmospheres, atmospheric and oceanic pollution, coastal currents, and research reviews.

● **ATOC 551 Selected Topics 1.**
(3) (Restriction: Course restricted to students in U3 undergraduate or graduate programs in ATOC or in closely related disciplines, and permission of the instructor.) Topics in atmospheric and oceanic sciences.

● **ATOC 552 Selected Topics 2.**
(3) (Restrictions: Course restricted to students in U3 undergraduate or graduate programs in ATOC or in closely related disciplines, and permission of the instructor.) Topics in atmospheric and oceanic sciences.

● **ATOC 555 Field Course 1.**
(3) (Restrictions: Course restricted to students in U3 undergraduate or graduate programs in ATOC or in closely related disciplines, and permission of the instructor.) Field studies in selected topics of the atmospheric and oceanic sciences.

● **ATOC 556 Field Course 2.**
(3) (Restrictions: Course restricted to students in U2 undergraduate or graduate programs in ATOC or in closely related disciplines, and permission of the instructor.) Field studies in selected topics of the atmospheric and oceanic sciences.

● **ATOC 558 Numerical Methods and Laboratory.**
(3) (Winter) (1 hour lecture; 4 hours laboratory) (Prerequisite (Undergraduate): Permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) Numerical simulation of atmospheric and oceanic processes. Finite difference, finite element, and spectral modelling techniques. Term project including computer modelling of convection or large-scale flows in the atmosphere or ocean.

● **ATOC 568 Ocean Physics.**
(3) (Winter) (3 hours lectures) (Prerequisite (Undergraduate): ATOC 512 or permission of instructor) (Restriction: Graduate students and final-year Honours Atmospheric Science students. Others by special permission.) Research methods in physical oceanography including data analysis and literature review. Course will be divided into five separate modules focussing on temperature-salinity patterns, ocean circulation, boundary layers, wave phenomena and tides.

BIOC-Biochemistry

Offered by: Biochemistry

BIOC 212 Molecular Mechanisms of Cell Function.

(3) (Winter) (Prerequisite: BIOL 200) (Restrictions: A non-terminal course intended to be followed by BIOC 311; BIOC 312 in the U2 year. Not open to students who have taken or are taking BIOL 201 or ANAT 212.) An introductory course describing the biochemistry and molecular biology of

selected key functions of animal cells, including: gene expression; mitochondrial production of metabolic energy; cellular communication with the extra-cellular environment; and regulation of cell division.

BIOC 300D1 (3), BIOC 300D2 (3) Laboratory in Biochemistry.
(Fall/Winter) (1 lecture and one 6-hour lab per week) (Prerequisites: BIOL 200 and BIOL 201 or BIOC 212, CHEM 222; CHEM 257D1/CHEM 257D2 recommended.) (Corequisites: BIOC 311 and BIOC 312.) (Restriction: Not open to students who have taken or are taking BIOL 301.) (For students in Biochemistry programs, others with permission of instructor) (Students must register for both BIOC 300D1 and BIOC 300D2.) (No credit will be given for this course unless both BIOC 300D1 and BIOC 300D2 are successfully completed in consecutive terms) A comprehensive course in modern biochemical techniques involving properties of enzymes, metabolism, fractionation of organelles from mammalian cells and molecular biology.

BIOC 311 Metabolic Biochemistry.
(3) (Fall) (Prerequisites: BIOL 200, BIOL 201 or BIOC 212, CHEM 222) The generation of metabolic energy in higher organisms with an emphasis on its regulation at the molecular, cellular and organ level. Chemical concepts and mechanisms of enzymatic catalysis are also emphasized. Included: selected topics in carbohydrate, lipid and nitrogen metabolism; complex lipids and biological membranes; hormonal signal transduction.

BIOC 312 Biochemistry of Macromolecules.
(3) (Winter) (Prerequisites: BIOC 311, BIOL 200, BIOL 201 or BIOC 212) Gene expression from the start of transcription to the synthesis of proteins, their modifications and degradation. Topics covered: purine and pyrimidine metabolism; transcription and its regulation; mRNA processing; translation; targeting of proteins to specific cellular sites; protein glycosylation; protein phosphorylation; protein turn-over; programmed cell death (apoptosis).

●**BIOC 396 Undergraduate Research Project.**
(3) (Prerequisites: MIMM 212 or BIOL 301 or BIOC 300 or an equivalent laboratory course in molecular and cell-biological methods, at least one term of undergraduate studies, and a CGPA of at least 3.0; or permission of instructor. A project proposal form must be completed by the student and instructor and approved by the course coordinator or his/her delegate before the start of the term. Instructors will list project-specific prerequisites with the project description available through the Office for Undergraduate Research in Science (OURS) website.) (Note that enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) (Restriction(s): Departmental permission required. Student cannot be supervised by same instructor for two 396 Science courses. S/U option not permitted. Open to students in programs offered by the Faculty of Science only.) Independent research project.

BIOC 404 Biophysical Chemistry.
(3) (Winter) (Prerequisites: CHEM 204, CHEM 214 or equivalent) (Restriction: Not open to students who have taken or are taking CHEM 404.) Hydrodynamic and electrophoretic methods for separation and characterization of macromolecules. Optical and magnetic resonance spectroscopy of biopolymers, and applications to biological systems.

BIOC 450 Protein Structure and Function.
(3) (Fall) (Prerequisites: BIOC 311, BIOC 312 and/or sufficient organic chemistry.) (Restriction: Intended primarily for students at the U3 level) Primary, secondary, tertiary and quaternary structure of enzymes. Active site mapping and site-specific mutagenesis of enzymes. Enzyme kinetics and mechanisms of catalysis. Multienzyme complexes.

BIOC 454 Nucleic Acids.
(3) (Fall) (Prerequisites: BIOC 311, BIOC 312 or permission of instructor) Chemistry of RNA and DNA, transcription and splicing of RNA and their control; enzymology of DNA replication. Special topics on transgenics, genetic diseases and cancer.

BIOC 455 Neurochemistry.
(3) (Winter) (Prerequisites: BIOC 311, BIOC 312 or permission of instructor) Covers biochemical mechanisms underlying central nervous system function. Introduces basic neuroanatomy, CNS cell types and morphology, neuronal excitability, chemically mediated transmission, glial function. Biochemistry of specific neurotransmitters, endocrine effects on brain, brain energy metabolism and cerebral ischemia (stroke). With examples, where relevant, of biochemical processes disrupted in human CNS disease.

BIOC 458 Membranes and Cellular Signaling.
(3) (Winter) (Prerequisites: BIOC 212, ANAT 262; one of PHGY 201, PHGY 209 or BIOL 205; one of BIOC 312 or ANAT 365; and BIOC 311 or permission of instructors) (Restriction: This course is also listed as ANAT 458. Not open to students who have taken or are taking ANAT 458 or BIOC 456) An integrated treatment of the properties of biological membranes and of intracellular signaling, including the major role that membranes play in transducing and integrating cellular regulatory signals. Biological membrane organization and dynamics: membrane transport; membrane receptors and their associated effectors; mechanisms of regulation of cell growth, morphology, differentiation and death.

●**BIOC 460 Advanced Lab in Biochemistry.**
(6) (Fall) (Prerequisite (s): Students must obtain permission of the coordinator) (Restriction (s): Open only to Honours students in Biochemistry. Not open to students who are taking or have taken BIOC 462) A research experience in three parts: a structured laboratory exercise; a project applying standard and advanced biochemical techniques to be carried out in a departmental research laboratory; and review article written with the guidance of a professor.

BIOC 462 Research Laboratory in Biochemistry.
(6) (Prerequisite: BIOC 300 and consent of the course coordinator and research director) (Restriction: Not open to students who are taking or have taken BIOC 460. Restricted to Honours students in Biochemistry) (Students must obtain consent of a prospective research director and the course coordinator in order to register) A laboratory research project and related written review article all performed under the supervision of the same professor.

BIOC 491 Independent Research.
(6) (Winter) (Restriction: Registration by departmental permission only) (Prerequisite: BIOC 460) Individual work on a project to be performed in a research laboratory.

BIOC 503 Immunochemistry.
(3) (Winter) (Prerequisites: BIOC 311, BIOC 312) This course, presented in lecture format, emphasizes the molecular, genetic and structure function events that occur in the humoral immune response. Interleukins and other mediators of inflammation, a field in which rapid changes are occurring, are

discussed. The clinical significance of fundamental biochemical findings is described.

BIOL-Biology

Offered by: Biology

BIOL 101 Organismal Biology Laboratory.
(1) (Fall) (3 hours laboratory) (Prerequisite: Permission of the Biology Program Advisor) (Restriction: Not open to students who have taken, or are taking BIOL 111.) Laboratory component of BIOL 111. May be taken only by transfer students who have completed elsewhere the lecture component but not the laboratory of BIOL 111 and only with permission of the Associate Dean (Student Affairs) of Science.

BIOL 102 Cell and Molecular Biology Methods.
(1) (Winter) (3.5 hours laboratory) (Prerequisite: Permission of the Biology Program Advisor) (Restriction: Not open to students who are taking, or have taken BIOL 112.) The laboratory component of BIOL 112. May be taken only by transfer students who have completed elsewhere the lecture component but not the laboratory of BIOL 112 and only with permission of the Associate Dean (Student Affairs) of Science.

BIOL 111 Principles: Organismal Biology.
(3) (Fall) (2 hours lecture and 3 hours laboratory) (Restriction: Not open to students who have taken CEGEP objective 00UK or equivalent; or BIOL 115.) (This course serves as an alternative to CEGEP objective code 00UK) (May require departmental approval.) (Open to all students wishing introductory biology.) (Attendance at first lab is mandatory to confirm registration in the course.) (This class will use a Student Response System (clicker) which can be obtained from the Bookstore.) An introduction to the phylogeny, structure, function and adaptation of unicellular organisms, plants and animals in the biosphere.

BIOL 112 Cell and Molecular Biology.
(3) (Winter) (2 hours lecture and 3.5 hours laboratory/seminar) (Prerequisite: none.) (Restriction: Not open to students who have taken or are taking CEGEP objective 00XU or equivalent; or BIOL 115) (Attendance at first lab is mandatory to confirm registration in the course.) The cell: ultrastructure, division, chemical constituents and reactions. Bioenergetics: photosynthesis and respiration. Principles of genetics, the molecular basis of inheritance and biotechnology.

BIOL 115 Essential Biology.
(3) (Fall) (3 hours lecture) (Prerequisites: none.) (Restrictions: Open only to non-Science students; not open to students who have had BIOL 111, BIOL 112, or equivalents.) An introduction to biological science that emphasizes the manner in which scientific understanding is achieved and evolves and the influence of biological science on society. Topics will include cell structure and function, genetics, evolution, organ physiology, ecology and certain special topics that change from year to year.

BIOL 200 Molecular Biology.
(3) (Fall) (3 hours lecture, 1 hour optional tutorial) (Prerequisite: BIOL 112 or equivalent.) (Corequisite: CHEM 212 or equivalent) The physical and chemical properties of the cell and its components in relation to their structure and function. Topics include: protein structure, enzymes and enzyme kinetics; nucleic acid replication, transcription and translation; the genetic code, mutation, recombination, and regulation of gene expression.

BIOL 201 Cell Biology and Metabolism.
(3) (Winter) (3 hours lecture, 1 hour optional tutorial) (Prerequisite: BIOL 200.) (Restriction: Not open to students who have taken or are taking ANAT 212 or BIOC 212) This course introduces the student to our modern understanding of cells and how they work. Major topics to be covered include: photosynthesis energy metabolism and metabolic integration; plasma membrane including secretion, endocytosis and contact mediated interactions between cells; cytoskeleton including cell and organelle movement; the nervous system; hormone signaling; the cell cycle.

BIOL 202 Basic Genetics.
(3) (Winter, Summer) (3 hours lecture, 1 hour optional tutorial) (Prerequisite: BIOL 200.) (Restriction: Not open to students who have taken or are taking CELL 204.) Introduction to basic principles, and to modern advances, problems and applications in the genetics of higher and lower organisms with examples representative of the biological sciences.

BIOL 205 Biology of Organisms.
(3) (Winter) (3 hours lecture, optional conference hour) (Prerequisites: BIOL 200 and PHYS 101,131 or CEGEP Physics or permission.) (Corequisite: ANAT 212/BIOC 212 or BIOL 201) Unified view of form and function in animals and plants. Focus on how the laws of chemistry and physics illuminate biological processes relating to the acquisition of energy and materials and their use in movement, growth, development, reproduction and responses to environmental stress.

BIOL 206 Methods in Biology of Organisms.
(3) (Fall) (1.5 hours lecture, 4 hours laboratory and local field trip in week 2.) (Prerequisite: BIOL 111 or equivalent) Introduction to modern methods used in organismal biology, including ecological sampling, experimental methods and statistics, taxonomic and phylogenetic analysis of biodiversity, experimental behavioural ecology, microbiological methods, and library search procedures.

BIOL 210 Perspectives of Science.
(3) (Fall) (3 hours lecture) This course is an introduction to the thinking, language and practices of scientists. Its objective is to bridge the gap between science and the humanities, and in particular to allow students enrolled in the Minor Concentration in Science for Arts to pursue their interests in specific scientific disciplines.

BIOL 215 Introduction to Ecology and Evolution.
(3) (Fall) (3 hours lecture) (Prerequisite: BIOL 111) (Restrictions: Not open to students who have taken BIOL 304 or BIOL 308. Not open to students who have taken ENVR 202) An introduction to the fundamental processes of ecology and evolution that bear on the nature and diversity of organisms and the processes that govern their assembly into ecological communities and their roles in ecosystem function.

BIOL 240 Monteregian Flora.
(3) (Summer) (Prerequisite: BIOL 111 or permission) (Restriction: Not open to students who have taken PLNT 358) (Note: Taught at the Gault Nature Reserve. Contact instructor for specific dates, logistics: (martin.lechowicz@mcgill.ca).) Field studies of ferns, fern allies, conifers and flowering plants; the use of keys for species identification.

BIOL 300 Molecular Biology of the Gene.
(3) (Fall) (3 hours lecture, optional tutorials) (Prerequisites: BIOL 200, BIOL 201) A survey of current knowledge and approaches in the area of regulation of gene expression, post-transcriptional control of gene expression, and signal transduction.

BIOL 301 Cell and Molecular Laboratory.
(4) (Fall or Winter) (1 hour lecture and one 6-hour laboratory) (Prerequisites: PHYS 102 or 142, BIOL 200, BIOL 201, BIOL 202. BIOL 206 recommended.) (Restrictions: Not open to students who have taken or are taking BIOC 300. Requires departmental approval.) An introduction to laboratory techniques with a focus on methods used to investigate fundamental questions in modern cell and molecular biology. Techniques including gene cloning, DNA and protein isolation and manipulation are covered, along with functional analysis of genes and proteins, basic bioinformatics, and computer-based experimental design and data analysis.

BIOL 303 Developmental Biology.
(3) (Winter) (3 hours lecture and 1 hour optional tutorial) (Prerequisites: BIOL 200 and BIOL 201. Corequisite: BIOL 202) A consideration of the fundamental processes and principles operating during embryogenesis. Experimental analyses at the molecular, cellular, and organismal levels will be presented and discussed to provide an overall appreciation of developmental phenomena.

BIOL 304 Evolution.
(3) (Fall) (3 hours lecture) (Prerequisite: BIOL 205 and BIOL 215 or ENVR 202) This course will show how the theory of evolution by natural selection provides the basis for understanding the whole of biology. The first half of the course describes the process of selection, while the second deals with evolution in the long term.

BIOL 305 Animal Diversity.
(3) (Winter) (2 hours lecture and 1 three-hour laboratory) (Prerequisite: BIOL 215 or both ENVR 200 and ENVR 202) The characteristics of the major groups of animals, their ancestry, history and relationship to one another. The processes of speciation, adaptive radiation and extinction responsible for diversity. Methods for constructing of phylogenies, for comparing phenotypes, and for estimating and analyzing diversity.

BIOL 306 Neural Basis of Behaviour.
(3) (Fall) (3 hours lecture) (Prerequisite: ANAT 212/BIOC 212 or BIOL 201 and PHYS 102 or PHYS 142 or CEGEP Physics.) (Restriction: Not open to students who have taken PSYC 308.) Neural mechanisms of animal behaviour; neuroethology; cellular neurophysiology, integrative networks within nervous systems; neural control of movement; processing of sensory information.

BIOL 307 Behavioural Ecology/Sociobiology.
(3) (Winter) (2 hours lecture and 1 hour conference) (Prerequisites: BIOL 205 and BIOL 215 or permission) The relationship between animal behaviour and the natural environment in which it occurs. This course introduces the subject of ecology at the level of the individual organism. Emphasis on general principles which relate to feeding, predator avoidance, aggression, reproduction and parental care of animals including humans.

BIOL 308 Ecological Dynamics.
(3) (Fall) (3 hours lecture, 1 hour computer lab/tutorial) (Prerequisite: BIOL 215 or both ENVR 200 and ENVR 202) Principles of population, community, and ecosystem dynamics: population growth and regulation, species interactions, dynamics of competitive interactions and of predator/prey systems; evolutionary dynamics.

BIOL 309 Mathematical Models in Biology.
(3) (Fall) (3 hours lecture) (Prerequisite: one year of calculus. An additional course in calculus is recommended) Application of finite difference and differential equations to problems in cell and developmental biology, ecology and physiology. Qualitative, quantitative and graphical techniques are used to analyze mathematical models and to compare theoretical predictions with experimental data.

BIOL 310 Biodiversity and Ecosystems.
(3) (Winter) (one-day field trip to Mont St-Hilaire) (Prerequisite: BIOL 215; or ENVR 200 and ENVR 202; MATH 112 or equivalent; or permission of the instructor) Ecological bases of the natural causes and consequences of current global environmental changes, including how biodiversity and ecosystem processes are defined and measured, how they vary in space and time, how they are affected by physical and biological factors, and how they affect each other and human societies.

BIOL 313 Eukaryotic Cell Biology.
(3) (Winter) (3 hours lecture and 1 hour optional tutorial) (Prerequisites: BIOL 200 and BIOL 201 or ANAT 212/BIOC 212 and BIOL 202.) Cell biology of eukaryotes focusing on the assembly and function of cellular structures, the regulation of transcription; the dynamics of the cytoskeleton and its motors; mechanics of cell division; cell cycle and checkpoints; nuclear dynamics; chromosome structure and behaviour and experimental techniques.

BIOL 314 Molecular Biology of Oncogenes.
(3) (Fall) (3 hours lecture) (Prerequisites: BIOL 200; BIOL 201 or ANAT 212 /BIOC 212) The genes that cause cancer are altered versions of genes present in normal cells. The origins of these oncogenes, their genetic structure, regulation, and the biochemical properties of the oncogene-encoded proteins will be analyzed in an attempt to understand the origins of human and animal cancers.

BIOL 316 Eukaryotic Cell Biology II.
(3) (Fall) (Prerequisites: BIOL 201 or ANAT 212/BIOC 212) Protein and lipid biochemistry, membrane structure and transport; intracellular compartmentalization, protein sorting and modification, intracellular membrane trafficking; energy transfer, organization and dynamics of chloroplasts and mitochondria; extracellular matrix, cell walls; cell behaviors in their social context.

✶BIOL 324 Ecological Genetics.
(3) (Fall) (2 hours lecture, 1 hour seminar) (Prerequisite: BIOL 202) This course presents evolutionary genetics within an ecological context. The course covers theoretical topics together with relevant data from natural populations of plants and animals.

BIOL 331 Ecology/Behaviour Field Course.
(3) (Fall) (Prerequisites: BIOL 206 and BIOL 215) (Note: Preregistration in March and April. See Course web page: http://ww2mcgill.ca/biology/undergrad/C331A/index.htm. Meets 12-days just before the fall term, with a project report early in the fall term.) Methods of sampling natural populations. Testing hypotheses in nature.

BIOL 334D1 (1.5), BIOL 334D2 (1.5) Applied Tropical Ecology.
(1.5) (Prerequisites: BIOL 206; and BIOL 215 or both ENVR 200 and ENVR 202; and permission of the instructor.) (Prerequisite: BIOL 334D1) (No credit will be given for this course unless both BIOL 334D1 and BIOL 334D2 are successfully completed in consecutive terms) See BIOL 334D1 for course description.

BIOL 335 Marine Mammals.
(3) (Summer) (Prerequisite: BIOL 205) Biology of marine mammals with special emphasis on seals and whales of the Bay of Fundy. Taught at the Huntsman Marine Science Centre, St. Andrews, N.B., for two weeks in August. The course combines lectures, laboratory exercises, field trips, and individual projects. Apply first to Huntsman, then contact susan.gabe@mcgill.ca

●BIOL 342 Marine Biology.
(3) (Prerequisite(s): BIOL 205 and BIOL 215 or both ENVR 200 and ENVR 202) (Restriction: Not open to students who have taken BIOL 442) An introduction to marine benthic communities. Topics include structure and dynamics of hard and soft bottom communities; bioturbation, feeding strategies and trophodynamics; ecology of seagrass, mangrove and coral reef ecosystems; marine pollution.

BIOL 350 Insect Biology and Control.
(3) (Fall) (3 hours lecture) (Prerequisite: BIOL 205 or permission of instructor.) (Restriction: Not open to students who have taken or are taking ENTO 330 or ENTO 350.) (Note: This course is also offered as ENTO 350 in the winter term.) Introduction to insect structure, physiology, biochemistry, development, systematics, evolution, ecology and control. Stress on interrelationships and integrated pest control.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

✶BIOL 352 Vertebrate Evolution.
(3) (Winter) (2 hours lecture, 3 hours laboratory) (Prerequisites: BIOL 304 or permission) The origin and evolution of the major groups of vertebrates. Emphasis is placed on the evolutionary and embryonic origin of key vertebrate anatomies within the context of living and extinct vertebrate phylogeny.

✶BIOL 355 Trees: Ecology & Evolution.
(3) (Fall) (3 hours lecture) (Prerequisites: BIOL 205 and BIOL 215 or permission of instructor.) (Restriction: Not open to students who have taken or are taking BIOL 555.) Functional ecology and evolution of trees: patterns in the diversity of tree form and function, the nature of tree adaptation to environment from the scale of habitat to global biogeography.

BIOL 370 Human Genetics Applied.
(3) (Fall) (3 hours lecture; 1 hour conference optional) (Prerequisites: BIOL 200 and BIOL 201, BIOL 202) A contemporary view of genetic research as applied to human health and well-being.

BIOL 373 Biometry.
(3) (Fall) (2 hours lecture and 2 hours laboratory) (Prerequisite: MATH 112 or equivalent) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Elementary statistical methods in biology. Introduction to the analysis of biological data with emphasis on the assumptions behind statistical tests and models. Use of statistical techniques typically available on computer packages.

BIOL 377 Independent Reading Project.
(3) (Fall, Winter, Summer) (Prerequisite: BIOL 200 and BIOL 201; or BIOL 215; or permission.) (Restriction: Open to U2 or U3 Biology students only) (Note: Before registration, projects must be arranged individually with a staff member in the Biology Department and a form from Ms. A.Comeau, Room W4/13, Stewart Building, must be completed prior to registration. Please see regulations concerning Project Courses, under "Project Courses" in the Faculty Degree Requirements section.) Independent reading project.

BIOL 385 Plant Growth and Development.
(3) (Fall) (3 hours lecture) (Prerequisite: BIOL 205.) (Restriction: Not open to students who have taken BIOL 485.) Physiological, biochemical and molecular processes involved in growth and development of the plant body; formation of new tissues and organs; photomorphogenesis, fruit growth and ripening; programmed cell death and senescence; growth and development in extreme environments.

BIOL 389 Laboratory in Neurobiology.
(3) (Winter) (1 hour lecture; 5 hours laboratory) (Prerequisites: BIOL 306 or NSCI 200 or PHGY 311 or NEUR 310 or permission) Methods of neurobiological research, including extracellular and intracellular recordings, electrical stimulation, and the study of neuro-behavioural problems.

BIOL 396 Undergraduate Research Project.
(3) (Fall, Winter, Summer) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

BIOL 413 Directed Reading.
(1) (Fall, Winter, Summer) (3 hours independent work) (Prerequisites: BIOL 200, BIOL 201, BIOL 202, BIOL 205, BIOL 215.) (Note: Special topics paper in conjunction with an upper-level biology course, under the guidance of a staff member of the Biology Department. A form from Ms. A.Comeau, W4/13, Stewart Building, must be completed prior to registration.) Directed reading.

BIOL 416 Genetics of Mammalian Development.
(3) (Winter) (3 hours lecture) (Prerequisites: BIOL 202, BIOL 300, BIOL 303; or permission) (Restriction: Not open to students who have taken BIOL 516) This course aims to examine problems, theories, and experimental evidence on several concepts of mammalian developmental processes at molecular to organogenesis levels. Most topics are in the mouse model system, where various techniques for genetic manipulation are available.

BIOL 418 Freshwater Invertebrate Ecology.
(3) (Fall) (Prerequisites: BIOL 215 (or ENVR 200 and ENVR 202) and BIOL 205 or permission of the instructor) (enrolment limited to 25 students) The life history and ecology of freshwater invertebrates in lakes, rivers and wetlands; habitat requirements, functional ecology and food web interactions; the role of invertebrates in the functioning of aquatic ecosystems; threats to freshwater diversity.

✶BIOL 427 Herpetology.
(3) (Fall) (2 hours lecture; 3 hours laboratory) (Prerequisite: BIOL 205 and BIOL 305 or permission of instructor.) (Restriction: Not open to students who have taken BIOL 327.) Principles of biology as exemplified by amphibians and reptiles. Topics include: adaptation, social behaviour, reproductive strategies, physiology, biomechanics, ecology, biogeography and evolution. Laboratories will emphasize structure, systematics and identification of local and world herpetofauna as well as field methods.

BIOL 428 Biological Diversity in Africa.
(3) (Winter) (Student must be enrolled in the Africa Field Study Seminar) (Prerequisite: BIOL 305 or equivalent or permission of instructor.) (Corequisite(s): NRSC/BIOL 451 and ANTH/GEOG 451) (Restriction: Not open to students who have taken BIOL 328) Biological diversity as exemplified by a particular taxonomic group chosen by the instructor, using field setting in East Africa to impart training in species identification, field research, and principles embodied in the phylogeny, systematics, biogeography, ecology, physiology and/or behaviour of the organisms concerned.

BIOL 429 East African Ecology.
(3) (Winter) (The course is to be taught in Africa as a component of the Africa Field Study Semester. Students must register for the Africa Field Study Semester.) (Prerequisite: BIOL 215 or equivalent.) (Corequisite: NRSC/BIOL 451 and ANTH/GEOG 451) (Restriction(s): Not open to students who have taken BIOL 329.) Field settings (Uganda, Kenya, and/or Tanzania) are used to impart training in ecological principles critical to tropical conservation with an emphasis on research design and field research exercises.

BIOL 432 Limnology.
(3) (Fall) (2 hours lecture; 2 weekends at field station equivalent to 3 hours laboratory per week) (Prerequisites: BIOL 206 and BIOL 215 or permission of instructor.) A study of the physical, chemical and biological properties of lakes and other inland waters, with emphasis on their functioning as systems.

BIOL 434 Theoretical Ecology.
(3) (Winter) (Prerequisites: BIOL 308 or BIOL 309 or permission of instructor.) (Restriction: Not open to students who have taken BIOL 534.) Study of theoretical ecology and of mathematical tools available to explore the dynamical behaviour of model populations, communities and ecosystems. Models addressing major ecological theories including population stability, community dynamics and ecosystem functioning, epidemic and disturbance dynamics, spatial models, game theory.

●BIOL 435 Natural Selection.
(3) (Fall) (3 hours of lecture) (Prerequisite: BIOL 304 or permission of instructor.) Explains how the selection of undirected variation accounts for some of the leading features of the natural world. Its main focus is evolutionary change and adaptation, but it will also include material from ecological, economic, biochemical and computer systems. It emphasizes experimental studies of evolution.

BIOL 436 Evolution and Society.
(3) (Fall) (Capped at 25 students) (Course instructors will introduce each topic and lead discussion, while an invited lecturer will focus on a particular aspect of that topic.) (Prerequisite(s): BIOL 304 or permission of the instructor.) Explores the impact that biological evolution and evolutionary thinking have on society. Topics include intelligence, language, race, gender, medicine, genetically modified organisms, politics, and creationism.

✶BIOL 441 Biological Oceanography.
(3) (Winter) (2 hours lecture, 3 hours laboratory/conference) (Prerequisites: BIOL 206; and BIOL 215 or both ENVR 200 and ENVR 202.) An introduction to how the ocean functions biologically: biology and ecology of marine plankton; regulation, extent and fate of production in the sea.

BIOL 451 Research in Ecology and Development in Africa.
(3) (Open only to U2 or later students in the AFSS.) (Corequisite(s): ANTH 451 or GEOG 451) (Restriction(s): Not open to students who have taken or are taking NRSC 451.) Development of observation and independent inquiry skills through: 1) participation in short-term project modules in collaboration with existing researchers; 2) participation in interdisciplinary team research on topics selected to allow comparative analysis of field sites; 3) active and systematic observation, documentation, and integration of field experience in ecology and development issues.

BIOL 463 Mammalian Evolution.
(3) (Fall) (Prerequisite(s): BIOL 305 or WILD 350 or permission of the instructor) (The course will use the extensive collections and exhibits of the Redpath Museum as a resource for weekly laboratories.) The origin, diversity and evolutionary history of mammals, systematic review of fossil and living orders of mammals, aspects of mammalian paleoecology, functional morphology and adaptation.

BIOL 465 Conservation Biology.
(3) (Fall) (3 hours lecture) (BIOL 215 and the combination of ENVR 200 and ENVR 202 are considered equivalent) Discussion of relevant theoretical and applied issues in conservation biology. Topics: biodiversity, population viability analysis, community dynamics, biology of rarity, extinction, habitat fragmentation, social issues.

BIOL 466 Independent Research Project 1.
(3) (Fall, Winter or Summer) (Prerequisite: BIOL 206 or BIOL 301 or other suitable laboratory course.) (Restrictions: Open only to Biology students. Not open to students who have taken BIOL 477.) (Projects must be arranged individually with a staff member of the Biology Department and a form from Ms. Comeau, Room W4/13, Stewart Building, must be completed prior to registration.) Independent research project.

BIOL 467 Independent Research Project 2.
(3) (Summer) (Prerequisite: BIOL 206 or BIOL 301 or other suitable laboratory course.) (Restrictions: Open only to Biology students. Not open to students who have taken BIOL 478.) (Projects must be arranged individually with a staff member of the Biology Department and a form from Ms. Comeau, Room W4/13, Stewart Building, must be completed prior to registration.) Independent research project.

BIOL 468 Independent Research Project 3.
(6) (Summer) (Prerequisite: BIOL 206 or BIOL 301 or other suitable laboratory course) (Restriction: Open only to Biology students. Not open to students who have taken BIOL 471 or BIOL 471D1/D2.) (Projects must be arranged individually with a staff member of the Biology Department and a form from Ms. A. Comeau, Room W4/13, Stewart Building, must be completed prior to registration.) Independent research project.

BIOL 468D1 (3), BIOL 468D2 (3) Independent Research Project 3.
(Fall and Winter) (Prerequisite: BIOL 206 or BIOL 301 or other suitable laboratory course.) (Restriction: Open only to Biology students. Not open to students who have taken BIOL 471 or BIOL 471D1/D2.) (Projects must be arranged individually with a staff member of the Biology Department and a form from Ms. A. Comeau, Room W4/13, Stewart Building, must be completed prior to registration.) (Students must register for both BIOL 468D1 and BIOL 468D2.) (No credit will be given for this course unless both BIOL 468D1 and BIOL 468D2 are successfully completed in consecutive terms.) Independent research project.

BIOL 468N1 (3), BIOL 468N2 (3) Independent Research Project 3.
(Fall, Winter or Summer) (Prerequisite: BIOL 206 or BIOL 301 or other suitable laboratory course) (Restriction: Open only to Biology students. Not open to students who have taken BIOL 471 or BIOL 471D1/D2.) (Projects must be arranged individually with a staff member of the Biology Department and a form from Ms. A. Comeau, Room W4/13, Stewart Building, must be completed to receive credit for the course.) Independent research project.

BIOL 469D1 (4.5), BIOL 469D2 (4.5) Independent Research Project 4.
(Fall and Winter) (13.5 hours per week research) (Prerequisites: BIOL 206 or BIOL 301 or other suitable 300-level biology course.) (Restrictions: Restricted to Biology students. Projects must be arranged individually with a professor in the Biology department and a form from Ms A. Comeau, room W4/13, Stewart Building, must be completed prior to registration.) (Students must register for both BIOL 469D1 and BIOL 469D2.) (No credit will be given for this course unless both BIOL 469D1 and BIOL 469D2 are successfully completed in consecutive terms.) Independent research project.

BIOL 479D1 (4.5), BIOL 479D2 (4.5) Honours Research Project 1.
(Fall, Winter) (8-12 hours per week research project and related seminars) (Restriction: Biology Honours students. Projects must be arranged individually with, and accepted by a staff member of the Biology Department) (Students must register for both BIOL 479D1 and BIOL 479D2.) (No credit will be given for this course unless both BIOL 479D1 and BIOL 479D2 are successfully completed in consecutive terms) Introduces students to original research, and to its design, execution and reporting.

BIOL 480D1 (6), BIOL 480D2 (6) Honours Research Project 2.
(Fall and Winter) (10-15 hours per week research project and related seminars) (Restriction and course description: as for BIOL 479) (Students must register for both BIOL 480D1 and BIOL 480D2.) (No credit will be given for this course unless both BIOL 480D1 and BIOL 480D2 are successfully completed in consecutive terms) Introduces students to original research, and to its design, execution and reporting.

●BIOL 495 Integrative Computing in Biology.
(3) (Fall) (Limited to students enrolled in the Computer Science and Biology joint major or with consent of the instructor.) (Prerequisite: COMP 251 and at least 9 credits of Biology courses at the 200-level or higher.) Integrates biological concepts with relevant computer science approaches, including topics and concepts in biology that are enabled through computational biology.

BIOL 499D1 (2), BIOL 499D2 (2) Honours Seminar in Biology.
(Fall, Winter) (Students must register for both BIOL 499D1 and BIOL 499D2.) (No credit will be given for this course unless both BIOL 499D1 and BIOL 499D2 are successfully completed in consecutive terms) Honours students in Biology attend a selected series of guest speaker seminars of general interest and prepare reports. In addition, students give a

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

seminar on their research.

✶ ● BIOL 505 Diversity and Systematics Seminar.
(3) (Winter) (3 hours seminar) (Prerequisites: BIOL 215 and BIOL 304 or permission) A course dealing in depth with a particular aspect of biological diversity and/or systematics. Topics may include the systematics of a particular taxon, issues in biodiversity, systematics theory and practice, etc. The class will discuss aspects of the chosen topic and prepare individual seminar reports.

✶ ● BIOL 507 Animal Communication.
(3) (Fall) (3 hours lecture) (Corequisites: BIOL 307 or equivalent and one of BIOL 306 or NEUR 310 or NSCI 200 or NSCI 201 or PHGY 311; or permission of instructor. Since all corequisites may not be offered in the same term, students are advised that they may have to plan their schedules so that they may register in these courses in the term prior to BIOL 507.) Introduction to communication between animals, including humans. Physical and phylogenetic constraints on the evolution of communication systems will be discussed. The approach to communication will draw from behavioural ecology, psychology, physiology and physics.

●BIOL 510 Advances in Community Ecology.
(3) (Fall) (3 hours lecture/seminar) (Prerequisites: BIOL 308 or GEOG 350 or permission of instructor.) The origin, maintenance and roles of biological diversity within ecological communities.

BIOL 514 Neurobiology Learning and Memory.
(3) (Fall) (Prerequisite: BIOL 306 or PHGY 311 or NEUR 310 or NSCI 201 or permission of instructor.) Properties of nerve cells that are responsible for learning and memory. Recent advances in the understanding of neurophysiological, biochemical and structural processes relevant to neural plasticity. Emphasis on a few selected model systems involving both vertebrate and invertebrate animals.

