

Welcome to McGill!

With over 300 areas of study offered by 21 faculties and professional schools, we are Canada's leading teaching and research-intensive university.

Our strength lies in the quality of our students, faculty and staff; the depth and variety of our research and academic programs; the collegiality of life on our campuses; our international reputation for excellence; the loyalty and generosity of our alumni and friends; the beauty of our two campuses; and the dedication and support of our staff. We strive to create an atmosphere that challenges and inspires our outstanding students and faculty from all over the world to achieve their very best. We are committed to growing our strength in each of the core areas while enhancing our support for students and faculty.

We welcome you to join the McGill community during a period of unprecedented growth and renewal. We have begun our most ambitious building program in 100 years. All over our downtown campus new buildings are going up that directly benefit students, including the Trottier Building for engineering and computer science, the new Music Building for both performance and research in music, media, and technology, the Bellini Life Sciences Building and 740 Dr. Penfield. Each boasts new cutting-edge facilities that strengthen McGill's place at the forefront of global innovation.



In addition to attracting extraordinarily bright and promising students, McGill is on a pathway to recruit at least 100 new faculty members per year over the next 10 years. The McGill name, reputation and opportunities are making this a reality.

We are committed to positioning ourselves – and you – for success and an enjoyable community and learning experience. Join us!

Heather Munroe-Blum
Principal and Vice-chancellor

All courses in this Calendar will be offered in 2004-05 unless a bullet appears to the left of the course number. No description will appear after the title if the course is not given in the current year. Descriptions can usually be found in preceding Calendars.

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 or programs.

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Cover:

Centre photo: View from McGill's central James Administration Building, facing eastward towards the Milton Gates

Small photos (from left to right):

1. Macdonald Engineering Building
2. Aerial shot of Macdonald Campus
3. Students head through the Roddick Gates on Sherbrooke St.
4. Early snowfall on the downtown campus

Cover design:

Max Stiebel

Aerial photo courtesy of Faculty of Agricultural and Environmental Sciences

Photo, page 1:

Principal Heather Munroe-Blum congratulates Maryvon Côté on receiving his degree of Master of Library and Information Studies in June 2003.



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PAPER



McGill

GRADUATE AND POSTDOCTORAL STUDIES CALENDAR 2004 - 2005

McGill University:
www.mcgill.ca

**Graduate and Postdoctoral
Studies Office**
www.mcgill.ca/gps

Admission:
mcgill.ca/applying/graduate

Registration:
mcgill.ca/minerva

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All courses in this Calendar will be offered in 2003-04 unless otherwise indicated, e.g., a appears to the left of the course number. No description will appear after the title if the course is not given in the current year. Descriptions can usually be found in preceding Calendars.



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Important Information, Regulations and Policies

It is the responsibility of all graduate students to be aware of rules and regulations contained in this Calendar. In particular, attention is drawn to:

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1 Dean's Welcome

Dear Graduate Students and Postdocs,

I wish you a very warm welcome to the McGill community.

It is my hope that your years at McGill will be productive and creative ones. This is a time in your life when you will deepen your understanding of your field of study. It can also be a time in your life when you broaden your scope by meeting and getting to know young scholars from other departments and disciplines as well as those from other cultures and life experiences. Today's complex problems require approaches that integrate thoughts, ideas, and approaches from across a range of disciplines and cultures. It is my hope that your studies at McGill will prepare you to encounter science and scholarship in integrative and innovative ways, characterized by academic rigor and the responsible conduct of research and professional practice.

You have come to this university at a most exciting time. McGill has recently led the nation in a competition for funds for research infrastructure and in per capita research funding. These funds are creating state-of-the-art research in laboratories across a variety of disciplines. The renewal of equipment is accompanied by space renovations and new buildings. Best of all, there is a profusion of new professorial hires as well as funds to retain the wonderful world-class scholars and scientists who will be your professors at McGill. As evidence of our research pre-eminence, in 2003 McGill was named the top research university in Canada.

I would encourage you to both give and to take from this campus and university community: help shape the university by becoming involved in important academic committees; contribute your ideas in class and to your research teams; work hard, but stop long enough to use the new athletic facilities and relax and enjoy yourself at Thomson House; if needed, get support from our excellent counselling, mental health, and learning disability services; attend the numerous lectures by international scholars that take place at McGill each week; listen to beautiful music in Pollack Hall; and travel all over the world to conferences supported by our Alma Mater travel funds.

Along with the wonderful staff of the Graduate and Postdoctoral Studies Office, my office is here to help you. I welcome your comments and ideas for improving yours and others' graduate and postdoctoral experiences at McGill. Please feel free to contact me for further information on graduate and postdoctoral studies.

*Martha Crago, Ph.D.
Dean, Graduate and Postdoctoral Studies*

2 Graduate and Postdoctoral Studies Office

2.1 Location

James Administration Building, Room 400
845 Sherbrooke Street West
Montreal, QC H3A 2T5
Canada

Telephone: (514) 398-3990
Fax: (514) 398-1626
E-mail: graduate.admissions@mcgill.ca
Website: www.mcgill.ca/gps

2.2 Administrative Officers

Martha Crago; B.A., M.Sc.A., Ph.D.(McG.) **Dean (Graduate and Postdoctoral Studies) and Associate Provost (Academic Programs)**

James A Nemes; B.Sc.(Maryland), M.Sc., D.Sc.(GWU) (William Dawson Scholar)
Associate Dean (Graduate and Postdoctoral Studies)

Charlotte E. Légaré; B.Sc.(Montr.), M.Sc.(Sher.), M.B.A.(McG.)
Director (Graduate and Postdoctoral Studies)

2.3 General Statement Concerning Higher Degrees

The Graduate and Postdoctoral Studies Office (GPSO) administers all programs leading to graduate diplomas, certificates and higher degrees. It is responsible for the admission of candidates, the supervision of their work and for recommending to Senate those who may receive the degrees, diplomas and certificates.

3 Calendar of Dates 2004-2005

Given in this section are Graduate and Postdoctoral Studies Office key dates. The complete Calendar of Dates is available on the Web at www.mcgill.ca/student-records. The excerpt published herein was accurate as of May 2004. The information is subject to change and users are advised to verify important dates by checking the Web.

LEGENDS	
GPSO	Graduate and Postdoctoral Studies Office
Activity Codes:	
APP	Application
AWRD	Awards (including scholarships)
CONV	Convocation
EXAM	Examinations
INFO	Information
LEC	Lecture
NOTE	Note to students
ORIENT	Orientation
REG	Registration
THES	Thesis
W	Course withdrawal
W--	University withdrawal

DATE	ACTIVITY CODE	ACTIVITY
March 2004		
Mar. 1, Mon.	APP	Deadline for application for September admission to most departments in the GPSO. (Many departments have earlier deadlines. Please verify with the individual department or on the web at www.mcgill.ca/applying/graduate).
Mar. 12, Fri.	REG	Summer Session registration opens for Undergraduate and Graduate students. Graduate students should confirm dates with individual departments.
Mar. 25, Thurs.	REG	Registration using Minerva for all students entering the <u>graduating (U3/U4)</u> year of their program (excluding courses offered by the Faculty of Management, except as noted below), and all students in Graduate degree programs, except for Continuing Education.
April 2004		
Apr. 9, Fri. and Apr. 12, Mon.	HOLIDAY	EASTER. No classes or exams. Administrative offices closed. Library hours to be announced.
Apr. 13, Tues.	LEC	Last day of lectures for Winter Term 2004 for classes that follow the Monday, Wednesday, Friday class schedule.
Apr. 15, Thurs. to Apr. 30, Fri.	EXAM	Examination period for courses ending during the Winter term.
May 2004		

DATE	ACTIVITY CODE	ACTIVITY
May 15, Sat.	W	Deadline for Web withdrawing (grade of "W") from multi-term courses that started in Winter 2004. Please note that students in multi-term courses with course numbers ending in N1 and N2 (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 12 (with full refund for the fall term) by contacting their faculty Student Affairs Office.
May 15, Sat.	W--	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 \$100.00 minimum charge).
May 24, Mon.	HOLIDAY	VICTORIA DAY (Classes cancelled). Administrative offices closed. Libraries are closed.
May 31, Tues.	CONV	10:00 Management 15:00 Health Sciences 19:00 Continuing Education
June 2004		
June 1, Tues.	CONV	10:00 Education, Arts & Religious Studies 14:00 Engineering
June 2, Wed.	CONV	14:00 Music
June 3, Thurs.	CONV	14:00 Science
June 4, Fri.	CONV	10:00 Law
June 4, Fri.	CONV	14:30 Agricultural & Environmental Sciences
June 7, Mon.	THES	Deadline to submit Doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Fall 2004. Meeting this deadline does not guarantee a Fall graduation.
June 21, Mon.	THES	Deadline to submit Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Fall 2004. Meeting this deadline does not guarantee a Fall graduation.
June 24, Thurs.	HOLIDAY	LA FÊTE NATIONALE DU QUÉBEC . Libraries closed. Classes cancelled. Administrative offices closed.
	NOTE	Between June 25 and August 20 (inclusive) administrative offices will be closed each Friday.
July 2004		