●BIOL 515 Advances in Aquatic Ecology.
(3) (Winter) (Prerequisite(s): BIOL 432 or BIOL 441 or permission of the instructor) Aquatic ecology and the major issues challenging the field.

BIOL 518 Advanced Topics in Cell Biology.
(3) (Winter) (2 hours seminar) (Prerequisite: BIOL 313 and permission) Conserved processes in Eukaryotic organisms, including the cytoskeleton, the cell cycle, complex traits/disease, global analysis/bioinformatics, and innovative studies/techniques in cell biology.

BIOL 520 Gene Activity in Development.
(3) (Winter) (3 hours lecture and discussion) (Prerequisites: BIOL 300 and BIOL 303 or permission) An analysis of the role and regulation of gene expression in several models of eukaryotic development. The emphasis will be on critical evaluation of recent literature concerned with molecular or genetic approaches to the problems of cellular differentiation and determination. Recent research reports will be discussed in conferences and analyzed in written critiques.

BIOL 524 Topics in Molecular Biology.
(3) (Fall) (Prerequisites: BIOL 300 and BIOL 303 or permission.) Molecular genetics and molecular, cellular and developmental biology, including signal transduction, cell differentiation and function, genetic diseases in eukaryotes.

●BIOL 530 Advances in Neuroethology.
(3) (Winter) (3 hours seminar) (Prerequisite: BIOL 306 or NSCI 200 or NSCI 201 or PHGY 311 or permission of instructor.) Neural mechanisms underlying behaviour in vertebrate and invertebrate organisms.

BIOL 532 Developmental Neurobiology Seminar.
(3) (Winter) (1 hour lecture, 2 hours seminar) (Prerequisites: BIOL 303 or BIOL 306 or permission of instructor) Discussions of all aspects of nervous system development including pattern formation, cell lineage, pathfinding and targeting by growing axons, and neuronal regeneration. The basis for these discussions will be recent research papers and other assigned readings.

●BIOL 540 Ecology of Species Invasions.
(3) (Winter) (3 hours lecture) (Prerequisite: BIOL 308 or permission of instructor) (Restriction: Not open to U1 or U2 students) (Restriction: Not open to students who are taking or have taken ENVR 540.) Causes and consequences of biological invasion, as well as risk assessment methods and management strategies for dealing with invasive species.

✶BIOL 544 Genetic Basis of Life Span.
(3) (Fall) (1 hour lecture, 2 hours seminar) (Prerequisites: BIOL 202, BIOL 300; BIOL 303 recommended or permission) The course will consider how gene action is determining the duration of life in various organisms focusing on the strengths and limitations of the genetic approach. The course will focus particularly on model organisms such as yeast, Caenorhabditis, Drosophila and mouse, as well as on the characterization of long-lived people.

BIOL 551 Molecular Biology: Cell Cycle.
(3) (Fall) (3 hours lecture) (Prerequisites: BIOL 200, BIOL 201, BIOL 300) (Restriction: Not open to students who have taken 177-451) Cytological studies, biochemical and genetical information are integrated to explain molecular form and function in the eukaryotic cell. The mitotic cell cycle and its coordination with cell growth and division; maintenance of cellular architecture, protein targeting, self-assembly of macromolecular complexes, organelle biogenesis, and DNA replication and segregation are examined.

BIOL 553 Neotropical Environments.
(3) (Winter) (24 hours lecture and 36 hours field work over a 4-week period) (Prerequisites: HISP 218, MATH 203, and BIOL 308, or equivalents, and permission of Program Coordinator.) (Corequisites: ENVR 451, GEOG 498 and AGRI 550.) (Restriction: location in Panama. Students must register for a full semester of studies in Panama) Ecology revisited in view of tropical conditions. Exploring species richness. Sampling and measuring biodiversity. Conservation status of ecosystems, communities and species. Indigenous knowledge.

✶BIOL 555D1 (1.5), BIOL 555D2 (1.5) Functional Ecology of Trees.
(Fall and Winter) (Prerequisites: BIOL 304, BIOL 308 or permission.) (Students must register for both BIOL 555D1 and BIOL 555D2.) (No credit will be given for this course unless both BIOL 555D1 and BIOL 555D2 are successfully completed in consecutive terms.) (BIOL 555D1 and BIOL 555D2 together are equivalent to BIOL 555.) Discussion of the interactions among traits that underpin the survival of woody plants in diverse environments: physiology, anatomy, architecture, seasonality and phenology, reproductive ecology, life history trade-offs, and the phylogenetic basis of functional diversification.

BIOL 568 Topics on the Human Genome.
(3) (Winter) (3 hours lecture) (Prerequisites BIOL 202, BIOL 300, BIOL 370, or permission.) Cellular and molecular approaches to characterization of the human genome.

✶ ● BIOL 569 Developmental Evolution.
(3) (Winter) (3 hours lecture) (Prerequisites: BIOL 303 and BIOL 304; or permission of instructor.) The influence of developmental mechanisms on evolution. This course draws on recent examples from plants and invertebrate and vertebrate animals. Topics include homology, modularity, dissociation, co-option, evolutionary novelty, evolution of cis-regulation and gene regulatory networks, developmental constraint and evolvability, heterochrony, phenotypic plasticity, and canalization.

BIOL 570 Advanced Seminar in Evolution.
(3) (Fall or Winter) (3 hours seminar) (Restriction: Open to undergraduates by permission) Detailed analysis of a topic in evolutionary biology, involving substantial original research.

✶BIOL 571 Experimental Evolution/Ecology.
(3) (Winter) (1 hour lecture, 4 hours laboratory) (Prerequisite: BIOL 435 or equivalent) (Restriction: Restricted to U3 and Graduate students.) Basic principles and processes of evolution and ecology will be demonstrated using microbial model systems. Topics include mutation, fitness, selection, adaptive radiation, properties of mixtures and community assembly.

✶

● **BIOL 572 Molecular Evolution.**
(3) (Fall) (3 hours lecture/seminar) (Prerequisite: BIOL 300) Evolutionary change in DNA and proteins and its implications for cellular, organismal, and population/species evolution.

BIOL 573 Vertebrate Palaeontology Field Course.
(3) (Summer) (Prerequisites: BIOL 304 and BIOL 352 or permission of instructor.) (Notes: Spring field course with completed project and presentation by the end of the Summer. Given in a selected Late Cretaceous Alberta and/or Saskatchewan site. Enrolment limited to 15 students) Terrestrial vertebrate fossils (i.e. dinosaurs, crocodiles and other reptiles) and palaeocommunity analysis, including practical training with fossil identification, mapping, collecting, and stratigraphic interpretation.

BIOL 575 Human Biochemical Genetics.
(3) (Winter) (3 hours lecture) (Prerequisites: BIOL 202 and BIOL 300; or permission of the instructor) Topics on the study of human systems that have led to advances in basic biology.

✶**BIOL 585 Game Theory and Evolutionary Dynamics.**
(3) (Winter) (2 hours lecture; 1 hour laboratory) (Prerequisites: BIOL 308 and BIOL 434 or permission of instructor.) (Note: Course given in alternating years.) Mathematical models of game theory and evolutionary dynamics; classical models and current research.

✶ ● **BIOL 588 Advances in Molecular/Cellular Neurobiology.**
(3) (Fall) (1 1/2 hours lecture, 1 1/2 hours seminar) (Prerequisite: BIOL 300 and BIOL 306 or permission) Discussion of fundamental molecular mechanisms underlying the general features of cellular neurobiology. An advanced course based on lectures and on a critical review of primary research papers.

✶ ● **BIOL 590 Linking Community and Ecosystem Ecology.**
(3) (Winter) (1.5 hours lecture, 1.5 hours seminar) (Prerequisite: BIOL 434 or permission of instructor.) Theoretical foundations for a new ecological synthesis that merges the perspectives of population, community, evolutionary and ecosystem ecology. Focus on theory in interaction with experimental and empirical work, and covers current topics at the interface between community and ecosystem ecology.

BIOL 592 Integrated Bioinformatics.
(3) (Fall) (3 hours lecture) (Prerequisite: BIOL 301 or permission of instructor.) (Restriction: Not open to students who have taken or are taking BINF 511.) 'Post-genomic' bioinformatics. Concepts behind large-scale computational analysis and comparison of genomes/proteomes (and beyond), and the implications for our understanding of the basic processes of molecular and cell biology and the evolution of those processes.

✶**BIOL 594 Advanced Evolutionary Ecology.**
(3) (Fall) (Prerequisite: BIOL 304 and BIOL 308) (Restriction: U3 or permission.) Evolutionary ecology is the study of evolutionary change in natural populations. General predictive approaches in evolutionary ecology, including population genetics, quantitative genetics, optimality, and game theory will be examined. Emphasis will be placed on the mathematical underpinnings of each approach, particularly as they relate to classic and contemporary problems.

BIOT-Biotechnology

Offered by: Biology

BIOT 505 Selected Topics in Biotechnology.
(3) (Fall) (Restriction: U3 students) Current methods and recent advances in biological, medical, agricultural and engineering aspects of biotechnology will be described and discussed. An extensive reading list will complement the lecture material.

CHEM-Chemistry

Offered by: Chemistry

CHEM 110 General Chemistry 1.
(4) (Fall) (Prerequisites/corequisites: College level mathematics and physics or permission of instructor; CHEM 120 is not a prerequisite) (Each lab section is limited enrolment) A study of the fundamental principles of atomic structure, valence theory and the periodic table.

CHEM 112 General Chemistry Laboratory 1.
(1) (Fall) (Open only to entering students who have the lecture equivalent of CHEM 110) (Each lab section is limited enrolment) Illustrative experiments. Laboratory section of CHEM 110. New students will be issued lab sections in OM 1 on the first day of classes.

CHEM 115 Accelerated General Chemistry: Giants in Science.
(4) (Fall) (Prerequisite: Grade 12 Chemistry) (Corequisites: PHYS 131 and MATH 140 or 150) (Restrictions: Enrollment is restricted to students who have obtained a grade greater than 95% in their high school university preparatory chemistry course (e.g., the Ontario Grade 12 University Preparation Chemistry Course [SCH4U]). Not open to students who are taking or have taken CHEM 110 or CHEM 120.) (Note: CHEM 115 and (CHEM 110 plus CHEM 120) are considered equivalent from a prerequisite point of view. If you are planning on applying to medical school, note that some medical schools require applicants to have two general chemistry courses; at McGill you would have to take an additional physical chemistry course like CHEM 204 or equivalent to meet this requirement.) An advanced combined version of CHEM 110 and CHEM 120 that will emphasize developments in the chemical sciences that changed the way nature was understood, focusing, where possible, on examples that led to Nobel Prizes.

CHEM 120 General Chemistry 2.
(4) (Winter) (Prerequisites/corequisites: College level mathematics and physics, or permission of instructor: CHEM 110 is not a prerequisite) (Each lab section is limited enrolment) A study of the fundamental principles of physical chemistry.

CHEM 122 General Chemistry Laboratory 2.
(1) (Winter) (Open only to entering students who have the lecture equivalent of CHEM 120) Illustrative experiments. Laboratory section of CHEM 120.

CHEM 150 World of Chemistry: Food.
(3) (Winter) (No prerequisites) A series of lectures on the historical, practical, and simple chemical aspects of: food, food additives; vitamins; minerals, diet and cancer; dieting; water.

CHEM 160 World of Chemistry: Technology.
(3) (Fall) (No prerequisites) Aspects of chemical technology including publishing of scientific articles, rocketry, chemistry of space travel, materials (metals, ceramics, wood, plastic), genetic engineering chemistry, forensic science, art and money.

CHEM 170 World of Chemistry: Drugs.
(3) (Fall) (No prerequisites) Aspects of drugs including drug history, over the counter drugs (e.g. aspirin, cough remedies, allergy preparations), and street drugs. Significant attention will be paid to prescription drugs such as heart remedies and antibiotics.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

CHEM 180 World of Chemistry: Environment.
(3) (Winter) (No prerequisites) Water, air pollution, sick-building syndrome, the chemistry of the car, energy (fossil fuel, nuclear), household products, quackery (18th century to the internet), computers and cosmetics.

CHEM 199 FYS: Why Chemistry?
(3) (Fall) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) A lecture/seminar course which is expected to deal with a) colour, from gemstones to lasers; b) microscopes that see atoms - with demonstrations; c) the atmosphere: the greenhouse effect, and acid rain, and d) scientific ethics in research and publication.

CHEM 201 Modern Inorganic Chemistry 1.
(3) (Winter) (Prerequisites: CHEM 110 and CHEM 120 or equivalent.) (Restriction: Not open to Honours or Majors in chemistry) (Restriction: Not open to students who have taken or plan to take CHEM 281) Systematic survey of the chemistry of the main group elements and their compounds. Basic concepts of electronic structure, bonding and structure will be developed and applied to the understanding of common materials. Emphasis on elements such as oxygen, nitrogen, silicon and others in order to understand their role in our everyday lives.

CHEM 203 Survey of Physical Chemistry.
(3) (Fall, Summer) (Prerequisites: CHEM 110 and CHEM 120 or equivalent.) (Restriction: Intended for students in biological science programs requiring only one course in physical chemistry Restriction: Not open to students who have taken or are taking CHEM 204 or CHEM 213 or CHEM 223 and CHEM 243.) The fundamentals of thermodynamics and chemical kinetics with applications to biomolecular systems. Thermodynamic and kinetic control of biological processes.

CHEM 204 Physical Chemistry/Biological Sciences 1.
(3) (Fall, Winter) (Prerequisites: CHEM 110 and CHEM 120 or equivalent and one full course in calculus) (Restriction: Not open to students who have taken or are taking CHEM 203 or CHEM 213 or CHEM 223 and CHEM 243.) Similar to CHEM 223/CHEM 243. Emphasis on the use of biological examples to illustrate the principles of physical chemistry. The relevance of physical chemistry to biology is stressed.

CHEM 211 Organic Chemistry 1 Lectures.
(3) (Fall, Winter, Summer) (Prerequisite: CHEM 110 or equivalent.) (Corequisite: CHEM 120 or equivalent.) (Restrictions: Not open to students who are taking or have taken CHEM 212 or equivalent. Permission of the Department of Chemistry is required.) (Note: Some CEGEP programs provide equivalency for this course. For more information, please see the Department of Chemistry's Web page (http://www.chemistry.mcgill.ca/advising/outside/equivalent.htm).) A survey of reactions of aliphatic and aromatic compounds including modern concepts of bonding, mechanisms, conformational analysis, and stereochemistry.

CHEM 212 Introductory Organic Chemistry 1.
(4) (Fall, Winter, Summer) (Prerequisite: CHEM 110 or equivalent.) (Corequisite: CHEM 120 or equivalent.) (Restriction: Not open to students who are taking or have taken CHEM 211 or equivalent) (Each lab section is limited enrolment) (Note: Some CEGEP programs provide equivalency for this course. For more information, please see the Department of Chemistry's Web page (http://www.chemistry.mcgill.ca/advising/outside/equivalent.htm).) A survey of reactions of aliphatic and aromatic compounds including modern concepts of bonding, mechanisms, conformational analysis, and stereochemistry.

CHEM 214 Physical Chemistry/Biological Sciences 2.
(3) (Winter) (Prerequisites: CHEM 204 or CHEM 223/CHEM 243.) Emphasis is placed on the use of biological examples to illustrate the principles of physical chemistry. The relevance of physical chemistry to biology is stressed.

CHEM 217 General Analytical Chemistry Lab 1.
(1) (Fall) (Prerequisites: CHEM 110 and CHEM 120 or equivalent) Laboratory portion of an individualized program in analytical chemistry.

✶CHEM 219 Introduction to Atmospheric Chemistry.
(3) (Winter) (Prerequisite: CEGEP DEC in Science or permission of instructor) (Restriction: Not open to students who have taken ATOC 219, CHEM 419, or ATOC 419) (Offered in even years. Students should register in ATOC 219 in odd years) An introduction to the basic topics in atmospheric chemistry. The fundamentals of the chemical composition of the atmosphere and its chemical reactions. Selected topics such as; a smog chamber, acid rain, and the ozone hole, will be examined.

CHEM 222 Introductory Organic Chemistry 2.
(4) (Fall, Winter, Summer) (Prerequisite: CHEM 212 or equivalent.) (Restriction: Not open to students who have taken Chemistry 302 or equivalent at CEGEP.) Modern spectroscopic techniques for structure determination. The chemistry of alcohols, ethers, carbonyl compounds, and amines, with special attention to mechanistic aspects. Special topics.

CHEM 223 Introductory Physical Chemistry 1.
(2) (Fall) (Prerequisites: CHEM 110, CHEM 120 or equivalent, PHYS 142, or permission of instructor.) (Corequisite: MATH 222 or equivalent.) (Restrictions: Not open to students who have taken or are taking CHEM 203 or CHEM 204.) (Note: Chemistry Honours and Majors must take CHEM 223 and CHEM 253 simultaneously.) Kinetics 1: Gas laws, kinetic theory of collisions. Thermodynamics: Zeroth law of thermodynamics. First law of thermodynamics, heat capacity, enthalpy, thermochemistry, bond energies. Second law of thermodynamics; the entropy and free energy functions. Third law of thermodynamics, absolute entropies, free energies, Maxwell relations and chemical and thermodynamic equilibrium states.

CHEM 224 Organic Chemistry Laboratory 1.
(1) (Fall, Winter, Summer) (Open only to students who have the lecture equivalent of CHEM 212) Illustrative experiments in organic chemistry. Laboratory section of CHEM 212.

CHEM 232 Organic Chemistry Principles.
(4) (Fall) (Restriction: Only open to students in the BN Program) (Restriction: Not open to students in the B.Sc. Program) Concepts of modern organic chemistry, its application to biological processes and everyday life, principles of bonding, structure/stereochemistry, and reaction mechanisms will be presented. Their application to reaction of all of the main functional groups and to biologically important substances will be described.

CHEM 233 Topics in Physical Chemistry.
(3) (Winter) (Restriction: For Engineers only.) Introduction to chemical kinetics, surface and colloid chemistry and electrochemistry. The topics to be discussed will be of particular interest to students in chemical engineering.

CHEM 234 Topics in Organic Chemistry.
(3) (Fall, Winter, Summer) (Prerequisite: CHEM 212 or equivalent) (Restriction: For Chemical Engineers only or Permission of Department.) Modern spectroscopic techniques for structure determination. The chemistry of alcohols, ethers, carbonyl compounds, and amines, with special attention to mechanistic aspects. Special topics.

CHEM 243 Introductory Physical Chemistry 2.
(2) (Winter) (Prerequisites: CHEM 223 and CHEM 253.) (Restrictions: Not open to students who have taken or are taking CHEM 203 or CHEM 204. Permission of instructor.) (Note: Chemistry Honours and Majors must take CHEM 243 and CHEM 263 simultaneously.) Heterogeneous equilibrium: phase rule and phase diagrams. Ideal solutions, colligative properties, solubility. Electrochemistry, Debye-Hückel Theory. Kinetics 2: Transition State Theory, complex reactions, free-radical reactions, chain reactions, catalysis, reactions at surfaces, ionic effects of reactions in solution, photochemistry.

CHEM 244 Organic Chemistry Laboratory 2.
(1) (Fall, Winter, Summer) (Prerequisite: CHEM 234 or equivalent) Laboratory section of CHEM 222.

CHEM 253 Introductory Physical Chemistry 1 Laboratory.
(1) (Fall) (Prerequisite: CHEM 110, CHEM 120 or equivalent.) (Corequisite: CHEM 223 or equivalent or permission of instructor.) Illustrative experiments in physical chemistry. Laboratory section of CHEM 223.

CHEM 263 Introductory Physical Chemistry 2 Laboratory.
(1) (Winter) (Prerequisites: CHEM 223 and CHEM 253.) (Corequisite: CHEM 243 or equivalent.) (Restrictions: Not open to students who have taken or are taking CHEM 203 or CHEM 204. Permission of instructor.) (Note: Chemistry Honours and Majors must take CHEM 243 and CHEM 263 simultaneously.) Illustrative experiments in physical chemistry. Laboratory section of CHEM 243.

CHEM 281 Inorganic Chemistry 1.
(3) (Winter) (Prerequisites: CHEM 110 and CHEM 120 or equivalent.) (Restriction: For Honours and Major Chemistry students) (Restriction: Not open to students who have taken or plan to take CHEM 201) Basic concepts of electronic structure and molecular bonding will be developed and applied to the understanding of common materials. Acid-base chemistry. Survey of the chemistry of the main group elements. Introduction to coordination and organometallic chemistry.

CHEM 287 Introductory Analytical Chemistry.
(2) (Fall) (Prerequisites: CHEM 110 and CHEM 120, or CHEM 115, or equivalent.) (Corequisite: CHEM 297.) (Restrictions: Not open to students who have taken CHEM 257D1/D2 or CHEM 277D1/D2.) Qualitative and quantitative analysis. A survey of methods of analysis including theory and practice of semimicro qualitative analysis and representative gravimetric, volumetric and instrumental methods.

CHEM 297 Introductory Analytical Chemistry Laboratory.
(1) (Fall, Winter) (Prerequisites: CHEM 110 and CHEM 120, or CHEM 115, or equivalent.) (Corequisite: CHEM 287.) (Restriction: Not open to students who have taken CHEM 257D1/D2 or CHEM 277D1/D2.) Introductory experiments in analytical chemistry emphasizing classical and instrumental methods of quantitative analysis.

CHEM 302 Introductory Organic Chemistry 3.
(3) (Fall, Winter) (Prerequisites: BIOL 112, CHEM 222, or permission of the instructor.) Topics covered may include the following: Aromatic compounds, heterocyclic chemistry, sulfur and phosphorus chemistry, organosulfur and organophosphorus compounds, and biomolecules such as lipids, carbohydrates, amino acids, polypeptides, DNA and RNA.

●**CHEM 307 Analytical Chemistry of Pollutants.**
(3) (Prerequisites: One course in analytical chemistry) Description of current analytical practices in air and water pollution; critical evaluation of the reliability of the methods, with particular emphasis on interfering substances; rudiments of automated instrumentation; toxicological analysis as it relates to pollution.

●**CHEM 319 Chemistry of Energy, Storage and Utilization.**
(3) (Prerequisites: CHEM 212; CHEM 223 and CHEM 243 or CHEM 204 or CHEM 203; or permission of instructor) Energy consumption and human development; green house gases; primary and secondary sources of energy, fuels vs. electricity; energy transport and storage; fossil fuels; nuclear energy; fusion and fission; bioenergetics, natural and artificial photosynthesis; novel materials; nanocomposites; photochemistry; electrochemistry; photovoltaics and batteries; fuel cells; catalysis and biomass.

CHEM 334 Advanced Materials.
(3) (Fall) (Prerequisites: CHEM 110/CHEM 120 and PHYS 101/PHYS 102 or PHYS 131/PHYS 142, or CEGEP Physics and Chemistry, or equivalent. Prerequisite or Corerequisite: one of CHEM 203, CHEM 204, CHEM 223 and CHEM 243, CHEM 214 or equivalent; or one of PHYS 230 and PHYS 232, or equivalent; or permission of instructor.) (Restriction: Not open to students who have taken or are taking PHYS 334.) The physicochemical properties of advanced materials. Topics discussed include photonics, information storage, 'smart' materials, biomaterials, clean energy materials, porous materials, and polymers.

CHEM 345 Molecular Properties and Structure 1.
(3) (Fall) (Prerequisites: CHEM 213 or CHEM 223 and CHEM 243, MATH 315, and PHYS 142, or permission of instructor.) (Restriction: For Chemistry Honours and Majors only) An introduction to quantum chemistry covering the historical development, wave theory, methods of quantum mechanics, and applications of quantum chemistry.

CHEM 352 Structural Organic Chemistry.
(3) (Winter) (Prerequisite: CHEM 302) Modern spectroscopic methods of structure determination of organic and organometallic compounds.

CHEM 355 Molecular Properties and Structure 2.
(3) (Winter) (Prerequisite: CHEM 345, PHYS 242, or permission of instructor) A survey of the principles of electronic, vibrational and rotational spectroscopy. Magnetic resonance methods.

CHEM 362 Advanced Organic Chemistry Laboratory.
(2) (Fall, Winter) (Prerequisite or corequisite: CHEM 302. Not open to Honours or Majors in Chemistry) An advanced laboratory with experiments related to the theoretical principles and synthetic methods of modern organic chemistry.

CHEM 365 Statistical Thermodynamics.
(2) (Winter) (Prerequisite: CHEM 345) Molecular basis of thermodynamics with applications to ideal gases and simple solids. Topics to be covered will include: calculation of thermodynamic functions, chemical equilibrium constants, Einstein and Debye models of solids, absolute reaction rate theory, Debye-Hückel theory of strong electrolytes.

CHEM 367 Instrumental Analysis 1.
(3) (Fall) (Prerequisite: CHEM 257 or CHEM 277 or CHEM 287 and CHEM 297.) (Each lab section is limited enrolment) An introduction to modern instrumental analysis emphasizing chromatography, electrochemical methods and computational data analysis. Analytical methods to be examined in detail include gas-liquid and high performance liquid chromatography, LC mass spectrometry, and advanced electro-analysis techniques

CHEM 371 Inorganic Chemistry Laboratory.
(2) (Fall, Winter) (Prerequisite: CHEM 362; prerequisite/corequisite: CHEM 381.) (Restriction: Not open to students who have taken CHEM 392) Modular format incorporating self-paced and self-guided instructions. In consultation with the instructors, a program of experimental modules is chosen covering projects related to theoretical principles, synthetic techniques and those instrumental methods used in modern inorganic and organometallic chemistry.

CHEM 371D1 (1), CHEM 371D2 (1) Inorganic Chemistry Laboratory.
(Fall) (Prerequisite: CHEM 362; prerequisite/corequisite: CHEM 381.) (Restriction: Not open to students who have taken CHEM 392.) (Students must register for both CHEM 371D1 and CHEM 371D2.) (No credit will be given for this course unless both CHEM 371D1 and CHEM 371D2 are successfully completed in consecutive terms) (CHEM 371D1 and CHEM 371D2 together are equivalent to CHEM 371) Modular

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

format incorporating self-paced and self-guided instructions. In consultation with the instructors, a program of experimental modules is chosen covering projects related to theoretical principles, synthetic techniques and those instrumental methods used in modern inorganic and organometallic chemistry.

CHEM 377 Instrumental Analysis 2.
(3) (Winter) (Prerequisite: CHEM 367) (Each lab section is limited enrolment) Spectroscopic methods of analysis will be studied with respect to fundamentals, operational aspects and instrument design. Topics will range from UV-visible to x-ray spectrometry. Methodologies will be evaluated with respect to their application in spectrometric systems. Laboratory automation will be studied and applied in the laboratory.

CHEM 381 Inorganic Chemistry 2.
(3) (Fall) (Prerequisite: CHEM 281.) (Restriction: For Honours and Major Chemistry students) Introduction to transition metal chemistry, coordination numbers and geometry, and nomenclature will be followed by a discussion of crystal field theory and its applications to problems in spectroscopy, magnetochemistry, thermodynamics and kinetics. Several aspects related to applications of organometallic compounds in catalysis and bioinorganic systems will be discussed.

CHEM 382 Organic Chemistry: Natural Products.
(3) (Winter) (Prerequisite/corequisite: CHEM 302) Structure, synthesis, stereochemistry and biosynthesis of terpenes, alkaloids, antibiotics and selected molecules of medicinal interest.

CHEM 392 Integrated Inorganic/Organic Laboratory.
(3) (Fall, Winter) (Prerequisite/corequisites: CHEM 381 and CHEM 302. Advanced laboratory for Chemistry Honours and Major students. Students enrolled in CHEM 392 are strongly advised to choose the D option.) (Restriction: Not open to students who have taken CHEM 362.) A program of modules is selected in consultation with the laboratory staff. The experimental modules consist of projects related to the theoretical principles, synthetic techniques and instrumental methods used in modern organic, inorganic and organometallic chemistry, including aspects of green chemistry and nanochemistry.

CHEM 392D1 (1.5), CHEM 392D2 (1.5) Integrated Inorganic/Organic Laboratory.
(Fall, Winter) (Prerequisite/corequisites: CHEM 381 and CHEM 302. Advanced laboratory for Chemistry Honours and Major students. Students enrolled in CHEM 392 are strongly advised to choose the D option.) (Restriction: Not open to students who have taken CHEM 362.) (Students must register for both CHEM 392D1 and CHEM 392D2.) (No credit will be given for this course unless both CHEM 392D1 and CHEM 392D2 are successfully completed in consecutive terms) (CHEM 392D1 and CHEM 392D2 together are equivalent to CHEM 392) A program of modules is selected in consultation with the laboratory staff. The experimental modules consist of projects related to the theoretical principles, synthetic techniques and instrumental methods used in modern organic, inorganic and organometallic chemistry, including aspects of green chemistry and nanochemistry.

CHEM 393 Physical Chemistry Laboratory 2.
(2) (Fall, Winter) (Prerequisite: CHEM 253 and CHEM 263 or CHEM 363 or permission of instructor.) (Each lab section has limited enrolment.) Selected experiments to illustrate physico-chemical principles more advanced than those of CHEM 363, CHEM 253 and CHEM 263.

CHEM 396 Undergraduate Research Project.
(3) (Fall, Winter) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

CHEM 400 Independent Study in Chemistry.
(1) (Fall, Winter) (Prerequisites: CHEM 213, CHEM 222, CHEM 277D1/D2, CHEM 281, plus at least one course in Chemistry at 300 level or higher.) (Restrictions: Registration is restricted to Honours and Major students in Chemistry and requires the approval of the Director of the Undergraduate Studies in the Department of Chemistry.) Supervised research.

✶CHEM 419 Advances in Chemistry of Atmosphere.
(3) (Winter) (3 lectures) (Prerequisites: CHEM 243, and CHEM 263 or CHEM 213 and CHEM 273, MATH 222 and MATH 315 (or equivalents) or permission of instructor.) (Restriction: Not open to students who have taken ATOC 419, CHEM 619, or ATOC 619) (Offered in even years. Students should register in ATOC 419 in odd years.) Selected areas of atmospheric chemistry from field and laboratory to theoretical modelling are examined. The principles of atmospheric reactions (gas, liquid and heterogeneous phases in aerosols and clouds) and issues related to chemical global change will be explored.

CHEM 462 Green Chemistry.
(3) (Fall) (Prerequisites: CHEM 302 and CHEM 381) New reactions and methods which can be used for the production of chemicals from renewable feedstocks; the use of new environmentally benign solvents, catalysts and reagents; organic reactions in aqueous media and in supercritical carbon dioxide; bio-catalysis and bio-processes.

●CHEM 470 Research Project 1.
(6) (Fall, Winter) (Prerequisite: registration by Departmental permission only) (Please see regulations concerning Project Courses, under "Project Courses" in the Faculty Degree Requirements section) A course designed to give students research experience. The student will be assigned a project supervisor and a research project at the beginning of the session. The project will consist of a literature survey, experimental and /or theoretical work, a written research report and an oral examination.

CHEM 470D1 (3), CHEM 470D2 (3) Research Project 1.
(Fall, Winter) (Students must register for both CHEM 470D1 and CHEM 470D2.) (Students must also register for CHEM 470D2) (No credit will be given for this course unless both CHEM 470D1 and CHEM 470D2 are successfully completed in consecutive terms) (CHEM 470D1 and CHEM 470D2 together are equivalent to CHEM 470) A course designed to give students research experience. The student will be assigned a project supervisor and a research project at the beginning of the session. The project will consist of a literature survey, experimental and/or theoretical work, a written research report and an oral examination.

CHEM 480 Research Project 2.
(3) (Fall) (Prerequisite or Corequisite: CHEM 490. Registration by Departmental permission only.) (Please see regulations concerning Project Courses, under "Project Courses" in the Faculty Degree Requirements section) A course designed to give Honours students research experience. The student will be assigned a project supervisor and a research project at the beginning of the session. The project will consist of a literature survey, experimental or theoretical work, a written research report and an oral examination.

CHEM 480D1 (1.5), CHEM 480D2 (1.5) Research Project 2.
(Fall, Winter) (Students must register for both CHEM 480D1 and CHEM 480D2.) (No credit will be given for this course unless both CHEM 480D1 and CHEM 480D2 are successfully completed in consecutive terms) (CHEM 480D1 and CHEM 480D2 together are equivalent to CHEM 480) A course designed to give Honours students research experience. The student will be assigned a project supervisor and a research project at the beginning of the session. The project will consist of a literature survey, experimental or theoretical work, a written research report and an oral examination.

CHEM 490D1 (1.5), CHEM 490D2 (1.5) Research Project 3.
(Fall) (Prerequisite or Corequisite: CHEM 480. Registration by Departmental permission only.) (Please see regulations concerning Project Courses, under "Project Courses" in the Faculty Degree Requirements section.) (Students must register for both CHEM 490D1 and CHEM 490D2.) (No credit will be given for this course unless both CHEM 490D1 and CHEM 490D2 are successfully completed in consecutive terms.) A course designed to give Honours students research experience. The student will be assigned a project supervisor and a research project at the beginning of the session. The project will consist of a literature survey, experimental or theoretical work, a written research report and an oral examination.

CHEM 502 Advanced Bio-Organic Chemistry.
(3) (Winter) (Prerequisite: CHEM 302) (Restriction: Not open to students who have taken CHEM 402.) This course will cover biologically relevant molecules, particularly nucleic acids, proteins, and their building blocks. In each case, synthesis and biological functions will be discussed. The topics include synthesis of oligonucleotides and peptides; chemistry of phosphates; enzyme structure and function; coenzymes, and enzyme catalysis; polyketides; antiviral and anticancer agents.

CHEM 503 Drug Design and Development 1.
(3) (Fall) (Prerequisites: CHEM 302, BIOL 200, BIOL 201 or BIOC 212, or permission of instructor) (Restriction: U3 and graduate students. Students can register only with permission of coordinators.) Interdisciplinary course in drug design and development covering combinatorial chemistry, process chemistry, structure-activity relationship, pharmacokinetics and metabolism, mechanisms of action and steps in drug development, and principles and problems in drug design.

CHEM 504 Drug Design and Development 2.
(3) (Winter) (Prerequisite: CHEM 503 and permission of instructor) (Restriction: U3 and graduate students. Students can register only with permission of coordinators) Computational methods used in drug design and discovery including QSAR, docking/scoring, molecular mechanics and molecular dynamics, QM/MM, library profiling and library design.

CHEM 514 Biophysical Chemistry.
(3) (Winter) (Prerequisite: CHEM 203 or CHEM 204 or CHEM 223 and CHEM 243, or permission of instructor.) (Restriction: Not open to students who have taken CHEM 404.) Physical chemistry concepts needed to understand the function of biological systems at the molecular level, including the structure, stability, transport, and interactions of biological macromolecules.

● CHEM 520 Methods in Chemical Biology.
(3) (Prerequisite(s): BIOL 200 CHEM 345 CHEM 302 Or permission of instructor) An overview of advanced techniques at the leading edge of Chemical Biology, including some or all of: biological imaging, kinetics of enzyme inhibition, combinatorial synthesis, atomic force microscopy of biological molecules, self assembling biomimetic structures, oligonucleotide therapeutics, biomolecular X-ray crystallography, computational methods, and nuclear magnetic resonance applied to protein interactions.

CHEM 522 Stereochemistry.
(3) (Fall) (Prerequisite: CHEM 302) (Restriction: Not open to students who have taken CHEM 623) Stereoisomers, their nomenclature and configuration. Conformational analysis, separation of stereoisomers, and stereocontrol in organic synthesis.

CHEM 531 Chemistry of Inorganic Materials.
(3) (Winter) (Prerequisite: CHEM 381) Structure, bonding, synthesis, properties and applications of covalent, ionic, metallic crystals, and amorphous solids. Defect structures and their use in synthesis of specialty materials such as electronic conductors, semiconductors, and superconductors, and solid electrolytes. Basic principles of composite materials and applications of chemistry to materials processing.

CHEM 533 Small Molecule Crystallography.
(3) (Winter) (Prerequisite: CHEM 355 or permission of instructor.) Fundamentals of x-ray diffraction related to small molecule structure resolution, space groups, diffraction theory, strategies for structure solution, and refinement will be covered.

CHEM 534 Nanoscience and Nanotechnology.
(3) (Fall) (Prerequisites: CHEM 334 or PHYS 334 or permission of instructor) (Corequisites: one of CHEM 345, PHYS 357, or PHYS 446 or permission of instructor) (Restriction: Not open to students who have taken or are taking PHYS 534) Topics discussed include scanning probe microscopy, chemical self-assembly, computer modelling, and microfabrication/micromachining.

● CHEM 543 Chemistry of Pulp and Paper.
(3) (Fall) (Prerequisite: CHEM 302 or permission of instructor.) The industrial processes for converting wood to paper are described with emphasis on the relevant organic, physical, surface chemistry and colloid chemistry. The structure and organization of the polymeric constituents of wood are related to the mechanical, optical and other requisite properties of paper.

CHEM 547 Laboratory Automation.
(3) (Winter) (Prerequisite: CHEM 377, equivalent or permission of instructor) Automation and data handling with respect to modern chemical laboratory instrumentation. Basic electronics, data acquisition, evaluation of laboratory needs, data processing methodologies.

CHEM 552 Physical Organic Chemistry.
(3) (Fall) (Prerequisite: CHEM 302) The correlation of theory with physical measurements on organic systems; an introduction to photochemistry; solvent and substituent effects on organic reaction rates, etc.; reaction mechanisms.

CHEM 555 NMR Spectroscopy.
(3) (Fall) (Prerequisite: CHEM 355 or equivalent) Interpretation of proton and carbon-13 nuclear magnetic resonance spectroscopy in one dimension for structural identification.

CHEM 556 Advanced Quantum Mechanics.
(3) (Fall) (Prerequisites: CHEM 345 and PHYS 242) Quantum mechanical treatment of species of chemical interest. Introduction to perturbation theory, both time-dependent and time-independent. Treatment of the variational principle. Introduction to atomic spectra. Chemical bonding in terms of both the valence bond and molecular orbital theory. Elementary collision theory. Interaction of radiation with molecules.

CHEM 567 Chemometrics: Data Analysis.
(3) (Winter) (Prerequisite: Linear Algebra and experience in some computer programming language) Topics covered include; factorial analysis of chemical spectra, pattern recognition from multisensor data, linear and nonlinear optimization for the determination of optimal reaction conditions molecular modeling, multisensor calibration, etc.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

CHEM 571 Polymer Synthesis.
(3) (Winter) (Prerequisite: CHEM 302 or equivalent, or permission of instructor.) A survey of polymer preparation and characterization; mechanisms of chain growth, including free radical, cationic, anionic, condensation and transition metal-mediated polymerization, and the effects of these mechanisms on polymer architecture; preparation of alternating, block, graft and stereoblock copolymers; novel macromolecular structures including dendrimers and other nanostructures.

CHEM 572 Synthetic Organic Chemistry.
(3) (Winter) (Prerequisite: CHEM 382) Synthetic methods in organic chemistry and their application to the synthesis of complex molecules.

CHEM 574 Introductory Polymer Chemistry.
(3) (Fall) (Prerequisite(s): Prerequisites: CHEM 223 and CHEM 243 or CHEM 213 and CHEM 273, or CHEM 233 (for engineering students only), or permission of the instructor.) (Restriction(s): Not open to students who have taken CHEM 455 or CHEM 674.) A survey course on the structure of polymers, kinetics and mechanisms of polymer and copolymer synthesis; characterization and molecular weight distributions; polymer microstructure, the thermodynamics of polymer solutions; the crystalline and amorphous states, rubber elasticity and structure-property relationships.

CHEM 575 Chemical Kinetics.
(3) (Winter) (Prerequisites: CHEM 273 and CHEM 223/CHEM 243 (formerly CHEM 213).) Kinetic laws, measurement of reaction rates, transition state and collision theory, experimental techniques in reaction kinetics, reaction mechanisms, RRKM theory, Marcus theory of electron transfer, photochemistry and catalysis. Recent developments and their application to chemical and biological problems. Elementary reactions in gas, solution and solid phases and on surfaces.

●**CHEM 581 Inorganic Topics 1.**
(3) (Winter) (Prerequisite: CHEM 381) An introduction to some areas of current interest in inorganic chemistry. Each year a selection of several particularly active areas will be chosen.

CHEM 582 Supramolecular Chemistry.
(3) (Winter) (Prerequisites: CHEM 222, CHEM 381) Introduction to supramolecular organization will be followed by discussions on the nature of interactions and methodologies to create ordered aggregates of high complexity. Potential of supramolecular chemistry in fabricating smart materials will be explored using specific topics including inclusion chemistry, dendrimers, molecular self-assembly and crystal engineering.

CHEM 585 Colloid Chemistry.
(3) (Winter) (Prerequisites: CHEM 345, MATH 233 and MATH 315, PHYS 241 and PHYS 242. Students who haven't taken CHEM 223 and CHEM 243 must have taken CHEM 273 or permission of instructor.) Principles of the physical chemistry of phase boundaries. Electrical double layer theory; van der Waals forces; Brownian motion; kinetics of coagulation; electrokinetics; light scattering; solid/liquid interactions; adsorption; surfactants; hydrodynamic interactions; rheology of dispersions.

CHEM 587 Topics in Modern Analytical Chemistry.
(3) (Winter) (Prerequisites: CHEM 367 and CHEM 377) A survey of recent topics in optical spectroscopic micro-imaging including methods based on Raman, photo-luminescence, photo-thermal and infra-red absorption. Coverage is also given to analysis of the optics, instrumentation and image processing specific to spectroscopic imaging.

CHEM 591 Bioinorganic Chemistry.
(3) (Winter) (Prerequisite: CHEM 381) (Restriction: For Honours and Major Chemistry students or with permission) The roles of transition and main group elements in biology and medicine will be examined with an emphasis on using tools for structure and genome searching as well as becoming acquainted with experimental spectroscopic methods useful for bioinorganic chemistry such as macromolecular X-ray diffraction, EPR and EXAFS.

CHEM 593 Statistical Mechanics.
(3) (Winter) (Research project) (Prerequisite: CHEM 345. Recommended: CHEM 365) Basic hypotheses of statistical thermodynamics; ideal monatomic, diatomic and polyatomic gases; Einstein and Debye models of solids; statistical theory of black-body radiation; Debye-Hückel theory of electrolyte solutions; absolute reaction rate theory of rate processes; theories of solutions.

CHEM 597 Analytical Spectroscopy.
(3) (Fall) (Prerequisites: CHEM 367 and CHEM 377) The design and analytical use of spectroscopic instrumentation with respect to fundamental and practical limitations. Classical emission, fluorescence, absorption and chemical luminescence. Topics may include photo-acoustic spectroscopy, multielement analysis, X-ray fluorescence and modern multiwavelength detector systems.

COMP-Computer Science

Offered by: Computer Science

COMP 102 Computers and Computing.
(3) (3 hours lecture) (Prerequisite: high school level mathematics course on functions.) (Restrictions: Credit will not be given for COMP 102 if it is taken concurrently with, or after, any of: COMP 202, COMP 203, COMP 208, COMP 250. Management students cannot receive credit for COMP 102.) A course for students with no previous knowledge of computer science. The impact of computers on society. Web design and dynamic content. The inner workings of computers (hardware). Networking principles. Algorithm design and programming. A look at how computers store data (image, sound, and video). Software distribution policies and mechanisms.

●**COMP 199 FYS: Excursions in Computer Science.**
(3) (3 hours) (Prerequisite: high school mathematics) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25) This is a seminar format course intended for freshman and other beginning students. The topics are chosen to encourage critical discussion of fundamental ideas. Possible topics are computability, complexity, geometry, vision, AI, pattern recognition, machine models, cryptography and security and social implications of computing.

COMP 202 Introduction to Computing 1.
(3) (3 hours) (Prerequisite: a CEGEP level mathematics course) (Restrictions: COMP 202 and COMP 208 cannot both be taken for credit. COMP 202 is intended as a general introductory course, while COMP 208 is intended for students interested in scientific computation. COMP 202 cannot be taken for credit with or after COMP 250) Overview of components of microcomputers, the internet design and implementation of programs using a modern high-level language, an introduction to modular software design and debugging. Programming concepts are illustrated using a variety of application areas.

●**COMP 203 Introduction to Computing 2.**
(3) (3 hours) (Prerequisites: MATH 133 and COMP 202) (Restrictions: COMP 203 and COMP 250 are considered to be equivalent from a prerequisite point of view, and cannot both be taken for credit. Students who are registered in the following programs: Major or Honours in Computer Science, Major in Software Engineering, any of the joint major programs offered through the Faculty of Science and the Major Concentration in Foundations of Computing, in the Faculty of Arts, may not take this course.) Basic data structures. Representation of arrays, stacks, and queues. Linked lists and their applications to binary trees. Internal sorting. Graph representation. Elementary graph algorithms.

COMP 206 Introduction to Software Systems.
(3) (3 hours) (Prerequisite: COMP 202 or COMP 250) Comprehensive overview of programming in C, use of system calls and libraries, debugging and testing of code; use of developmental tools like make, version control systems.

COMP 208 Computers in Engineering.
(3) (3 hours) (Prerequisite: differential and integral calculus.) (Corequisite: linear algebra: determinants, vectors, matrix operations.) (Restrictions: COMP 202 and COMP 208 cannot both be taken for credit. COMP 202 is intended as a general introductory course, while COMP 208 is intended for students interested in scientific computations. Credits for either of these courses will not count towards the 60-credit Major in Computer Science. COMP 208 cannot be taken for credit with or after COMP 250.) Introduction to computer systems. Concepts and structures for high level programming. Elements of structured programming using FORTRAN 90 and C. Numerical algorithms such as root finding, numerical integration and differential equations. Non-numerical algorithms for sorting and searching.

COMP 230 Logic and Computability.
(3) (Prerequisite: CEGEP level mathematics.) Propositional Logic, predicate calculus, proof systems, computability Turing machines, Church-Turing thesis, unsolvable problems, completeness, incompleteness, Tarski semantics, uses and misuses of Gödel's theorem.

COMP 250 Introduction to Computer Science.
(3) (Prerequisites: Familiarity with a high level programming language and CEGEP level Math.) (Restrictions: COMP 203 and COMP 250 are considered to be equivalent from a prerequisite point of view, and cannot both be taken for credit.) An introduction to the design of computer algorithms, including basic data structures, analysis of algorithms, and establishing correctness of programs. Overview of topics in computer science.

COMP 251 Data Structures and Algorithms.
(3) (Prerequisite: COMP 250 or COMP 203.) (Restrictions: Not open to students who have taken or are taking COMP 252.) Design and analysis of algorithms. Complexity of algorithms. Data structures. Introduction to graph algorithms and their analysis.

COMP 252 Algorithms and Data Structures.
(3) (3 hours) (Prerequisite: COMP 250 and MATH 240) (Restrictions: Open only to students registered in following programs: Honours in Computer Science, Joint Honours in Mathematics and Computer Science, Honours in Applied Mathematics, Honours in Mathematics. Not open to students who have taken or are taking COMP 251.) (Note: COMP 252 can be used instead of COMP 251 to satisfy prerequisites.) The design and analysis of data structures and algorithms. The description of various computational problems and the algorithms that can be used to solve them, along with their associated data structures. Proving the correctness of algorithms and determining their computational complexity.

COMP 273 Introduction to Computer Systems.
(3) (Corequisite: COMP 206.) Number representations, combinational and sequential digital circuits, MIPS instructions and architecture datapath and control, caches, virtual memory, interrupts and exceptions, pipelining.

COMP 280 History and Philosophy of Computing.
(3) A history of early mathematical computation. Symbolic logic and computation. Modern computer systems and networks. The rise of the internet.

COMP 302 Programming Languages and Paradigms.
(3) (3 hours) (Prerequisite: COMP 250 or COMP 203) Programming language design issues and programming paradigms. Binding and scoping, parameter passing, lambda abstraction, data abstraction, type checking. Functional and logic programming.

COMP 303 Software Development.
(3) (Winter) (3 hours) (Prerequisites: COMP 206, COMP 250.) (Corequisite: COMP 302.) (The course involves a significant project) Principles, mechanisms, techniques, and tools for object-oriented software development: encapsulation, design patterns, unit testing, etc.

COMP 304 Object-Oriented Design.
(3) (3 hours) (Prerequisites: COMP 206, COMP 251, COMP 302) The object model, objects and classes, verification and testing, object-oriented analysis, unified modeling language and design patterns.

COMP 308 Computer Systems Lab.
(1) (Prerequisite: COMP 273.) Digital circuitry and programming interface of peripheral circuit boards (cards), e.g., graphics cards; introduction to tools and libraries that interact with the card; performance issues.

COMP 310 Operating Systems.
(3) (3 hours) (Prerequisite: COMP 273) Control and scheduling of large information processing systems. Operating system software - resource allocation, dispatching, processors, access methods, job control languages, main storage management. Batch processing, multiprogramming, multiprocessing, time sharing.

COMP 321 Programming Challenges.
(1) (Prerequisites: COMP 250 or COMP 206 or COMP 203, MATH 223 and MATH 240.) (Note: At the end of the class, interested students are encouraged to join the McGill team to participate in the annual ACM International Collegiate Programming Competition.) Development of programming skills on tricky challenges, games and puzzles by means of programming competitions.

COMP 322 Introduction to C++.
(1) (Prerequisites: COMP 202 or COMP 250 or COMP 206 or COMP 208. Ability to program in general is presumed. Some familiarity with the C language is assumed.) Basics and advanced features of the C++ language. Syntax, memory management, class structure, method and operator overloading, multiple inheritance, access control, stream I/O, templates, exception handling.

COMP 330 Theoretical Aspects: Computer Science.
(3) (3 hours) (Prerequisite: COMP 251.) Mathematical models of computers, finite automata, Turing machines, counter machines, push-down machines, computational complexity.

●**COMP 335 Software Engineering Methods.**
(3) (3 hours) (Corequisite: COMP 302) This course in software engineering teaches basic concepts and methods for software development. The focus is on engineering and analysing requirements, design and code. Small software development exercises will be given where students would learn how to apply different methods.

COMP 350 Numerical Computing.
(3) (3 hours) (Prerequisites: MATH 222 and MATH 223 and one of: COMP 202, COMP 208, COMP 250; or equivalents.) Computer representation of numbers, IEEE Standard for Floating Point Representation, computer arithmetic and rounding errors. Numerical stability. Matrix computations and software systems. Polynomial interpolation. Least-squares approximation. Iterative methods for solving a nonlinear equation. Discretization methods for integration and differential equations.

COMP 360 Algorithm Design Techniques.
(3) (3 hours) (Prerequisite: Either COMP 251 or COMP 252, and either MATH 240 or MATH 235 or MATH 363.) (Restriction: Not open to students who have taken or are taking COMP 362.) A study of techniques for the design and analysis of algorithms.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

COMP 361 Systems Development Project.
(3) (Prerequisite: ECSE 321 or COMP 335 or COMP 303.) Practical issues in systems programming including: inter-process communication, task scheduling, special purpose systems, multi-processor systems. Implementation of a large body of software to illustrate core concepts and provide substantial hands-on experience.

COMP 362 Honours Algorithm Design.
(3) (Prerequisite: COMP 252) (Restriction: Not open to students who have taken or are taking COMP 360.) (Note: COMP 362 can be used instead of COMP 360 to satisfy prerequisites.) Basic algorithmic techniques, their applications and limitations. Problem complexity, how to deal with problems for which no efficient solutions are known.

COMP 364 Computer Tools for Life Sciences.
(3) (Prerequisite: BIOL 200.) (Restrictions: Not available to students in Computer Science or Joint Computer Science programs. Not available to students who have taken Comp 208 or Comp 250, or who are taking either of these at the same time.) (Note: It is recommended that students have already taken a laboratory course (e.g., BIOL 301 Cell and Molecular Laboratory). Topics motivated by biological questions.) Basic concepts and tools for storing, retrieving, and analyzing large biological data sets: relational databases, on-line databases, structured query language, scripting for automating interaction with databases and data analysis, digital images and movies, advanced topics.

COMP 396 Undergraduate Research Project.
(3) (Summer) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

COMP 400 Technical Project and Report.
(3) (Summer) (Prerequisites: 15 Computer Science credits.) (Restriction: For Honours students) A computer related project, typically a programming effort, along with a report will be carried out in cooperation with a staff member in the School of Computer Science.

● **COMP 401 Project in Biology and Computer Science.**
(3) (Prerequisite: BIOL 495 or permission of instructor.) (The project is co-supervised by professors in Biology and Computer Science.) A research project applying computational approaches to a biological problem.

● **COMP 409 Concurrent Programming.**
(3) (Prerequisites: COMP 251, COMP 302, and COMP 310 or ECSE 427) Characteristics and utility of concurrent programs; formal methods for specification, verification and development of concurrent programs; communications, synchronization, resource allocation and management, coherency and integrity.

COMP 417 Introduction Robotics and Intelligent Systems.
(3) (Prerequisites: COMP 424 and MATH 223.) This course considers issues relevant to the design of robotic and of intelligent systems. How can robots move and interact. Robotic hardware systems. Kinematics and inverse kinematics. Sensors, sensor data interpretation and sensor fusion. Path planning. Configuration spaces. Position estimation. Intelligent systems. Spatial mapping. Multi-agent systems. Applications.

● **COMP 420 Secondary Storage Algorithms and Data Structures.**
(3) (Prerequisite: COMP 251 or COMP 252.) Data structures and algorithms for persistent or very extensive data: sequential, logarithmic and direct-access files. Activity, volatility, and symmetry requirements of applications. Efficiency and cost analyses. Systems design. Programming language for secondary storage: basics of relational databases.

COMP 421 Database Systems.
(3) (3 hours) (Prerequisites: COMP 206, COMP 251, COMP 302) Database Design: conceptual design of databases (e.g., entity-relationship model), relational data model, functional dependencies. Database Manipulation: relational algebra, SQL, database application programming, triggers, access control. Database Implementation: transactions, concurrency control, recovery, query execution and query optimization.

● **COMP 423 Data Compression.**
(3) (3 hours) (Prerequisites: COMP 251, MATH 223, MATH 323) Information Theory. Huffman, arithmetic and dictionary codes. Context Modelling. Lossy compression and quantization. Signal processing. Applications to text, image, speech, audio and video data.

COMP 424 Artificial Intelligence.
(3) (3 hours) (Prerequisites: COMP 206 and COMP 251) Introduction to search methods. Knowledge representation using logic and probability. Planning and decision making under uncertainty. Introduction to machine learning.

● **COMP 431 Algorithms for Engineers.**
(3) (3 hours) (Prerequisites: ECSE 222 and MATH 363) (Restrictions: COMP 431 is open only to B.Eng. students in Electrical and Computer Engineering. Credit will be given for only one of: COMP 431, COMP 251, COMP 360.) Advanced data structures: heaps, binary search trees, graphs, algorithmic analysis: space-time analysis, worst-case and expected complexity. Examples of searching sorting and merging. Algorithm design: divide-and-conquer, dynamic programming, greedy methods, backtracking. Algorithms: set manipulation, tree traversals. Memory management: hashing, dynamic storage allocation and garbage collection.

● **COMP 435 Basics of Computer Networks.**
(3) (3 hours) (Prerequisite: COMP 310) (COMP 435 and COMP 535 cannot both be taken for credit.) Exposition of the first four layers of the ISO model for computer network protocols. Socket programming. Network administration and configuration and security issues.

COMP 462 Computational Biology Methods.
(3) (3 hours) (Prerequisites: COMP 251 and MATH 323) (Restriction: Not open to students who have taken COMP 562. Not open to students who are taking or have taken COMP 561.) Application of computer science techniques to problems arising in biology and medicine, techniques for modeling evolution, aligning molecular sequences, predicting structure of a molecule and other problems from computational biology.

● **COMP 490 Introduction to Probabilistic Analysis of Algorithms.**
(3) (3 hours) (Prerequisites: COMP 251 and MATH 323) Fundamental tools from probability are used to analyze algorithms. Notions covered included independence, generating functions, probability inequalities, random walks and Markov chains. Analysis of probabilistic recurrences, Las Vegas algorithms, randomized approximation algorithms, random sampling methods, Monte Carlo techniques and algorithms for combinatorial search and graph theoretic problems.

● **COMP 499 Undergraduate Bioinformatics Seminar.**
(1) (Corequisite(s): BIOL 495) (Restriction(s): Registration in the Computer Science and Biology joint major) Introduction to current research topics in bioinformatics through a series of seminars by invited researchers.

● **COMP 506 Advanced Analysis of Algorithms.**
(3) (3 hours) (Prerequisite: COMP 330 or COMP 360 or COMP 431.) The study of computational complexity and intractability: Cook's Theorem, NP-completeness, oracles, the polynomial hierarchy, lower bounds, heuristics, approximation problems.

● **COMP 507 Computational Geometry.**
(3) (3 hours) (Prerequisite: COMP 360 or COMP 362 or permission of instructor or corequisite COMP 506.) Problems in computational geometry; worst-case complexity of geometric algorithms; expected complexity of geometric algorithms and geometric probability; geometric intersection problems; nearest neighbour searching; point inclusion problems; distance between sets; diameter and convex hull of a set; polygon decomposition; the Voronoi diagram and other planar graphs; updating and deleting from geometric structures.

COMP 512 Distributed Systems.
(4) (Prerequisites: COMP 310, COMP 251 or equivalent.) Models and Architectures. Application-oriented communication paradigms (e.g. remote method invocation, group communication). Naming services. Synchronization (e.g. mutual exclusion, concurrency control). Fault-tolerance (e.g. process and replication, agreement protocols). Distributed file systems. Security. Examples of distributed systems (e.g. Web, CORBA). Advanced Topics.

COMP 520 Compiler Design.
(4) (3 hours, 1 hour consultation) (Prerequisites: COMP 273 and COMP 302) The structure of a compiler. Lexical analysis. Parsing techniques. Syntax directed translation. Run-time implementation of various programming language constructs. Introduction to code generation for an idealized machine. Students will implement parts of a compiler.

●**COMP 521 Modern Computer Games.**
(4) (Prerequisite: COMP 303 or COMP 361.) (Corequisite: COMP 557.) Genre and history of games, basic game design, storytelling and narrative analysis, game engines, design of virtual worlds, real-time 2D graphics, game physics and physical simulation, pathfinding and game AI, content generation, 3D game concerns, multiplayer and distributed games, social issues.

COMP 522 Modelling and Simulation.
(4) (3 hours) (Prerequisites: COMP 251, COMP 302, COMP 350) Simulation and modeling processes, state automata, Petri Nets, state charts, discrete event systems, continuous-time models, hybrid models, system dynamics and object-oriented modeling.

●**COMP 523 Language-based Security.**
(3) (Prerequisites: COMP 302, COMP 330.) State-of-the-art language-based techniques for enforcing security policies in distributed computing environments. Static techniques (such as type- and proof-checking technology), verification of security policies and applications such as proof-carrying code, certifying compilers, and proof-carrying authentication.

COMP 524 Theoretical Foundations of Programming Languages.
(3) (3 hours) (Prerequisites: COMP 302 and COMP 330.) Operational and denotational semantics of programming languages. Equivalence theorems for first-order languages. Lambda calculus. Type-inference, typed lambda calculus. Polymorphism. Elements of domain theory and fixed-point induction.

●**COMP 525 Formal Verification.**
(3) (3 hours) (Prerequisites: COMP 251 and COMP 330.) Propositional logic - syntax and semantics, temporal logic, other modal logics, model checking, symbolic model checking, binary decision diagrams, other approaches to formal verification.

●**COMP 526 Probabilistic Reasoning and AI.**
(3) (3 hours) (Prerequisites: COMP 206, COMP 360, COMP 424 and MATH 323) Belief networks, Utility theory, Markov Decision Processes and Learning Algorithms.

COMP 527 Logic and Computation.
(3) (3 hours) (Prerequisite: COMP 302) (Restriction: Not open to students who have taken COMP 426) Introduction to modern constructive logic, its mathematical properties, and its numerous applications in computer science.

●**COMP 529 Software Architecture.**
(4) (Prerequisite: COMP 303 or COMP 304.) Development, analysis, and maintenance of software architectures, with special focus on modular decomposition and reverse engineering.

●**COMP 531 Theory of Computation.**
(3) (3 hours) (Prerequisite: COMP 330) Models for sequential and parallel computations: Turing machines, boolean circuits. The equivalence of various models and the Church-Turing thesis. Unsolvable problems. Model dependent measures of computational complexity. Abstract complexity theory. Exponentially and super-exponentially difficult problems. Complete problems.

●**COMP 533 Object-Oriented Software Development.**
(3) (Prerequisites: COMP 335 or ECSE 321) Object-oriented, UML-based software development; requirements engineering based on use cases; using OCL and a coherent subset of UML to establish complete and precise analysis and design documents for a software system; Java-specific mapping strategies for implementation.

COMP 535 Computer Networks 1.
(3) (3 hours) (Prerequisite: COMP 310) (Restriction: Students may not take both COMP 435 and COMP 535 for credit) Exposition of the first four layers of the ISO model for computer network protocols, i.e., the physical, data, network, and transport layers. Basic hardware and software issues with examples drawn from existing networks, notably SNA, DECnet, and ARPAnet.

●**COMP 537 Internet Programming.**
(3) (3 hours) (Prerequisites: COMP 251 and COMP 302, and any one of COMP 310, COMP 420, COMP 424, or COMP 433) Sockets, User Datagram Protocol (UDP), Transmission utility protocols; Remote Terminal Protocol (Telnet), Simple Mail Transfer Protocol (SMTP), File Transfer Protocol (FTP), Hypertext Transfer Protrocol (HTTP), Internet resource database and search engines. Remote File Systems. Distributed objects, Common Object Request Broker Architecture (CORBA).

COMP 540 Matrix Computations.
(3) (3 hours) (Prerequisite: MATH 327 or COMP 350) Designing and programming reliable numerical algorithms. Stability of algorithms and condition of problems. Reliable and efficient algorithms for solution of equations, linear least squares problems, the singular value decomposition, the eigenproblem and related problems. Perturbation analysis of problems. Algorithms for structured matrices.

COMP 547 Cryptography and Data Security.
(4) (3 hours) (Prerequisites: COMP 360 or COMP 362, MATH 323.) This course presents an in-depth study of modern cryptography and data security. The basic information theoretic and computational properties of classical and modern cryptographic systems are presented, followed by a cryptanalytic examination of several important systems. We will study the applications of cryptography to the security of systems.

●**COMP 552 Combinatorial Optimization.**
(4) (Prerequisite: Math 350 or COMP 362 (or equivalent).) (Restriction: This course is reserved for undergraduate honours students and graduate students. Not open to students who have taken or are taking MATH 552.) Algorithmic and structural approaches in combinatorial optimization with a focus upon theory and applications. Topics include: polyhedral methods, network optimization, the ellipsoid method, graph algorithms, matroid theory and submodular functions.

COMP 557 Fundamentals of Computer Graphics.
(3) (3 hours) (Prerequisite: MATH 223, COMP 251, COMP 206) The study of fundamental mathematical, algorithmic and representational issues in computer graphics. The topics to be covered are: overview of graphics process, projective geometry, homogeneous coordinates, projective transformations, quadrics and tensors, line-drawing, surface modeling and object modeling reflectance models and rendering, texture mapping, polyhedral representations, procedural modeling, and animation.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

COMP 558 Fundamentals of Computer Vision.
(3) (3 hours) (Prerequisites: COMP 206, COMP 360, MATH 222, MATH 223) (Restriction: not open to students who have taken 308-766 before January 2001) Biological vision, edge detection, projective geometry and camera modeling, shape from shading and texture, stereo vision, optical flow, motion analysis, object representation, object recognition, graph theoretic methods, high level vision, applications.

●**COMP 560 Graph Algorithms and Applications.**
(3) (3 hours) (Prerequisite: COMP 360 or COMP 431 or MATH 343) Algorithms for connectivity, partitioning, clustering, colouring and matching. Isomorphism testing. Algorithms for special classes of graphs. Layout and embedding algorithms for graphs and networks.

COMP 561 Computational Biology Methods and Research.
(4) (Prerequisites: COMP 251, MATH 323) (Restrictions: Not open to students who have taken COMP 562. Not open to students who are taking or have taken COMP 462.) (Note: Additional work will consist of assignments and of a substantial final project that will require to put in practice the concepts covered in the course.) Application of computer science techniques to problems arising in biology and medicine, techniques for modeling evolution, aligning molecular sequences, predicting structure of a molecule and other problems from computational biology. An in-depth exploration of key research areas.

●**COMP 563 Molecular Evolution Theory.**
(3) (Prerequisites: COMP 251 or COMP 252, MATH 323 or equivalent; or by permission of instructor.) Population genetics; statistical inference from sequence data; phylogenetics, coalescent theory; models of mutation and selection.

COMP 564 Computational Gene Regulation.
(3) (Prerequisite: COMP 462.) This course examines computational problems related to gene regulation at the mRNA and protein levels. With respect to mRNA expression, topics include microarray analysis, SNP detection, and the inference of genetic networks. With respect to protein expression, topics include peptide sequencing, peptide identification, and the interpretation of interaction maps.

COMP 566 Discrete Optimization 1.
(3) (3 hours) (Prerequisites: COMP 360 and MATH 223) Use of computer in solving problems in discrete optimization. Linear programming and extensions. Network simplex method. Applications of linear programming. Vertex enumeration. Geometry of linear programming. Implementation issues and robustness. Students will do a project on an application of their choice.

●**COMP 567 Discrete Optimization 2.**
(3) (3 hours) (Prerequisites: COMP 566 or MATH 417) Formulation, solution and applications of integer programs. Branch and bound, cutting plane, and column generation algorithms. Combinatorial optimization. Polyhedral methods. A large emphasis will be placed on modeling. Students will select and present a case study of an application of integer programming in an area of their choice.

●**COMP 575 Fundamentals of Distributed Algorithms.**
(3) (3 hours) (Prerequisite: COMP 310) Study of a collection of algorithms that are basic to the world of concurrent programming. Discussion of algorithms from the following areas: termination detection, deadlock detection, global snapshots, clock synchronization, fault tolerance (byzantine and self-stabilizing systems). Students will implement algorithms on the BBN butterfly and will present papers on topics in these areas.

●**COMP 577 Distributed Database Systems.**
(3) (3 hours) (Prerequisites: COMP 421 and COMP 310) High-level communication paradigms (e.g. client/server, publish/subscribe). Architecture of distributed information systems. Distributed transactions: concurrency control, recovery, distributed agreement. Data Replication. Data Distribution. Distributed queries. Advanced topics.

COMP 598 Topics in Computer Science 1.
(3) (Prerequisite: Permission of instructor.) Topics in computer science.

COMP 599 Topics in Computer Science 2.
(3) (Prerequisite: Permission of instructor.) Topics in computer science.

EPSC-Earth & Planetary Sciences

Offered by: Earth & Planetary Sciences

EPSC 104 The Earth System.
(3) (Winter) (3 hours lectures) (Restriction: Not open to students who are taking or have taken ATOC 104 or GEOG 104.) Earth system science examines the complex interactions among the atmosphere, biosphere, geosphere and hydrosphere. It focuses on physical, chemical, and biological processes that extend over spatial scales ranging from microns to the size of planetary orbits, and spans time scales from fractions of a second to billions of years.

EPSC 199 FYS: Earth & Planetary Exploration.
(3) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) An exploration of how earth and planetary scientists reconstruct the current state, past progress, and initial conditions of the continuously evolving Earth experiment.

EPSC 200 The Terrestrial Planets.
(3) (Winter) (3 hours lectures) A comparative survey of the planets of our solar system with an emphasis on the terrestrial planets and their implications for the Earth as a planet. Topics include: structure and origin of the solar system, meteorites, and comparisons of the terrestrial planets in terms of their rotational properties, magnetic fields, atmospheres, surface histories, internal structure, chemical composition, volcanism, and tectonics.

EPSC 201 Understanding Planet Earth.
(3) (Fall or Winter) (3 hours lectures; afternoon field trips) Learn about Earth's origin, its place in the solar system, its internal structure, rocks and minerals, the formation of metal and fossil fuel deposits, and the extinction of dinosaurs. Discover the impact of the volcanic eruptions, earthquakes and mountain chains on Earth's past, present and future. Explore 125 million-year-old Mount Royal.

EPSC 203 Structural Geology.
(3) (Winter) (2 hours lectures, 3 hours laboratory) Primary igneous and sedimentary structures, attitudes of planes and lines, stress and strain, fracturing of rocks, faulting, homogeneous strain, description and classification of folds, foliation and lineation, orthographic and stereographic projections.

EPSC 205 Astrobiology.
(3) (Winter) (3 hours lectures) (Restriction: Not open to students who have taken or are taking ANAT 205) Astrobiology is the search for the origin, evolution and destiny of life in the universe. The course will provide insight into the formation and evolution of habitable worlds, the evolution of life and the biogeochemical cycles in the Earth's oceans and atmosphere, and the potential for biological evolution beyond an organism's planet of origin.

EPSC 210 Introductory Mineralogy.
(3) (Fall) (2 hours lectures, 3 hours laboratory) Crystal chemistry and identification of the principal rock-forming and ore minerals. Elementary crystallography. Optional 2-day field trip.

EPSC 212 Introductory Petrology.
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisite: EPSC 210) A survey of igneous, sedimentary and metamorphic rocks and the processes responsible for their formation. The laboratory will emphasize the recognition of rocks in both hand-specimen and thin section using optical microscopes.

EPSC 220 Principles of Geochemistry.
(3) (Fall) (2 hours lecture, 3 hours laboratory) Basic concepts in geochemistry and the application of geochemical principles of chemistry to geological subdisciplines. Particular emphasis on origin of elements, controls on their distribution in Earth and cosmos, isotopes, organic geochemistry and water chemistry. Application of phase diagrams to geology.

EPSC 221 General Geology.
(3) (Fall) (2 hours lectures, 3 hours laboratory) (2-3-4) (Restriction: Open to Engineering students only.) An introductory course in physical geology designed for majors in civil and mining engineering. Properties of rocks and minerals, major geological processes, together with natural hazards and their effects on engineered structures are emphasized. The laboratory is an integral part of the course which includes rock and mineral identification, basic techniques of airphoto and geological map interpretation, and structural geology.

EPSC 225 Properties of Minerals.
(1) (Fall) (1 hour lecture, 1 hour laboratory) (Restriction: Open to Engineering students only) (Restriction: Not open to students who have taken EPSC 210) Survey of the physical and chemical properties of the main mineral groups. Discussion of their relationships to the chemical composition and structure of minerals. The practical exercises emphasize the physical and chemical properties that relate to industrial uses and environmental issues, and the identification of hand specimens.

EPSC 231 Field School 1.
(3) (Summer) (Prerequisite: EPSC 203, EPSC 212, or equivalent) Geological mapping of selected areas, preparation of maps, reports from field notes, aerial photographs, etc.

EPSC 233 Earth and Life History.
(3) (Fall) (3 hours lectures) Interpretation of stratified rocks; history of Earth with special emphasis on the regions of North America; outline of the history of life recorded in fossils.

EPSC 243 Environmental Geology.
(3) (Fall or Winter) (3 hours lectures) Introduction to the relationship of geological processes and materials to the human environment; geologic hazards; hydrogeology; impacts of waste disposal, energy use, land resource development.

EPSC 250 Natural Disasters.
(3) (Fall) (3 hours lectures) (Restriction: Not open to students who have taken or are taking ATOC 250) This course examines the science behind different types of disasters and our ability or inability to control and predict such events. From this course the student will gain an appreciation of natural disasters beyond the newspaper headlines, and will better understand how the effects of disasters can be reduced.

EPSC 312 Spectroscopy of Minerals.
(3) (Winter) (6 hours laboratory and relevant in-lab lectures) (Prerequisite: EPSC 210) Interaction of minerals with electromagnetic radiation. Optical mineralogy on thin and polished sections. Demonstrations of other spectroscopic techniques applied to the identification of minerals and to the analysis of their composition and structure.