DATE	ACTIVITY CODE	ACTIVITY
July 1, Thurs.	HOLIDAY	CANADA DAY . Classes cancelled. Libraries closed. Administrative offices closed.
August 2004		
Aug. 2, Mon.	REG	Last day for returning students in all faculties to register (except Continuing Education) without a late registration fee.
Aug. 3, Tues. to Sept. 1, Wed.	REG	Late registration using Minerva for returning students in all faculties (except Continuing Education) with a \$50 late fee.
Aug. 3, Tues. to Sept. 1, Wed.	REG	Registration using Minerva for all <u>newly admitted</u> students in Graduate Studies.
Aug. 15, Sun.	REG	Registration using Minerva begins for fall term Continuing Education courses.
Aug. 17, Tues. to August 31, Tues.	IDCARD	IDs at the Trotter Building. Including Saturday, August 21 and Sunday, August 22. Excluding Saturday, August 28 and Sunday, August 29.
Aug. 19, Thurs. to Sept. 3, Fri.	ORIENT	Orientation Centre opens daily at 9:00 a.m., Brown Student Services Building, 2 nd floor, 3600 McTavish Street (closed weekends and Labour Day).
Aug. 19, Thurs. to Sept. 10, Fri.	ORIENT	First-Year Resource Room opens daily (9:00 a.m. to 5:00 p.m.) Brown Student Services Building, Room 2007, 3600 McTavish Street (closed weekends and Labour Day).
Aug. 23, Mon. to Aug. 31, Tues.	ORIENT	Orientation Week
Aug. 23, Mon. to Aug. 31, Tues.	ORIENT	"Discover Mac" – Faculty Orientation for all new students in the faculty of Agricultural and Environmental Sciences.
Aug. 23, Mon. to Sept. 9, Thurs.	IDCARD	IDs at Laird Hall during "Discover Mac" week. Refer to Orientation schedule and website www.mcgill.ca/macdonald/ for more details (closed Monday, September 6).
Aug. 27, Fri.	REG	Deadline for cancellation of registration for the Fall term except Continuing Education. (Deposit is non-refundable for new students.)

DATE	ACTIVITY CODE	ACTIVITY
Aug. 31, Tues.	THES	Registered students in 2003-2004 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 2004-2005 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.
	NOTE	Students should not expect to graduate in Fall 2004, but must graduate by Fall 2005 (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.
September 2004		
Sept. 1, Wed.	REG	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).
Sept. 1, Wed.	LEC	Lectures begin.
Sept. 2, Thurs. to Sept. 12, Sun.	REG	Late registration period with \$100 late registration fee for all faculties (\$25 late registration fee for Continuing Education students; \$40 for Special students).
Sept. 6, Mon.	HOLIDAY	LABOUR DAY. (Classes cancelled). Libraries closed. Administrative offices closed.
Sept. 7, Tues.	ORIENT	University Orientation for new graduate students in Thomson House, 3650 McTavish Street, either 10:30 - 11:30 a.m. or 5:00 - 6:00 p.m.
Sept. 8, Wed.	ORIENT	University Orientation for new Postdocs in Thomson House, 3650 McTavish Street, 5:30 - 6:30 p.m.
Sept. 12, Sun.	REG	Course Change (drop/add) deadline for Fall Term and first part of multi-term courses starting in September 2004.)

DATE	ACTIVITY CODE	ACTIVITY
Sept. 12, Sun.	W	Deadline for Web withdrawing (grade of "W") from multi-term courses that started in Summer 2004 (with fee refund for Fall Term). Please note that students in multi-term courses with course numbers ending in N1 and N2 (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 12 (with full refund for the fall term) by contacting their faculty Student Affairs Office.
Sept. 19, Sun.	W/W--	Deadline to web withdraw (grade of "W") with full refund (less \$100 minimum charge for returning students and less deposit for new students, in case of complete withdrawal from the University).
Sept. 24, Fri.	AWRD	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.
October 2004		
Oct. 4, Mon.	THES	Deadline for submission of doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to graduate in February 2005. Meeting this deadline does not guarantee a Winter graduation.
Oct. 10, Sun.	W	Deadline for web withdrawing (grade of "W") from Fall Term courses and Continuing Education Fall Term courses.
Oct. 11, Mon.	HOLIDAY	THANKSGIVING DAY (Classes cancelled). Libraries closed. Administrative offices closed. Continuing Education evening classes will be re-scheduled.
Oct. 14, Thurs. to Oct. 17, Sun.	EVENT	Homecoming 2004 (including Macdonald campus activities).
Oct. 16, Sat.	EVENT	Annual Homecoming, Macdonald Branch of the McGill Alumni Association (Macdonald campus).

DATE	ACTIVITY CODE	ACTIVITY
Oct. 18, Mon.	THES	Deadline for submission of Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to graduate in February 2005. Meeting this deadline does not guarantee a Winter graduation.
Oct. 28, Thurs.	CONV	14:30 Fall Convocation.
November 2004		
Nov. 30, Tues.	LEC	Last day of lectures for courses that follow the Tuesday-Thursday class schedule.
December 2004		
Dec. 2, Thurs.	LEC	Unless the instructor has otherwise made up the contact time with the class, last day of lectures for courses that are taught in 3 hour Monday blocks.
Dec. 3, Fri.	LEC	Last day of lectures for course that follow the Monday-Wednesday-Friday class schedule.
Dec. 3, Fri. to Jan. 3, Mon.	REG	Winter Term registration period for new students. Individual faculties and departments set their own dates within this period.
Dec. 6, Mon. to Dec. 21, Tues.	EXAM	Examination period for Fall Term courses, and multi-term courses.
Dec. 15, Wed.	REG	Registration begins for winter term Continuing Education courses via Minerva.
Dec. 23, Thurs. to Jan. 2, Sun.	HOLIDAY	CHRISTMAS AND NEW YEAR'S. Administrative offices will be closed between December 23 and January 2 inclusive. Library hours available at Reference Desks. Refer also to McGill's Web page at www.library.mcgill.ca
January 2005		
Jan. 1, Sat. & Jan. 2, Sun.	HOLIDAY	NEW YEAR'S. Administrative offices closed.
Jan. 3, Mon.	REG	Deadline for new students to register for Winter Term without a late registration fee for all faculties.
Jan. 4, Tues.	LEC	Winter Term lectures begin.
	NOTE	The first Tuesday (January 4) will follow a Monday schedule.
Jan. 4, Tues. to Jan. 16, Sun.	REG	Late registration for new students with \$100 late registration fee for all faculties (\$25 late registration fee for all Continuing Education students; \$40 for Special students).

DATE	ACTIVITY CODE	ACTIVITY
Jan. 5, Wed.	ORIENT	Faculty Orientation for new students in the Faculty of Agricultural and Environmental Sciences (5:30 -6:30 p.m.) Ceilidh Centennial Center.
Jan. 6, Thurs.	ORIENT	University Orientation for new graduate students (5:30 - 6:30 p.m., Ballroom in Thomson House).
Jan. 11, Tues.	ORIENT	University Orientation for new postdocs (5:30 - 6:30 p.m., Ballroom in Thomson House).
Jan. 16, Sun.	REG	Course Change (drop/add) deadline for Winter Term courses and Continuing Education Winter Term courses.
Jan. 16, Sun.	REG	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. 16, Sun.	W	Deadline for web withdrawing (grade of "W") from multi-term courses that started in September 2004 (with fee refund for Winter Term).
Jan. 22, Sat. to Jan. 28, Fri.	EVENT	Carnival Week at Macdonald Campus. Classes as usual.
Jan. 23, Sun.	W/W--	Deadline to web withdraw (grade of "W") from Winter Term courses with fee refund. Returning students - less \$100 minimum charge in the case of complete withdrawal for students not registered in the fall. New students - less deposit in case of complete withdrawal. (No withdrawals from Ed. intensive courses, or music ensembles and practical lessons.)
February 2005		
Feb. 7, Mon.	THES	Deadline to submit doctoral theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Spring 2005. Meeting this deadline does not guarantee a Spring graduation.
Feb. 10, Thurs.	EVENT	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. 13, Sun.	W	Deadline for web withdrawing (grade of "W") from Winter and Winter term Cont. Ed courses. No Refund.

DATE	ACTIVITY CODE	ACTIVITY
Feb. 21, Mon.	THES	Deadline to submit Master's theses with Nomination of Examiners forms to GPSO (Thesis Office) for students expecting to convocate in Spring 2005. Meeting this deadline does not guarantee a Spring graduation.
Feb. 21, Mon. to Feb. 25, Fri.	BREAK	STUDY BREAK and Carnival Friday (Classes cancelled for all faculties except Dentistry, Medicine, Centre for Continuing Education non-credit courses, Stage in Dietetics Level 3). Study break for 2 nd and 3 rd year Physical and Occupational Therapy students. Libraries open.
March 2005		
Mar. 1, Tues.	APP	Deadline for applications 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/applying/graduate .)
Mar. 25, Fri. and Mar. 28, Mon.	HOLIDAY	EASTER. No classes or exams. Administrative offices closed. Library hours to be announced.
April 2005		
Apr. 13, Wed.	LEC	Last day of lectures for Winter Term.
Apr. 14, Thurs. to Apr. 29, Fri.	EXAM	Examination period for Winter Term and multi-term courses.
May 2005		
May 15, Sun.	W	Deadline for web withdrawing (grade of "W") from multi-term courses that started in the Winter term 2005 and end in the Summer term or in the Fall term (with fee refund for Winter Term).
May 15, Sun.	W--	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 \$100.00 minimum charge).
May 23, Mon.	HOLIDAY	VICTORIA DAY (Classes cancelled). Libraries closed. Administrative offices closed.

4 Programs Offered

4.1 Graduate Diplomas and Certificates

Graduate diplomas and graduate certificates are programs of study under the academic supervision of the Graduate and Post-

doctoral Studies Office. They have as a prerequisite an undergraduate degree in the same discipline.

McGill University offers other diploma and certificate programs under the supervision of the relevant undergraduate faculties and their Calendars should be consulted for further details.

Graduate Diplomas are offered in:

- Clinical Research (Experimental Medicine)
- Epidemiology and Biostatistics
- Housing
- Islamic Studies
- Library and Information Studies
- Mining Engineering
- Public Accountancy (C.A.)
- School and Applied Child Psychology (post-Ph.D.)
- Surgical Health Care Research

These programs consist of at least two terms of full-time study or the equivalent.

Graduate Certificates are offered in:

- Air and Space Law
- Biotechnology
- Comparative Law
- Educational Leadership 1
- Educational Leadership 2
- Library and Information Studies
- Post-M.B.A.

All graduate regulations apply to graduate diploma and certificate candidates.

4.2 Degrees

Two categories of programs lead to higher degrees at McGill University, Master's programs and Doctoral programs.

The following degrees are offered:

- Master of Architecture (M.Arch.)
- Master of Arts (M.A.)
- Master of Business Administration (M.B.A.)
- Master of Business Administration/Bachelor of Civil Law (M.B.A./B.C.L.)
- Master of Business Administration/Bachelor of Laws (M.B.A./LL.B.)
- Master of Business Administration/Doctor of Medicine/ Master of Surgery (M.B.A./M.D.)
- Master of Civil Law (M.C.L.)
- Master of Education (M.Ed.)
- Master of Engineering (M.Eng.)
- Master of Laws (LL.M.)
- Master of Library and Information Studies (M.L.I.S.)
- Master of Management (M.M.)
- Master of Music (M.Mus.)
- Master of Sacred Theology (S.T.M.)
- Master of Science (M.Sc.)
- Master of Science, Applied (M.Sc.A.)
- Master of Social Work (M.S.W.)
- Master of Social Work/Bachelor of Civil Law (M.S.W./B.C.L.)
- Master of Social Work/Bachelor of Laws (M.S.W./LL.B.)
- Master of Urban Planning (M.U.P.)
- Doctor of Civil Law (D.C.L.)
- Doctor of Music (D.Mus.)
- Doctor of Philosophy (Ph.D.)

4.3 Master's Degrees Offered

Master of Architecture Degree

There are two M.Arch. programs:

- M.Arch. I (professional degree)
- M.Arch. II (post-professional degree) (Non-thesis)

Instruction for the M.Arch.II is given in the following fields of specialization:

- Architectural History and Theory
- Housing (which includes Affordable Homes, Domestic Environments, and Minimum Cost Housing).

Prerequisites:

M.Arch.I – McGill B.Sc.(Arch.) degree, or equivalent;
M.Arch.II – an M.Arch.I or equivalent professional degree.
See Architecture.

Master of Arts Degree

Programs leading to the degree of Master of Arts are offered in the following areas:

- Anthropology (Thesis and non-thesis)
- Medical Anthropology (Thesis and non-thesis)
- Art History
- Classics (Thesis and non-thesis)
- Communications (Thesis and non-thesis)
- Economics (Thesis and non-thesis)
 - Social Statistics (Non-thesis)
- Education (Thesis and non-thesis)
- English (Thesis and non-thesis)
- French (Thesis and non-thesis)
- Geography
 - Social Statistics (Non-thesis)
 - Neotropical Environment
- German (Thesis and non-thesis)
- Hispanic Studies (Thesis and non-thesis)
- History (Thesis and Non-thesis)
 - History of Medicine (Non-thesis)
- Islamic Studies
- Italian (Thesis and non-thesis)
- Jewish Studies (Thesis and non-thesis)
- Kinesiology and Physical Education (Thesis and non-thesis)
- Linguistics (Non-thesis)
- Mathematics (Thesis and non-thesis)
- Music (Thesis and non-thesis)
- Philosophy
 - Bioethics
- Political Science (Thesis and non-thesis)
 - Social Statistics (Non-thesis)
- Psychology
- Religious Studies (Thesis and non-thesis)
 - Bioethics
- Russian
- Sociology (Thesis and non-thesis)
 - Medical Sociology (Thesis and non-thesis)
 - Social Statistics (Non-thesis)
 - Neotropical Environment

Prerequisites:

Bachelor of Arts in the subject selected for graduate work. See appropriate unit.

Master of Business Administration Degree

A program leading to the degree of Master of Business Administration (M.B.A.) is offered in the following concentrations:

- Accounting
- Entrepreneurial Studies
- Finance
- Information Systems
- International Business
- Management for Development
- Marketing
- Operations Management
- Strategic Management

Prerequisites:

An undergraduate degree from an approved university. See Management.

Special programs:

Joint M.B.A./M.D., Joint M.B.A./Law, Master of Manufacturing Management (see Management and Mechanical Engineering).

Master's Degrees in Education

Three types of Master's degrees are offered:

M.A. (thesis and non-thesis), M.Ed. (non-thesis) and M.Sc. (thesis and non-thesis).

The M.A. may be taken in the following areas:

- Counselling Psychology (Thesis and non-thesis)

- Culture and Values in Education (Thesis and non-thesis)
- Educational Psychology (Thesis and non-thesis)
- Educational Studies (Thesis and non-thesis)
- Kinesiology and Physical Education (Thesis and non-thesis)
- Second Language Education (Thesis and non-thesis)

The M.Ed. may be taken in the following area:

- Educational Psychology

The M.Sc. may be taken in the following area:

- Kinesiology and Physical Education (Thesis and non-thesis)

Prerequisites:

A Bachelor's degree with specialization related to the subject chosen for graduate work, plus a Permanent Quebec Teaching Diploma or its equivalent for some of the above degrees. See appropriate department.

Master's Degree in Engineering

Programs leading to the degree of Master of Engineering are offered in the following areas:

- Biomedical Engineering (Thesis)
- Chemical Engineering (Thesis and project)
 - Environmental Engineering (Project)
 - Petrochemicals, polymers and plastics (Project)
- Civil Engineering and Applied Mechanics (Thesis and project)
 - Rehabilitation of Urban Infrastructure (Project)
 - Environmental Engineering (Project)
- Electrical Engineering (Thesis and project)
 - Computational Science and Engineering (Thesis)
- Mechanical Engineering (Thesis and project)
 - Aerospace Engineering (Project)
 - Computational Science and Engineering (Thesis)
- Mining and Metallurgical Engineering (Thesis and project)
 - Environmental Engineering (Project)
 - Mining (Project)
 - Metals and Materials (Project)

Other degrees:

Master of Management (M.M.) is offered in Manufacturing Management (see Department of Mechanical Engineering and Faculty of Management).

Master of Science (M.Sc.) is offered in Chemical Engineering, Civil Engineering, Mechanical Engineering, and Mining and Metallurgy.

Prerequisites:

Bachelor of Engineering or equivalent, with specialization appropriate for the subject selected for graduate study. See appropriate department.

Master's Degrees in Law

The degree of Master of Laws is offered in:

- Law (Thesis and non-thesis)
 - Bioethics
 - Comparative Law (Thesis and non-thesis)
- Air and Space Law

The degree of Master of Civil Law is offered by the Institute of Comparative Law.

Prerequisites:

An acceptable degree in Law or equivalent qualifications. See Law.

Master of Library and Information Studies Degree

The Graduate School of Library and Information Studies offers a postgraduate professional program in librarianship. Two years of full-time study or the equivalent are required.

Prerequisites:

At least a Bachelor's degree from a recognized university. See Library and Information Studies.

Master's Degrees in Music

Programs leading to the degrees of Master of Arts and Master of Music are offered in the Faculty of Music.

The M.A. may be taken in:

- Music Technology

Musicology (Thesis and non-thesis)
 Music Education (Thesis and non-thesis)
 Theory (Thesis and non-thesis)

The M.Mus. may be taken in:
 Composition
 Performance (various options)
 Sound Recording

Applicants to the Performance program are required to pass auditions in their speciality.

Prerequisites:
 Bachelor of Music or Bachelor of Arts with concentration in the area selected for graduate study. See Music.

Master's Degrees in Nursing

Two types of Master's degrees are offered: Master of Science (Applied) and Master of Science (with thesis). These two-year programs are designed to prepare clinicians and researchers for the expanding function of nursing within the health care delivery system.

Prerequisites:
 Preparation in nursing comparable to the Bachelor's degree offered at McGill and accomplishment and development as a nurse. A current nursing registration is required. Non-nurses holding a bachelor's degree comparable to a B.Sc. or B.A. program offered at McGill may be admitted to a Qualifying Program. See Nursing.

Master's Degrees in Religious Studies

A program leading to the degree of Sanctae Theologiae Magister (S.T.M.) is given in the Faculty of Religious Studies. This degree is primarily for those who intend to enter the ministry of the Christian Church or another religious institution, or to proceed to teaching in schools. A Master of Arts program (thesis and non-thesis) is also available.

Prerequisites:
 B.A. with specialization in religious studies or theology. See Religious Studies.