●**EPSC 320 Elementary Earth Physics.**
(3) (Fall) (3 hours lectures) (Prerequisite: MATH 222) Physical properties of Earth and the processes associated with its existence as inferred from astronomy, geodesy, seismology, geology, terrestrial magnetism and thermal evolution.

●**EPSC 330 Earthquakes and Earth Structure.**
(3) (Fall) (3 hours lectures, tutorial as required) (Prerequisites: MATH 314, EPSC 320.) (Corequisites: MATH 319) Seismic wave theory; body waves, surface waves and free oscillations; seismicity and earthquakes; seismology and Earth's internal structure.

●**EPSC 331 Field School 2.**
(3) (Summer) (Two-week intensive field school to a range of national and international locations.) (Prerequisites: enrollment in U2 or U3 EPS program and permission of the instructor.) (Alternates years with EPSC 341.) Two week field studies in selected branches of the geosciences.

●**EPSC 334 Invertebrate Paleontology.**
(3) (Winter) (2 hours lectures and one laboratory period) Preservation of fossils; the fossil record of invertebrates; use of fossils in stratigraphy and paleoecology; fossils in evolutionary studies. Fossils of invertebrates are studied in the laboratory.

EPSC 340 Earth and Planetary Inference.
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: Completion of U1 year in Earth & Planetary Sciences or permission of instructor) Introduction to modern techniques for combining geological, geophysical, and geochemical measurements with theoretical knowledge about Earth and other planets. Use of tools from time series analysis and inverse methods to build models and test hypotheses within the Earth and Planetary Sciences.

EPSC 341 Field School 3.
(3) (Winter or Summer) (Two week intensive field school to a range of national and international locations.) (Prerequisites: Enrolment in U2 or U3 EPS program and permission of the instructor.) (Alternates years with EPSC 331.) Two week field studies in selected branches of the geosciences to examine processes in geology.

EPSC 350 Tectonics.
(3) (Winter) (3 hours lectures) (Prerequisites: EPSC 320, Calculus 3 or equivalent) Rheology of the Earth, mechanics of the crust and mantle and core, convection in the mantle, evolution and kinematics and deformations of the oceanic and continental plates, thermal evolution of the Earth, the unifying theory of plate tectonics.

EPSC 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project.

EPSC 423 Igneous Petrology.
(3) (Fall) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 212, EPSC 312) Physical properties, nucleation, crystallization, differentiation and emplacement of magmas. Integrated studies on various rock suites.

●**EPSC 425 Sediments to Sequences.**
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 210, EPSC 212) Processes and products of modern and ancient carbonate and siliciclastic depositional environments. Sequence stratigraphy as a tool for studying the fundamental controls (sea level, tectonics, sediment supply, etc.) on stratigraphic architecture.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

● **EPSC 435 Applied Geophysics.**
(3) (Fall) (Prerequisites: EPSC 231 or EPSC 320, or permission of instructor) (3 hours lectures) (2 hours lectures, 3 hours laboratory) (The field component of the course will be held in all weather conditions. Appropriate clothing is required by the students.) Methods in geophysical surveying including gravity, magnetism, electromagnetism, resistivity and seismology; application to exploration and near surface environmental and hydrological targets are included, along with field applications of techniques.

● **EPSC 445 Metamorphic Petrology.**
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 212, EPSC 303, EPSC 312) The origin, classification and petrological significance of metamorphic rocks, from the point of view of theory, experiment and field observations.

● **EPSC 452 Mineral Deposits.**
(3) (Fall) (2 hours lectures, 3 hours laboratory) (Prerequisite: EPSC 312, EPSC 220) A systematic review of the nature and origin of the major types of metallic and non-metallic mineral deposits; typical occurrences; geographic distribution; applications to exploration. Emphasis on magmatic ores, massive sulfides, iron formations.

EPSC 455 Sedimentary Geology.
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 210, EPSC 212) This course discusses the origin, diagenesis, classification and economic importance of sedimentary rocks. Students will learn about the physical properties of sedimentary rocks, including porosity and permeability, different techniques for analyzing those rocks (thin sections, hand specimens, wireline logs) and the types of sedimentary basins within which sediments accumulate.

● **EPSC 470D1 (3), EPSC 470D2 (3) Undergraduate Thesis Research.**
(Note 1: Students must register for both EPSC 470D1 and EPSC 470D2. No credit will be given unless both are successfully completed in consecutive terms. A written proposal outlining the research to be undertaken must be signed by the student and the supervising faculty member, and approved by the undergraduate student adviser by September 10 of the U3 year. The results of the research must be presented in the form of an undergraduate thesis.) (Restriction(s): For Major students in 3rd year.) Research project leading to a thesis.

● **EPSC 470N1 (3), EPSC 470N2 (3) Undergraduate Thesis Research.**
(Note 1: Students must register for both EPSC 470N1 and EPSC 470N2. No credit will be given unless both are successfully completed in consecutive terms. A written proposal outlining the research to be undertaken must be signed by the student and the supervising faculty member, and approved by the undergraduate student adviser by September 10 of the U3 year. The results of the research must be presented in the form of an undergraduate thesis.) (Restriction(s): For Major students in 3rd year.) Research project leading to a thesis.

EPSC 478 Short Research Project.
(1) (Fall or Winter) (Restrictions: Open only to U3 students. Students are expected to find an appropriate instructor for their project.) Supervised research project in earth and planetary sciences.

EPSC 480D1 (3), EPSC 480D2 (3) Honours Research Project.
(Fall) (Restriction: For Honours students in 3rd year) (Students must register for both EPSC 480D1 and EPSC 480D2.) (No credit will be given for this course unless both EPSC 480D1 and EPSC 480D2 are successfully completed in consecutive terms) A written proposal outlining the studies to be undertaken must be submitted to the undergraduate Student Adviser by May 1st of the U-2 year. The proposal will be reviewed by a committee and a decision forwarded by mail. If approved the investigation will be supervised by a staff member, and the results must be presented in the form of an undergraduate thesis.

● **EPSC 480N1 (3), EPSC 480N2 (3)**
(Restriction: For Honours students in 3rd year) (Students must register for both EPSC 480N1 and EPSC 480N2.) (No credit will be given for this course unless both EPSC 480N1 and EPSC 480N2 are successfully completed in consecutive terms.) A written proposal outlining the studies to be undertaken must be submitted to the undergraduate Student Adviser by May 1st of the U-2 year. The proposal will be reviewed by a committee and a decision forwarded by mail. If approved the investigation will be supervised by a staff member, and the results must be presented in the form of an undergraduate thesis.

EPSC 482 Independent Studies 1.
(3) (Fall or Winter) (May not be taken concurrently with EPSC 480) Research and/or reading project in Earth and Planetary Sciences, designed by the student in consultation with a Faculty supervisor. A statement of the proposed project and the method of evaluation must be approved by the Director of Undergraduate studies before October 15. This statement will be included in the student's file.

EPSC 482D1 (1.5), EPSC 482D2 (1.5) Independent Studies 1.
(Fall) (Students must register for both EPSC 482D1 and EPSC 482D2.) (No credit will be given for this course unless both EPSC 482D1 and EPSC 482D2 are successfully completed in consecutive terms) (EPSC 482D1 and EPSC 482D2 together are equivalent to EPSC 482) Research and/or reading project in Earth and Planetary Sciences, designed by the student in consultation with a Faculty supervisor. A statement of the proposed project and the method of evaluation must be approved by the Director of Undergraduate studies before October 15. This statement will be included in the student's file.

● **EPSC 501 Crystal Chemistry.**
(3) (Fall) (2 hours lectures, 1 hour seminar) (Prerequisites: CHEM 203 or CHEM 213.) Discussion of crystal structures and compositions of important mineral groups, especially oxides, sulphides and silicates. Solid solution. Relation of structure to morphology and to chemical and physical properties of the rock-forming minerals.

● **EPSC 510 Geodynamics and Geomagnetism.**
(3) (Fall) (3 hours lectures) (Prerequisites: EPSC 320, MATH 319, or equivalent, or permission of the instructor.) (Corequisite: EPSC 350) The gravity field of the Earth and planets, body and orbital dynamics of the Earth, moon and planets, tidal interactions of the Earth-moon-sun system, deformation of the Earth under static and dynamic loads, the magnetic field of the Earth and planets: the magnetosphere, the external radiation belts, magnetohydrodynamic models of the core dynamo, geochemical convection in the core, fluid dynamic motions of the outer core, dynamics of the inner core.

● **EPSC 519 Isotope Geology.**
(3) (Fall) (3 hours lectures) (Prerequisites: equivalent of the U2 core program.) Geochronology, the fractionation of the stable isotopes, and applications to petrology and mineral deposits.

● **EPSC 525 Subsurface Mapping.**
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 455 or equivalent, or permission of instructor.) This course will provide participants the opportunity to learn how different types of data (wireline logs, seismic, etc.) are employed to map geological features in the subsurface. Lectures will teach participants about the physical basis of each of the data types, and the basic mapping and analytical techniques (e.g., geostatistics, gridding) that are employed in subsurface mapping. The principal focus will be on applying these techniques and concepts to real-world data sets.

EPSC 530 Volcanology.
(3) (Winter) (2 hours lectures, 3 hours laboratory) (Prerequisites: EPSC 212 and EPSC 312, or equivalent, or permission of instructor.) The physical mechanisms which drive volcanoes and volcanic activity are presented. Descriptive, practical and theoretical approaches to the study of volcanoes are discussed.

● **EPSC 542 Chemical Oceanography.**
(3) (Fall) (3 hours lectures) (Prerequisites: CHEM 213, CHEM 257 or equivalents, or registration in the Graduate Program in Oceanography.) History of chemical oceanography. Seawater composition and definition of salinity/chlorinity. Minor and trace-element distribution in the ocean. Geochemical mass balance. Dissolved gases in sea water. CO_2 and the carbonate system. Chemical speciation. Physical chemistry of seawater. Organic matter and the carbon cycle in the marine environment. Sediment geochemistry.

●**EPSC 547 Modeling Geochemical Processes.**
(3) (Fall) (3 hours lectures) (Prerequisites: EPSC 220, MATH 222, or permission of instructor.) Advanced thermodynamics and kinetics will be applied to construct models that quantitatively investigate geochemical processes. Topics include, but are not restricted to: activity-composition relationships in solids, liquids and fluids, crystallization and melting, precipitation and dissolution, rates of geochemical processes, interaction of geological liquids and fluids with rocks and minerals.

●**EPSC 548 Processes of Igneous Petrology.**
(3) (Fall) (2 hours lectures, 1 hour seminar) (Prerequisite: EPSC 423) Investigation of the primary mechanisms causing the diversity of igneous rock compositions on the Earth, other planets, asteroids, and meteorite parent bodies.

●**EPSC 549 Hydrogeology.**
(3) (Winter) (3 hours lectures, 1-2 hours laboratory) (Prerequisite: permission of the instructor) Introduction to groundwater flow through porous media. Notions of fluid potential and hydraulic head. Darcy flux and Darcy's Law. Physical properties of porous media and their measurement. Equation of groundwater flow. Flow systems. Hydraulics of pumping and recharging wells. Notions of hydrology. Groundwater quality and contamination. Physical processes of contaminant transport.

EPSC 550 Selected Topics 1.
(3) (Fall or Winter) (2 hours seminar, permission of department undergraduate advisor) Research seminar and/or lecture with readings in topics concerning aspects of current interests in Earth & Planetary Sciences.

EPSC 551 Selected Topics 2.
(3) (Fall or Winter) (2 hours seminar, permission of department undergraduate advisor) Research seminar and/or lecture with readings in topics concerning aspects of current interest in Earth & Planetary Sciences.

EPSC 552 Selected Topics 3.
(3) (Fall or Winter) (2 hours seminar, permission of department undergraduate advisor) Research seminar and/or lecture with readings in topics concerning aspects of current interest in Earth & Planetary Sciences.

●**EPSC 561 Ore-forming Processes 1.**
(3) (Fall) (3 hours seminar) (Prerequisite: One course in ore petrology (EPSC 451 or EPSC 452) or equivalent, or permission of the instructor.) Physicochemical controls of hydrothermal mineral deposition. Discussion of fluid inclusion theory and application; stable isotope systematics, wall-rock alteration; ore mineral solubility and speciation; and mechanisms of mineral deposition.

●**EPSC 562 Ore-forming Processes 2.**
(3) (Winter) (3 hours seminar) (Prerequisite: One course in mineral deposits (EPSC 451 or EPSC 452) or equivalent, or permission of the instructor.) Genesis of hydrothermal mineral deposits. Discussion of geological setting, fluid and metal sources, method of metal transport, and factors controlling metal concentration for a selection of hydrothermal mineral deposit types.

●**EPSC 570 Cosmochemistry.**
(3) (Fall) (3 hours lecture) (Prerequisites: EPSC 220, EPSC 210, or equivalent, or permission of instructor.) Examines the implications of phase equilibria and the compositions of meteorites and the solar system for the formation and internal differentiation of the terrestrial planets and the nature of chemical fractionation processes in both planetary interiors and the solar system as a whole.

EPSC 580 Aqueous Geochemistry.
(3) (Fall) (3 hours lectures) (Prerequisites: EPSC 210, EPSC 212, or equivalent, or permission of instructor.) The use of chemical thermodynamics to study fluid-rock interactions with an emphasis on the aqueous phase. The course will introduce basic concepts and will discuss aqueous complexation, mineral surface adsorption, and other controls on crustal fluid compositions. Applications will range from considering contaminated groundwater systems to metamorphic reactions.

●**EPSC 590 Applied Geochemistry Seminar.**
(3) (Winter) (3 hours seminar) (Prerequisite: permission of instructor) Seminar course devoted to field case studies that illustrate the applications of geochemical principles to solving geologic problems. Each student will prepare and lead a class devoted to a geochemical subject of their own choosing.

ESYS-Earth System Science

Offered by: Earth & Planetary Sciences, Geography, Atmospheric & Oceanic Sciences

ESYS 200 Earth System Processes.
(3) (Winter) (3 hours lecture) Complex interactions among the atmosphere, biosphere, geosphere and hydrosphere. Biological, chemical and physical processes within and between each "sphere" that extend over spatial scales ranging from microns to the size of planetary orbits and that span time scales from fractions of a second to billions of years.

ESYS 300 Investigating the Earth System.
(3) (Fall) (3 hours lecture) (Prerequisite: ESYS 200 or equivalent.) An understanding of the biological, chemical and physical fundamentals of the Earth system and how the different components interact. The mechanisms controlling interactions between reservoirs are quantitatively investigated. Special emphasis on the development and response of the Earth system to perturbations.

ESYS 301 Earth System Modelling.
(3) (Winter) (3 hours lecture) (Prerequisite: ESYS 200 or ENVR 200 or equivalent.) Principal concepts of systems modelling related to earth system science and environmental science. Students explore the ideas of state, stability, equilibria, feedbacks, and complexity using simple models.

ESYS 500 Earth System Applications.
(3) (Fall) (3 hours seminar) Individual research projects that contribute to a group project that addresses one of the six scientific "Grand Challenges" crucial to humanity: global cycles (water and biogeochemical); climate variability and change; land use and land cover change; energy and resources; earth hazards; earth-atmosphere observation, monitoring, analysis and prediction.

EXMD-Experimental Medicine

Offered by: Medicine

EXMD 401 Physiology and Biochemistry Endocrine Systems.
(3) (Winter) (Prerequisite: BIOL 200 and BIOL 201)
Offered in conjunction with the Department of Physiology. The course provides a basic knowledge of endocrine systems encompassing biosynthesis, metabolism and physiological actions of hormones. Specific topics covered are hormones of the hypothalamus, pituitary, adrenals, thyroids, parathyroids, pancreas, gut and the gonads. The role of hormones and growth factors in pregnancy and fetal development are also discussed.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

EXMD 502 Advanced Endocrinology 01.
(3) (Fall) This course is designed for U3 students who are in a major or honours program in anatomy, biology, biochemistry or physiology and for graduate students. A multidisciplinary approach will be used to teach biosynthesis and processing of hormones, their regulation, function and mechanism of action. The material will cover hypothalamic, pituitary, thyroid, atrial and adrenal hormones as well as prostaglandins and related substances.

EXMD 503 Advanced Endocrinology 02.
(3) (Winter) Study of the parathyroids, gut and pancreatic hormones and growth factors. In addition, the role of hormones and growth factors in reproduction and fetal maturation will be discussed.

EXMD 504 Biology of Cancer.
(3) (Fall) (Prerequisite (Undergraduate): A good knowledge of biology at the cellular and molecular level. Open to U3 and graduate students only) An introduction to the biology of malignancy. A multidisciplinary approach dealing with the etiology of cancer, the biological properties of malignant cells, the host response to tumour cell growth and the principles of cancer therapy.

EXMD 506 Advanced Applied Cardiovascular Physiology.
(3) (Fall) (Prerequisite (Undergraduate): PHGY 313 or by permission of Instructors) Offered in conjunction with the Department of Physiology. Current topics, methods and techniques for studying the cardiovascular system. Basic and applied cardiac electrophysiology, mechanisms of pacemaker activity, arrhythmias, the effects of drugs on cardiac functions, fetal circulation, coronary circulation, mechanics of blood flow, cardiovascular diseases, renal and neural control of the circulation, and cardiac assist devices.

EXMD 507 Advanced Applied Respiratory Physiology.
(3) (Fall) (Prerequisite: PHGY 313) Offered in conjunction with the Department of Physiology. In depth coverage of respiratory biology including: functional anatomy of the respiratory system, pulmonary statics and dynamics, chest wall and respiratory muscles, ventilation and perfusion, control of breathing, and defense mechanisms. This course is aimed at providing a solid grounding in pulmonary biology and its research applications.

EXMD 508 Advanced Topics in Respiration.
(3) (Winter) (Prerequisite: EXMD 507) Offered in conjunction with the Department of Physiology. In depth coverage of developmental physiology, pulmonary vascular physiology, biology of airway smooth muscle, respiratory epithelium and molecular biology of respiratory muscles. Dyspnea, mechanical ventilation and respiratory failure will also be covered. This course emphasizes application of respiratory biology to basic and applied research and touches on pulmonary pathophysiology.

EXMD 509 Gastrointestinal Physiology and Pathology.
(3) (Fall and Winter) (Prerequisite: Graduate students, U3 undergraduates) Course deals with various aspects of gastrointestinal and hepatic function in health and altered physiological states. The principal focus is on the recent literature pertaining to cell and molecular mechanisms underlying the motility secretory process, absorption and secretion. The molecular biology of the hepatic viruses and various aspects of colonic neoplasia will also be considered.

EXMD 510 Bioanalytical Separation Methods.
(3) (Fall) The student will be taught the capabilities and limitations of modern separation methods (gas and high-performance liquid chromatography, capillary electrophoresis, hyphenated techniques). Application of these techniques to solve analytical problems relevant to biomedical research will be emphasized, with special attention being paid to the processing of biological samples.

EXMD 511 Joint Venturing with Industry.
(3) (Winter) (Offered in conjunction with the Centre for Continuing Education) Using problem-based learning, the course examines the various business interactions between researchers and their business partners in support and development of research into commercial endeavours using models such as venture capital, business partnerships, or grants-in-aid.

FIGS-Freshman Interest Groups

Offered by: Science

For more information, please see "Freshman Interest Groups" in the Faculty of Science section of the Undergraduate Programs calendar.

FIGS 196 Freshman Interest Groups.
(0) (Fall)

FSCI-Faculty of Science

Offered by: Science

FSCI 200 Industrial Practicum 1.
(0) (Restrictions: Must have completed at least 27 credits and have at least 12 credits remaining. Must be registered as a full-time student prior to work term. CGPA 3.00 or permission of internship officer.) (Open to B.Sc., B.A. & Sc. and B.Sc./B.Ed. students, as well as qualified students in other undergraduate programs including majors in Environment, Computer Science, Geography, Mathematics and Psychology.) (Students will be graded using the Pass/Fail system. Students must be registered as a full-time student prior to and after enrollment in this course. A mandatory report must be submitted at the end of the Practicum to the Faculty of Science Internship Officer--Martine Dolmiere martine.dolmière@mcgill.ca. Completion of both the FSCI 200 and FSCI 300 courses will allow B.Sc. students to add the Internship Option to their transcript.) Paid, fulltime work-term intended to complement the student's undergraduate studies.

● **FSCI 300 Industrial Practicum 2.**
(0) (Prerequisite: FSCI 200) (Restrictions: Must have completed at least 42 credits and have at least 12 credits remaining. Must be registered as a full-time student prior to work term. CGPA 3.00 or permission of internship officer.) (Open to B.Sc., B.A. & Sc. and B.Sc./B.Ed. students, as well as qualified students in other undergraduate programs including majors in Environment, Computer Science, Geography, Mathematics and Psychology.) (Students will be graded using the Pass/Fail system. Students must be registered as a full-time student prior to and after enrollment in this course. A mandatory report must be submitted at the end of the Practicum to the Faculty of Science Internship Officer--Martine Dolmiere martine.dolmière@mcgill.ca. Completion of both the FSCI 200 and FSCI 300 courses will allow B.Sc. students to add the Internship Option to their transcript.) Paid, fulltime work-term intended to complement the student's undergraduate studies.

● **FSCI 400 Field Practicum.**
(0) Field work intended to complement the student's undergraduate study.

GEOG-Geography

Offered by: Geography

GEOG 104 The Earth System.
(3) (Winter) (Restriction: Not open to students who are taking or have taken ATOC 104 or EPSC 104.) Earth system science examines the complex interactions among the atmosphere, biosphere, geosphere and hydrosphere. It focuses on physical, chemical, and biological processes that extend over spatial scales ranging from microns to the size of planetary orbits, and spans time scales from fractions of a second to billions of years.

● **GEOG 199 FYS: Geo-Environments.**
(3) (Fall) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25. Closed to Geography Majors) Geography studies the complex but crucial relationships between people and their physical and socio-cultural environments. The course is constructed around field trips and preparatory seminars which provide an opportunity for students to learn about a variety of physical environments and their utilisation.

GEOG 200 Geographical Perspectives: World Environmental Problems.
(3) (Fall) (3 hours) Introduction to geography as the study of nature and human beings in a spatial context. An integrated approach to environmental systems and the human organization of them from the viewpoint of spatial relationships and processes. Special attention to environmental problems as a constraint upon Third World development.

GEOG 201 Introductory Geo-Information Science.
(3) (Fall) (3 hours and lab) An introduction to Geographic Information Systems. The systematic management of spatial data. The use and construction of maps. The use of microcomputers and software for mapping and statistical work. Air photo and topographic map analyses.

GEOG 202 Statistics and Spatial Analysis.
(3) (Fall) (2.5 hours and lab) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Exploratory data analysis, univariate descriptive and inferential statistics, non-parametric statistics, correlation and simple regression. Problems associated with analysing spatial data such as the 'modifiable areal unit problem' and spatial autocorrelation. Statistics measuring spatial pattern in point, line and polygon data.

GEOG 203 Environmental Systems.
(3) (Fall) (3 hours) (Restriction: Because of quantitative science content of course, not recommended for B.A. and B.Ed. students in their U0 year.) An introduction to system-level interactions among climate, hydrology, soils and vegetation at the scale of drainage basins, including the study of the global geographical variability in these land-surface systems. The knowledge acquired is used to study the impact on the environment of various human activities such as deforestation and urbanisation.

GEOG 205 Global Change: Past, Present and Future.
(3) (Winter) (3 hours) An examination of global change, from the Quaternary Period to the present day involving changes in the physical geography of specific areas. Issues such as climatic change and land degradation will be discussed, with speculations on future environments.

GEOG 210 Global Places and Peoples.
(3) (Winter) (3 hours) Introduction to key themes in human geography. Maps and the making, interpretation and contestation of landscapes, 'place', and territory. Investigation of globalization and the spatial organization of human geo-politics, and urban and rural environments.

GEOG 216 Geography of the World Economy.
(3) (Fall) (3 hours) The course introduces the geography of the world economic system. It describes the spatial distribution of economic activities and examines the factors which influence their changing location. Case studies from both "developed" and "developing" countries will test the different geographical theories presented in lectures.

GEOG 217 The Canadian City.
(3) (Winter) (3 hours) An introduction to the social, economic, political and built environments of Canadian cities. Theories of the internal structure of cities, and relationships between urban places of various sizes. The course situates Canadian urbanism in the North American context, and emphasizes social and economic processes distinctive to Montreal.

GEOG 221 Environment and Health.
(3) (Fall) (3 hours) (Restriction: Not open to students who have taken or are taking NRSC 221.) (Note: This course is also offered as NRSC 221. Students enrolled in downtown campus programs register in GEOG 221; students enrolled in Macdonald campus programs register in NRSC 221. In Fall 2009, GEOG221/NRSC 221 will be taught on the Macdonald campus.) This course introduced physical and social environments as factors in human health, with emphasis on the physical properties of the atmospheric environment as they interact with diverse human populations in urban settings.

GEOG 272 Earth's Changing Surface.
(3) (Fall) (3 hours) Introduction to the study of landforms as products of geomorphic and geologic systems acting at and near the Earth's surface. The process geomorphology approach will be used to demonstrate how landforms of different geomorphic settings represent a dynamic balance between forces acting in the environment and the physical properties of materials present.

GEOG 290 Local Geographical Excursion.
(1) (Fall) (1 credit) (Restriction: Open to first-year Geography Major and Honours students only. Not open to students who have taken GEOG 199) (Excursion Dates: October 2-4, 2009) Introduction to landscape interpretation and geographical site analysis in physical and human geography. A three-day fall excursion with preparatory and concluding seminars.

GEOG 300 Human Ecology in Geography.
(3) (Winter) (3 hours) (Prerequisite: GEOG 203 or ANTH 202 or BIOL 111) The course will examine research approaches in human ecology since its inception early in this century. Emphasis will be placed on the theoretical shifts that have led to its emergence as an important social science perspective. The course will also involve case studies to evaluate the methodological utility of the approach.

GEOG 301 Geography of Nunavut.
(3) (Fall) (3 hours) An introduction to the physical and cultural geography of Canada's newest territory. The course will emphasize the bio-physical heterogeneity of the natural environment and the cultural and political ecology of the human population.

GEOG 302 Environmental Management 1.
(3) (Summer and Fall) (3 hours) (Prerequisite: Any 200-level course in Geography or MSE or BIOL 208 or permission of instructor.) An ecological analysis of the physical and biotic components of natural resource systems. Emphasis on scientific, technological and institutional aspects of environmental management. Study of the use of biological resources and of the impact of individual processes.

GEOG 303 Health Geography.
(3) (Winter) (Prerequisite: One of the following: GEOG 201, GEOG 203, GEOG 210, GEOG 216, GEOG 217; or permission of instructor) Discussion of the research questions and methods of health geography. Particular emphasis on health inequalities at multiple geographic scales and the theoretical links between characteristics of places and the health of people.

GEOG 305 Soils and Environment.
(3) (Fall) (3 hours and laboratory) (Prerequisite: GEOG 203 or introductory course in biology or geology) Discussion of the major properties of soils; soil formation, classification and mapping; land capability assessment; the role and response of soils in natural and disturbed environments (e.g. global change, ecosystem disturbance).

GEOG 306 Raster Geo-Information Science.
(3) (Winter) (2 hours and laboratory) (Prerequisite: GEOG 201) Formal introduction to a computer-based Geographical Information System (GIS). Topics will focus on map analysis and on transforming and displaying spatial data. GIS will be used by students to solve problems in both physical and human geography.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

GEOG 307 Socioeconomic Applications of GIS.
(3) (Winter) (2 hours and laboratory) (Prerequisites: GEOG 201, MATH 203 or equivalent) GIS applied to the spatial analysis of socioeconomic and market data. Topics include geographic market segmentation, geodemographics, spatial decision-support systems and modelling applications of GIS. Empirical focus is on analysing spatial patterns of population and consumption characteristics in cities and on facility location problems. Emphasis on visualization and problem solving.

GEOG 308 Principles of Remote Sensing.
(3) (Fall) (3 hours and laboratory periods) (Corequisite(s): GEOG 201) (Restriction: Not open to students who have taken ATOC 308) A conceptual view of remote sensing and the underlying physical principles. Covers ground-based, aerial, satellite systems, and the electromagnetic spectrum, from visible to microwave. Emphasis on application of remotely sensed data in geography including land cover change and ecological processes.

GEOG 309 Geography of Canada.
(3) (Fall) (3 hours) (Restriction: Cannot be taken by students who have taken CANS 303 after 2007.) An introduction to the geography of Canada. A comprehensive geographical interpretation of Canada's salient physical and human characteristics, including landscapes and their evolution, climate, vegetation, society/land relationships and socio-economic attributes of the population.

GEOG 310 Development and Livelihoods.
(3) (Prerequisite(s):GEOG 210 or 216 or ENVR 201 or INTD 200) Geographical dimensions of rural/urban livelihoods in the face of socioeconomic and environmental change in developing regions. Emphasis on household natural resource use, survival strategies and vulnerability, decision-making, formal and informal institutions, migration, and development experience in contrasting global environments.

GEOG 311 Economic Geography.
(3) (Fall) (3 hours) (Prerequisite: GEOG 216 or permission of instructor) Different theories and approaches to understanding the spatial organization of economic activities. Regional case studies drawn from North America, Europe and Asia used to reinforce concepts. Emphasis also on city-regions and their interaction with the global economy.

● **GEOG 315 Urban Transportation Geography.**
(3) (Winter) (3 hours) (Prerequisite: GEOG 217 or permission of instructor) Discusses the urban transportation problem and proposed solutions from a geographic perspective. Specific topics include an analysis of the land use-transportation system in North American cities; its social environmental impacts; the analysis of urban travel behaviour; and the geographical implications of various policy alternatives.

GEOG 316 Political Geography.
(3) (Fall) (3 hours) The study of the spatial dimensions of political activities and developments at the regional, national and global levels in historical and contemporary perspective. Presentation of case studies relating to the theoretical framework of political geography.

GEOG 321 Climatic Environments.
(3) (Winter) (3 hours) (Prerequisite: GEOG 203 or ATOC 210 or permission of instructor) Scope of climatology, physical, dynamic and applied. The Earth/atmosphere system, radiation and energy balances, governing meteorological processes. Movement and circulation of the atmosphere on a local and global scale. Resulting weather systems.

GEOG 322 Environmental Hydrology.
(3) (Winter) (3 hours) (Prerequisite: GEOG 203 or equivalent) Quantitative, experimental study of the principles governing the movement of water at or near the Earth's surface and how the research relates to the chemistry and biology of ecosystems.

GEOG 331 Urban Social Geography.
(3) (Fall) (3 hours) (Prerequisite: GEOG 216 or GEOG 217 or permission of instructor) Social space and social time. The reflection of social structure in the spatial organization of the city. Historical perspective on changing personal mobility, life cycle, family structure and work organization. The appropriation and alienation of urban spaces.

● **GEOG 350 Ecological Biogeography.**
(3) (Fall) (3 hours) (Prerequisite: GEOG 203 or ENVR 200 or ENVR 202) (Note: Offered at Macdonald campus in alternate years.) The study of the patterns of distribution of organisms in space and time with emphasis on plant communities. Ecological, geographical, historical and anthropological factors affecting these distribution patterns will be discussed. Particular consideration is given to methods for description and classification of plant communities.

GEOG 351 Quantitative Methods.
(3) (Winter) (3 hours) (Prerequisite: MATH 203 or permission of instructor) (You may not be able to get credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Multiple regression and correlation, logit models, discrete choice models, gravity models, facility location algorithms, survey design, population projection.

● **GEOG 370 Protected Areas.**
(3) (Winter) (3 hours) (Prerequisite: BIOL 208 or GEOG 203 or AEBI 205) Discussion of the goals of protected areas, focusing on the potential conflict between biodiversity conservation and use for recreation, education and sustainable extraction of resources. Principles and current issues in protected area design and management are reviewed. Examples are taken from developed and developing countries.

GEOG 372 Running Water Environments.
(3) (Fall) (3 hours) (Prerequisites: GEOG 203 and GEOG 272, or ENVR 200 and ENVR 202) The course focuses on the physical habitat conditions found in streams, rivers, estuaries and deltas. Based on the laws governing flow of water and sediment transport, it emphasizes differences among these environments, in terms of channel form, flow patterns, substrate composition and mode of evolution. Flooding, damming, channelisation, forestry impacts.

● **GEOG 380 Adaptive Environmental Management.**
(3) (Winter) (3 hours) (Pre/Co-requisites: GEOG 202 or equivalent, GEOG 203, ENVR 200, BIOL 215, or equivalent.) Articulates and evaluates competing hypotheses about the functioning of human-dominated ecosystems. Introduces the use of statistics, ecological modeling, and management in an integrated ecological management context. Case studies examine factors that impede and enhance adaptive management.

GEOG 381 Geographic Thought and Practice.
(3) (Winter) (3 hours) An overview of the philosophy of geography and its emergence as a discipline nationally and internationally with emphasis on current concepts and their application to geographical studies in local field work analyzing the impact of human environmental interactions.

● **GEOG 382 Principles Earth Citizenship.**
(3) (Winter) (Restrictions: Not open to students who have taken or are taking NRSC 374. Restricted to U2 or U3 students. Enrolment limited to 50.) Foundations and applications of earth citizenship. Foundations: sustainability, tragedy of the commons, dominion, privatization and public welfare, resilience, precautionary principle, and land ethic are critically considered. Applications: implications for relationship between human and natural economies; human population size and control; and morality of modern agricultural and forestry practices.

● **GEOG 390 Managing Field Research.**
(3) (Fall) (Restrictions: Open to U2 or U3 students planning field research or internship as part of their university experience. Not open to U0 or U1 students except with permission of instructor.) Skills for making field research successful, especially where human communities are involved and/or where risk management is important. Topics: characteristics of field-based research, ethical issues, researcher bias, logistics and risk management, research planning, field methods, adapting in the field.

GEOG 396 Undergraduate Research Project.
(3) (Fall and Winter) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

GEOG 403 Global Health and Environmental Change.
(3) (Fall) (Prerequisite(s): GEOG 205 OR GEOG 221 OR GEOG 321 OR GEOG 303 or Permission from the instructor.) (Restriction(s): Course not open to students who were registered for GEOG 303 in Winter 2008.) Major themes and contemporary case studies in global health and environmental change. Focus on understanding global trends in emerging infectious disease from social, biophysical, and geographical perspectives, and critically assessing the health implications of environmental change in different international contexts.

GEOG 404 Environmental Management 2.
(3) (Winter) (3 hours) (Prerequisite: GEOG 302 or permission of instructor) Practical application of environmental planning, analysis and management techniques with reference to the needs and problems of developing areas. Special challenges posed by cultural differences and traditional resource systems are discussed. This course involves practical field work in a developing area (Kenya or Panama).

GEOG 407 Issues in Geography.
(3) (Fall) (3 hours) Treatment of contemporary issues in geographical research focusing on human-environmental relations and interactions. Instructor(s) and topics will be announced each term the course is given.

●**GEOG 408 Geography of Development.**
(3) (Fall) (3 hours) (Prerequisite: GEOG 210 or GEOG 216 or permission of instructor) Examines the geographical dimensions of development policy, specifically the relationships between the process of development and human-induced environmental change. Focuses on environmental sustainability, struggles over resource control, population and poverty, and levels of governance (the role of the state, non-governmental organizations, and local communities).

●**GEOG 409 Geographies of Developing Asia.**
(3) (Prerequisite(s): GEOG 210 OR GEOG 216 OR ENVR 201 OR INTD 200 OR GEOG 310 or permission of instructor.) Current development questions that are of concern to the Asian region. Emphasis on critically studying the major processes of social, economic and environmental change through regional case studies in rural, peri-urban and urban contexts. Covers important debates and considerations that lie at the heart of development geography.

GEOG 410 Geography of Underdevelopment: Current Problems.
(3) (Winter) (3 hours) (Prerequisite: GEOG 216 or permission of instructor) An examination of the cultural, political, and economic mechanisms and manifestations of contemporary underdevelopment and the response to it from different regional and national peripheral societies within the dominant world economic system.

●**GEOG 416 Africa South of the Sahara.**
(3) (Winter) (Offered in Kenya as part of the African Field Studies semester.) A synthetic overview of physical and cultural geography examining particularly the relation of African peoples to their landscapes, the causes and consequences of environmental changes, and the idea of sustainable development as it applies to African landscapes, resource systems and economies.