Master of Science Degree

Programs leading to the degree of Master of Science are provided in the following areas:

Agricultural Economics
 Anatomy and Cell Biology
 Animal Science
 Atmospheric and Oceanic Sciences
 Computational Science and Engineering
 Biochemistry
 Chemical Biology
 Biology
 Neotropical Environment
 Bioresource Engineering
 Neotropical Environment
 Chemical Engineering
 Chemistry
 Chemical Biology
 Civil Engineering and Applied Mechanics
 Communication Sciences and Disorders
 Computer Science (Thesis and non-thesis)
 Computational Science and Engineering
 Dental Science
 Oral and Maxillofacial Surgery
 Earth and Planetary Sciences
 Entomology
 Epidemiology and Biostatistics (Thesis and non-thesis)
 Food Science and Agricultural Chemistry
 Geography
 Neotropical Environment
 Genetic Counselling (Non-thesis)
 Human Genetics
 Human Nutrition
 Kinesiology and Physical Education (Thesis and non-thesis)
 Mathematics (Thesis and non-thesis)

Computational Science and Engineering
 Mechanical Engineering
 Medical Radiation Physics
 Medicine, Experimental
 Bioethics
 Microbiology and Immunology
 Microbiology (Macdonald Campus)
 Mining and Metallurgical Engineering
 Neurological Sciences
 Nursing
 Otolaryngology
 Parasitology
 Pathology
 Pharmacology and Therapeutics
 Chemical Biology
 Physics
 Physiology
 Plant Science
 Neotropical Environment
 Psychiatry
 Psychology
 Rehabilitation Science (Thesis and non-thesis)
 Renewable Resources
 Neotropical Environment
 Surgery, Experimental

Prerequisites:
 Bachelor of Science in the subject selected for graduate work. See appropriate unit.

Master of Science, Applied, Degree

This degree was designed to provide postgraduate training of a professional and vocational character, with less emphasis on theoretical knowledge and research than in Master of Science programs, but with no lower standards either for admission or completion of requirements. Two years of full-time study or equivalent are normally required with an emphasis on course work.

Programs are available in:
 Animal Science
 Bioresource Engineering
 Neotropical Environment
 Biotechnology
 Chemistry
 Communication Sciences and Disorders
 Human Nutrition
 Microbiology and Immunology
 Nursing
 Occupational Health Sciences
 Pharmacology and Therapeutics
 Plant Science
 Rehabilitation Sciences

Prerequisites:
 A Bachelor's degree in the subject selected for graduate work. See appropriate unit.

Master of Social Work Degree

The M.S.W. degree (thesis and non-thesis options) represents a second level of professional study in which students build competence in a chosen field of practice.

Prerequisites:
 Bachelor's degree in Social Work including courses in statistics and social science research methods. See Social Work.

Special program:
 Joint M.S.W./Law.

Master of Urban Planning Degree

The program requires a minimum of two years residence and a 3-month internship with a member of a recognized planning association.

Prerequisites:
 Bachelor's degree in any one of the following: Anthropology, Architecture, Economics, Civil Engineering, Geography, Law, Management, Political Science, Social Work, Sociology or Urban

Planning, with adequate knowledge of quantitative techniques. See Urban Planning.

4.4 Doctoral Degrees Offered

Doctor of Civil Law Degree

Doctoral programs are offered in Air and Space Law and Law (Comparative Law). Both are predominantly research degrees awarded on the basis of a thesis that represents an original contribution to the development of legal science.

Prerequisites:

B.C.L. or LL.B. and usually LL.M. See Law.

Doctor of Music Degree

The Doctor of Music degree is offered in Composition. The Doctoral thesis consists of a musical composition of major dimensions together with a written analysis of the work. The composition is presented by the candidate in concert. The regulations set forth for the Ph.D. generally apply also to the D.Mus.

Prerequisite:

M.A. in composition. See Music.

The Doctor of Music degree is also offered in Performance. It is offered to professional musicians who wish to teach at the university level and to develop a specialization in a particular repertoire, approach, or discipline (musicology, music theory, music education and pedagogy, or music technology).

Prerequisites:

Master's degree in Performance, and professional and teaching experience. See Music.

Doctor of Philosophy Degree

Programs leading to the degree of Doctor of Philosophy are offered in the following areas:

Anatomy and Cell Biology
 Animal Science
 Anthropology
 Architecture
 Art History
 Atmospheric and Oceanic Sciences
 Biochemistry
 Biology
 Biomedical Engineering
 Bioresource Engineering
 Chemical Engineering
 Chemistry
 Civil Engineering and Applied Mechanics
 Classics
 Communications
 Communication Sciences and Disorders
 Computer Science
 Counselling Psychology
 Earth and Planetary Sciences
 Economics
 Educational Psychology
 Electrical Engineering
 English
 Entomology
 Epidemiology and Biostatistics
 Food Science and Agricultural Chemistry
 French
 Geography
 German
 Hispanic Studies (Spanish)
 History
 Human Genetics
 Human Nutrition
 Islamic Studies
 Linguistics
 Management
 Mathematics
 Mechanical Engineering
 Medicine, Experimental

Microbiology and Immunology
 Microbiology (Macdonald Campus)
 Mining and Metallurgical Engineering
 Music
 Neurological Sciences
 Nursing
 Occupational Health Sciences
 Parasitology
 Pathology
 Pharmacology and Therapeutics
 Philosophy
 Physics
 Physiology
 Plant Science
 Political Science
 Psychology
 Rehabilitation Science
 Religious Studies
 Renewable Resources
 Russian
 School of Applied Child Psychology
 Social Work
 Sociology
 Surgery, Experimental

The following joint Ph.D. programs are offered:

Nursing (McGill/Université de Montréal)
 Management (McGill/Concordia/H.E.C./UQAM)
 Social Work (McGill/Université de Montréal)

Prerequisites:

An undergraduate degree relevant to the subject chosen for graduate work. Some departments require all Ph.D. candidates to hold a Master's degree in the same subject. Departments may recommend to the Graduate and Postdoctoral Studies Office that candidates of undoubted promise should be allowed to proceed directly to the Ph.D. degree without being required to submit a Master's thesis.

5 Program Requirements

5.1 Master's Degrees

5.1.1 Residence Requirements – Master's Degrees

Refers to the number of terms (or years) students must be registered on a full-time basis to complete their program. Students are NOT permitted to graduate until they have fulfilled the residence requirement (or paid the corresponding fees) in their program.

- The following Master's Thesis programs have a minimum residence requirement of **three full-time terms**: M.Arch., M.A., M.C.L., M.Eng., LL.M., M.Mus. (**except** M.Mus. in Sound Recording), M.Sc., M.S.W.
- The following Master's programs have a **minimum** residence requirement of **four full-time terms**: M.L.I.S., M.Mus. in Sound Recording, M.U.P., M.A. (78 credits - Educational Psychology).
- The residence requirement for the Master's program in Education (M.Ed.), Library and Information Studies (M.L.I.S.), Religious Studies (S.T.M.), and students in part-time programs is determined on a per course basis. Residence requirements are fulfilled when students complete all course requirements in their respective programs.
- For Master's programs structured as Course, Project or Non-thesis options, residence requirements are normally fulfilled when students complete all course requirements in their respective programs (min. 45 credits) and pay the fees accordingly.

These designated periods of residence represent minimum time requirements. There is no guarantee that the work for the degree

can be completed in this time. Students must register for such additional terms as are needed to complete the program.

5.1.2 Course Work – Master's Degrees

Program requirements are outlined in the relevant departmental sections of the Calendar.

The department concerned will examine the student's previous training and then decide which of the available courses in the area of specialization or related fields are required to bring the candidate to the proper level for the Master's degree. Due account will be taken of relevant courses passed at any recognized university.

As a rule, no more than one-third of the McGill program formal course work (not thesis, project or stage) can be credited with courses from another university.

Non-thesis degrees normally specify the course program which the candidate must follow.

The candidate is required to pass, with a mark of B- or better, all those courses which have been designated by the department as forming a part of the program, including additional requirements.

Students taking courses at another university must obtain a minimum grade of B- (65%) if the course is to be credited towards their McGill degree. In the cases where only a letter grade is used, a B- is the minimum passing grade and no equivalent percentage will be considered. In the cases where only a percentage grade is used, 65% is the minimum passing grade.

If courses were not used for a degree, they could be **credited** towards a McGill degree keeping in mind that a maximum of one-third of the course work (not thesis, project or stage) can be credited. If an **exemption** is granted, it must be replaced by another graduate course at McGill towards the degree. No double counting is ever allowed.

In rare cases a student may wish to audit a course. Permission must be obtained from the student's department and from the instructor. No notation of audited courses will appear on the transcript and the student will not receive credit for them.

5.1.3 Research and Thesis – Master's Degrees

All candidates for a research degree must present a thesis based on their own research. The total number of credits allotted to the thesis in any Master's program must not be less than 24. **The title of the thesis and names of examiners must be forwarded on a Nomination of Examiners form, in accordance with the Calendar of Dates, through the Chair of the department concerned at the same time as the thesis is submitted to the Graduate and Postdoctoral Studies Office.** A thesis for the Master's degree, while not necessarily requiring an exhaustive review of work in the particular field of study, or a great deal of original scholarship, must show familiarity with previous work in the field and must demonstrate the ability to carry out research and to organize results, all of which must be presented in good literate style. The thesis will not normally exceed 100 pages; in some disciplines, shorter texts are preferred. Guidelines and deadlines are available at www.mcgill.ca/gps.

5.1.4 Language Requirements – Master's Degrees

Most Master's degree programs do not include language requirements but candidates who intend to proceed to a doctoral degree should take note of any language requirements and are strongly advised to take the examinations in at least one language while working for the Master's degree.

5.2 Doctoral Degrees

5.2.1 Residence Requirements – Doctoral

Refers to the numbers of terms (or years) students must be registered on a full-time basis to complete their program. Students are not permitted to graduate until they have fulfilled the residence requirement (or paid the corresponding fees) in their program.

Candidates entering Ph.D.1 must follow a program of at least three years residency at the University; this is a minimum requirement, and there is no guarantee that the work of the degree can be completed in this time, but students are expected to complete within the maximum specified period. Only exceptional candidates holding a bachelor's degree will be considered for direct admission to Ph.D.1 level.

It is required that candidates spend the greater part of each summer working on their theses, and those who do not do so are unlikely to complete a satisfactory thesis in the prescribed minimum time (see section 9.4 "Vacation Policy for Graduate Students and Postdocs").

A student who has obtained a Master's degree (with thesis) at McGill University or at an approved institution, in a relevant subject and is proceeding to a Ph.D. degree may, on the recommendation of the department, be admitted to Ph.D.2; in this case, the residency requirement for the program is two years.

In the doctoral program, students must be registered on a full-time basis for one more year after completion of the residency (i.e., Ph.D. 4 year) before continuing as additional session students until completion of the program.

Note: The Master's degree must have been awarded before initial registration in the doctoral program, otherwise the admission level will be at Ph.D.1 and residency will be extended to three years. Once the level of admission is approved by the Graduate and Postdoctoral Studies Office, it will not be changed after obtaining the Master's degree if the date falls after registration in the program. If a previous awarded degree is a condition of admission, it must be fulfilled before registration in another program.

5.2.2 Comprehensive Examinations – Doctoral

A comprehensive examination or its equivalent is usually held near the end of Ph.D.2. The results of this examination determine whether or not students will be permitted to continue in their programs. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations approved by the Dean of Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of these details at the commencement of their programs.

See section 9.5 "Ph.D. Comprehensives Policy".

5.2.3 Language Requirements – Doctoral

Most graduate departments in the Faculties of Agricultural and Environmental Sciences, Education, Engineering, Management, Medicine, and Science do not require a language examination. Students should inquire in their departments if there are any such requirements or whether any other requirements have been substituted for those relating to languages.

Graduate departments in the Faculties of Arts, Music and Religious Studies usually require proficiency in one or two languages other than English. In all cases **students should consult departmental regulations concerning language requirements**.

Language requirements for the Ph.D. degree are met through demonstrated reading knowledge. The usual languages are French, German, or Russian, but in particular instances another language may be necessary.

All language requirements must be fulfilled and the marks reported to the Graduate and Postdoctoral Studies Office **before** submission of the thesis to the GPSO (Thesis Office).

Students must contact their departments to make arrangements to take the Language Reading Proficiency Examinations. Students may, however, demonstrate competence by a pass standing in two undergraduate language courses taken at McGill (see departmental regulations).

Candidates are advised to discharge their language requirements as early in their program as possible.

Students expecting to enrol in Professional Corporations in the province of Quebec are advised to become fluent in both spoken and written French.

Courses in French language are available at the English and French Language Centre. The teaching is intensive and class sizes are kept small. While undergraduate students are given

preference, graduate students who are certain they can devote sufficient time to the work may enrol.

5.2.4 Thesis – Doctoral

The thesis for the Ph.D. degree must display original scholarship expressed in good literate style and must be a distinct contribution to knowledge. **Formal notice of a thesis title and names of examiners must be submitted to the Thesis Office (GPSO) on the Nomination of Examiners form in accordance with the Calendar of Dates at the same time as the thesis is submitted.** The list of examiners must be approved by the Department Chair, the supervisor and the student. The Thesis Office should be notified of any subsequent change of title as early as possible. The appointment of the examiners and communication with them is the duty and privilege of the Graduate and Postdoctoral Studies Office. Under no circumstances should any student or department contact the external examiners. Guidelines and deadlines are available at www.mcgill.ca/gps.

Seven copies of the thesis must be provided by the candidate. Of these, two copies will be retained by the University and five copies returned to the candidate. Some departments may require one or more additional copies.

Special regulations for the Ph.D. degree in particular departments are stated in the entries of those departments.

5.2.5 Thesis Oral Examination – Doctoral

After the thesis has been received and approved, a final oral examination is held on the subject of the thesis and subjects intimately related to it. This is conducted in the presence of a Committee of at least five members presided over by a Pro-Dean nominated by the Graduate and Postdoctoral Studies Office. The Chair of the candidate's department and the Thesis Supervisor are regularly invited to be members of the Committee; at least one member of the Committee is appointed from outside the candidate's department. Guidelines are available at www.mcgill.ca/gps.

5.3 Ad Hoc Programs (Thesis Option only)

In exceptional cases, an applicant who wishes to pursue a Master's (Thesis option only) or Ph.D. program in a department which is not currently authorized to offer graduate programs, may be admitted to an *AdHoc* program. The application, including a research proposal, is examined by an Admissions Committee in the department which has familiarity with the proposed research area and experience in directing graduate studies.

Once the Admissions Committee makes a favourable recommendation, the Graduate and Postdoctoral Studies Office confirms an Advisory Committee (recommended by the academic unit) to be responsible for program planning and monitoring of research progress. The regulations are fully described in the document "Procedures for Admission in *Ad Hoc* Master's and Doctoral Programs", available from the GPSO.

5.4 Ad Personam Programs (Thesis Option only)

In very rare circumstances, an applicant who wishes to engage in Master's (Thesis Option only) or Ph.D. studies of an interdisciplinary nature involving joint supervision by two departments, each of which is authorized to offer its own graduate programs, may be admitted to an *Ad Personam* program. The regulations are fully described in a document available from the GPSO.

5.5 Course Work for Graduate Programs, Diplomas and Certificates

Upper level undergraduate courses may be exceptionally considered for degrees, diplomas and certificates if relevant to the graduate work undertaken and not already listed as required courses in the approved program description. Such requests will not be considered unless they come to the Graduate and Postdoctoral Studies Office for approval before registration in the courses.

English and French language courses offered by the English and French Language Centre or the Centre for Continuing Education may not be taken for coursework credits toward a graduate program.

All substitutions for course work in graduate programs, diplomas and certificates must be approved by the GPSO.

Courses taken at other institutions to be part of the requirements of a program of studies must be approved by GPSO before registration.

6 Admission

Web site: www.mcgill.ca/applying/graduate

E-mail: graduate.admissions@mcgill.ca

Deadline: Admission to graduate studies operates on a rolling admission basis, and complete applications and their supporting documentation must reach departmental offices on or before the specified departmental deadline. To be considered for entrance fellowships, where available, applications must reach the intended department by February 1. Meeting minimum admission standards does not guarantee admission.

6.1 Application for Admission

Two procedures are available to apply for graduate admission: online and paper-based forms. Application information and the online application form are available at www.mcgill.ca/applying/graduate. Paper application packages should be obtained from individual departments. For Departments in the Faculty of Agricultural and Environmental Sciences including the School of Dietetics and Human Nutrition, application forms are available from the Student Affairs Office - Graduate Studies at the Macdonald Campus.

Using either procedure, applicants (with some exceptions) are required to ask two instructors familiar with their work to send letters of recommendation. All applicants must themselves send, or ask the appropriate university authorities to send, two official or certified copies of their complete university-level academic record to date. For McGill graduates the appropriate authority is the Registrar. Letters of recommendation and official transcripts must be sent **directly** to the department concerned. All documentation submitted becomes the property of GPSO.

A **non-refundable** fee of \$60 (\$100 for some Management programs) in Canadian funds **must** accompany each application, otherwise **it cannot be considered**. This sum must be paid by credit card if the online application is used. For paper applications, the fee must be paid in negotiable form, such as a bank draft, money order or certified cheque (but not in cash), at the current rate of exchange, or by credit card. Candidates for Special Student, visiting, and Qualifying status must apply and pay the application fee every year.

It is recommended that applicants submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. **Transcripts written in a language other than English or French must be accompanied by a certified translation.** An explanation of the grading system used by the applicant's university is essential. The applicant should also indicate the major subject area in which further study is desired.

Completed applications, with supporting documents, must reach departmental offices according to individual department deadlines. Applicants should contact the department concerned. International students are advised to apply well in advance of the deadlines as immigration procedures may be lengthy. Applications received after the prescribed dates will not be considered unless exceptional circumstances are argued by the department concerned. Candidates will be notified of acceptance or refusal as quickly as possible. In cases of refusal, an official written appeal may be considered by the Associate Dean (Graduate and Postdoctoral Studies). The appeal fee is \$40.

6.2 Graduate Record Examination and other Admission Tests

The Graduate Record Examination (GRE) (Educational Testing Service, Princeton, N.J. 08540) consists of a relatively advanced test in the candidates' specialty, and a general test of their attainments in the several basic fields of knowledge, for which no special preparation is required or recommended. It is offered at many centres, including Montreal, several times a year; the entire examination takes about eight hours, and there is a registration fee. Only some departments require applicants to write the GRE examination, but all applicants who have written either the general aptitude or the advanced test are advised to submit the scores along with their other admission material.