●**GEOG 424 Europe: Places and Peoples.**
(3) (Fall) (3 hours) (Prerequisite: At least one 300-level course in geography, anthropology, history, political science, sociology or permission of instructor.) The dynamics of change in distinct European landscapes, peoples and their cultures during the modern era with emphasis upon divergence/convergence of regional identities, emergent nationalism and their implications for contemporary issues of international cooperation.

GEOG 451 Research in Society and Development in Africa.
(3) (Winter) (Prerequisite: Open to U2 or later students in the AFSS.) (Corequisite: NRSC 452.) (Restriction: Not open to students who have taken, or are taking ANTH 451.) Three intersecting components: 1) core development themes including culture change, environmental conservation, water, health, development (urban and rural), governance and conflict resolution, 2) research techniques for topics related to core themes, including ethics, risk, field methods and data analysis, 3) field documentation, scientific recording and communication.

GEOG 470 Wetlands.
(3) (Fall) (3 hours) (Restriction: Permission of instructor.) An examination of the structure, function and utility of wetlands. Topics include the fluxes of energy and water, wetland biogeochemistry, plant ecology in freshwater and coastal wetlands and wetlands use, conservation and restoration. Field trip(s) are envisaged to illustrate issues covered in class.

GEOG 490 Geography: Independent Studies.
(3) (Fall and Winter) (Prerequisites: Permission of instructor and completion of 30 credits of courses at the 200-level or above.) (Note: Please see regulations concerning "Project Courses" in the Faculty Degree Requirements section. Before registration a project must be arranged with an instructor and a plan for the independent studies approved by the Department.) Research project permitting independent study under the guidance of a staff member specializing in the field of interest.

GEOG 490D1 (1.5), GEOG 490D2 (1.5) Geography: Independent Studies.
(Fall) (Prerequisites: Permission of instructor and completion of 30 credits of courses at the 200-level or above.) (Students must register for both GEOG 490D1 and GEOG 490D2.) (No credit will be given for this course unless both GEOG 490D1 and GEOG 490D2 are successfully completed in consecutive terms) (GEOG 490D1 and GEOG 490D2 together are equivalent to GEOG 490) (Note: Please see regulations concerning "Project Courses" in the Faculty Degree Requirements section. Before registration a project must be arranged with an instructor and a plan for the independent studies approved by the Department.) Research project permitting independent study under the guidance of a staff member specializing in the field of interest.

GEOG 491D1 (3), GEOG 491D2 (3) Honours Research.
(Fall) (Prerequisite: 183-381) (Restriction: For U3 B.A. and B.Sc. Honours and Joint Honours Geography students) (Students must register for both GEOG 491D1 and GEOG 491D2.) (No credit will be given for this course unless both GEOG 491D1 and GEOG 491D2 are successfully completed in consecutive terms) Supervised reading, research and preparation of an undergraduate thesis under the direction of a member of staff.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

GEOG 491N1 (3), GEOG 491N2 (3) Honours Research.
(Winter) (Restriction: For U3 B.A. and B.Sc. Honours and Joint Honours Geography students) (Students must also register for GEOG 491N2) (No credit will be given for this course unless both GEOG 491N1 and GEOG 491N2 are successfully completed in a twelve month period) Supervised reading, research and preparation of an undergraduate thesis under the direction of a member of staff.

GEOG 492D1 (1.5), GEOG 492D2 (1.5) Joint Honours Research.
(Fall) (Restriction: Only for those U3 Joint Honours students in Geography who opt to enrol in a parallel course in another department) (Students must register for both GEOG 492D1 and GEOG 492D2.) (No credit will be given for this course unless both GEOG 492D1 and GEOG 492D2 are successfully completed in consecutive terms) Supervised reading, research and preparation of an undergraduate thesis under the direction of a member of staff.

● **GEOG 492N1 (1.5), GEOG 492N2 (1.5) Joint Honours Research.**
(Winter, Fall) (Students must also register for GEOG 492N2) (No credit will be given for this course unless both GEOG 492N1 and GEOG 492N2 are successfully completed in a twelve month period) Supervised reading, research and preparation of an undergraduate thesis under the direction of a member of staff.

GEOG 494 Urban Field Studies.
(3) (Fall) (Prerequisites: One of the following: GEOG 201, GEOG 203, GEOG 210, GEOG 216, GEOG 217, GEOG 272, or permission of instructor.) Geographical research in urban public and semi-public spaces. Demonstration of techniques of mapping, sampling, measurement, photography, interviewing. Attention to research design.

GEOG 495 Field Studies - Physical Geography.
(3) (Summer) (2-week field school) (Prerequisites: 6 credits from the following list of Systematic Physical Geography courses: GEOG 305, GEOG 321, GEOG 322, GEOG 350, GEOG 372) Field research projects in physical geography. Held locally in Monteregian or Eastern Township regions. The course is organised around field projects designed to formulate and test scientific hypotheses in a physical geography discipline. May summer session. Preregistration in Department required by March 16.

GEOG 496 Geographical Excursion.
(3) (Winter) (Prerequisites: GEOG 290 and permission of instructor) Lecture course on the geography of a region and excursion through the selected country or region including landscape interpretation and field study projects.

● **GEOG 498 Humans in Tropical Environments.**
(3) (Winter) (6 hours lecture for 4 weeks, 3 hours seminar, 2 hours laboratory, 8 hours conference) (Restriction: Location in Panama. Student must register for a full semester of studies in Panama) (Prerequisites: HISP 218, MATH 203 or equivalents) Focus on understanding of inter-relations between humans and neotropical environments represented in Panama. Study of contemporary rural landscapes, their origins, development and change. Impacts of economic growth and inequality, social organization, and politics on natural resource use and environmental degradation. Site visits and field exercises in peasant/colonist, Amerindian, and plantation communities.

GEOG 499 Subarctic Field Studies.
(3) (Fall) (Prerequisite: GEOG 203 or GEOG 301) An introduction to the geography of the subarctic with emphasis on the application of field methods in physical and/or human geography.

● **GEOG 500 Geography of Regional Identity.**
(3) (Fall) (3 hours) (Restriction: Graduate students and final year undergraduates and/or those who have taken GEOG 408) The response of diverse regional groups in Europe to the centripetal tendencies of national institutions. The course draws upon examples from a variety of European regions. Contemporary regional issues will be contextualised within a spatial framework of historical geography.

GEOG 501 Modelling Environmental Systems.
(3) (Fall) (1.15 hours lecture, 0.58 hours seminar, 0.69 hours project, 0.58 hours laboratory) (Restriction: open only to U2 or U3 students who have completed six or more credits from courses at the 300 level of Atmospheric and Oceanic Sciences, Biology, Chemistry, Earth and Planetary Sciences, Geography, Natural Resource Sciences, or a McGill School of Environment domain, or permission of the instructor) (Prerequisites: MATH 139 or MATH 140, MATH 141, and MATH 203, or equivalent) (Enrolment limited to 20 students by availability of workstations) Most problems in environmental science deal with weak relationships and poorly defined systems. Model development and simulation will be used in this course to help improve understanding of environmental systems. Simulation of environmental systems is examined, focusing on problem definition, model development and model validation.

GEOG 502 Geography of Northern Development.
(3) (Fall) (3 hours) (Prerequisite (Undergraduate): GEOG 301 or GEOG 436, or permission of instructor) Analysis of the evolution of development policies and their spatial implications in circumpolar areas with an emphasis on the application of geographical concepts. Special attention is given to indigenous peoples and new immigrant populations in northern North America.

GEOG 503 Location & Spatial Development.
(3) (Winter) (3 hours) (Prerequisites: GEOG 216 and GEOG 202, OR one course in each of microeconomics and macroeconomics, OR permission of instructor.) Patterns of regional economic growth or decline explained in terms of the competitive behaviour of profit-maximizing firms and utility-maximizing households. Ideas, models and evidence developed in competitive location theory.

● **GEOG 504 Industrial Restructuring - Geographic Implications.**
(3) (Fall) (Prerequisites: GEOG 311 or permission of instructor) The objective of this seminar course is to develop an understanding of the geographical consequences of a variety of new forms of economic and social organization that are emerging in the North American and Western European settings. Key themes: technological and managerial change, changing labour processes, industrial re-location.

GEOG 505 Global Biogeochemistry.
(3) (Winter) (2 hours and research) (Prerequisite: GEOG 305 or GEOG 322 and permission of instructor) An examination of the storage, transfers and cycling of major elements and substances, with an emphasis on the global scale and the linkages between the atmosphere, hydrosphere, lithosphere and biosphere.

GEOG 506 Advanced Geographic Information Science.
(3) (Winter) (2 hours and laboratory) (Prerequisite (Undergraduate): GEOG 201 and GEOG 307 and permission of instructor.) Critically analyse major themes in geographic information science and draw out the practical ramifications for spatial technologies and research. Topics such as spatial interoperability, data quality, scale, visualization, location based services and ontologies are covered.

● **GEOG 507 Advanced Social Geography.**
(3) (Prerequisite: GEOG 331 or equivalent, and permission of instructor.) Current theories and themes in social geography, such as relations between society and space, social and spatial relations of inequality, difference and diversity, situated and embodied identities, social issues and problems, connections between society and nature, all within a spatial framework.

● **GEOG 508 Resources, People and Power.**
(3) (Fall) (3 hours) (Prerequisite: GEOG 408 or GEOG 410 or permission of instructor) Addresses how different groups of people struggle over natural resources and environmental change. Politics of conservation in resource-dependent local communities, struggles over resource access and character, questions of power, resistance, class, and gender, and to "nature" as a socially-constructed yet active player.

GEOG 509 Qualitative Methods.
(3) (Winter) (Prerequisite: Permission of instructor.) Qualitative methods that geographers use and the debates surrounding their use; epistemological underpinnings of methodological choices.

●**GEOG 510 Humid Tropical Environments.**
(3) (Winter) (3 hours) (Prerequisite: GEOG 203 or equivalent and written permission of the instructor) Focus on the environmental and human spatial relationships in tropical rain forest and savanna landscapes. Human adaptation to variations within these landscapes through time and space. Biophysical constraints upon "development" in the modern era.

●**GEOG 511 Advanced Political Geography.**
(3) (Restriction(s): Undergraduate students require the permission of the instructor to enroll.) (To obtain permission, students should e-mail the instructor, Prof. Forest, benjamin.forest@mcgill.ca. The class is intended to appeal broadly to graduate students in human geography.) Questions of space and power in contemporary political geography. Range of topics, including territoriality, the state, the politics of space, critical geopolitics, symbolic landscapes, and GIS and mapping. Emphasizes theoretical issues but includes empirical and/or case studies.

●**GEOG 513 Behavioural Geography.**
(3) (3 hours) (Prerequisite (Undergraduate): a course in introductory statistics) The development of behavioural approaches in geography. A survey of methods and findings in the area of environmental and spatial cognition, preference and choice behaviour. Models of disaggregate and aggregate travel demand.

●**GEOG 522 Advanced Environmental Hydrology.**
(3) (2 hours and 1 tutorial) (Prerequisite: GEOG 322, or permission of instructor) (Cross-listed with CASN 300) Surface and shallow ground water determine the availability of moisture and many chemical elements at the Earth's surface. This course discusses the link between surface water and ground water flow systems and the role this link plays in stream flow production and biogeochemical cycling in lake, riparian and terrestrial ecosystems.

GEOG 523 Global Ecosystems and Climate.
(3) (Fall) (3 hours) (Prerequisite: GEOG 203 and 321 or equivalent, or permission of the instructor) Linkages and feedbacks among climate, ecosystems, and human land use at global scales. How global-scale ecological processes (primary production, carbon cycle, etc) are driven by variations in climate and land use practices such as agriculture and deforestation. How natural and human-modified ecosystems exchange carbon and water with the atmosphere.

GEOG 530 Global Land and Water Resources.
(3) (Prerequisite(s): GEOG 203 or ESYS 200 or ENVR 200 or equivalent; GEOG 322 or BREE 217 or equivalent; or permission of instructor.) Linkage of physical processes (hydrology and ecosystems) with issues of societal and socio-economic relevance (land, food, and water use appropriation for human well-being). Application of a holistic perspective on land, food and water issues in an international setting, highlighting linkages, feedbacks and trade-offs in an Earth system context.

GEOG 535 Remote Sensing and Interpretation.
(3) (Winter) (3 hours) (Prerequisite: GEOG 308 and written permission of instructor) Basic photogrammetry and interpretation procedures for aircraft and space craft photography and imagery.

GEOG 536 Geocryology.
(3) (Fall) (3 hours) (Prerequisite: GEOG 272 and any 300-level geomorphology course approved by instructor) Study of the unique geomorphic aspects of periglacial and permafrost environments. The focus will be on processes in cold climates, the impact of human activity on permafrost landscapes and potential impacts of climatic change.

GEOG 537 Advanced Fluvial Geomorphology.
(3) (Winter) (Prerequisite (Undergraduate): permission of instructor) An examination of current advances in fluvial geomorphology: sediment entrainment and transport, alluviation and river channel evolution.

●**GEOG 540 Topics in Geography 1.**
(3) (Fall) (Prerequisite: Permission of instructor.) (Note: This course is offered on an irregular basis. See Geography website (www.geog.mcgill.ca) for current status.) In-depth review of a current topic in physical geography.

GEOG 541 Topics in Geography 2.
(3) (Prerequisite: Permission of instructor.) (Note: This course is offered on an irregular basis. See Geography website (www.geog.mcgill.ca) for current status.) In-depth review of a current topic in human geography.

●**GEOG 542 Advanced Studies in Geography 1.**
(1) (Prerequisite: Permission of instructor.) (Note: This course is offered on an irregular basis. See Geography website (www.geog.mcgill.ca) for current status.) Intensive review of a current topic or technique in physical geography.

●**GEOG 543 Advanced Studies in Geography 2.**
(1) (Prerequisite: Permission of instructor.) (Note: This course is offered on an irregular basis. See Geography website (www.geog.mcgill.ca) for current status.) Intensive review of a current topic or technique in human geography.

●**GEOG 550 Historical Ecology Techniques.**
(3) (Fall) (2 hours, laboratory and seminar) (Prerequisite: GEOG 350 or BIOL 215 or PLNT 460 or permission of instructor.) Principles and methods of Quaternary paleoecology and vegetation reconstruction. Examination of ecosystem response to human disturbance and environmental change.

●**GEOG 551 Environmental Decisions.**
(3) (Fall) (2 hours seminar, 1 hour tutorial) (Prerequisites: GEOG 302, GEOG 306 or equivalents) This course deals with the role of geographic information, paradigms and modes of analysis - including but not restricted to GIS - in environmental impact assessment and decision making. The focus will be on community-based decision making, particularly where conservation issues are involved. Cross-cultural situations, developing areas and the role of non-government organizations.

GEOG 555 Ecological Restoration.
(3) (Prerequisites: GEOG 350 or BIOL 308 or PLNT 460 and permission of instructor.) (Note: Requires participation in a field trip over reading week. Offered in alternate years.) A broad overview of ecological restoration. Considers causes of environmental degradation, why and what we restore, how restoration goals are set, and standards in restoration practice, as well as critiques and philosophies of ecological restoration, such as "ecocultural" restoration.

MATH-Mathematics & Statistics

Offered by: Mathematics and Statistics

MATH 111 Mathematics for Education Students.
(3) (Winter) (Restriction: Open only to students in the B.Ed. program, not open to students who have successfully completed CEGEP course 201-101 or an equivalent. Not available for credit with MATH 112) (Offered by the Faculty of Science. Note: all Science courses have limited enrolment) An overview of the nature of mathematics and its applications. Manipulative algebra, inequalities, linear and quadratic equations. Transformational geometry and symmetry. An intuitive discussion of area and volume. Sets and functions. A brief introduction to probability and statistics.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MATH 112 Fundamentals of Mathematics.
(3) (Fall) (Restriction: Not open to students who have taken CEGEP course 201-101) (Restriction: Open only to those students who are deficient in a pre-calculus background) Equations and inequalities, graphs, relations and functions, exponential and logarithmic functions, trigonometric functions and their use, mathematical induction, binomial theorem, complex numbers.

MATH 122 Calculus for Management.
(3) (3 hours lecture, 1 hour tutorial.) (Prerequisite: A course in functions.) (Restrictions: Not open to students who have taken or are taking MATH 130, MATH 131, MATH 139, MATH 140, MATH 150. MATH 139, MATH 140, MATH 141, MATH 150 and MATH 151 are not open to students who have taken or are taking MATH 122, except by special permission of the Department of Mathematics and Statistics. Open to Faculty of Management students only. Offered by the Faculty of Science. Students intending to pursue one of the major or minor concentrations in Mathematics and Statistics in the Faculty of Management should take MATH 140 [or MATH 139] and MATH 141 instead.) Review of functions, exponents and radicals, exponential and logorithm. Examples of functions in business applications. Limits, continuity and derivatives. Differentiation of elementary functions. Antiderivatives. The definite integral. Techniques of Integration. Applications of differentiation and integration including differential equations. Trigonometric functions are not discussed in this course.

MATH 123 Linear Algebra and Probability.
(3) (3 hours lecture, 1 hour tutorial.) (Restrictions: Not open to students who have taken or are taking MATH 223, or MATH 133 or CEGEP objective 00UQ or equivalent. Open to Faculty of Management students only. Offered by the Faculty of Science. Students intending to pursue one of the major or minor concentrations in Mathematics and Statistics in the Faculty of Management should take MATH 133 instead.) Geometric vectors in low dimensions. Lines and planes. Dot and cross product. Linear equations and matrices. Matrix operations, properties and rank. Linear dependence and independence. Inverses and determinants. Linear programming and tableaux. Sample space, probability, combination of events. Conditional probability and Bayes Law. Random sampling. Random variables and common distributions.

MATH 133 Vectors, Matrices and Geometry.
(3) (Prerequisite: a course in functions) (Restriction: Not open to students who have taken MATH 221 or CEGEP objective 00UQ or equivalent.) (Restriction Note B: Not open to students who have taken or are taking MATH 123, MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics.) Systems of linear equations, matrices, inverses, determinants; geometric vectors in three dimensions, dot product, cross product, lines and planes; introduction to vector spaces, linear dependence and independence, bases; quadratic loci in two and three dimensions.

MATH 139 Calculus.
(4) (Fall) (3 hours lecture; 2 hours tutorial) (Prerequisite: a course in functions) (Requires Departmental Approval) (Restriction: Not open to students who have taken MATH 120 or CEGEP objective 00UN or equivalent. This course is intended for students with no previous knowledge of Calculus; it is not open to students who have had one term of College level Calculus) (Restriction Note B: Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics.) (Students continue in MATH 141) (Each Tutorial section is enrolment limited) Review of functions and graphs. Limits, continuity, derivative. Differentiation of elementary functions. Antidifferentiation. Applications.

MATH 140 Calculus 1.
(3) (3 hours lecture, 1 hour tutorial) (Prerequisite: High School Calculus) (Restriction: Not open to students who have taken MATH 120, MATH 139 or CEGEP objective 00UN or equivalent) (Restriction: Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics) (Each Tutorial section is enrolment limited) Review of functions and graphs. Limits, continuity, derivative. Differentiation of elementary functions. Antidifferentiation. Applications.

MATH 141 Calculus 2.
(4) (Prerequisites: MATH 139 or MATH 140 or MATH 150.) (Restriction: Not open to students who have taken MATH 121 or CEGEP objective 00UP or equivalent) (Restriction Note B: Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics.) (Each Tutorial section is enrolment limited) The definite integral. Techniques of integration. Applications. Introduction to sequences and series.

MATH 150 Calculus A.
(4) (Fall) (3 hours lecture, 2 hours tutorial) (Students with no prior exposure to vector geometry are advised to take MATH 133 concurrently. Intended for students with high school calculus who have not received six advanced placement credits) (Restriction: Not open to students who have taken CEGEP objective 00UN or equivalent) (Restriction Note B: Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics) (MATH 150 and MATH 151 cover the material of MATH 139, MATH 140, MATH 141, MATH 222) Functions, limits and continuity, differentiation, L'Hospital's rule, applications, Taylor polynomials, parametric curves, functions of several variables.

MATH 151 Calculus B.
(4) (Winter) (3 hours lecture; 2 hours tutorial) (Prerequisite: MATH 150) (Restriction: Not open to students who have taken CEGEP objective 00UP or equivalent) (Restriction: Not open to students in the Faculty of Engineering) (Restriction: Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics) (Restriction: Not open to students who have taken MATH 152) (Each Tutorial section is enrolment limited) Integration, methods and applications, infinite sequences and series, power series, arc length and curvature, multiple integration.

MATH 152 Calculus E.
(4) (Winter) (Prerequisite: MATH 150.) (Restrictions: Open only to students in the Faculty of Engineering. Not open to students who have taken CEGEP objective 00UP or equivalent. Not open to students who have taken or are taking MATH 122 or MATH 130 or MATH 131, except by permission of the Department of Mathematics and Statistics. Not open to students who have taken MATH 151.) Integration, methods and applications, Laplace and wave equations, implicit functions, infinite sequences and series, power series and applications to ODE, arc length and curvature, tangent, normal and conormal and applications.

MATH 203 Principles of Statistics 1.
(3) (No calculus prerequisites) (Restriction: This course is intended for students in all disciplines. For extensive course restrictions covering statistics courses see Section 3.6.1 of the Arts and of the Science sections of the calendar regarding course overlaps.) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar. Students should consult http://www.mcgill.ca/student-records/transfercredits/ for information regarding transfer credits for this course.) Examples of statistical data and the use of graphical means to summarize the data. Basic distributions arising in the natural and behavioural sciences. The logical meaning of a test of significance and a confidence interval. Tests of significance and confidence intervals in the one and two sample setting (means, variances and proportions).

MATH 204 Principles of Statistics 2.
(3) (Winter) (Prerequisite: MATH 203 or equivalent. No calculus prerequisites) (Restriction: This course is intended for students in all disciplines. For extensive course restrictions covering statistics courses see Section 3.6.1 of the Arts and of the Science sections of the calendar regarding course overlaps.) (You may not be able to receive credit for

this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) The concept of degrees of freedom and the analysis of variability. Planning of experiments. Experimental designs. Polynomial and multiple regressions. Statistical computer packages (no previous computing experience is needed). General statistical procedures requiring few assumptions about the probability model.

MATH 222 Calculus 3.
(3) (Prerequisite: MATH 141. Familiarity with vector geometry or Corequisite: MATH 133) (Restriction: Not open to students who have taken CEGEP course 201-303 or MATH 150, MATH 151 or MATH 227) Taylor series, Taylor's theorem in one and several variables. Review of vector geometry. Partial differentiation, directional derivative. Extreme of functions of 2 or 3 variables. Parametric curves and arc length. Polar and spherical coordinates. Multiple integrals.

MATH 223 Linear Algebra.
(3) (Fall and Winter) (Prerequisite: MATH 133 or equivalent) (Restriction: Not open to students in Mathematics programs nor to students who have taken or are taking MATH 236, MATH 247 or MATH 251. It is open to students in Faculty Programs) Review of matrix algebra, determinants and systems of linear equations. Vector spaces, linear operators and their matrix representations, orthogonality. Eigenvalues and eigenvectors, diagonalization of Hermitian matrices. Applications.

MATH 235 Algebra 1.
(3) (Fall) (3 hours lecture; 1 hour tutorial) (Prerequisite: MATH 133 or equivalent) Sets, functions and relations. Methods of proof. Complex numbers. Divisibility theory for integers and modular arithmetic. Divisibility theory for polynomials. Rings, ideals and quotient rings. Fields and construction of fields from polynomial rings. Groups, subgroups and cosets; group actions on sets.

MATH 236 Algebra 2.
(3) (Winter) (Prerequisite: MATH 235) Linear equations over a field. Introduction to vector spaces. Linear mappings. Matrix representation of linear mappings. Determinants. Eigenvectors and eigenvalues. Diagonalizable operators. Cayley-Hamilton theorem. Bilinear and quadratic forms. Inner product spaces, orthogonal diagonalization of symmetric matrices. Canonical forms.

MATH 240 Discrete Structures 1.
(3) (Fall) (Corequisite: MATH 133.) (Restriction: For students in any Computer Science program. Others only with the instructor's permission. Not open to students who have taken or are taking MATH 235.) Mathematical foundations of logical thinking and reasoning. Mathematical language and proof techniques. Quantifiers. Induction. Elementary number theory. Modular arithmetic. Recurrence relations and asymptotics. Combinatorial enumeration. Functions and relations. Partially ordered sets and lattices. Introduction to graphs, digraphs and rooted trees.

MATH 242 Analysis 1.
(3) (Fall) (Prerequisite: MATH 141) A rigorous presentation of sequences and of real numbers and basic properties of continuous and differentiable functions on the real line.

MATH 243 Analysis 2.
(3) (Winter) (Prerequisite: MATH 242) Infinite series; series of functions; power series. The Riemann integral in one variable. A rigorous development of the elementary functions.

MATH 247 Honours Applied Linear Algebra.
(3) (Winter) (Prerequisite: MATH 133 or equivalent.) (Restriction: Intended for Honours Physics and Engineering students) (Restriction: Not open to students who have taken or are taking MATH 236, MATH 223 or MATH 251) Matrix algebra, determinants, systems of linear equations. Abstract vector spaces, inner product spaces, Fourier series. Linear transformations and their matrix representations. Eigenvalues and eigenvectors, diagonalizable and defective matrices, positive definite and semidefinite matrices. Quadratic and Hermitian forms, generalized eigenvalue problems, simultaneous reduction of quadratic forms. Applications.

MATH 248 Honours Advanced Calculus.
(3) (Fall and Winter and Summer) (Prerequisites: MATH 133 and MATH 222 or consent of Department.) (Restriction: Intended for Honours Mathematics, Physics and Engineering students) (Restriction: Not open to students who have taken or are taking MATH 314) Partial derivatives; implicit functions; Jacobians; maxima and minima; Lagrange multipliers. Scalar and vector fields; orthogonal curvilinear coordinates. Multiple integrals; arc length, volume and surface area. Line integrals; Green's theorem; the divergence theorem. Stokes' theorem; irrotational and solenoidal fields; applications.

MATH 249 Honours Complex Variables.
(3) (Winter) (Prerequisite: MATH 248.) (Restriction: Intended for Honours Physics and Engineering students) (Restriction: Not open to students who have taken or are taking MATH 316) Functions of a complex variable; Cauchy-Riemann equations; Cauchy's theorem and consequences. Taylor and Laurent expansions. Residue calculus; evaluation of real integrals; integral representation of special functions; the complex inversion integral. Conformal mapping; Schwarz-Christoffel transformation; Poisson's integral formulas; applications.

MATH 251 Honours Algebra 2.
(3) (Winter) (Prerequisites: MATH 235 or permission of the Department) (Restriction: Not open to students who are taking or have taken MATH 247) Linear equations over a field. Introduction to vector spaces. Linear maps and their matrix representation. Determinants. Canonical forms. Duality. Bilinear and quadratic forms. Real and complex inner product spaces. Diagonalization of self-adjoint operators.

MATH 255 Honours Analysis 2.
(3) (Winter) (Prerequisites: MATH 242 or permission of the Department) Series of functions including power series. Riemann integration in one variable. Elementary functions.

MATH 262 Intermediate Calculus.
(3) (3-1-5) (Prerequisites: MATH 141, MATH 133 or equivalent.) (Restrictions: Open only to students in the Faculty of Engineering. Not open to students taking or having taken MATH 151, MATH 152, MATH 222 OR MATH 260.) Series and power series, including series solutions to ODEs at ordinary points. Brief review of vector geometry. Vector functions and curves. Partial differentiation and differential calculus for vector valued functions. Unconstrained and constrained extremal problems.

MATH 263 Ordinary Differential Equations and Linear Algebra.
(3) (3-1-5) (Corequisite: MATH 262 or MATH 260.) (Restrictions: Open only to students in the Faculty of Engineering. Not open to students taking or having taken MATH 261, MATH 315, or MATH 325.) First Order ODEs. Second and higher order linear ODEs. Laplace Transforms. Linear Algebra: introduction to vector spaces, linear transformations, diagonalization of matrices (in particular symmetric matrices), applications to linear systems of

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

differential equations.

MATH 264 Advanced Calculus ENG.
(3) (3-1-5) (Prerequisites: MATH 260 or MATH 262 or MATH 151 or MATH 152 or equivalent.) (Corequisites: Math 263) (Restrictions: Open only to students in the Faculty of Engineering. Not open to students taking or having taken MATH 248, MATH 265 or MATH 314.) Multiple integration. Vector fields. Vector calculus. Introduction to partial differential equations and Fourier Series.

MATH 270 Applied Linear Algebra.
(3) (Winter) ((3-1-5)) (Prerequisite: MATH 263) Introduction. Review of basic linear algebra. Vector spaces. Eigenvalues and eigenvectors of matrices. Linear operators.

MATH 271 Linear Algebra and Partial Differential Equations.
(3) (Fall and Winter) ((3-1-5)) (Prerequisites: MATH 263, MATH 264.) (Not open to students who have taken MATH 266.) Applied Linear Algebra. Linear Systems of Ordinary Differential Equations. Power Series Solutions. Partial Differential Equations. Sturm-Liouville Theory and Applications. Fourier Transforms.

MATH 314 Advanced Calculus.
(3) (Prerequisites: MATH 133, MATH 222) (Restriction: Not open to students who have taken or are taking MATH 248) Derivative as a matrix. Chain rule. Implicit functions. Constrained maxima and minima. Jacobians. Multiple integration. Line and surface integrals. Theorems of Green, Stokes and Gauss.

MATH 315 Ordinary Differential Equations.
(3) (Prerequisite: MATH 222.) (Corequisite: MATH 133.) (Restriction: Not open to students who have taken or are taking MATH 325.) First order ordinary differential equations including elementary numerical methods. Linear differential equations. Laplace transforms. Series solutions.

MATH 316 Complex Variables.
(3) (Fall) (Prerequisites: MATH 314 and MATH 243) (Restriction: Not open to students who have taken or are taking MATH 249, MATH 366, MATH 381 or MATH 466.) Algebra of complex numbers, Cauchy-Riemann equations, complex integral, Cauchy's theorems. Taylor and Laurent series, residue theory and applications.

MATH 317 Numerical Analysis.
(3) (Fall) (Prerequisites: MATH 315 or MATH 325 or MATH 261 or MATH 263 and COMP 202 or permission of instructor.) Error analysis. Interpolation. Numerical solutions of equations by iteration. Numerical integration. Introduction to numerical solutions of differential equations. Programming assumed. Some lab work necessary.

MATH 318 Mathematical Logic.
(3) (Fall) (Restriction: Not open to students who are taking or have taken PHIL 210) Propositional calculus, truth-tables, switching circuits, natural deduction, first order predicate calculus, axiomatic theories, set theory.

MATH 319 Introduction to Partial Differential Equations.
(3) (Winter) (Prerequisites: MATH 223 or MATH 236, MATH 314, MATH 315) First order equations, geometric theory; second order equations, classification; Laplace, wave and heat equations, Sturm-Liouville theory, Fourier series, boundary and initial value problems.

✶MATH 320 Differential Geometry.
(3) (Fall) (Prerequisites: MATH 236 or MATH 223 or MATH 247, and MATH 314 or MATH 248) Review of Euclidean geometry. Local theory of plane and space curves: the Frenet formulas. Local theory of surfaces: the first and second fundamental forms, the shape operator, the mean and Gaussian curvatures, surfaces of revolution with prescribed curvature, ruled and developable surfaces. Geodesic curves on surfaces of revolution. The Gauss-Codazzi equations, rigidity.

MATH 323 Probability.
(3) (Prerequisites: MATH 141 or equivalent.) (Restriction: Intended for students in Science, Engineering and related disciplines, who have had differential and integral calculus) (Restriction: Not open to students who have taken or are taking MATH 356) Sample space, events, conditional probability, independent events, Bayes' Theorem. Basic combinatorial probability, random variables, introductory univariate and discrete multivariate distributions. Independence. Moment generating functions. Expectation, conditional expectation. Inequalities, the weak law of large numbers, central limit theorem. Information theory. Markov chains.

MATH 324 Statistics.
(3) (Fall and Winter) (Prerequisite: MATH 323 or equivalent) (Restriction: Not open to students who have taken or are taking MATH 357) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) Multivariate continuous distributions, sampling distributions, point and interval estimation, hypothesis testing, analysis of variance, contingency tables, nonparametric inference, regression, Bayesian inference.

MATH 325 Honours Ordinary Differential Equations.
(3) (Fall and Winter) ((3-0-6)) (Prerequisite: MATH 222.) (Restriction: Intended for Honours Mathematics, Physics and Engineering programs.) (Restriction: Not open to students who have taken MATH 263 (formerly MATH 261), MATH 315) First and second order equations, linear equations, series solutions, Frobenius method, introduction to numerical methods and to linear systems, Laplace transforms, applications.

MATH 326 Nonlinear Dynamics and Chaos.
(3) (Fall) (Prerequisites: MATH 222, MATH 223) (Restriction: Not open to students who have taken or are taking MATH 376) Linear systems of differential equations, linear stability theory. Nonlinear systems: existence and uniqueness, numerical methods, one and two dimensional flows, phase space, limit cycles, Poincare-Bendixson theorem, bifurcations, Hopf bifurcation, the Lorenz equations and chaos.

✶ ● MATH 327 Matrix Numerical Analysis.
(3) (Winter) (Prerequisites: MATH 223 or MATH 236 or MATH 247 or MATH 251, COMP 202 or consent of instructor.) An overview of numerical methods for linear algebra applications and their analysis. Problem classes include linear systems, least squares problems and eigenvalue problems.

MATH 329 Theory of Interest.
(3) (Winter) (Prerequisite: MATH 141) Simple and compound interest, annuities certain, amortization schedules, bonds, depreciation.

✶ ● MATH 335 Computational Algebra.
(3) (Prerequisites: MATH 235 and MATH 236.) (Note: This course is intended primarily for students in the Major Program in Mathematics and the Joint Major Program in Mathematics and Computer Science.) Computational aspects of modern algebra. Computing in groups: algorithms, algorithmic problems in groups, finitely generated abelian groups, free groups and automata, finitely presented groups. Computing in rings: elementary notions of ring theory, ideals of polynomial rings in several variables, Groebner bases, elements of field theory.

MATH 338 History and Philosophy of Mathematics.
(3) (Fall) Egyptian, Babylonian, Greek, Indian and Arab contributions to mathematics are studied together with some modern developments they give rise to, for example, the problem of trisecting the angle. European mathematics from the Renaissance to the 18th century is discussed in some detail.

●MATH 339 Foundations of Mathematics.
(3) (Winter) (Prerequisites: MATH 235, MATH 318) A continuation of MATH 338. Topics are chosen mainly from 19th and 20th century mathematics, with some emphasis on philosophical and foundational problems. Sample topics are: progress in number theory, construction of the number system, infinity according to Cantor, logic and foundations from Aristotle to Cohen, Gödel's incompleteness theorem, calculability and programs, formalism versus intuitionism, abstract mathematics and categories.

MATH 340 Discrete Structures 2.
(3) (Winter) (Prerequisites: MATH 235 or MATH 240.) (Corequisites: MATH 223 or MATH 236.) (Restriction: Not open to students who have taken or are taking MATH 343 or MATH 350.) Review of mathematical writing, proof techniques, graph theory and counting. Mathematical logic. Graph connectivity, planar graphs and colouring. Probability and graphs. Introductory group theory, isomorphisms and automorphisms of graphs. Enumeration and listing.

✶

● **MATH 346 Number Theory.**
(3) (Winter) (Prerequisite: MATH 235 or consent of instructor) (Restriction: Not open to students who have taken or are taking MATH 377.) Divisibility. Congruences. Quadratic reciprocity. Diophantine equations. Arithmetical functions.

●**MATH 348 Topics in Geometry.**
(3) (Prerequisite: MATH 133 or equivalent or permission of instructor.) Selected topics - the particular selection may vary from year to year. Topics include: isometries in the plane, symmetry groups of frieze and ornamental patterns, equidecomposibility, non-Euclidean geometry and problems in discrete geometry.