This credential is of special importance in the case of applicants whose education has been interrupted, or has not led directly towards graduate study in the subject selected. In such cases the department has the right to insist on a report from the Graduate Record Examination or some similar test. High standing in this examination will not by itself guarantee admission. The Miller Analogies Test may be used similarly. Some departments of the Faculty of Education also require the taking of various tests.

Applicants to graduate programs in Management must submit scores from the Graduate Management Admissions Test (GMAT).

6.3 Competency in English

Non-Canadian applicants to graduate studies whose mother tongue is not English and who have not completed an undergraduate degree from a recognized institution where English is the language of instruction must submit documented proof of competency in oral and written English. **Before acceptance**, appropriate exam results must be submitted directly from the TOEFL or IELTS Office. An institutional version of the TOEFL is not acceptable. Examples of appropriate exam results are: TOEFL (Test of English as a Foreign Language) with a minimum score of 550 (or 213 on computer-based test), or IELTS (International English Language Testing Systems) with a minimum overall band of 6.5. Permanent Residents may be required to submit a TOEFL score. Applications will not be considered if a TOEFL or IELTS test result is not available.

6.4 Admission Requirements

Applicants should be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

The applicant must present evidence of academic achievement: a minimum standing equivalent to a Cumulative Grade Point Average (CGPA) of 3.0 out of a possible 4.0 or a CGPA of 3.2/4.0 for the last two full-time academic years. High grades are expected in courses considered by the department to be preparatory to the graduate program.

Some departments impose additional requirements and even though the applicant may appear to satisfy the general admission requirements, acceptance into a graduate degree program is not guaranteed by the department or the Graduate and Postdoctoral Studies Office.

6.5 Parallel Admission

This program is designed to assist academically qualified applicants, lacking the minimum English language requirement for graduate studies at McGill, to adjust to the learning, research and teaching environment of a major, research-based, North American university where the usual language of operation is English. The program will ensure that otherwise suitably qualified applicants for admission into graduate studies programs will develop the appropriate level of English-language competency and adjust to the

learning and living environment to be encountered in graduate studies at McGill within one calendar year of their admission to the program. Those students who fail to meet with these requirements will be asked to withdraw.

Students admissible to the program will have been screened by the staff of the graduate program into which they wish to be admitted, and recommended to the Graduate and Postdoctoral Studies Office. If the applicant is deemed by the GPSO to be admissible on purely academic grounds but has a TOEFL score below the entrance requirement of the graduate program, by no more than 27 points (paper-based scale) or 20 points (computer-based scale), he/she will be admitted to the Parallel Admission Program for a period not to exceed twelve (12) calendar months. In order to start his/her studies in the graduate program into which he/she had been admitted he/she would have to obtain the McGill Certificate of Proficiency in English according to the rules and regulations in force in the Department of Languages and Translation within the twelve-month period, or pass the TOEFL with a score meeting the admission requirement of the graduate program for which the student has applied.

Any students who fails to meet the English-language requirement within one calendar year of admission to the Parallel Admission Program will be asked to withdraw.

6.6 Admission to a Qualifying Program

Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a Qualifying Program. The undergraduate-level courses to be taken in a Qualifying Program will be prescribed by the department concerned.

Qualifying students are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year (i.e., two full-time terms) is permitted.

In cases where a department recommends a change of registration from Qualifying Program to Master's Degree First Year **this change must be made prior to December 1st. Students must apply to the degree program.**

Successful completion of the work of the Qualifying Program does not automatically entitle the student to proceed towards a degree. Qualifying-year students must re-apply for admission to the program for which they seek qualification.

Students who are ineligible for a Qualifying Program may apply to the appropriate undergraduate faculty for admission as regular or special students, and seek admission to graduate studies at a later date. The normal admission requirements must be met and the usual procedures followed.

6.7 Admission to a Second Degree Program

A candidate with a given higher degree may apply for admission to a second degree program at the same level but **in a different subject**. The normal admission requirements must be met and all the usual procedures followed.

6.8 Admission to Two Degree Programs

Students may, with special permission granted by the Graduate and Postdoctoral Studies Office, be admitted to two degree programs or to two departments or faculties. Students are **never** permitted to pursue two **full-time** degree programs concurrently.

6.9 Admission to an *Ad Personam* Joint Program

Ad Personam joint graduate programs are restricted to Master's Thesis Option and Ph.D. programs. Students shall be admitted and registered by one department, to be known as the "first department". Approval for the joint program must be obtained from the Graduate and Postdoctoral Studies Office. The request shall be signed by the Chairs of both departments involved and shall explicitly list the conditions imposed by the second depart-

ment. The student shall undertake research under the joint supervision of both departments.

Students shall fulfil the degree requirements of the first department and shall complete all the requirements specified by the second department in the request for admission. This program is described in more detail in a document available from the GPSO.

6.10 Admission to an *Ad Hoc* Program (Thesis)

In exceptional cases, admission to an *Ad Hoc* program (thesis) may be considered. Before the Graduate and Postdoctoral Studies Office will authorize the admission of a student into an *Ad Hoc* program, it must receive a favourable report from a departmental committee constituted to examine the program in question.

Candidates, through the supervisor designated by the department most closely related to their research field, must submit a research proposal, an outline of the course work needed including a Comprehensive Examination (for Doctoral programs) in the relevant field, and the list of four supervisory committee members.

Once the request has been approved, the candidate may register following all the regular procedures. Full description of the admission procedure is available from the GPSO.

6.11 Reinstatement and Admission of Former Students

Students who have not been registered for a period of up to two years but who have not officially withdrawn from the University by submitting a signed Withdrawal Form to the Graduate and Postdoctoral Studies Office are eligible to be considered for reinstatement into their programs. The student's department must recommend, in writing, that the student be reinstated, stipulating any conditions for reinstatement that it deems appropriate. The final decision rests with the GPSO. Normally, the GPSO will approve the departmental recommendation. If the student's department chooses not to recommend reinstatement, the student may appeal to the Associate Dean (Graduate and Postdoctoral Studies). The Associate Dean's decision can be appealed to the Graduate Committee on Student Standing.

Reinstatement fees will be charged in addition to the fees due for the academic session into which the student has been reinstated. The amount of the reinstatement fees is the tuition portion of fees owed for all unregistered terms, up to a maximum of two years just prior to the term of reinstatement.

If an individual has not registered for a period of more than two years, their student file will be closed. These individuals and those who have formally withdrawn may be considered for admission. Applicants' admission applications will be considered as part of the current admission cycle, in competition with other people applying during that cycle and in accordance with current graduate admission procedures and policies.

Implementation: This procedure takes effect as of January 2004.

Revised Council of February 9, 2004.

7 Regulations

7.1 Categories of Students

7.1.1 Full-time Students

Full-time students are students with a registration status of full-time and paying full-time fees. Full-time Master's, Diploma and Certificate candidates must show a minimum of 12 credits per term on their record.

7.1.2 Half-time Students (Thesis programs)

In some departments, students are permitted to proceed towards a degree on a half-time basis, i.e., students are permitted to register half-time instead of full-time during sessions of residence.

It is expected that half-time students will spend 50% of their time in the department participating in course work, seminars, discussions, etc., with the staff and the full-time students.

Half-time students are reminded that they must complete the degree within the time limitation imposed by the Graduate and Postdoctoral Studies Office, and that if they choose to be half-time they must: a) be so for an even number of half-time terms (i.e., two half-time terms equal one full-time term) and b) fulfil the minimum residence requirement in their program.

7.1.3 Part-time Students

Certain degree programs can be followed on part-time basis (e.g., M.Ed., M.Eng. non-thesis option, M.B.A., M.S.W. non-thesis option, and S.T.M.). Students in non-thesis programs (including the C.A. program) as well as Special, Visiting and Qualifying, Certificate and Diploma students, **not taking at least 12 credits per term**, are considered to be part-time. Students may, in some departments, proceed towards the degree on a part-time basis.

Part-time students are reminded that they must complete the degree within the time limitation imposed by the Graduate and Postdoctoral Studies Office.

Part-time students who do not take any courses or drop all courses, during any semester, automatically become non-resident students and are charged fees accordingly.

In cases of part-time and transfer students, all coursework might not be completed during the residency. It must therefore be completed during one or more additional terms (non-thesis extensions).

7.1.4 Additional Session (Thesis Programs) and Non-Thesis Extension (Non-Thesis Programs) Students

Students in additional session or non-thesis extension are students with a registration status of additional session (thesis programs) or non-thesis extension (non-thesis programs) and paying fees accordingly. The following are such students:

1. Graduate students who have completed the residency requirements in a Master's program.
2. Graduate students who have completed 8 full-time semesters in a doctoral program (when admitted to Ph.D. 1).
3. Graduate students who have completed 6 full-time semesters in a doctoral program (when admitted to Ph.D. 2).

In the doctoral program, students must be registered on a full-time basis for one more year after completion of the residency (i.e., Ph.D. 4 year) before continuing as additional session students until completion of the program. It is expected that, at this stage, all the course work and Comprehensive Examinations will have been completed and the student will be engaged in thesis preparation.

Graduate students in non-thesis programs, graduate diplomas and certificates who have registered for all required courses but have not completed the work and/or have completed the residency requirements must register as non-thesis extension students and pay fees accordingly.

7.1.5 Qualifying Students

Students admitted to a Qualifying Program are known as Qualifying Students. They must meet the minimum entrance requirements of the Graduate and Postdoctoral Studies Office. The courses taken during a qualifying year will not be credited towards a degree program. Students are registered in graduate studies but have not yet been admitted to a degree program. These students take a full load (12 credits minimum) per semester of undergraduate courses as specified by the department. Only one qualifying year is permitted.

7.1.6 Special Students

Students who meet the minimum entrance requirements of the Graduate and Postdoctoral Studies Office and wish to take **one, or at most two, graduate-level courses per term** (6 credits) without intention of proceeding to a degree or diploma are termed Special

Students. After completion of a maximum of 12 credits, an applicant **may not** continue as a Special Student.

If graduate Special Students subsequently become candidates for higher degrees, they may receive academic credit for relevant graduate courses taken as special students.

Students who wish to take undergraduate courses only must apply as Special Students in the undergraduate faculty concerned, even if they already hold degrees.

7.1.7 Visiting Students

Visiting Students are those students who are registered in a degree program at another university and who have obtained written permission from both universities to take a course(s) for credit towards that degree program. Students studying in the province of Quebec who are in this category are eligible for a transfer of credit if the required permission is obtained on Inter-University Transfer forms. These forms are available on-line at www.mcgill.ca/students-information/transfers. McGill students registering for courses required for their degree program at other Quebec universities are required to pay for the course(s) at the home university. McGill University and Université de Montréal participate in an exchange (graduate) with the University of British Columbia and the University of Toronto.

As a rule, graduate students should not register for courses through Inter-university Transfers (IUT) during the last semester before graduation. There are considerable delays in receiving official transcripts which delay the degree audit process and graduation. If special departmental permission is given for such a course to be taken in the last semester, there will be no extension given for the grade submission deadline.

7.1.8 Visiting Research Students

Graduate students registered in a degree program at another university who wish to come to McGill to do **research only** may do so after acceptance by the GPSO. The department recommending admission must specify "**Visiting Research**" on the Decision Form. Visiting Research students are charged additional session fee rates and they may not register for courses. They must apply for admission every year.

7.1.9 Non-Resident Status

(may be granted to students in **residence terms only**)

1. Departments, with the approval of the Graduate and Postdoctoral Studies Office, may permit or require candidates to spend one session at another institution; it is understood that this session must be one of full-time work, and that the institution selected must be able to provide expert supervision and facilities for research appropriate to the candidate, in the field selected.

Permission to spend a required year of residence at another university must be obtained **before** the beginning of the session in which the student will be absent. A program of the work projected and particulars of the institution selected should be sent, accompanied by a letter from the Chair of the department, to the Director of the GPSO for approval. Permission is only granted to students who have already completed one full session at McGill.

The student will be required to register and pay the normal full-time McGill tuition fee less any tuition fee payable to the host institution. Other student-related fees are not levied and the ID card is not validated.

Students participating in a formal exchange program must register and pay full-time tuition including other student-related fees. The ID card is not validated.

2. Students who wish to take a leave from the University for a maximum period of one year **before returning to complete their residence requirements** should first obtain permission to do so both from their department and the GPSO.

The student **must register as a Non-Resident student**, and pay the non-resident fee. Student services fees are not levied and the ID card is not validated. Students can only be non-

resident for a maximum of one year. The non-resident fee is \$100 per term.

7.1.10 Leave of Absence Status

A leave of absence may be granted by the Graduate and Postdoctoral Studies Office for maternity or parenting reasons or for health reasons (see section 9.7 "Health and Parental/Familial Leave of Absence Policy"). Such a leave must be requested on a term by term basis and may be granted for a period of up to 52 weeks. Students must make a request for such a leave in writing to their department and submit a medical certificate. The department shall forward the request to the GPSO.

Students who have been granted such a leave will have to register for the term(s) in question and their registration will show as "leave of absence" on their record. No tuition fees will be charged for the duration of the authorized leave. Research supervisors are not obligated to remunerate students on leave.

7.1.11 Medical Residents

Residents and fellows on staff of teaching hospitals associated with the University are included in the Graduate and Postdoctoral Studies Office statistics.

7.1.12 McGill Staff as Graduate Students

Members of the teaching staff of the University up to and including the rank of lecturer may enrol as candidates for a degree, diploma or certificate. If their teaching duties are designated as full-time, they may only enrol as half-time students.

Professorial members of the academic staff may not enrol in graduate degree and diploma programs. This rule shall apply also to any persons who have been on the professorial staff within the previous 12 months, unless they resign completely from their positions at McGill.

Should persons registered in graduate studies be promoted to professorial rank, they may no longer remain graduate students, unless they resign or are granted leave of absence from their professorial appointments.

In certain exceptional cases, professorial members of the academic staff may apply to the Graduate and Postdoctoral Studies Council to enter graduate programs in academic units other than their own. The Council may grant permission if it is satisfied that the applicant's teaching unit and proposed unit for graduate study are sufficiently remote that conflict of interest situations will not arise. Permission must be granted before any courses are taken towards the proposed degree.

7.1.13 Quebec Inter-University Transfer Agreement (IUT)

The IUT Agreement permits concurrent registration at McGill and another Quebec institution.

Regular undergraduate and graduate degree, exchange, diploma or certificate candidates registered at McGill may, with the written permission of the Dean of their faculty or delegate, register at any university in the province of Quebec. These courses, subject to GPSO regulations, will be recognized by McGill for the purpose of the degree for which the student is registered up to the limit imposed by the residency requirements of the program.

Students wishing to take advantage of this agreement should consult their Student Affairs Office for details, and are informed 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.
- The obligation of the student to complete their faculty and program requirement.
- The student is responsible for ensuring that the McGill Class Schedule permits these courses to be taken 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.

Students must initiate an on-line Inter-University Transfer (IUT) application to request the required authorizations. McGill students are advised to access the IUT application via the Web at www.mcgill.ca/student-records/transfers. Students may also find additional information posted at their faculty Website.

Note: Once the IUT application is approved by both the home and host universities, the student remains responsible for registering in the same course for which they have obtained electronic approval. The method of registration of the host university will vary (e.g., web, in-person, phone etc.) The student is advised to initiate the electronic application allowing enough time to meet the host university's registration deadlines. Furthermore, the student is responsible for adhering to all registration deadlines of the host institution.

7.2 Registration

7.2.1 Registration for Fall and Winter Terms (including additional session and non-thesis extension students)

All returning and new graduate students must register on-line at www.mcgill.ca/minerva, after completing a Minerva Course Selection Form and obtaining departmental approval.

Courses may be added until the end of the course change period without penalty.

Returning Students:

Returning students register via Minerva between Thursday, March 25 and Monday, August 2.

Students will be charged a late registration fee during the late registration period. **To avoid the late registration fee students must access www.mcgill.ca/minerva and register for REGNRCGR (the Registration Confirmation course) in both the Fall (CRN 3530) and Winter (CRN 3522) terms.**

Successful completion of registration is contingent upon acceptable academic standing in the previous session and payment of any previous outstanding fees and fines.

Newly-Admitted Students:

New students entering in September 2004 register on Minerva between Tuesday, August 3 and Wednesday, September 1.

Students will be charged a late registration fee during the late registration period. **To avoid the late registration fee students must access www.mcgill.ca/minerva and register for REGNRCGR (the Registration Confirmation course) in both the Fall (CRN 3530) and Winter (CRN 3522) terms.**

New students entering in January 2005 register by Minerva between Friday, December 3 and Monday, January 3.

Students will be charged a late registration fee during the late registration period. **To avoid the late registration fee students must access www.mcgill.ca/minerva and register for REGNRCGR (the Registration Confirmation course) in the Winter (CRN 3522) term.**

Students must register (and pay fees) annually up to and including the term of graduation. Outstanding tuition fees must be paid **before** graduation. A graduate student registered in the Winter term who graduates in February will have their Winter registration and fees cancelled at the end of February.

Exception: A registered student in 2003-04, who has completed the residency in a thesis program, and who meets the August 31 thesis submission deadline to the GPSO (Thesis Office), does not need to register for the 2004-05 academic year. The student should not expect to graduate in Fall 2004, but **must graduate by Fall 2005 graduation at the latest.** Otherwise the student must be reinstated and will be charged retroactive registration fees for all unregistered sessions (terms) up to and including the term in which they graduate. 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 theses submission.

If the thesis is submitted after August 31, and the student graduates in February of the next year, he/she must register for the Fall

term and pay fees. The last term of registration will show the graduation narrative, i.e., Fall for February graduation, Winter for May/June graduation and Summer for October Graduation. If the thesis is submitted after August 31, and the student graduates in May/June of the next year, he/she must register for Fall and Winter terms and pay fees.

7.2.2 Fee Policies Related to Registration

Refer to section 10 "Fees and Expenses"; particular attention should be paid to section 10.8 "Fees and Withdrawal from the University" and section 10.9 "Other Policies Related to Fees".

7.2.3 Summer Registration

Detailed Summer registration information will be available in the middle of March in individual departments.

Course Registration

Students taking summer courses register within Graduate and Postdoctoral Studies Office deadlines on Minerva at www.mcgill.ca/minerva after completing a Minerva Course Selection Form and obtaining departmental approval.