●**MATH 350 Graph Theory and Combinatorics.**
(3) (Prerequisites: MATH 235 or MATH 240 and MATH 251 or MATH 223.) (Restrictions: Not open to students who have taken or are taking MATH 343 or MATH 340.) (Intended for students in mathematics or computer science honours programs.) Graph models. Graph connectivity, planarity and colouring. Extremal graph theory. Matroids. Enumerative combinatorics and listing.

❖**MATH 352 Problem Seminar.**
(1) (Prerequisite: Enrolment in a math related program or permission of the instructor. Requires departmental approval.) (Prerequisite: Enrolment in a math related program or permission of the instructor.) Seminar in Mathematical Problem Solving. The problems considered will be of the type that occur in the Putnam competition and in other similar mathematical competitions.

MATH 354 Honours Analysis 3.
(3) (Fall) (Prerequisite: MATH 255 or equivalent) Introduction to metric spaces. Multivariable differential calculus, implicit and inverse function theorems.

MATH 355 Honours Analysis 4.
(3) (Winter) (Prerequisite: MATH 354 or equivalent.) Lebesque measure, integration and Fubini's theorem. Abstract measure and integration. Convergence theorems. Introduction to Hilbert spaces, L_2 spaces, Fourier series. Fourier integrals (if time allows).

MATH 356 Honours Probability.
(3) (Fall) (Prerequisite: MATH 255 or MATH 243) (Restriction: Not open to students who have taken or are taking MATH 323) Basic combinatorial probability. Introductory distribution theory of univariate and multivariate distributions with special reference to the Binomial, Poisson, Gamma and Normal distributions. Characteristic functions. Weak law of large numbers. Central limit theorem.

MATH 357 Honours Statistics.
(3) (Winter) (Prerequisite: MATH 356 or equivalent) (Restriction: Not open to students who have taken or are taking MATH 324) Data analysis. Estimation and hypothesis testing. Power of tests. Likelihood ratio criterion. The chi-squared goodness of fit test. Introduction to regression analysis and analysis of variance.

MATH 363 Discrete Mathematics.
(3) (3-0-6) (Prerequisites: MATH 264 or MATH 265 and MATH 263.) (Restriction: Open only to students in the Faculty of Engineering.) Logic and combinatorics. Mathematical reasoning and methods of proof. Sets, relations, functions, partially ordered sets, lattices, Boolean algebra. Propositional and predicate calculi. Recurrences and graph theory.

✶ ● **MATH 366 Honours Complex Analysis.**
(3) (Prerequisite: MATH 248.) (Corequisite: MATH 354.) (Restriction: Not open to students who have taken or are taking MATH 466, MATH 249, MATH 316, MATH 381.) Functions of a complex variable, Cauchy-Riemann equations, Cauchy's theorem and its consequences. Uniform convergence on compacta. Taylor and Laurent series, open mapping theorem, Rouché's theorem and the argument principle. Calculus of residues. Fractional linear transformations and conformal mappings.

MATH 370 Honours Algebra 3.
(3) (Fall) (Prerequisite: MATH 251) Introduction to monoids, groups, permutation groups; the isomorphism theorems for groups; the theorems of Cayley, Lagrange and Sylow; structure of groups of low order. Introduction to ring theory; integral domains, fields, quotient field of an integral domain; polynomial rings; unique factorization domains.

MATH 371 Honours Algebra 4.
(3) (Winter) (Prerequisite: MATH 370) Introduction to modules and algebras; finitely generated modules over a principal ideal domain. Field extensions; finite fields; Galois groups; the fundamental theorem of Galois theory; application to the classical problem of solvability by radicals.

MATH 375 Honours Partial Differential Equations.
(3) (Fall) (Prerequisites: MATH 247 or MATH 251 or equivalent, MATH 248 or equivalent, MATH 325) First order partial differential equations, geometric theory, classification of second order linear equations, Sturm-Liouville problems, orthogonal functions and Fourier series, eigenfunction expansions, separation of variables for heat, wave and Laplace equations, Green's function methods, uniqueness theorems.

MATH 376 Honours Nonlinear Dynamics.
(3) (Fall) (Prerequisites: MATH 222, MATH 223) (Restrictions: Intended primarily for Honours students. Not open to students who have taken or are taking MATH 326.) (Note: Additionally, a special project or projects may be assigned.) This course consists of the lectures of MATH 326, but will be assessed at the honours level.

✶ ● **MATH 377 Honours Number Theory.**
(3) (Winter) (Prerequisite: Enrolment in Mathematics Honours program or consent of instructor) (Restriction: Not open to students who have taken or are taking MATH 346.) (Note: Additionally, a special project or projects may be assigned.) This course consists of the lectures of MATH 346, but will be assessed at the honours level.

MATH 380 Honours Differential Geometry.
(3) (Winter) (Prerequisites: MATH 251 or MATH 247, and MATH 248 or MATH 314) In addition to the topics of MATH 320, topics in the global theory of plane and space curves, and in the global theory of surfaces are presented. These include: total curvature and the Fary-Milnor theorem on knotted curves, abstract surfaces as 2-d manifolds, the Euler characteristic, the Gauss-Bonnet theorem for surfaces.

MATH 381 Complex Variables and Transforms.
(3) (Fall and Winter) ((3-1-5)) (Prerequisite: Math 264 or MATH 265) (Restriction: Open only to students in the Faculty of Engineering.) Analytic functions, Cauchy-Riemann equations, simple mappings, Cauchy's theorem, Cauchy's integral formula, Taylor and Laurent expansions, residue calculus. Properties of one and two-sided Fourier and Laplace transforms, the complex inversion integral, relation between the Fourier and Laplace transforms, application of transform techniques to the solution of differential equations. The Z-transform and applications to difference equations.

✶**MATH 387 Honours Numerical Analysis.**
(3) (Fall) (Prerequisites: MATH 325 or MATH 315, COMP 202 or permission of instructor.) (Corequisites: MATH 255 or MATH 243.) (Restriction: Intended primarily for Honours students.) Error analysis. Interpolation. Nonlinear equations. Numerical integration. Introduction to numerical solutions of differential equations.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MATH 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

✶ ● MATH 397 Honours Matrix Numerical Analysis.
(3) (Winter) (Prerequisites: MATH 251 or MATH 247, COMP 202 or permission of the instructor.) The course consists of the lectures of MATH 327 plus additional work involving theoretical assignments and/or a project. The final examination for this course may be different from that of MATH 327.

✶MATH 407 Dynamic Programming.
(3) (Winter) (Prerequisites: COMP 202; MATH 223 or MATH 236, MATH 314, MATH 315 and MATH 323) Sequential decision problems, resource allocation, transportation problems, equipment replacement, integer programming, network analysis, inventory systems, project scheduling, queuing theory calculus of variations, markovian decision processes, stochastic path problems, reliability, discrete and continuous control processes.

✥MATH 410 Majors Project.
(3) (Prerequisite: Students must have 21 completed credits of the required mathematics courses in their program, including all required 200 level mathematics courses.) (Requires departmental approval.) A supervised project.

MATH 417 Mathematical Programming.
(3) (Prerequisites: COMP 202, and MATH 223 or MATH 236, and MATH 314 or equivalent) (Restriction: Not open to students who have taken or are taking MATH 487.) An introductory course in optimization by linear algebra, and calculus methods. Linear programming (convex polyhedra, simplex method, duality, multi-criteria problems), integer programming, and some topics in nonlinear programming (convex functions, optimality conditions, numerical methods). Representative applications to various disciplines.

MATH 420 Independent Study.
(3) (Fall and Winter and Summer) (Requires approval by the chair before registration) (Please see regulations concerning Project Courses under Faculty Degree Requirements) Reading projects permitting independent study under the guidance of a staff member specializing in a subject where no appropriate course is available. Arrangements must be made with an instructor and the Chair before registration.

MATH 423 Regression and Analysis of Variance.
(3) (Fall) (Prerequisites: MATH 324, and MATH 223 or MATH 236) (Restriction: Not open to students who have taken or are taking MATH 533.) Least-squares estimators and their properties. Analysis of variance. Linear models with general covariance. Multivariate normal and chi-squared distributions; quadratic forms. General linear hypothesis: F-test and t-test. Prediction and confidence intervals. Transformations and residual plot. Balanced designs.

●MATH 430 Mathematical Finance.
(3) (Restrictions: Not open to students who have taken MATH 330. Not open to students who have taken or are taking MATH 490.) Introduction to concepts of price and hedge derivative securities. The following concepts will be studied in both concrete and continuous time: filtrations, martingales, the change of measure technique, hedging, pricing, absence of arbitrage opportunities and the Fundamental Theorem of Asset Pricing.

✶ ● MATH 437 Mathematical Methods in Biology.
(3) (Fall) (Prerequisites: MATH 315 or MATH 325, and MATH 323 or MATH 356, a CEGEP or higher level computer programming course) The formulation and treatment of realistic mathematical models describing biological phenomena through such qualitative and quantitative mathematical techniques as local and global stability theory, bifurcation analysis and phase plane analysis. Numerical simulation. Concrete and detailed examples will be drawn from molecular, cellular and population biology and mammalian physiology.

MATH 447 Stochastic Processes.
(3) (Winter) (Prerequisite: MATH 323) Random walk on the integers and gambler's ruin problem; the Galton-Watson branching process; Markov chains and their applications in the physical and social sciences; birth and death processes and their applications to biological growth problems and queueing systems.

MATH 470 Honours Project.
(3) (Fall and Winter and Summer) (Requires Departmental Approval) (Prerequisites: appropriate second year honours courses with approval of coordinator) (Please see regulations concerning Project Courses under Faculty Degree Requirements) The student will be assigned a project supervisor and a project topic at the beginning of the semester. The project will consist of a written report including a literature survey and will be tested by an oral examination.

●MATH 470D1 (1.5), MATH 470D2 (1.5) Honours Project.
(Restriction: Requires departmental approval.) (Students must register for both MATH 470D1 and MATH 470D2.) (No credit will be given for this course unless both MATH 470D1 and MATH 470D2 are successfully completed in consecutive terms) (MATH 470D1 and MATH 470D2 together are equivalent to MATH 470) The student will be assigned a project supervisor and a project topic at the beginning of the semester. The project will consist of a written report including a literature survey and will be tested by an oral examination.

MATH 480 Honours Independent Study.
(3) (Fall and Winter and Summer) (Please see regulations concerning Project Courses under Faculty Degree Requirements) (Requires approval by the chair before registration) Reading projects permitting independent study under the guidance of a staff member specializing in a subject where no appropriate course is available. Arrangements must be made with an instructor and the Chair before registration.

MATH 487 Honours Mathematical Programming.
(3) (Prerequisites: MATH 248, MATH 251 and COMP 202 or COMP 250 or permission of instructor.) (Restriction: Intended primarily for honours students. Not open to students who have taken or are taking MATH 417.) (Note: Additionally, a special project or projects may be assigned.) The course consists of the lectures of MATH 417, but will be assessed at the honours level.

✶MATH 488 Honours Set Theory.
(3) (Fall) (Prerequisites: MATH 251 or MATH 255 or permission of instructor) Axioms of set theory. Operations on sets. Ordinal and cardinal numbers. Well-orderings, transfinite induction and recursion. Consequences of the axiom of choice. Boolean algebras. Cardinal arithmetic.

●MATH 490 Honours Mathematics of Finance.
(3) (Prerequisites: MATH 222, MATH 323 or equivalent. (Intended primarily for honours students.)) (Restrictions: Not open to students who have taken MATH 330. Not open to students who have taken or are taking MATH 430.) (Note: Additionally, a special project or projects may be assigned.) This course consists of the lectures of MATH 430, but will be assessed at the honours level.

MATH 523 Generalized Linear Models.
(4) (Winter) (Prerequisite: MATH 423 or EPIB 697) (Restriction: Not open to students who have taken MATH 426) Modern discrete data analysis. Exponential families, orthogonality, link functions. Inference and model selection using analysis of deviance. Shrinkage (Bayesian, frequentist viewpoints). Smoothing. Residuals. Quasi-likelihood. Sliced inverse regression. Contingency tables: logistic regression, log-linear models. Censored data. Applications to current problems in medicine, biological and physical sciences. GLIM,

S, software.

●MATH 524 Nonparametric Statistics.
(4) (Fall) (Prerequisite: MATH 324 or equivalent) (Restriction: Not open to students who have taken MATH 424) Distribution free procedures for 2-sample problem: Wilcoxon rank sum, Siegel-Tukey, Smirnov tests. Shift model: power and estimation. Single sample procedures: Sign, Wilcoxon signed rank tests. Nonparametric ANOVA: Kruskal-Wallis, Friedman tests. Association: Spearman's rank correlation, Kendall's tau. Goodness of fit: Pearson's chi-square, likelihood ratio, Kolmogorov-Smirnov tests. Statistical software packages used.

MATH 525 Sampling Theory and Applications.
(4) (Prerequisite: MATH 324 or equivalent) (Restriction: Not open to students who have taken MATH 425) Simple random sampling, domains, ratio and regression estimators, superpopulation models, stratified sampling, optimal stratification, cluster sampling, sampling with unequal probabilities, multistage sampling, complex surveys, nonresponse.

MATH 533 Honours Regression and Analysis of Variance.
(4) (Prerequisites: MATH 357, MATH 247 or MATH 251.) (Restriction: Not open to have taken or are taking MATH 423.) (Note: An additional project or projects assigned by the instructor that require a more detailed treatment of the major results and concepts covered in MATH 423.) This course consists of the lectures of MATH 423 but will be assessed at the 500 level.

✶ ● MATH 550 Combinatorics.
(4) (Intended primarily for honours and graduate students in mathematics.) (Restriction: Permission of instructor.) Enumerative combinatorics: inclusion-exclusion, generating functions, partitions, lattices and Moebius inversion. Extremal combinatorics: Ramsey theory, Turan's theorem, Dilworth's theorem and extremal set theory. Graph theory: planarity and colouring. Applications of combinatorics.

MATH 552 Combinatorial Optimization.
(4) (Prerequisite: MATH 350 or COMP 362 (or equivalent).) (Restriction: Not open to students who have taken or are taking COMP 552.) Algorithmic and structural approaches in combinatorial optimization with a focus upon theory and applications. Topics include: polyhedral methods, network optimization, the ellipsoid method, graph algorithms, matroid theory and submodular functions.

✶MATH 555 Fluid Dynamics.
(4) (Fall) (Prerequisite (Undergraduate): MATH 315 and MATH 319 or equivalent) Kinematics. Dynamics of general fluids. Inviscid fluids, Navier-Stokes equations. Exact solutions of Navier-Stokes equations. Low and high Reynolds number flow.

MATH 556 Mathematical Statistics 1.
(4) (Fall) (Prerequisite: MATH 357 or equivalent) Probability and distribution theory (univariate and multivariate). Exponential families. Laws of large numbers and central limit theorem.

MATH 557 Mathematical Statistics 2.
(4) (Winter) (Prerequisite: MATH 556) Sampling theory (including large-sample theory). Likelihood functions and information matrices. Hypothesis testing, estimation theory. Regression and correlation theory.

●MATH 560 Optimization.
(4) (Prerequisite: Undergraduate background in analysis and linear algebra, with instructor's approval) Classical optimization in n variables. Convex sets and functions, optimality conditions for single-objective and multi-objective nonlinear optimization problems with and without constraints. Duality theories and their economic interpretations. Optimization with functionals. Connections with calculus of variations and optimal control. Stability of mathematical models. Selected numerical methods.

MATH 564 Advanced Real Analysis 1.
(4) (Fall) (Prerequisites: MATH 354, MATH 355 or equivalents) Review of theory of measure and integration; product measures, Fubini's theorem; Lp spaces; basic principles of Banach spaces; Riesz representation theorem for C(X); Hilbert spaces; part of the material of MATH 565 may be covered as well.

MATH 565 Advanced Real Analysis 2.
(4) (Winter) (Prerequisite: MATH 564) Continuation of topics from MATH 564. Signed measures, Hahn and Jordan decompositions. Radon-Nikodym theorems, complex measures, differentiation in Rn, Fourier series and integrals, additional topics.

MATH 566 Advanced Complex Analysis.
(4) (Winter) (Prerequisites: MATH 366 (formerly MATH 466), MATH 564.) Simple connectivity, use of logarithms; argument, conservation of domain and maximum principles; analytic continuation, monodromy theorem; conformal mapping; normal families, Riemann mapping theorem; harmonic functions, Dirichlet problem; introduction to functions of several complex variables.

●MATH 567 Introduction to Functional Analysis.
(4) (Prerequisite: MATH 355 or equivalent.) Banach and Hilbert spaces, theorems of Hahn-Banach and Banach-Steinhaus, open mapping theorem, closed graph theorem, Fredholm theory, spectral theorem for compact self-adjoint operators, spectral theorem for bounded self-adjoint operators.

MATH 570 Higher Algebra 1.
(4) (Fall) (Prerequisite: MATH 371 or equivalent) Review of group theory; free groups and free products of groups. Sylow theorems. The category of R-modules; chain conditions, tensor products, flat, projective and injective modules. Basic commutative algebra; prime ideals and localization, Hilbert Nullstellensatz, integral extensions. Dedekind domains. Part of the material of MATH 571 may be covered as well.

MATH 571 Higher Algebra 2.
(4) (Winter) (Prerequisites: MATH 570 or consent of instructor) Completion of the topics of MATH 570. Rudiments of algebraic number theory. A deeper study of field extensions; Galois theory, separable and regular extensions. Semi-simple rings and modules. Representations of finite groups.

✶MATH 574 Dynamical Systems.
(4) (Winter) (Prerequisites: MATH 325 and MATH 354 or permission of the instructor.) Dynamical systems, phase space, limit sets. Review of linear systems. Stability. Liapunov functions. Stable manifold and Hartman-Grobman theorems. Local bifurcations, Hopf bifurcations, global bifurcations. Poincare Sections. Quadratic maps: chaos, symbolic dynamics, topological conjugacy. Sarkovskii's theorem, periodic doubling route to chaos. Smale Horseshoe.

MATH 576 Geometry and Topology 1.
(4) (Fall) (Prerequisite: MATH 354) Basic point-set topology, including connectedness, compactness, product spaces, separation axioms, metric spaces. The fundamental group and covering spaces. Simplicial complexes. Singular and simplicial homology. Part of the material of MATH 577 may be covered as well.

MATH 577 Geometry and Topology 2.
(4) (Winter) (Prerequisite: MATH 576) Continuation of the topics of MATH 576. Manifolds and differential forms. De Rham's theorem. Riemannian geometry. Connections and curvatures 2-Manifolds and imbedded surfaces.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

MATH 578 Numerical Analysis 1.
(4) (Fall) (Prerequisites: MATH 247 or MATH 251; and MATH 387; or permission of the instructor.) Development, analysis and effective use of numerical methods to solve problems arising in applications. Topics include direct and iterative methods for the solution of linear equations (including preconditioning), eigenvalue problems, interpolation, approximation, quadrature, solution of nonlinear systems.

MATH 579 Numerical Differential Equations.
(4) (Winter) (Prerequisites: MATH 375 and MATH 387 or permission of the instructor.) Numerical solution of initial and boundary value problems in science and engineering: ordinary differential equations; partial differential equations of elliptic, parabolic and hyperbolic type. Topics include Runge Kutta and linear multistep methods, adaptivity, finite elements, finite differences, finite volumes, spectral methods.

MATH 580 Partial Differential Equations 1.
(4) (Fall) (Prerequisites: MATH 375 or equivalent) Classification and wellposedness of linear and nonlinear partial differential equations; energy methods; Dirichlet principle. Brief introduction to distributions; weak derivatives. Fundamental solutions and Green's functions for Poisson equation, regularity, harmonic functions, maximum principle. Representation formulae for solutions of heat and wave equations, Duhamel's principle. Method of Characteristics, scalar conservation laws, shocks.

MATH 581 Partial Differential Equations 2.
(4) (Winter) (Prerequisite(s): MATH 355 or equivalent, MATH 580.) Systems of conservation laws and Riemann invariants. Cauchy- Kowalevskaya theorem, powers series solutions. Distributions and transforms. Weak solutions; introduction to Sobolev spaces with applications. Elliptic equations, Fredholm theory and spectra of elliptic operators. Second order parabolic and hyperbolic equations. Further advanced topics may be included.

MATH 587 Advanced Probability Theory 1.
(4) (Fall) (Prerequisite: MATH 356 or equivalent and approval of instructor) Probability spaces. Random variables and their expectations. Convergence of random variables in Lp. Independence and conditional expectation. Introduction to Martingales. Limit theorems including Kolmogorov's Strong Law of Large Numbers.

MATH 589 Advanced Probability Theory 2.
(4) (Winter) (Prerequisites: MATH 587 or equivalent) Characteristic functions: elementary properties, inversion formula, uniqueness, convolution and continuity theorems. Weak convergence. Central limit theorem. Additional topic(s) chosen (at discretion of instructor) from: Martingale Theory; Brownian motion, stochastic calculus.

✶MATH 590 Advanced Set Theory.
(4) (Prerequisites: MATH 318, either MATH 355 or MATH 371, or permission of the instructor.) (Restriction: Not open to students who have taken or are taking MATH 488.) Students will attend the lectures and fulfill all the requirements of MATH 488. In addition, they will study an advanced topic agreed on with the instructor. Topics may be chosen from combinatorial set theory, Goedel's constructible sets, forcing, large cardinals.

✶ ● MATH 591 Mathematical Logic 1.
(4) (Winter) (Prerequisites: MATH 488 or equivalent or consent of instructor) Propositional logic and first order logic, completeness, compactness and Löwenheim-Skolem theorems. Introduction to axiomatic set theory. Some of the following topics: introduction to model theory, Herbrand's and Gentzen's theories, Lindström's characterization of first order logic.

✶MATH 592 Mathematical Logic 2.
(4) (Winter) (Prerequisites: MATH 488 or equivalent or consent of instructor) Introduction to recursion theory; recursively enumerable sets, relative recursiveness. Incompleteness, undecidability and undefinability theorems of Gödel, Church, Rosser and Tarski. Some of the following topics: Turing degrees, Friedberg-Muchnik theorem, decidable and undecidable theories.

MIMM-Microbiology and Immun

Offered by: Microbiology & Immunology

MIMM 211 Introductory Microbiology.
(3) (Fall) (3 hours of lecture) (Corequisite: BIOL 200) A general treatment of microbiology bearing specifically on the biological properties of microorganisms. Emphasis will be on procaryotic cells. Basic principles of immunology and microbial genetics are also introduced.

MIMM 212 Laboratory in Microbiology.
(2) (Fall) (3 hours laboratory, 0.5 hour lecture, 1 hour follow-up) (Corequisite: MIMM 211) This laboratory course is designed to complement MIMM 211. Sessions introduce general techniques peculiar to the handling of microorganisms.

MIMM 314 Immunology.
(3) (Winter) (3 hours of lecture) (Prerequisite: BIOL 200 and BIOL 201 or BIOC 212) An introduction to the immune system, antigens, antibodies and lymphocytes. The course will cover the cellular and molecular basis of lymphocyte development and mechanisms of lymphocyte activation in immune responses.

MIMM 323 Microbial Physiology.
(3) (Fall) (3 hours of lecture) (Prerequisite: MIMM 211) An introduction to the composition and structure of microbial cells, the biochemical activities associated with cellular metabolism and how these activities are regulated and coordinated. The course will have a molecular and genetic approach to the study of microbial physiology.

MIMM 324 Fundamental Virology.
(3) (Fall) (3 hours of lecture) (Prerequisites: MIMM 211, BIOL 200, BIOL 201 or BIOC 212) A study of the fundamental properties of viruses and their interactions with host cells. Bacteriophages, DNA- and RNA-containing animal viruses, and retroviruses are covered. Emphasis will be on phenomena occurring at the molecular level and on the regulated control of gene expression in virus-infected cells.

MIMM 386D1 (3), MIMM 386D2 (3) Laboratory in Microbiology and Immunology.
(Fall) (1 hour lecture, 4 hours laboratory, 1 hour follow-up) (Prerequisites: MIMM 211, MIMM 212. Corequisites: MIMM 314, MIMM 323, MIMM 324) (Students must register for both MIMM 386D1 and MIMM 386D2.) (No credit will be given for this course unless both MIMM 386D1 and MIMM 386D2 are successfully completed in consecutive terms) Introduction to microbiological and immunological research and technology, including bacterial classification, bacterial and viral genetics, molecular genetics, and cell and molecular immunological techniques.

MIMM 387 Applied Microbiology and Immunology.
(3) (Winter) (Prerequisite: MIMM 211) The ability to select and manipulate genetic material has lead to unprecedented interest in the industrial applications of procaryotic and eucaryotic cells. Beginning in the 1970s the introduction of and subsequent refinements to recombinant DNA technology and hybridoma technology transformed the horizons of the biopharmaceutical world. This course will highlight the important events that link basic research to clinical/commercial application of new drugs and chemicals.

MIMM 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

MIMM 413 Parasitology.
(3) (Winter) (Prerequisite: MIMM 314 or equivalent - ANAT 261 is strongly recommended) A study of the biology, immunological aspects of host-parasite interactions, pathogenicity, epidemiology and molecular biological aspects of selected parasites of medical importance. Laboratory will consist of a lecture on techniques, demonstrations and practical work.

MIMM 414 Advanced Immunology.
(3) (Fall) (3 hour lecture) (Prerequisite: MIMM 314) An advanced course serving as a logical extension of MIMM 314. The course will integrate molecular, cellular and biochemical events involved in the ontogeny of the lymphoid system and its activation in the immune response. The course will provide the student with an up-to-date understanding of a rapidly moving field.

MIMM 465 Bacterial Pathogenesis.
(3) (Fall) (3 hours of lecture) (Prerequisites: MIMM 211, MIMM 314, MIMM 323, or the permission of the instructor) Organized by the McGill Centre for the Study of Host Resistance. This course focuses on the interplay of the host and the pathogen. The cellular and molecular basis of the host defense mechanism against infections will be considered in relationship to the virulence factors and evasion strategies used by bacteria to cause disease.

MIMM 466 Viral Pathogenesis.
(3) (Winter) (3 hours of lecture) (Prerequisites: MIMM 211, MIMM 324, MIMM 314) A study of the biological and molecular aspects of viral pathogenesis with emphasis on the human pathogenic viruses including the retroviruses HIV and HTLV-1; herpes viruses; papilloma viruses; hepatitis viruses; and new emerging human viral diseases. These viruses will be discussed in terms of virus multiplication, gene expression virus-induced cytopathic effects and host immune response to infection.

MIMM 499 Library Research Project.
(1) (Prerequisites: MIMM 314, MIMM 323, MIMM 324 and MIMM 386.) (Restriction: This course is intended for final year Microbiology students only. Students taking MIMM 502 are not eligible to take this course. (See section 3.6.2, "Project Courses" in the Science "Faculty Degree Requirements").) Supervised exploration of the current scientific literature on an assigned topic of an advanced nature within the general areas of Bacteriology, Virology, Immunology or Parasitology.

MIMM 502D1 (6), MIMM 502D2 (6) Honours Research Project.
(Fall) (More than 18 hours per week for an independent research project) (Restriction: U3 Honours students and Majors students are eligible. Required CGPA: 3.50 or higher) (Please see regulations concerning Project Courses) (Students must register for both MIMM 502D1 and MIMM 502D2.) (No credit will be given for this course unless both MIMM 502D1 and MIMM 502D2 are successfully completed in consecutive terms) An information meeting about the course is held annually in January for students who intend to apply for registration. Subject to the availability of space and resources, professors in the Department of Microbiology and Immunology provide research opportunities for registrants in this course. Students present their research findings in a seminar and a final written report is required. Because this is a 12 credit course, students are expected to devote at least 40% of their academic effort towards their research.

MIMM 509 Inflammatory Processes.
(3) (Winter) (3 hours of seminar) (Prerequisite: MIMM 314.) (Corequisite: PHGY 513 or MIMM 414) (This course will be given in conjunction with the Division of Experimental Medicine) This course concentrates on the non-specific aspects of the immune response, an area which is not adequately covered by the other immunology courses presented at the university. Interactions between guest researchers (from McGill and other universities) and students will be furthered.

NEUR-Neurology and Neurosurgery

Offered by: Neurology and Neurosurgery

NEUR 310 Cellular Neurobiology.
(3) (Winter) (2 lectures each week) (Prerequisite or corequisite: BIOL 200 and BIOL 201, or PHGY 209, or PHGY 210) A survey of the functional organization of nerve cells, signalling in the nervous system, and principles of neural development. Topics include cell polarity, neurotransmitters, neurotrophins, receptors and second messengers, cell lineage, guidance of axon outgrowth, and nerve regeneration. Emphasis will be placed on analysis of neurons at the molecular level.

✶ ● **NEUR 550 Free Radical Biomedicine.**
(3) (Prerequisite: BIOL 200, BIOL 201, BIOC 311, BIOC 312, PHGY 209, PHGY 210 or Permission of Instructor.) An interdisciplinary course on the biochemistry and cellular/molecular biology of free radicals, transition metals, oxidative stress and antioxidants and their roles in health and disease.

●**NEUR 560 History of Neuroscience.**
(3) (Prerequisite: Permission of the instructor.) A historical survey of neuroscience, from antiquity to the major discoveries of the 20th century. Conceptual and technical advances having led to our current understanding of brain function and dysfunctions will be discussed. Particular attention will be given to sensory systems and cognitive processes.

NSCI-Neuroscience

Offered by: Physiology, Biology, Psychology

NSCI 200 Introduction to Neuroscience 1.
(3) (Fall) (Prerequisites: BIOL 112, CHEM 110, CHEM 120, PHYS 101 or PHYS 131, and PHYS 102 or PHYS 142. Pre-/Co-requisite BIOL 200, CHEM 212 or permission of instructor.) (Restrictions: Not open to students who are taking or have taken PHGY 209.) An introduction to how nerve cells generate action potentials, communicate with one another at synapses, develop synaptic connections, early brain development, and the construction of specific neural circuits.

NSCI 201 Introduction to Neuroscience 2.
(3) (Winter) (Prerequisite: NSCI 200 or PSYC 211 or permission of instructor.) (Restriction: Not open to students who have taken PSYC 308.) An introduction to how the nervous system acquires and integrates information and uses it to produce behaviour.

NSCI 300 Neuroethics.
(3) (Winter) (Prerequisite: NSCI 200 and NSCI 201 or permission of instructor) (Restriction: Open to students in the Major Neuroscience Program) An introduction to ethical issues arising from basic and clinical neuroscience. Overview of therapeutic, diagnostic, and research interventions in mental and neurological disorders, and their implications on society.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

NSCI 396 Undergraduate Research Project.
(3) (Prerequisites: At least one term of undergraduate studies, a CGPA of at least 3.0, or permission of instructor to waive these requirements. A project proposal form must be completed by the student and instructor and approved by the unit head or his/her delegate before the start of the term. Instructors will list project-specific prerequisites with the project description available through the Office for Undergraduate Research in Science (OURS) website.) (Restrictions: This course cannot be taken under the S/U option. Coordinator's permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project.

●**NSCI 400D1 (0.5), NSCI 400D2 (0.5) Neuroscience Seminar.**
(Fall/Winter) (Students will demonstrate their understanding of neuroscience by writing critical analyses of selected published papers and research seminars.) (Prerequisite: NSCI 200, 201, and 300) (Restriction: Open to students in their final year of a B.Sc. Major Neuroscience Program) Analysis of current research in neuroscience.

NSCI 410 Independent Research 1.
(6) (Summer) (Prerequisite: NSCI 200, 201 and 300) (Restrictions: Only open to students registered in the B.Sc. Neuroscience Major. Not open to students who have taken or are taking NSCI 420D1 & D2.) Independent laboratory research in neuroscience.

NSCI 410D1 (3), NSCI 410D2 (3) Independent Research 1.
Independent laboratory research in neuroscience.

NSCI 420D1 (4.5), NSCI 420D2 (4.5) Independent Research 2.
(Prerequisites: NSCI 200, 201 and 300) (Restrictions: Only open to students registered in the B.Sc. Neuroscience Major. Not open to students who have taken or are taking NSCI 410.) Independent laboratory research in neuroscience.

PATH-Pathology

Offered by: Pathology

PATH 300 Human Disease.
(3) (Winter) (Prerequisites: BIOL 200, BIOL 201 or BIOC 212, PHGY 209. Pre-/co-requisite: PHGY 210) Provides a fundamental understanding of the diseases prevalent in North America, for upper level students in the biological sciences. Includes: general responses of cells and organ systems to injury; assessment of individual diseases by relating the causes, symptoms, diagnosis, treatment and prevention to the primary biological abnormalities in each disorder.

PHAR-Pharmacology and Therapeutics

Offered by: Pharmacology and Therapeutics

PHAR 300 Drug Action.
(3) (Fall) (Prerequisites: BIOL 200 and BIOL 201 or BIOC 212, PHGY 209 and PHGY 210 or permission of instructor) This course covers the fundamental principles of pharmacology and toxicology. Frequently encountered drugs are used as a focus to illustrate sites and mechanisms of action, distribution, metabolism, elimination and adverse effects.

PHAR 301 Drugs and Disease.
(3) (Winter) (Prerequisites: BIOL 200, BIOL 201 or BIOC 212, PHGY 209 and PHGY 210 and PHAR 300 or permission of instructor) This course further explores the basic principles of pharmacology as illustrated by drugs used in the treatment of disease. Emphasis is placed on drugs used for diseases prevalent in North America.

PHAR 303 Principles of Toxicology.
(3) (Winter) (Prerequisites: BIOL 200, BIOL 201 or BIOC 212, PHGY 209 and PHGY 210) Fundamental mechanisms by which toxic compounds damage a biological system (organelle, cell, organ, organism, ecosystem). Detection and quantification of toxicity and risk/benefit analysis are considered. Selected agents of current risk to human health or the environment are evaluated in depth.

PHAR 503 Drug Design and Development 1.
(3) (Fall) (Prerequisite(s): BIOL 200, BIOL 201, BIOC 212, PHAR 300, PHAR 301, PHAR 303, or permission of coordinator) (Priority: students registered in the Minor in Pharmacology) Interdisciplinary course in drug design and development covering chemistry, mechanisms of drug action and steps in drug development, principles and problems in drug design.

PHAR 504 Drug Design and Development 2.
(3) (Winter) (Prerequisites: PHAR 503, or permission of coordinator) (Restriction: U3 and graduate students. Students can register only with permission of coordinators .) Interdisciplinary course in drug design and development in which teams of 2-4 students select a lead chemical compound, design the analogues, propose the preclinical and clinical studies, present possible untoward effects, and reasons for drug (dis)approval.

PHAR 558 Pharmacology Research Topics.
(3) (Prerequisite: PHAR 562 or permission of the instructor.) (Corequisite: PHAR 563 or permission of the instructor.) Selected drug targets in their native cellular milieu, in the context of intact tissues, organs and whole animals, highlighting conceptual advances in pharmacological theory.

PHAR 562 General Pharmacology 1.
(3) (Fall) (Prerequisite: PHAR 301.) (Restrictions: Open to U3 students with permission of instructors, and students registered in the Minor Pharmacology Program) Principles of pharmacology as illustrated by current issues with an emphasis on the nervous system will be discussed. Drugs classified by their molecular target of action, their mechanism of action, and possibly a rationale for therapeutic use will be presented. Students will be required to examine and interpret scientific data, to write a paper and/or participate in small group discussions.

PHAR 563 General Pharmacology 2.
(3) (Winter) (Prerequisite: PHAR 301.) (Restrictions: Open to U3 students with permission of instructors, and students registered in the Minor in Pharmacology Program) Selected topics of basic interactions between chemicals and biological systems. Actions of drugs at the molecular and cellular levels. Principles of drug development. Chemotherapy of infections and of cancer. Toxicology and pharmacokinetics/dynamics. Drug metabolism.

PHAR 599 Research Projects in Pharmacology.
(6) (Minimum of 12 hours per week to be spent in the lab and/or library.) (Pre-/co-requisite PHAR 562 and PHAR 563 or PHAR 300 and PHAR 301) (Restrictions: Open to U3 students with permission of instructors, and students registered in the Minor Pharmacology Program. Students should consult instructors 3 - 4 weeks before registration. Students may not register without prior approval of the course co-ordinator(s)) (Please see regulations concerning Project Courses) This course involves individual research work. Students select a project under the supervision of a staff member. Areas of interest include toxicology, endocrine, developmental, cardiovascular, reproductive and neuropharmacology. This course requires a minimum of 6 hours per week for the full year course (PHAR 599D1/PHAR 599D2), and a minimum of 12 hours per week for the half year (PHAR 599) course to be spent in the laboratory and/or library.

PHAR 599D1 (3), PHAR 599D2 (3) Research Projects in Pharmacology.
(Fall) (Minimum of 6 hours per week to be spent in the lab and/or library.) (Students must register for both PHAR 599D1 and PHAR 599D2.) (No credit will be given for this course unless both PHAR 599D1 and PHAR 599D2 are successfully completed in consecutive terms) (PHAR 599D1 and PHAR

599D2 together are equivalent to PHAR 599) This course involves individual research work. Students select a project under the supervision of a staff member. Areas of interest include toxicology, endocrine, developmental, cardiovascular, reproductive and neuropharmacology. This course requires a minimum of 6 hours per week for the full year course (PHAR 599 D1/PHAR 599D2), and a minimum of 12 hours per week for the half year (PHAR 599) course to be spent in the laboratory and/or library.

PHGY-Physiology

Offered by: Physiology

●**PHGY 199 FYS: History of Genetic Engineering.**
(3) (Winter) (3 hours seminar per week) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 20) The history of molecular biology and genetic engineering will be surveyed through a series of essays and reviews written by historic figures and prominent scientists of today. The course will trace key players and principal advances in our understanding of the gene, its manipulation, and the future of genetic engineering.

●**PHGY 201 Human Physiology: Control Systems.**
(3) (Fall) (3 hours lecture weekly) (Prerequisites: collegial courses in biology or anatomy, and in chemistry and physics; with CHEM 212 or equivalent, as a pre-/co-requisite) (Restriction: For students in Physical and Occupational Therapy, Nursing, and others with permission of the course coordinator) (Restriction: Not open to students who have taken PHGY 209) Physiology of body fluids, blood, nerve and muscle, peripheral nerves, central nervous system, special senses, autonomic nervous system, defense mechanisms.

●**PHGY 202 Human Physiology: Body Functions.**
(3) (Winter) (3 hours lecture weekly) (Prerequisites: collegial courses in biology or anatomy and in chemistry and physics; with CHEM 212 or equivalent, as a pre-/co-requisite) (Restriction: For students in Physical and Occupational Therapy, Nursing, Education, and others with permission of the course coordinator) (Restriction: Not open to students who took 552-201 in 1976-77 or earlier, or PHGY 210) Physiology of the cardiovascular, respiratory, excretory, endocrine, and digestive systems; organic and energy metabolism; nutrition; exercise and environmental stress.

PHGY 209 Mammalian Physiology 1.
(3) (Fall) (3 hours lectures weekly) (Prerequisites: BIOL 112, CHEM 110, CHEM 120, PHYS 101 or PHYS 131, and PHYS 102 or PHYS 142. Pre-/co-requisites: BIOL 200, CHEM 212 or equivalent.) (Restriction: Not open to students who have taken PHGY 211 or PHGY 201 or students who are taking and who have taken NSCI 200.) (Restriction: For students in the Faculty of Science, and other students by permission of the instructor) Physiology of body fluids, blood, body defense mechanisms, muscle, peripheral, central, and autonomic nervous systems.

PHGY 210 Mammalian Physiology 2.
(3) (Winter) (3 hours lectures weekly) (Prerequisites: BIOL 112, CHEM 110, CHEM 120, PHYS 101 or PHYS 131, and PHYS 102 or PHYS 142. Pre-/co-requisite: BIOL 200, BIOL 201, BIOC 212, CHEM 212 or equivalent.) (Restriction: Not open to students who have taken PHGY 202.) (Restriction: For students in the Faculty of Science, and other students by permission of the instructor) (Although PHGY 210 may be taken without the prior passing of PHGY 209, students should note that they may have some initial difficulties because of lack of familiarity with some basic concepts introduced in PHGY 209) Physiology of cardiovascular, respiratory, digestive, endocrine and renal systems.

PHGY 212 Introductory Physiology Laboratory 1.
(1) (One 3-hour lab and one 1-hour lecture every second week.) (Corequisite: PHGY 209.) (Restrictions: Required for Physiology students enrolled in PHGY 209. Open to BA &Sc. students and to others by permission of the instructor. Not open to students who have taken PHGY 212D1/D2.) (Note: For students in a Physiology program, PHGY 212 should be taken concurrently with PHGY 209.) Exercises illustrating fundamental principles in physiology: Biological Signals Acquisitions, Blood, Immunology, Neurophysiology, Neuromuscular Physiology.

PHGY 213 Introductory Physiology Laboratory 2.
(1) (One 3-hour lab and one 1-hour lecture every second week.) (Prerequisite: PHGY 212) (Corequisite: PHGY 210.) (Restrictions: Required for Physiology students enrolled in PHGY 210. Open to BA &Sc. students and to others by permission of the instructor. Not open to students who have taken PHGY 212D1/D2.) (Note: For students in a Physiology program, PHGY 213 should be taken concurrently with PHGY 210.) Exercises illustrating fundamental principles in physiology: Central Nervous System, Cardiovascular, Respiration, Exercise Physiology, Molecular Endocrinology.

PHGY 311 Channels, Synapses & Hormones.
(3) (Fall) (3 hours of lectures per week; 1-3 hours optional lab/demonstration/tutorial arranged for a maximum of 3 afternoons per term) (Prerequisite: PHGY 209 or permission of the instructor.) In-depth presentation of experimental results and hypotheses on cellular communication in the nervous system and the endocrine system.

PHGY 312 Respiratory, Renal, & Cardiovascular Physiology.
(3) (Winter) (3 hours of lectures per week; 1-3 hours optional lab/demonstration/tutorial arranged for a maximum of 3 Wednesday afternoons per term) (Prerequisites: PHGY 209 and PHGY 210 or equivalent, PHGY 311 or permission of the instructor) In-depth presentation of experimental results and hypotheses underlying our current understanding of topics in renal, respiratory and cardiovascular functions explored beyond the introductory level.

PHGY 313 Blood, Gastrointestinal, & Immune Systems Physiology.
(3) (Winter) (3 hours of lectures per week; 1-3 hours optional lab/demonstration/tutorial arranged for a maximum of 3 Wednesday afternoons per term) (Prerequisites: PHGY 209 and PHGY 210 or equivalent, PHGY 311 or permission of the instructor) In-depth presentation of experimental results and hypotheses underlying our current understanding of topics in immunology, blood and fluids, and gastrointestinal physiology.

PHGY 314 Integrative Neuroscience.
(3) (Fall) (3 hours of lectures per week) (Prerequisites: PHGY 209) In depth presentation of experimental results and hypotheses underlying our current understanding of how single neurons and ensembles of neurons encode sensory information, generate movement, and control cognitive functions such as emotion, learning, and memory, during voluntary behaviours.

PHGY 351 Research Techniques: Physiology.
(3) (Winter) (2 hour lecture and 3 hour lab weekly) (Prerequisites: PHGY 209, PHGY 210 and PHGY 311.) (Corequisites: PHGY 312 and PHGY 313) (Restriction: Honours Physiology students) Provides an overview of common research methods in Physiology, including critical analysis and practical experience with some of the methods. Topics include research ethics of animal experimentation, data analysis, membrane biophysics, radioimmunoassay, ion sensitive dyes,

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

immunocytochemistry, localization techniques, protein transport, cell sorting and molecular biology.

PHGY 359D1 (0.5), PHGY 359D2 (0.5) Tutorial in Physiology.
(Fall) (Prerequisites: PHGY 209 and PHGY 210 or equivalent.) (Corequisites: PHGY 311, PHGY 312 and PHGY 313.) (Restriction: Enrolment restricted to Honours Physiology students) (Students must register for both PHGY 359D1 and PHGY 359D2.) (No credit will be given for this course unless both PHGY 359D1 and PHGY 359D2 are successfully completed in consecutive terms) The course consists of regularly scheduled meetings between each individual student and a chosen staff member, to consider current problems in biomedical research and to develop background for a research project to be carried out in U3. Brief written summaries of each meeting are required.

PHGY 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

PHGY 419D1 (4.5), PHGY 419D2 (4.5) Project and Seminar in Immunology.
(Fall) (15 hours lab/week) (Restriction: Enrolment restricted to U3 Interdepartmental Honours Immunology students or permission of instructors) (Students must register for both PHGY 419D1 and PHGY 419D2.) (No credit will be given for this course unless both PHGY 419D1 and PHGY 419D2 are successfully completed in consecutive terms) Individual research projects in immunology under the guidance of staff members in the three participating departments: Physiology, Biochemistry, and Microbiology and Immunology.

PHGY 425 Analyzing Physiological Systems.
(3) (Prerequisite: PHGY 311, PHGY 314, BIOL 200 or permission from instructor.) (Note: Enrolment limited to 20 students.) An introduction to quantitative analysis of physiological data, both to the mode of thinking and to a set of tools that allows accurate predictions of biological systems. Examples will range from oscillating genetic networks to understanding higher brain function. Modelling and data analysis through examples and exercises will be emphasized.

PHGY 451 Advanced Neurophysiology.
(3) (Fall) (3 hours lecture) (Prerequisites: PHGY 311 or equivalent and BIOL 301) (Restriction: Departmental approval required) Topics of current interest in neurophysiology including the development of neurons and synapses, physiology of ionic channels, presynaptic and postsynaptic events in synaptic transmission and neuronal interactions in CNS function.

PHGY 459D1 (3), PHGY 459D2 (3) Physiology Seminar.
(Fall) (2 hours seminar) (Prerequisite: permission of instructors) (Required course for U3 Honours students.) (Students must register for both PHGY 459D1 and PHGY 459D2.) (No credit will be given for this course unless both PHGY 459D1 and PHGY 459D2 are successfully completed in consecutive terms) Discussion of topics in mammalian, cellular and molecular physiology. Students will be required to write one essay and make at least one oral presentation per term. A final course essay is required.

PHGY 461D1 (4.5), PHGY 461D2 (4.5) Experimental Physiology.
(Fall) (Restriction: Departmental approval required) (Restriction: This course is a requirement for U3 students in the Honours Physiology program, the Major Program in Physiology and Mathematics, and the Major program in Physiology and Physics, and is open to a limited number of other U3 Physiology students) (Students must register for both PHGY 461D1 and PHGY 461D2.) (No credit will be given for this course unless both PHGY 461D1 and PHGY 461D2 are successfully completed in consecutive terms) Individual project work under the supervision of Departmental Staff members.

PHGY 502 Exercise Physiology.
(3) (Winter) (Prerequisites: PHGY 311, PHGY 312, and PHGY 313) Behaviour of physiological processes in response to physical effort, in areas such as structural basis of muscle contraction, thermoregulation during exercise, mechanics and energetics of muscle contraction, fuel utilization, fatigue, physiological adjustments during exercise and influence of training.

PHGY 508 Advanced Renal Physiology.
(3) (Fall) (Prerequisite (Undergraduate): PHGY 312 or the equivalent) (Restriction: Open to advanced undergraduate and graduate students) Offered in conjunction with the Department of Medicine. Lectures and seminars will cover advanced concepts in selected areas of kidney physiology (glomerular and tubular function) as well as membrane and epithelial transport. Students will be expected to critically discuss selected experimental papers.

PHGY 513 Cellular Immunology.
(3) (Winter) (3 hours lectures plus term paper) (Prerequisite: MIMM 314, or permission of the instructor) This course deals with cellular interactions, regulation and effector mechanisms of the normal immune response in relation to diseases and pathogenic processes. It is taught at an advanced level.

PHGY 515 Physiology of Blood 1.
(3) (Fall) (2 hours lecture plus 1 hour seminar weekly) (Prerequisite: PHGY 313 or PHGY 312 or permission of the instructor) Study of the cell and molecular physiology of hemostasis and its pathophysiology (bleeding and thrombosis). Emphases on molecular mechanisms regulating clot formation, fibrinolysis, and cell adhesion/aggregation. Experimental approaches and specific clinical disorders will be analyzed. Weekly discussions, and a major term paper.

PHGY 516 Physiology of Blood 2.
(3) (Winter) (2 hours lecture plus 1 hour seminar weekly) Bone marrow hematopoiesis, with emphasis on regulation of stem cell proliferation and differentiation along hematopoietic pathways. Formation and differentiation of red and white blood cells and some of the diseases associated with hemotopoiesis will be covered. Emphasis will be given to the molecular mechanisms involved in the normal and pathological conditions.

● PHGY 517 Artificial Internal Organs.
(3) (Winter) (Prerequisite (Undergraduate): permission of instructors.) Physiological, bioengineering, chemical and clinical aspects of artificial organs including basic principles and physiopathology of organ failure. Examples: oxygenator, cardiac support, vascular substitutes, cardiac pacemaker, biomaterials and tissue engineering, biocompatibility.

PHGY 518 Artificial Cells.
(3) (Fall) (Prerequisite (Undergraduate): permission of instructors.) Physiology, biotechnology, chemistry and biomedical application of artificial cells, blood substitutes, immobilized enzymes, microorganisms and cells, hemoperfusion, artificial kidneys, and drug delivery systems. PHGY 517 and PHGY 518 when taken together, will give a complete picture of this field. However, the student can select one of these.

PHGY 531 Topics in Applied Immunology.
(3) (Winter) (Restriction: Permission of the instructor. U3 InterDept. Honours Immunology students and graduate students with strong immunology background i.e. PHGY 513 and BIOC 503) Seminar format course in which experts in immunologic mechanisms of resistance against a variety of infectious diseases, including AIDS, malaria, and tuberculosis oversee student moderators in their presentation of recent scientific literature in the field.

PHGY 550 Molecular Physiology of Bone.
(3) (Fall) (1 hour of lecture, 2 hours of seminar per week) (Prerequisites: PHGY 311, and BIOL 202 or equivalent) (Restriction: U3 Physiology students, and graduate students in biomedical departments; others by permission of the instructor) Students will develop a working knowledge of cartilage and bone. Discussion topics will include: molecular and cellular environment of bone; heritable and acquired skeletal defects;

research models used to study metabolic bone disease.

PHGY 552 Cellular and Molecular Physiology.
(3) (Winter) (1 hour lecture, 2 hours seminar weekly) (Prerequisite: PHGY 311) (Preference will be given to Physiology Honours and Graduate students) Discussions of recent significant advances in our understanding of the gene products involved in diverse cellular signalling pathways. Topics will include cell-surface hormone receptors, nuclear steroid hormone receptors, and ion channels and transporters. Students will present and critically evaluate experimental approaches, results and interpretations of selected research publications.

PHGY 556 Topics in Systems Neuroscience.
(3) (Winter) (Restriction: Permission of the instructor required.) (Restriction: Not open to students who have taken PHGY 456) Topics of current interest in systems neurophysiology and behavioural neuroscience including: the neural representation of sensory information and motor behaviours, models of sensory motor integration, and the computational analysis of problems in motor control and perception. Students will be expected to present and critically discuss journal articles in class.

●**PHGY 560**
(3) (Prerequisites: BIOL 301 or permission of instructors.) Introduction to optics, light microscopy imaging and data analysis for life scientists.

PHYS-Physics

Offered by: Physics

PHYS 101 Introductory Physics - Mechanics.
(4) (Fall) (3 hours lectures; 2 hours laboratory; tutorial sessions) (Restriction: Not open to students taking or having taken PHYS 131, CEGEP objective 00UR or equivalent) (Laboratory sections have limited enrolment) The object of this course is to give the students a basic understanding of the principles of physics, illustrating these, where possible, with current examples of their use in biology and medicine.

PHYS 102 Introductory Physics - Electromagnetism.
(4) (Winter) (3 hours lectures; 2 hours laboratory; tutorial sessions) (Prerequisite: PHYS 101.) (Corequisite: MATH 139 or higher level calculus course.) (Restriction: Not open to students taking or having taken PHYS 142, CEGEP objective 00UR or equivalent) (Laboratory sections have limited enrolment) Electric field and potential. D.C. circuits and measurements. Capacitance. Magnetic field and induction. A.C. circuits Semiconductor devices and their application. Electromagnetic waves.

PHYS 107 Mechanics Laboratory (Life Sciences).
(1) (Fall) (Prerequisite: Lecture component of PHYS 101 or equivalent) (Restriction: Not open to students who have taken or are taking PHYS 101) The laboratory component of PHYS 101.

PHYS 108 E&M Laboratory (Life Sciences).
(1) (Winter) (Prerequisite: Lecture component of PHYS 102 or equivalent) (Restriction: Not open to students who have taken or are taking PHYS 102) The laboratory component of PHYS 102.

PHYS 117 Mechanics Laboratory.
(1) (Fall) (Prerequisite: Lecture component of PHYS 131 or equivalent) (Restriction: Not open to students who have taken or are taking PHYS 131) The laboratory component of PHYS 131.

PHYS 118 E & M Laboratory.
(1) (Winter) (Prerequisite: Lecture component of PHYS 142 or equivalent) (Restriction: Not open to students who have taken or are taking PHYS 142) The laboratory component of PHYS 142.

PHYS 131 Mechanics and Waves.
(4) (Fall) (3 hours lectures; 1 hour tutorial, 3 hours laboratory in alternate weeks; tutorial sessions) (Corequisite: MATH 139 or higher level calculus course.) (Restriction: Not open to students taking or having taken PHYS 101, CEGEP objective 00UR or equivalent) (Laboratory sections have limited enrolment) The basic laws and principles of Newtonian mechanics; oscillations and waves.

PHYS 142 Electromagnetism and Optics.
(4) (Winter) (3 hours lectures, 3 hours laboratory in alternate weeks; tutorial sessions) (Prerequisite: PHYS 131.) (Corequisite: MATH 141 or higher level calculus course.) (Restriction: Not open to students taking or having taken PHYS 102, CEGEP objective 00UR or equivalent) (Laboratory sections have limited enrolment) The basic laws of electricity and magnetism; geometrical and physical optics.

PHYS 200 Space, Time and Matter.
(3) (Fall) (3 hours lectures) (Restriction: Not open to students in a Physics program) A nonmathematical, conceptual look at physics, beginning with the idea of space and time, continuing with the historical development of Newtonian mechanics of celestial motion, electricity and magnetism, ether and light, Einstein's special and general theories of relativity, quantum mechanics, matter and antimatter, cosmology and the big bang.

PHYS 202 Everyday Physics.
(3) (Fall) (Note: The course will be divided into thirteen weeks with a different topic for each week throughout the semester.) The day-to-day physics behind the materials and phenomena around us. Demonstrations of the intriguing properties of materials and the simple physical theories explaining them.

PHYS 205 Our Evolving Universe.
(3) (Fall) (Restrictions: Not open to students in a physics program. Not open to students who have taken PHYS 204.) An elementary course on astronomy and astrophysics. Positional astronomy and finding your way about the sky. Our evolving picture of the universe. Properties and origins of the solar system. The Big Bang and modern cosmology.

PHYS 206 The Milky Way Inside and Out.
(3) (Winter) (Restrictions: Not open to students in a Physics program. Not open to students who have taken PHYS 204.) An elementary course on astronomy. Star origins and star formation, supernovae, white dwarfs, neutron stars, and black holes. Galaxies, their structure and their interactions. Stellar clusters, the interstellar medium. Galactic classification and galaxy evolution.

PHYS 214 Introductory Astrophysics.
(3) (Fall) (Prerequisite: CEGEP Physics or PHYS 102 or PHYS 142.) (Restriction: Not open to students who have taken or are taking PHYS 205 or PHYS 206.) An introduction to astrophysics with emphasis placed on methods of observation and current models. Stellar radiation and detectors, quasars, black holes. Galaxies, large scale structure of the universe, cosmology.

PHYS 224 Physics and Psychophysics of Music.
(3) (Fall) (3 hours lectures) (Designed for students in the Faculty of Music but suitable for students with an interest in music, and how it is perceived) (Prerequisite: none) An introduction to physics and psychophysics of music with demonstrations of the relevant phenomena and the theories explaining them. Pitch, loudness and timbre in the context of the physics properties of the human ear. The basic physics of music production including modes of oscillation of mechanical systems, resonance, feedback, transmission and reflection of sound. The human voice. Modern methods of sound production using electrical analogue devices and digital computers. Room reverberation and acoustics.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

PHYS 225 Musical Acoustics.
(3) (Winter) (3 hours lectures) (Prerequisites: CEGEP Physics or PHYS 101 or PHYS 131 or both MATH 112 and PHYS 224.) (Designed for students in music who have interests in sound recording and reproduction and also suitable for students in science with an interest in music) Physical acoustics with applications to music. Resonators and radiators, acoustic impedance. Acoustic properties of strings, bars, membranes, pipes and horns. Application to selected musical instruments. Direction characteristics of sound sources. Room acoustics.

PHYS 228 Energy and the Environment.
(3) (Winter) Energy fundamentals, generation of electricity, heat engines, fossil fuel production and consumption, local and global effects, economic impact, transportation, and pollution and environmental impact of energy use. Non-renewable energy sources (fossil fuels, nuclear) and renewable sources (solar, wind, hydro, geothermal).

PHYS 230 Dynamics of Simple Systems.
(3) (Fall) (3 hours lectures) (Prerequisite: CEGEP Physics or PHYS 131.) (Corequisite: MATH 222) (Restriction: Not open to students taking or having passed PHYS 251) Translational motion under Newton's laws; forces, momentum, work/energy theorem. Special relativity; Lorentz transforms, relativistic mechanics, mass/energy equivalence. Topics in rotational dynamics. Noninertial frames.

PHYS 232 Heat and Waves.
(3) (Winter) (3 hours lectures) (Prerequisites: CEGEP Physics or PHYS 142, and CEGEP chemistry or CHEM 120, and PHYS 230.) (Restriction: Not open to students taking or having passed PHYS 253) First and second laws of thermodynamics, kinetic theory of gases, optical interference, polarization, electro-optics, physics of microscopic systems.

PHYS 241 Signal Processing.
(3) (Winter) (2 hours lectures; 3 hours laboratory alternate weeks) (Prerequisite: CEGEP physics or PHYS 142.) Linear circuit elements, resonance, network theorems, diodes, transistors, amplifiers, feedback, integrated circuits.

PHYS 242 Electricity and Magnetism.
(2) (Winter) (2 hours lectures) (Prerequisites: CEGEP Physics, MATH 222) Properties of electromagnetic fields, dipole and quadropole fields and their interactions, chemical binding of molecules, electromagnetic properties of materials, Maxwell's equations and properties of electromagnetic waves, propagation of waves in media.

PHYS 251 Honours Classical Mechanics 1.
(3) (Fall) (3 hours lectures) (Prerequisite: CEGEP physics or PHYS 131.) (Corequisite: MATH 222) (Restriction: Not open to students taking or having taken PHYS 230.) Newton's laws, work energy, angular momentum. Harmonic oscillator, forced oscillations. Inertial forces, rotating frames. Central forces, centre of mass, planetary orbits, Kepler's laws.

PHYS 253 Thermal Physics.
(3) (Fall) (3 hours lectures) (Prerequisites: CEGEP physics or PHYS 131, and CEGEP chemistry or CHEM 120.) (Corequisite: MATH 222) (Restriction: Not open to students taking or having taken PHYS 232.) Energy, work, heat; first law. Temperature, entropy; second law. Absolute zero; third law. Equilibrium, equations of state, gases, liquids, solids, magnets; phase transitions.

PHYS 257 Experimental Methods 1.
(3) (Fall) (6 hours of laboratory and classroom work) (Corequisite: PHYS 230 or PHYS 251) Introductory laboratory work and data analysis as related to mechanics, optics and thermodynamics. Introduction to computers as they are employed for laboratory work, for data analysis and for numerical computation. Previous experience with computers is an asset, but is not required.

PHYS 258 Experimental Methods 2.
(3) (Winter) (6 hours of laboratory and classroom work) (Prerequisite: PHYS 257) Advanced laboratory work and data analysis as related to mechanics, optics and thermodynamics. Computers will be employed routinely for data analysis and for numerical computation, and, particularly, to facilitate the use of Fourier methods.

PHYS 260 Modern Physics and Relativity.
(3) (Fall) (3 hours lectures) (Prerequisite: CEGEP physics or PHYS 142.) (Corequisite: MATH 222) History of special relativity; Lorentz transformations: kinematics and dynamics; transformation of electric and magnetic forces; introduction to topics in modern physics.

PHYS 271 Introduction to Quantum Physics.
(3) (Winter) ((3-0-6)) (Prerequisite: PHYS 251 or CIVE 281) (Restriction: This course is not available to any student enrolled in any Majors or Honours program involving Physics.) The observed properties of atoms and radiation from atoms. Electron waves. The Schroedinger Equation in one dimension. Quantum mechanics of the hydrogen atom. Angular momentum and spin. Quantum mechanics of many electron systems. Basic ideas of electrons in solids and solid state physics.

PHYS 328 Electronics.
(3) (Fall) (2 hours lectures; 3 hours laboratory) (Prerequisite: PHYS 241 or permission of instructor) Semiconductor devices, basic transistor circuits, operational amplifiers, combinatorial and sequential logic, integrated circuits, analogue to digital converters. The laboratory component covers design, construction and testing of basic electronic circuits.

PHYS 331 Topics in Classical Mechanics.
(3) (Winter) (3 hours lectures) (Prerequisite: PHYS 230.) (Corequisite: MATH 315) (Restriction: Not open to students having passed PHYS 451) Forced and damped oscillators, Newtonian mechanics in three dimensions, rotational motion, Lagrangian mechanics, small vibrations, normal modes. Introduction to Hamiltonian mechanics.

PHYS 332 Physics of Fluids.
(3) (Winter) (3 hours lectures) (Prerequisites: PHYS 230, MATH 223, MATH 314, MATH 315) The physical properties of fluids. The kinematics and dynamics of flow. The effects of viscosity and turbulence. Applications of fluid mechanics in biophysics, geophysics and engineering.

PHYS 333 Thermal and Statistical Physics.
(3) (Winter) (3 hours lectures) (Prerequisite: PHYS 232) (Restriction: Not open to students taking or having passed PHYS 362) Introductory equilibrium statistical mechanics. Quantum states, probabilities, ensemble averages. Entropy, temperature, Boltzmann factor, chemical potential. Photons and phonons. Fermi-Dirac and Bose-Einstein distributions; applications.

PHYS 334 Advanced Materials.
(3) (Fall) (Prerequisites: CHEM 110, CHEM 120 or CHEM 111, CHEM 121 and PHYS 101, PHYS 102 or PHYS 131, PHYS 142, or CEGEP Physics and Chemistry, or equivalent. Pre- or Co-requisite: one of CHEM 203, CHEM 204, CHEM 213, CHEM 214 or equivalent; or one of PHYS 230 and PHYS 232, or equivalent; or permission of instructor) (Restriction: Not open to students who have taken or are taking CHEM 334) The physicochemical properties of advanced materials. Topics discussed include photonics, information storage, 'smart' materials, biomaterials, clean energy materials, porous materials, and polymers.

PHYS 339 Measurements Laboratory in General Physics.
(3) (Winter) (6 hours) (Prerequisite: PHYS 241) Introduction to modern techniques of measurement. The use of computers in performing and analysing experiments. Data reduction, statistical methods, report writing. Extensive use of computers is made in this laboratory; therefore some familiarity with computers and computing is an advantage.

PHYS 340 Majors Electricity and Magnetism.
(3) (Fall) (3 hours lectures) (Prerequisites: CEGEP physics or PHYS 142, MATH 222, MATH 223.) (Restriction: Not open to students who have passed PHYS 242 or PHYS 350.) The electrostatic field and scalar potential. Dielectric properties of matter. Energy in the electrostatic field. Methods for solving problems in electrostatics. The magnetic field. Induction and inductance. Energy in the magnetic field. Magnetic properties of matter. Maxwell's equations. A vector treatment.

PHYS 342 Majors Electromagnetic Waves.
(3) (Winter) (3 hours lectures) (Prerequisites: PHYS 340 or PHYS 242, Mathematics MATH 314, MATH 315) Maxwell's equations. The wave equation. The electromagnetic wave, reflection, refraction, polarization. Guided waves. Transmission lines and wave guides. Vector potential. Radiation. The elemental dipole; the half-wave dipole; vertical dipole; folded dipoles; Yagi antennas. Accelerating charged particles.

PHYS 350 Honours Electricity and Magnetism.
(3) (Fall) (3 hours lectures) (Prerequisites: MATH 248, MATH 325.) (Restriction: Honours students or permission of the instructor) (Restriction: Not open to students having taken PHYS 340) Fundamental laws of electric and magnetic fields in both integral and differential form.

PHYS 352 Honours Electromagnetic Waves.
(3) (Fall) (3 hours lectures) (Prerequisite: PHYS 350.) (Restriction: Honours students, or permission of the instructor) Vector and scalar potentials; plane waves in homogeneous media; refraction and reflection; guided waves; radiation from simple systems; dipole and quadrupole radiation; introduction to fields of moving charges; synchrotron radiation; Bremsstrahlung.

PHYS 357 Honours Quantum Physics 1.
(3) (Fall) (3 hours lectures) (Restriction: Honours students or permission of the instructor) (Restriction: Not open to students taking or having passed PHYS 446) Experimental basis for quantum mechanics; wave-packets; uncertainty principle. Hilbert space formalism. Schrodinger equation: eigenvalues and eigenvectors: applications to 1-d problems including the infinite and finite potential wells and the harmonic oscillator. Tunneling. Time independent perturbation theory.

PHYS 359 Honours Laboratory in Modern Physics 1.
(3) (Winter) (6 hours) (Corequisite: PHYS 457. Honours students or permission of instructor) Advanced level experiments in modern physics stressing quantum effects and some properties of condensed matter.

PHYS 362 Statistical Mechanics.
(3) (Winter) (3 hours lectures) (Prerequisites: MATH 248 or equivalents, PHYS 253.) (Restriction: Honours students, or permission of the instructor) (Restriction: Not open to students taking or having passed PHYS 333) Quantum states and ensemble averages. Fermi-Dirac, Bose-Einstein and Boltzmann distribution functions and their applications.

PHYS 396 Undergraduate Research Project.
(3) (Summer) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

✶PHYS 413 Physical Basis of Physiology.
(3) (Fall) (3 hours lectures) (Prerequisite: MATH 315, or MATH 325, and permission of the instructor) (Intended for Major or Honours students in Physics, Physiology, Physiology and Physics, or Mathematics and others with permission) Analytic and computer simulation techniques are used to examine the role of nonlinearities and time delays in determining the dynamic behaviour of physiological control systems and their relation to normal and pathophysiological states. Examples drawn from the control of respiration, cellular proliferation and differentiation, biochemical feedback networks, thermoregulatory mechanisms, and neural feedback.

PHYS 434 Optics.
(3) (Winter) (3 hours lectures) Geometrical optics, wave optics, lasers, Fourier transform spectroscopy, holography, optical data processing, stellar interferometry.

PHYS 436 Modern Physics.
(3) (Winter) (3 hours lectures) (Prerequisite: PHYS 446) (Restriction: Not open to students in Honours Physics or in Joint Honours in Mathematics and Physics) One electron atoms, radiation, multielectron atoms, molecular bonds. Selected topics from condensed matter, nuclear and elementary particle physics.

PHYS 439 Majors Laboratory in Modern Physics.
(3) (Fall) (6 hours) (Prerequisite: PHYS 339.) (Corequisite: PHYS 446) (Restriction: Not open to students with credit in PHYS 359 except with permission of instructor) Advanced level experiments in modern physics stressing quantum effects and some properties of condensed matter.

PHYS 446 Majors Quantum Physics.
(3) (Fall) (3 hours lectures) (Prerequisite: PHYS 230 and PHYS 232, or PHYS 251) (Restriction: Not open to students taking or having taken PHYS 357 or PHYS 457) de Broglie waves, Bohr atom. Schroedinger equation, wave functions, observables. One dimensional potentials. Schroedinger equation in three dimensions. Angular momentum, hydrogen atom. Spin, experimental consequences.

PHYS 449 Majors Research Project.
(3) (Winter or Summer) (6 hours) (Prerequisite: PHYS 328, PHYS 439) A supervised research project.

PHYS 451 Honours Classical Mechanics 2.
(3) (Winter) (3 hours lectures) (Prerequisite: PHYS 251.) (Restriction: Honours students, or permission of instructor) (Restriction: Not open to students having taken PHYS 331) Rigid bodies, angular momentum, gyroscope, moment of inertia, principal axes, Euler's equations. Coupled oscillations and normal modes. Lagrangian mechanics and applications. Hamiltonian mechanics. Topics in advanced analytical mechanics.

PHYS 457 Honours Quantum Physics 2.
(3) (Winter) (3 hours lectures) (Restriction: Honours students or permission of instructor) (Restriction: Not open to students having taken PHYS 446) Angular momentum and spin operators. Operator methods in quantum mechanics. Coupling of spin and angular momenta. Variational principles and elements of time dependent perturbation theory (the Golden Rule). Solution of the Schrodinger equation in three dimensions. Applications to the hydrogen and helium atoms and to simple problems in atomic and molecular physics.

PHYS 459D1 (3), PHYS 459D2 (3) Honours Research Thesis.
(Fall) (6 hours) (Restriction: Honours students or permission of instructor) (Students must register for both PHYS 459D1 and PHYS 459D2.) (No credit will be given for this course unless both PHYS 459D1 and PHYS 459D2 are successfully completed in consecutive terms) Honours supervised research project and thesis.

PHYS 469 Honours Laboratory in Modern Physics 2.
(3) (Fall) (6 hours) (Restriction: Honours students or permission of instructor) (Prerequisite: PHYS 359) (Restriction: Not open to students taking PHYS 459) Advanced level experiments in modern physics stressing quantum effects and some properties of condensed matter. Continuation of PHYS 359.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

PHYS 478 Short Research Project.
(1) (Note: Students are expected to find an appropriate instructor for their project.) Supervised research project in physics.

PHYS 479 Honours Research Project.
(3) (6 hours) (Restriction: Honours students or permission of instructor) (Students must also register for PHYS 469 or PHYS 459) (Credit for this course will only be given if students successfully completes PHYS 469 or PHYS 459.) Honours supervised research project.

PHYS 489 Special Project.
(3) (Winter) (6 hours) (Restriction: Only open to students in their final year of the Joint Major in Physics and Computer Science after consultation with the adviser(s) for the program) A project incorporating aspects of both physics and computer science, under the joint supervision of the two departments. The Physics aspect may be either laboratory-based or theoretical in nature. The Computational aspect will involve the development and implementation of algorithms arising from the investigation.

PHYS 514 General Relativity.
(3) (Winter) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) Transition from special to general relativity. Non-Euclidian geometry. The basic laws of Physics in co-variant form, Einstein's equations. Gravitational waves; neutron stars; black holes; cosmology.

PHYS 521 Astrophysics.
(3) (Fall) (3 hours) A quantitative course in galactic and extragalactic astrophysics. Topics include observational techniques, stars and stellar evolution, compact objects, galaxy structure, kinematics, evolution and cosmology.

PHYS 534 Nanoscience and Nanotechnology.
(3) (Fall) Topics include scanning probe microscopy, chemical self-assembly, computer modeling, and microfabrication/micromachining.

PHYS 551 Quantum Theory.
(3) (Fall) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) General formulation, scattering theory, WKBJ approximation, time-dependent perturbation, theory and applications, angular momentum, relativistic wave equations.

PHYS 557 Nuclear Physics.
(3) (Fall) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) General nuclear properties, nucleon-nucleon interaction and scattering theory, radioactivity, nuclear models, nuclear reactions.

PHYS 558 Solid State Physics.
(3) (Fall) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) Properties of crystals; free electron model, band structure; metals, insulators and semi-conductors; phonons; magnetism; selected additional topics in solid-state (e.g. ferroelectrics, elementary transport theory).

PHYS 559 Advanced Statistical Mechanics.
(3) (Fall) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) Scattering and structure factors. Review of thermodynamics and statistical mechanics; correlation functions (static); mean field theory; critical phenomena; broken symmetry; fluctuations, roughening.

PHYS 562 Electromagnetic Theory.
(3) (Winter) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) (Prerequisites (Graduate): U1 or U2 Honours Physics or permission of instructor.) Electrostatics, dielectrics, magnetostatics, timevarying fields, relativity, radiating systems, fields of moving charges.

PHYS 567 Particle Physics.
(3) (Winter) (3 hours lectures) (Restriction: Honours students, or permission of the instructor) Survey of elementary particles; hadrons, leptons and hardrons' constituents (quarks). Invariance principles and conservation laws. Detectors and accelerators. Phenomenology of strong, electomagnetic and weak interactions.

PHYS 580 Introduction to String Theory.
(3) (Fall) (Prerequisite: Permission of instructor.) (Restriction: Honours students.) Introduction to bosonic string theory, with application to fundamental theories of particle physics. Gravity and electromagnetism in extra dimensions, dynamics of classical and quantum strings, worldsheet parametrization, conserved currrents, light-cone gauge, string thermodynamics and black holes, D-branes.

PSYC-Psychology

Offered by: Psychology

PSYC 100 Introduction to Psychology.
(3) (Summer) (2 lectures; 1 conference) (Restriction: Not open to students who have passed an Introductory Psychology course in CEGEP: 350-101 or 350-102 or equivalent) Introduction to the scientific study of mind and behavior, including basic concepts and methods in psychology while also highlighting the relevance of psychology to everyday life; attachment, aggression, depression, parenting and personality change.

PSYC 204 Introduction to Psychological Statistics.
(3) (Summer) (2 lectures; 1 conference) (Restriction: Not open to students who have passed a CEGEP statistics course(s) with a minimum grade of 75%: Mathematics 201-307 or 201-337 or equivalent or the combination of Quantitative Methods 300 with Mathematics 300) (This course is a prerequisite for PSYC 305, PSYC 406, PSYC 310, PSYC 336) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) The statistical analysis of research data; frequency distributions; graphic representation; measures of central tendency and variability; elementary sampling theory and tests of significance.

PSYC 211 Introductory Behavioural Neuroscience.
(3) (Winter) (2 lectures) (Prerequisite: PSYC 100 or equivalent) An introduction to contemporary research on the relationship between brain and behaviour. Topics include learning, memory and cognition, brain damage and neuroplasticity, emotion and motivation, and drug addiction and brain reward circuits. Much of the evidence will be drawn from the experimental literature on research with animals.

PSYC 212 Perception.
(3) (Summer) (2 lectures; 1 conference) Perception is the organization of sensory input into a representation of the environment. Topics include: survey of sensory coding mechanisms (visual, auditory, tactile, olfactory, gustatory), object recognition, spatial localization, perceptual constancies and higher level influences.

PSYC 213 Cognition.
(3) (Winter) (2 lectures, 1 conference) (Prerequisite: One previous course in Psychology.) Where do thoughts come from? What is the nature of thought, and how does it arise in the mind and the brain? Cognition is the study of human information processing, and we will explore topics such as memory, attention, categorization, decision making, intelligence, philosophy of mind, and the mind-as computer metaphor.

PSYC 215 Social Psychology.
(3) (Fall and Winter) (3 lectures) (Restriction: Not open to students who have taken PSYC 330, MGCR 221 or SOCI 216) The course offers students an overview of the major topics in social psychology. Three levels of analysis are explored beginning with individual processes (e.g., attitudes, attribution), then interpersonal processes (e.g., attraction, communication, love) and finally social influence processes (e.g., conformity, norms, roles, reference groups).

PSYC 301 Animal Learning & Theory.
(3) (Fall) (Prerequisite(s): PSYC 211 or PSYC 213 or permission of instructor.) (Restriction: Not open to students who have taken PSYC 211 prior to the 2000-01 academic year) Contemporary and historical research and theory on animal learning approached from a behavioural, cognitive and biological perspective. Classical and instrumental conditioning, cognitive

learning, and biological constraints. The status and history of North American behaviourism will be discussed and compared with cognitive and other approaches.

PSYC 304 Child Development.
(3) (Fall) (2 lectures, 1 conference) (Prerequisites: two courses from PSYC 211, PSYC 212, PSYC 213, and PSYC 215 or permission of the instructor) (This course is a prerequisite for PSYC 412, PSYC 413, PSYC 414, PSYC 416) Psychology of children, covering critical issues, theories, biological underpinnings, experimental methods, and findings in perceptual, cognitive, language, emotional, and social development.

PSYC 305 Statistics for Experimental Design.
(3) (Summer) (Prerequisite: PSYC 204 or equivalent) (This course is required of all students who propose to enter an Honours or Major program in Psychology) (You may not be able to receive credit for this course and other statistic courses. Be sure to check the Course Overlap section under Faculty Degree Requirements in the Arts or Science section of the Calendar.) An introduction to the design and analysis of experiments, including analysis of variance, planned and post hoc tests and a comparison of anova to correlational analysis.

PSYC 311 Human Cognition and the Brain.
(3) (Fall) (2 lectures; 1 conference) The course is an introduction to the field studying how human cognitive processes, such as perception, attention, language, learning and memory, planning and organization, are related to brain processes. The material covered is primarily based on studies of the effects of different brain lesions on cognition and studies of brain activity in relation to cognitive processes with modern functional neuroimaging methods.

PSYC 315 Computational Psychology.
(3) (Winter) (Prerequisite: Permission of instructor.) (Restriction: Not open to U0 or U1 students.) Application of computational methods to the simulation of psychological phenomena. Comparison of natural and artificial intelligence. Symbolic and neural network techniques. Methods for evaluating simulations.

●**PSYC 316 Psychology of Deafness.**
(3) (Fall) (2 lectures; 1 conference) (Prerequisite: PSYC 100 or equivalent or permission of instructor) Basic introduction to the field of deafness from a psychological perspective. Topics include effect of deafness on sensory, perceptual, cognitive, intellectual and linguistic processes. Impact of deafness on children and families.

PSYC 317 Genes and Behaviour.
(3) (Fall) (Pre-requisite: PSYC 211 or PSYC 308 or BIOL 306 or PHGY 314 or permission of instructor.) Focuses on current techniques employed to study which genes influence behaviour, and how they do so.

PSYC 318 Behavioural Neuroscience 2.
(3) (Winter) (2 lectures, 1 conference) (Prerequisite: PSYC 308 or PSYC 311 or BIOL 306 or PHGY 314) The physiological bases of motivational states, with respect to feeding, drinking, sexual behavior, drug use, and aggression. Physiological bases of learning and memory.

●**PSYC 329 Introduction to Auditory Cognition.**
(3) (3 lecture hours per week.) (Prerequisites: PSYC 212 or PSYC 213 or permission of the instructor.) Listener's response to sound. Higher-level mental principles including perception, attention, memory, motor control, and emotion. Sensation and perceptual organization of sound. Perception/production of speech, music, and other auditory events.

PSYC 331 Inter-Group Relations.
(3) (Winter) (2 lectures) (Prerequisite: PSYC 215) The course focuses on the social psychology of societal groups such as racial minorities, aboriginal groups and women. The ideological biases of current theories is first established. This is followed by a review of current theories and finally current controversies are explored including new forms of racism and affirmative action.

PSYC 332 Introduction to Personality.
(3) (Winter) (3 lectures) (Prerequisite: PSYC 100) This course examines some of the major theories of personality, e.g., those of Freud, Rogers, and Bandura. Empirical research inspired by these theories will also be examined. Topics include the nature of human motivation, the role of the self-concept, and the consistency and stability of personality.

PSYC 333 Personality and Social Psychology.
(3) (Fall) (2 lectures) (Prerequisite: PSYC 215) The course builds on and is an extension of Social Psychology (PSYC 215). Traditional approaches to person-situation interactions and a more dynamic approach based on recent research on goals and social cognition.

PSYC 337 Introduction: Abnormal Psychology 1.
(3) (Fall) (2 lectures, 1 conference) (This course is prerequisite for PSYC 338) A survey of the genetic, physiological and environmental origins of intellectual and emotional disorders.

PSYC 338 Introduction: Abnormal Psychology 2.
(3) (Winter) (2 lectures; 1 conference) (Prerequisite: PSYC 337) (This course is prerequisite for PSYC 491) An introduction to psychotic behaviour problems, character disorders and behaviour modification.

PSYC 340 Psychology of Language.
(3) (Winter) (Prerequisite: PSYC 212 or PSYC 213.) A survey of issues in psycholinguistics, focusing on the nature and processing of language (e.g., how we understand speech sounds, words, sentences, and discourse). Also surveyed: language and thought, the biological foundations of language, and first language acquisition.

●**PSYC 341 The Psychology of Bilingualism.**
(3) (Winter) (2 lectures) (Prerequisites: Introductory Psychology, and PSYC 340 or introduction to linguistics; or permission of instructor) This course will examine issues in bilingualism, including second language acquisition in children and adults, critical period hypothesis, cognitive consequences and correlates of bilingualism, social psychological aspects of bilingualism, and bilingual education.

PSYC 342 Hormones and Behaviour.
(3) (Winter) (2 lectures) (Prerequisite: BIOL 111, BIOL 112, BIOL 115 or equivalent) The role of hormones in organization of CNS function, as effectors of behaviour, in expression of behaviours and in mental illness.

PSYC 351 Research Methods in Social Psychology.
(3) (Fall) (1 hour lecture, 6 hour lab and/or field work) (Prerequisite: PSYC 215. Pre-/Co-requisite: PSYC 305.) (Restriction: U2 level and above. Requires departmental approval.) (Students will be admitted on the basis of a written application on forms available from the Department (Room N7/9). Applications must be submitted by August 1st) Designed to introduce students to the issues, strategies, and applications of various research methodologies in social psychology. Through demonstrations, exercises, and pilot studies, students will gain experience with lab and field methods using both correlational and experimental procedures. Classic and contemporary approaches will be examined.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

PSYC 352 Cognitive Psychology Laboratory.
(3) (Winter) (1 hour lecture, weekly lab) (Prerequisite: PSYC 213 and PYSC 305.) (Corequisite: PSYC 305 or equivalent.) (Restriction: Requires departmental approval.) (Students will be admitted on the basis of a written application on forms available from the Department (Room N7/9). Applications must be submitted by first day of class) Introduction to research methods and experimental techniques in cognitive psychology for exploring topics such as attention, memory, categorization, reasoning, and language processing.

●PSYC 353 Laboratory in Human Perception.
(3) (Winter) (1 hour lecture plus 3 hour lab) (Prerequisites: PSYC 212, U2 level or above. Requires departmental approval.) (Students will be admitted on the basis of a written application on forms available from the Department (Room N7/9). Applications must be submitted by August 15) Students will be introduced to standard psychophysical procedures and data analysis techniques, and will have the opportunity to design and carry out their own experiments. Research topics include: visual acuity, form and motion perception, and visual search. Evaluation based on individually written reports on lab experiments.

PSYC 380D1 (4.5), PSYC 380D2 (4.5) Honours Research Project Seminar.
(3 hour seminar) (Restriction: For U2 honours students only. Requires departmental approval.) (Students must register for both PSYC 380D1 and PSYC 380D2.) (No credit will be given for this course unless both PSYC 380D1 and PSYC 380D2 are successfully completed in consecutive terms) First laboratory research project.

PSYC 395 Psychology Research Project 1.
(6) (Fall or Winter) (Prerequisites: 24 credits of the psychology program, PSYC 305 or equivalent and CGPA above 3.00.) (Restriction: Requires departmental approval.) (Restriction: Registration is by special arrangement with Psychology staff, and project proposals must be approved by the Department before registration.) (For more information see the Psychology Department website.) Supervised research project.

PSYC 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

PSYC 403 Modern Psychology in Historical Perspective.
(3) (Fall) (2 lectures) A survey of the scientific and ideological influences on psychology from its philosophical beginnings through the period of the schools to its modern situation.

PSYC 406 Psychological Tests.
(3) (Winter) (2 lectures) (Prerequisite: PSYC 204 or equivalent) An introduction to the theory and practice of psychological measurement in health, educational, clinical and industrial/organizational settings. Attention to procedures for developing and validating tests and questionnaires. Techniques include: intelligence tests, projective tests, questionnaires, structured interviews, rating scales, and behavioural/performance tests.

PSYC 408 Principles of Cognitive Behaviour Therapy.
(3) (2 lectures) (Prerequisites: PSYC 337 and PSYC 211 or permission of instructor) An introduction to the theory, research and practice of cognitive behaviour therapy. The experimental approach to understanding human behaviour is used to follow basic principles of learning and their clinical application. Certain psychiatric disorders such as alcoholism and depression are highlighted to illustrate how a behaviour therapist conceptualizes problems and formulates treatments.

●PSYC 409 Positive Psychology.
(3) (Prerequisites: PSYC 215 Social Psychology) (Note: Permission from instructor is required.) Didactic instruction and experiential learning in its coverage of three issues central to this field: positive emotions, positive individual traits, and positive institutions. Topics covered include sensory savoring, expressing gratitude, optimism, identifying and building strengths, kindness, and meaning.

PSYC 410 Special Topics in Neuropsychology.
(3) (Winter) (2 lectures) (Prerequisites: PSYC 311 or PSYC 308. Knowledge of basic neuropsychology at the level covered in PSYC 311 is assumed) Developments in cognitive neuroscience and cognitive neuropsychiatry via readings from primary sources. Topics include the neural bases of memory, emotion, social cognition and neuropsychiatric diseases. Integrating knowledge from studies in clinical populations and functional neuroimaging studies.

PSYC 412 Developmental Psychopathology.
(3) (Fall) (2 lectures; 1 conference) (Corequisite: PSYC 304 or PSYC 337 or permission of instructor) Introduction to the field of behavior disorders of childhood and adolescence, including core issues, theoretical and methodological underpinnings, descriptions and discussions of many disorders, clinical and research data, and treatment approaches. Three major assumptions will be woven through the course.

PSYC 413 Cognitive Development.
(3) (Fall) (3 hours) (Prerequisite: PSYC 304 or PSYC 213 or equivalent) In-depth exploration of cognitive development in infants and children including knowledge representation and processing, conceptual development, language development, and theories and principles of cognitive development.

PSYC 414 Social Development.
(3) (Fall) (Prerequisites: PSYC 304 and PSYC 305) Advanced study of the development of social behaviour and social cognition in children. Topics include: socialization, attachment, aggression, exploration, role taking, communication, family and peer relations, self and person perception. The development of these social processes within the framework of three general theories of development: behaviour genetics, learning, and cognitive-developmental.

PSYC 427 Sensorimotor Behaviour.
(3) (Fall) (2 lectures) (Prerequisite: PSYC 308 or permission of instructor) A systematic examination of the sensorimotor system, drawing on models and data from both behavioural and physiological studies. Topics include: cortical motor areas, cerebellum, basal ganglia, spinal mechanisms, motor unit properties and force production, prioception, muscle properties.

PSYC 429 Health Psychology.
(3) (Winter) (2 lectures; 1 conference) A survey of major issues in the developing field of health psychology: historical perspective; health effects of stress; pain mechanisms and management; prevention and management of chronic diseases, hypertension, coronary heart disease, cancer, and immunological disorders. Behaviour change strategies for smoking, overeating, physical inactivity, and sexual risk behaviour.

PSYC 436 Human Sexuality and its Problems.
(3) (Fall) (Prerequisite: either PSYC 337 or permission of the instructor) This course will deal with typical sexual behavior and its variations. Topics will include the history of sex research, the sexual response cycle, sexual dysfunction, gender identity, sexual orientation, etc. Current research and theory will be emphasized.

PSYC 450D1 (4.5), PSYC 450D2 (4.5) Research Project and Seminar.
(Prerequisites: PSYC 204, PSYC 305.) (Restriction: Requires departmental approval.) (Restriction: Only for Major or special students in U3 who intend to proceed to graduate school) (Students will be admitted on the basis of a written application on forms available from the Department (Room N7/9). Applications must be submitted by August 1st) (Students must register for both PSYC 450D1 and PSYC 450D2.) (No credit will be given for this course unless both PSYC 450D1 and PSYC 450D2 are successfully completed in consecutive terms) Under supervision of an adviser approved by the Department, students

design and carry out a research project. Students report their research in seminars throughout the year and in a final written report.

●PSYC 451 Human Factors Research and Techniques.
(3) (Fall) (2 lectures; 1 lab) (Prerequisites: PSYC 204, PSYC 211, PSYC 212, PSYC 213, PSYC 215 and PSYC 305 or permission of instructor) The application of psychology to the analysis and design of systems and products to increase efficiency and reduce the probability and risk of human error. Topics include: workload and vigilance, control-display relationships, task analysis, and workstation design.

PSYC 470 Memory and Brain.
(3) (Winter) (3 hour lectures) (Prerequisites: PSYC 308 and PSYC 318 or PHGY 311 or BIOL 306) Memory systems are studied with an emphasis on the neural computations that occur at various stages of the processing stream, focusing on the hippocampus, amygdala, basal ganglia, cerebellum and cortex. The data reviewed is obtained from human, non-human primates and rodents, with single unit recording, neuroimaging and brain damaged subjects.

●PSYC 471 Human Motivation.
(3) (Winter) (3 hours lectures) (Prerequisite: PSYC 215) The course is designed to explore questions such as "Why do people often fail to reach their personal goals?" Current goal-based and need-based theories of human motivation will be reviewed. The instructor will highlight the relevance of motivation research to the domains of education, sports and management.

PSYC 473 Social Cognition and the Self.
(3) (Winter) (2 lectures) (Prerequisites: PSYC 215 and PSYC 333 or PSYC 331 or PSYC 474) (Restriction: Not open to students who have taken PSYC 411) This course examines the social psychological literature emphasizing a) social cognition - how people think about and make sense of their social experiences; and b) self theory - how people create and maintain a sense of identity. These frameworks will be applied to social psychological topics including close relationships, attitudes and self-esteem.

PSYC 474 Interpersonal Relationships.
(3) (Winter) (Prerequisite: PSYC 215, PSYC 204, and PSYC 333 or permission of instructor) Psychological science approach to interpersonal relationships. Organized in terms of the development of relationships, focusing first on impression formation as a platform for the development of relationships. Then we focus on close relationships, examining interpersonal constructs (intimacy, trust, commitment) and reconsidering social cognitive constructs (attributions, schemas) in an interpersonal context.

PSYC 482 Advanced Honours Seminar.
(3) (Fall) (2 lectures, plus student presentations, debates, and discussions.) (Restrictions: Not open to students who have taken 204-480D. For Honours students only.) Ethical issues in scientific and clinical psychology, scientific psychology and social policy; and other issues.

●PSYC 483 Seminar in Experimental Psychopathology.
(3) (Winter) (Restriction: For U3 students only.) (2 lectures) (Prerequisite: PSYC 305 or equivalent.) (Note: Students will be admitted based on written application. Forms available from the Department (Room N7/9). Applications must be submitted by August 1st) Design of experiments in psychopathology, interviewing techniques and clinical diagnosis.

PSYC 488D1 (1.5), PSYC 488D2 (1.5) Special Topics Seminar.
(Restriction: Requires departmental approval.) (Students must register for both PSYC 488D1 and PSYC 488D2.) (No credit will be given for this course unless both PSYC 488D1 and PSYC 488D2 are successfully completed in consecutive terms.) (Note: A written proposal detailing the plans for the seminar must be prepared by the student and the professor and must be approved by the undergraduate program director before registering for this course. This proposal must be received by the Director well before the beginning of the term. Consult the departmental handbook for additional information.) Topics in Psychology.

PSYC 491D1 (3), PSYC 491D2 (3) Advanced Study: Behavioural Disorders.
(1-2 hours lecture or tutorial per week plus a field experience requirement) (Prerequisites: PSYC 337 and PSYC 338. Departmental permission required.) (Students will be admitted on the basis of a written application on forms available from the Department (Room N7/9). Applications must be submitted by August 1st) (Students must register for both PSYC 491D1 and PSYC 491D2.) (No credit will be given for this course unless both PSYC 491D1 and PSYC 491D2 are successfully completed in consecutive terms) A critical examination of topics in abnormal and clinical psychology. Emphasis will be on analysis of theoretical positions and empirical findings as they relate to both etiology and treatment.

PSYC 492 Special Topics Seminar 1.
(3) (Fall or Winter) (Restriction: U3 students. Requires departmental approval.) These seminars are offered by special arrangement between interested Psychology staff and students. Note: A written proposal detailing the plans for the seminar must be approved by the Department Curriculum Committee before the student is permitted to register for this course. This proposal must be received by the Departmental Curriculum Committee well before the beginning of the term for which the seminar is proposed. Consult the Departmental Handbook for additional information.

PSYC 493 Special Topics Seminar 2.
(3) (Fall or Winter) (Restriction: U3 students. Requires departmental approval.) These seminars are offered by special arrangement between interested Psychology staff and students. Note: A written proposal detailing the plans for the seminar must be approved by the Department Curriculum Committee before the student is permitted to register for this course. This proposal must be received by the Departmental Curriculum Committee well before the beginning of the term for which the seminar is proposed. Consult the Departmental Handbook for additional information.

PSYC 494D1 (4.5), PSYC 494D2 (4.5) Psychology Research Project.
(Prerequisites: 30 credits of the psychology program, PSYC 305 or equivalent and CGPA above 3.00.) (Restrictions: Requires departmental approval. Registration is by special arrangement with Psychology staff, and project proposals must be approved by the Department before registration.) (For more information see the Psychology Department website.) (Students must register for both PSYC 494D1 and PSYC 494D2.) (No credit will be given for this course unless both PSYC 494D1 and PSYC 494D2 are successfully completed in consecutive terms.) Supervised research project.

PSYC 495 Psychology Research Project 2.
(6) (Fall or Winter) (Prerequisite: PSYC 395 or equivalent.) (Restriction: Registration is by special arrangement with Psychology staff, and project proposals must be approved by the Department before registration.) (Registration is by special arrangement with Psychology staff, and project proposals must be approved by the Department before registration.) (For more information see the Psychology Department website.) Supervised research project.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

PSYC 496 Senior Honours Research 1.
(6) (Prerequisite: PSYC 380D1/PSYC 380D2) Second laboratory research project.

PSYC 497 Senior Honours Research 2.
(6) (Prerequisite: PSYC 380D1/PSYC 380D2.) (Corequisite: PSYC 496) Third laboratory research project.

PSYC 498D1 (4.5), PSYC 498D2 (4.5) Senior Honours Research.
(Students must register for both PSYC 498D1 and PSYC 498D2.) (No credit will be given for this course unless both PSYC 498D1 and PSYC 498D2 are successfully completed in consecutive terms) (Prerequisite: PSYC 380D1/PSYC 380D2) Second two-term laboratory research project.

PSYC 499 Reading Project.
(1) (Prerequisites: PSYC 211, 212, 214, 215 and 305.) (Restriction: Open only to U3 students.) Under the guidance of an instructor with the relevant expertise, the student explores the literature on a special topic.

PSYC 501 Auditory Perception.
(3) (2 lectures) (Prerequisite: Undergraduate courses in perception or sound or neuroscience and permission of instructor.) (Restrictions: For U3 and graduate students.) Auditory perception and its neural correlates, covering acoustics, auditory anatomy and neurobiology, and the neural correlates of perception of loudness, pitch, spatial location, frequency specificity, musical, speech sounds, and segregation of component sounds in multi-sound environments in both humans and animals.

PSYC 502 Psychoneuroendocrinology.
(3) (Fall) (Prerequisite: One of PSYC 308, PSYC 311, PSYC 318, PSYC 342, or permission of the instructor.) Neuroendocrinological mechanisms of action that underlie specific behaviors and their disorders. Hormones and cognitive functioning, sexual functioning, aggression, mood and stress in humans and will focus on methods of hypothesis-testing in these areas.

PSYC 505 The Psychology of Pain.
(3) (Fall) (2 lectures; 1 conference) (Prerequisites: any two of the following: PSYC 308, PSYC 311, PSYC 318, PSYC 522, ANAT 321, BIOL 306, PHGY 314 or permission of instructor.) An introduction to pain research and theory, with emphasis on the interactions of psychological, cultural and physiological factors in pain perception. The role of these factors in clinical pain and its management by pharmacological and non-pharmacological means will be discussed.

●**PSYC 507 Emotions, Stress, and Illness.**
(3) (Prerequisites: PSYC 337, PSYC 429 and permission of the instructor.) Emotional effects on peripheral physiology and the development, course, and outcome of physical disorders such as high blood pressure, coronary artery disease, ulcers, asthma, and cancer.

●**PSYC 512 Advanced Personality Seminar.**
(3) (Prerequisite: PSYC 332 or permission of instructor.) (Restrictions: Open to psychology students. Enrollment limited. Students must be in U3 or above. Departmental permission required.) Advanced topics in personality. Focus on power, status, and dominance and how these are manifested in social behavior. Dominance in nonhuman species, biological substrates of dominance, relations of status and dominance to social cognition, affect, and health; gender, role and cultural influences on dominance.

●**PSYC 514 Neurobiology of Learning and Memory.**
(3) (Winter) (Prerequisite(s): BIOL 306 or PHGY 311 or NSCI 201 or NEUR 310 or permission of the instructor) (Restriction(s): Not open to students who have taken or are taking BIOL 531 or BIOL 514.) Properties of nerve cells that are responsible for learning and memory. Recent advances in the understanding of neurophysiological, biochemical and structural processes relevant to neural plasticity. Emphasis on a few selected model systems involving both vertebrate and invertebrate animals.

PSYC 526 Advances in Visual Perception.
(3) (Fall) (2 lectures) We examine in detail the structure of the visual system, and its function as reflected in the perceptual abilities and behaviour of the organism. Parallels are also drawn with other sensory systems to demonstrate general principles of sensory coding.

●**PSYC 528 Vulnerability to Depression.**
(3) (Prerequisite: PSYC 337 or PSYC 412 or permission of instructor. Requires departmental approval.) This course will examine in depth cognitive, behavioral, psychodynamic, biological, and developmental psychopathology models of the etiology of depression. Within each theoretical perspective, core issues, theoretical and methodological underpinnings, and research data will be examined.

PSYC 529 Music Cognition.
(3) (Fall) (Prerequisites: PSYC 212, PSYC 213, PSYC 204 (or equivalent)) Interdisciplinary study of music cognition and perception, with an emphasis on cognitive and experimental approaches. Topics include: psychoacoustics, music memory, tonality, neuropsychology of music, performance, talent and expertise, and developmental aspects.

●**PSYC 530 Applied Topics in Deafness.**
(3) (Fall) (Prerequisite: PSYC 340 or PSYC 316 or equivalent. Permission of instructor) Covers fundamental topics in deafness (sensory, perceptual, cognitive, social, linguistic, education and health issues) from an applied psychological perspective. Lectures and seminar presentations plus field work involving ASL/LSQ.

●**PSYC 531 Structural Equation Models.**
(3) (Fall) (one 2-hour lecture plus one lab) (Prerequisite: PSYC 536, PSYC 651, or equivalent, or permission of instructor.) The course introduces basic concepts underlying structural equation models (SEM). SEM, which combine regression analysis and factor analysis, are quite useful and are currently very popular in analyzing data that arise in social, developmental and clinical psychology. The students are expected to get first-hand experiences in fitting SEM, and learn how to interpret and report the results from SEM.

PSYC 532 Cognitive Science.
(3) (Fall) (Prerequisites: Admission to the Cognitive Science Minor or permission of instructor. Students should ideally have some cognitive science background in at least two disciplines) The multi-disciplinary study of intelligent systems. Problems in vision, memory, categorization, choice, problem solving, cognitive development, syntax, language acquisition, and rationality. Rule-based and connectionist approaches.

PSYC 533 International Health Psychology.
(3) (Fall) (Prerequisite: PSYC 305 and PSYC 215 or PSYC 429 or PSYC 304 or ANTH 227.) (Restriction: Departmental permission required.) The focus will be on health and illness in developing countries, in particular, on health problems (malnutrition, alcohol abuse, mental illness, family planning, and HIV) where psychosocial factors play a large role in the problem and the solution. Attempted solutions based on community participation, health education, non-governmental and international agencies will be discussed.

●**PSYC 535 Advanced Topics in Social Psychology.**
(3) (Winter) (Prerequisites: PSYC 215; and PSYC 333 or PSYC 351 or PSYC 380.) (Restriction: Departmental permission required.) (Restriction: Graduate Students, enrolment limited) Classic and contemporary readings in a specific content area within social psychology will be assigned in order to examine the sub-area in depth. The focus will vary depending upon the specialty area of the instructor. These areas include interpersonal relationships, intergroup relations, the self, and social cognition.

●**PSYC 536 Correlational Techniques.**
(3) (Winter) (Prerequisites: PSYC 204 and PSYC 305 or their equivalents, and MATH 133 or equivalent.) (Restriction: Requires departmental approval.) The statistical analysis of relations among a number of variables in situations common in psychology, ecology, and other fields. Methods include regression analysis, principal components analysis, and other techniques for modelling the structure of correlation matrices.

●**PSYC 537 Advanced Seminar in Psychology of Language.**
(3) (Fall) (Prerequisites: PSYC 213 and one of: PSYC 340, LING 200, or LING 201.) (Note: Prior background in the psychology of language, cognitive psychology, or linguistics is essential.) Topics may include: the neural basis of language, evolutionary approaches to language, pragmatics and figurative language processing, disordered language processing, models of spoken word recognition.

●**PSYC 545 Topics in Language Acquisition.**
(3) (Fall) Psychological mechanisms and theories of first language acquisition in infancy and early childhood. Topics such as: infant speech perception, acquisition of grammar, word learning, pidgin and Creole languages, critical and sensitive periods, genetic and evolutionary bases of language.

●**PSYC 561 Methods: Developmental Psycholinguistics.**
(3) (Winter) (3 hour lectures) (Prerequisites: PSYC 340 and LING 355 or equivalent or permission of instructor.) Approaches and methods used in investigations of the development of language and communication. A case study approach, observational-correlational approach versus experimental-manipulative approach, cross sectional design versus longitudinal design.

●**PSYC 562 Measurement of Psychological Processes.**
(3) (Fall) (Restriction: Not open to students who have taken PSYC 336.) The properties of measurements and techniques for the measurement of psychophysical variables such as brightness and loudness and of attitudinal variables such as similarity, preference, and utility. Data analysis tools of value to experimenters. Emphasis on current problems in experimental psychology.

PSYT-Psychiatry

Offered by: Psychiatry

PSYT 199 FYS: Mental Illness and the Brain.
(3) (1 hour lecture and 2 hours seminar weekly) (Restriction: Open only to newly admitted students in U0 or U1, who may take only one FYS. Students who register for more than one will be obliged to withdraw from all but one of them.) (Maximum 25. No prerequisites) This course will introduce the student to the fundamentals of neuroscience, and then use these principles to illustrate recent advances made on the biological causes of, and treatments for, mental disorders with a strong biological component: schizophrenia, depression, mania, anxiety disorders, obsessive-compulsive disorder, Alzheimer's and Parkinson's diseases and alcohol and drug abuse.

PSYT 301 Issues in Drug Dependence.
(3) (Winter) (3 hours) (Prerequisites: PHGY 201 or PHGY 209 or PHGY 210 or PSYC 100 or BIOL 201 or permission of instructor) The phenomenology and epidemiology of the use and abuse of alcohol, nicotine, opiates, stimulants, sedatives and psychotomimetic agents are discussed in relation to current theoretical and experimental issues. The perspective is multidisciplinary and the intention is to develop an understanding of the nature of the issues surrounding drug dependence.

PSYT 500 Advances: Neurobiology of Mental Disorders.
(3) (Winter) (3 hours) (Prerequisite (Undergraduate): BIOC 212 and BIOC 311, or BIOC 312, or BIOL 200 and BIOL 201, or PHGY 311, or PSYC 308 and an upper-level biological science course with permission of the instructors, or equivalent. Basic knowledge of cellular and molecular biology is required.) (Restriction: Open to U3 and graduate students only.) (Restriction: Graduate Studies: strongly recommended for M.Sc. students in Psychiatry.) Current theories on the neurobiological basis of most well known mental disorders (e.g. schizophrenia, depression, anxiety, dementia). Methods and strategies in research on genetic, physiological and biochemical factors in mental illness will be discussed. Discussion will also focus on the rationale for present treatment approaches and on promising new approaches.

PSYT 502 Brain Evolution and Psychiatry.
(3) (Fall) (Prerequisites: BIOL 115 or equivalent as authorized by instructor) The course will focus on the transcendental importance of evolution of nervous systems for normal and pathological behavior. Studies of allomeric brain growth and recent evolutionary theories of brain organization as they relate to normal and abnormal behavior will be emphasized.

●**PSYT 515 Advanced Studies in Addiction.**
(3) (Winter) (Prerequisite: PSYT 301 or permission from one of the instructors.) (Restriction(s): Priority will be given to graduate students registered in Psychiatry, Psychology or Neuroscience graduate programs. Open to undergraduates who have completed PSYT 301 or an equivalent course. Undergraduates must obtain permission of the instructors before registration. Not open to students who have taken PSYT 615.) Critical assessment of research tools, reported data, and theoretical perspectives on drug addiction, with an emphasis on multi-factorial and inter-disciplinary approaches.

REDM-Redpath Museum

Offered by: Redpath Museum

REDM 396 Undergraduate Research Project.
(3) (Restrictions: This course cannot be taken under the S/U option. Departmental permission required. Students cannot be supervised by the same instructor for two 396 Science courses. Open to students in programs offered by the Faculty of Science only.) (Note: Enrolment may be limited. Students are advised to start the application process well before the start of the term and to plan for an alternative course in the case that no suitable project is available. Individual projects will be suggested each term which may have project-specific prerequisites. Some projects may be accessible to students in other disciplines. See http://www.mcgill.ca/science/ours for more information about available projects and application forms and procedures.) Independent research project with a final written report.

REDM 399 Science Writing.
(1) (Prerequisite: Completion of U1 and permission of the instructor.) (Note: Preference given to students concurrently enrolled in Research Project course. To obtain permission, students should email the instructor, Linda.Cooper@mcgill.ca) Techniques for effective science writing, including elements of reader-based scientific manuscripts and Abstracts. Emphasis on how to edit texts to make them logical, precise, and clear.

REDM 400 Science and Museums.
(3) (Winter: Course consists of lectures, practical labs, field trips and individual term-projects.) (Prerequisites: A 200- or 300-level course that deals with diversity of specimens or objects relevant to Museum-based research and collections. e.g. BIOL, 215,BIOL 305, EPSC 210, EPSC 233, ANTH 208, ANTH 310, PLNT 358, WILD 212, WILD 313, or permission of instructor.) Natural history museums and their collections, how collections are created and maintained and how collections are used in scientific research. Context of natural history museums, collections-based research and curatorial methods.

Always check the Class Schedule at www.mcgill.ca/courses for the most up-to-date information on whether a course is offered.

✶ Denotes courses taught only in alternate years.
‡ Professional Practice (Stage) in Dietetics involving special prerequisites
✦ Indicates that departmental approval/permission must be obtained by a student prior to registration.
† Denotes courses not available as Education electives.
❒ Denotes courses with limited enrolment.
● Denotes courses not offered by the Faculty of Arts or Faculty of Science in 2009-10.
▲ Denotes courses offered by the Faculty of Education which, if appropriate to the student's program, may be included in the academic concentration.
❄ Denotes courses which, because they are scheduled around practice teaching, are open only to Bachelor of Education students.

● **REDM 405 Natural History of East Africa.**
(3) (Winter) (Course consists of field exercises, lectures, seminars and discussions.) (Corequisite(s): ANTH/GEOG 451 and NRSC/BIOL 451) (Restriction(s): Not open to students who have taken or are taking NRSC 300 or GEOG 300 or NRSC405. Open only to African Field Study Semester students during the year of participation in the field.) Integrated study of African landforms, geologic history, climate, environments, biota, water resources and human influences, fostering a thorough understanding of the East African landscape and its inhabitants. Lectures, discussions on selected topics, use of museum resources and field studies will develop powers of observation, identification and enquiry.

2009-2010 Campus Maps

Campus maps are available at www.mcgill.ca/maps.