Summer Term of Residence

Students in thesis programs who wish to register for a Summer term **to count as part of their residence requirements** must complete the appropriate Summer Registration Form in April. Newly admitted students beginning their graduate thesis program in a Summer Term of Residence can get 100% refund (less \$100.00 minimum or registration deposit if applicable) up to and including the May 15th withdrawal date. Students in thesis programs, who at the end of the Winter term are continuing in their programs are expected to devote the summer to research and are considered "continuing students".

7.2.4 Courses taken in the Centre for Continuing Education

In the Fall and Winter terms, students may add credit courses (500 level or higher) offered through the Centre for Continuing Education (CCE) directly on Minerva. Fall term courses can be added on Minerva starting August 15. Winter term courses can be added on Minerva starting December 15.

Non-credit general interest or languages courses cannot be added directly by the student. Students may register for these courses in person at the CCE, where the course(s) will be added to their record as "Extra" to their program and course fees will be charged.

Summer courses offered through the CCE cannot be added directly by the student. To add these courses, students must bring a copy of their approved Minerva Course Selection Form to the Graduate and Postdoctoral Studies Office where, subject to space availability and program controls, the course(s) will be added to their record.

To register for courses offered through the CCE, students must be registered in their graduate studies program. All courses taken at CCE must be completed unless the course has been dropped on Minerva according to CCE course drop/withdrawal deadlines. **The GPSO reserves the right to place limitations on the number of Continuing Education courses taken for any one program. Approval from GPSO must be obtained prior to registration.**

7.2.5 Registration for Two Degree Programs Concurrently

No student may register in two degree programs or in two departments or faculties or two institutions concurrently without special permission granted by the Graduate and Postdoctoral Studies Office. Students are advised that permission is never granted to attempt two **full time** programs concurrently. Letters of recommendation, including details of the proportions of time that the student intends to allot to each program, must be received from the Chair of each department concerned. Each year, a progress report must be submitted from the two departments concerned to the

GPSO before a student in this category will be permitted to register.

7.2.6 Time Limitation

Candidates for Master's degrees must complete the degree **within three years of initial registration**. If the degree is pursued on a less than full-time basis, it must be completed within five years of initial registration.

In exceptional cases, a student who wishes to submit a thesis, or to complete outstanding degree requirements, after withdrawal may do so only on the recommendation of the department concerned. A graduate application must be submitted by stated deadlines and re-admission fees will apply. The final decision rests with GPSO.

By annual registration, **all** doctoral candidates may maintain their connection with the University **for four years** after completing their residence requirements.

The object of these regulations is to encourage candidates to complete their theses and qualify for their degree without undue delay.

Council of the FGSR - February 2, 1996

7.2.7 Withdrawal from a Degree Program

Departments have the right to ask students to withdraw from the program if progress is not satisfactory, or if they have failed a course required for their program, or for lack of performance in research.

Any student who withdraws from the University **must complete a Withdrawal Form** available from the Graduate and Postdoctoral Studies Office. Fees will then be refunded according to the conditions outlined in section 7.5 "Change of Course" and in section 7.6 "Regulations Concerning Withdrawal".

7.3 Course Information

7.3.1 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 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 2004 and Winter 2005.

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.**

7.3.2 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.

COURSE NOMENCLATURE IN PROGRAM DESCRIPTIONS:

Required Course: Courses absolutely required in a program. All students in that program must take this (these) course(s) unless they are granted exemption(s).

Complementary Course: Courses selected from a restricted list, a particular subject area, or a discipline. In some programs, students must include a number of these in order to meet program requirements.

Note: Complementary courses are not electives. The difference between Complementary courses and Required courses is that Complementary courses offer an element of choice, however small that choice may be. Students may choose from the two (or more) courses specified within Complementary Course segment(s) of a program description, but ONLY from those.

Elective course: courses chosen freely (sometimes with advice and approval of the Graduate Program Director and GPSO).

7.3.3 Class Schedule and Course Catalog

Students should consult Class Schedule when preparing to register (www.mcgill.ca/courses). Here they will find up to date information including days and times when courses are offered, class locations, names of instructors, and course pre-requisites. Class Schedule only displays courses that are being offered in the term selected.

For a complete listing of all McGill courses, even if they are not offered in a given year or term, students may consult the Course Catalog at www.mcgill.ca/courses. Searches are conducted by term and provide information such as full course descriptions, course pre-requisites and registration requirements.

7.4 Summer Studies

Registration regulations may change for Summer 2005. Students should consult their department in the middle of March.

Graduate courses are available in some subject areas during the summer and the *Summer Studies Calendar* should be consulted for a complete listing of undergraduate and graduate level courses.

Students doing graduate work in Education are strongly advised to enrol in summer studies and many programs can only be completed by participation in summer studies.

Registration for courses for graduate students takes place via Minerva for the Summer session. It is the responsibility of the student to register for courses within the deadlines, after completing a Minerva Course Selection Form and obtaining departmental approval.

Students in thesis programs, who pay fees on a per term basis and who have already paid full-time tuition fees during the preceding year are not required to pay for required courses taken in the summer. Students in non-thesis programs will be charged fees for

courses taken in the summer. **Registration for "summer studies" should not be confused with registration for a Summer term which has been discussed previously in section 7.2.3 "Summer Registration".**

Many summer courses have limited enrolment and students are advised to register for such courses as early as possible. Graduate students intending to register for restricted undergraduate courses **MUST COME IN PERSON** to the Graduate and Postdoctoral Studies Office where the course will be added if there is space available in the course.

Please consult the *Summer Studies Calendar* for specific information on course dates and times. Information is also available on the Summer Studies Web site at www.mcgill.ca/summer.

7.5 Change of Course

Students who wish to add or drop courses from their programs after initial registration must do so via Minerva by the deadlines. Instructions and information on deadlines are available on the Web at www.mcgill.ca/student-records or from individual departments. Neither notifying the course instructor nor discontinuing class attendance will suffice. Students paying tuition on a per course basis only, will receive appropriate refunds if they drop courses within the time limits specified in section 10.8.1 "Fee Refund Deadlines".

Students who are registered in the Fall Term may continue to add and drop courses that will begin in the Winter Term throughout the Fall Term until the deadline for course change/late registration in the Winter Term.

7.6 Regulations Concerning Withdrawal

7.6.1 Course Withdrawal

Following the Course Change deadline there is a one-week period during which students may withdraw, with a grade of W and full refund of course fees, from courses that start in that term.

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: September 19, 2004

Deadlines for withdrawal (grade of 'W') without refund:

- Single-term courses: October 10, 2004
- Multi-term courses: January 16, 2005

Courses that begin in the Winter Term

Deadline for withdrawal (grade of 'W') with refund: January 23, 2005

Deadline for withdrawal (grade of 'W') without refund:

- Single term courses: February 13, 2005
- Multi-term courses: May 15, 2005*

*Please note that students in multi-term courses with course numbers ending in N1 and N2 (begin in the winter, skip the summer, are completed in the subsequent Fall Term) may withdraw after May 15 and until the end of the Fall Term course change period by contacting GPSO.

Note:

- 1 The responsibility for initiating withdrawal rests solely with the student. Neither notification of the course instructor nor discontinuance of class attendance will suffice. The date on which a student's withdrawal is entered on Minerva is the official date of withdrawal, even if the student stopped attending lectures earlier.
- 2 Fee refunds, if any, will be in accordance with section 10.8 "Fees and Withdrawal from the University".

7.6.2 University Withdrawal

Students who wish to withdraw from the University must complete a withdrawal form available in the student's department or at GPSO. The completed form must be submitted to GPSO.

Student's responsibility

The responsibility for initiating University withdrawal rests solely with the student. Neither notification of the course instructor nor discontinuance of class attendance will suffice. The date on which the request for withdrawal is submitted to the Graduate and Postdoctoral Studies Office is the official date of withdrawal, even if the student stopped attending lectures earlier.

Deadlines for University Withdrawal

All students who have accessed Minerva to register must officially withdraw within deadlines if they decide not to attend the Term(s) for which they have registered. See Withdrawal (W --) deadline dates in the Calendar of Dates.

Consequences of University Withdrawal

Fee refunds, if any, for the term in which the student withdraws will be in accordance with section 10.8 "Fees and Withdrawal from the University".

Upon withdrawal, students are required to return their ID card to the University as stated in section 7.16 "Identification (ID) Cards". Students who withdraw from the University and wish to re-enroll in a subsequent term must follow the procedures for admission, see section 6.11 "Reinstatement and Admission of Former Students".

Students who withdraw during the Fall Term are considered withdrawn from the entire academic year, regardless of whether Winter Term courses are dropped. If they wish to return for the Winter Term, they must follow the procedures for admission.

7.7 Grading and Grade Point Averages (GPA)

Classification of Marks:

Courses can be graded either by letter grades or in percentages, but the official grade in each course is the letter grade. Beginning in the Fall term of 2002 all verification forms, transcripts and other documents show only letter grades for all subsequent terms.

Grades A through B- are termed satisfactory passes, and F a failure. Certain courses have been approved for Pass/Fail (P/F) grading. Students must obtain grades of B- or better in courses used to fulfill program requirements.

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%
F (Fail)	0	0 - 64%

Letter grades are assigned grade points according to the table shown above. A student's academic standing will be determined based on the basis of a grade point average (GPA), which is calculated by dividing the sum of the credit times the grade points by the total courses GPA credits. GPA credits are the credits of courses with grades that are assigned grade points.

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

The term grade point average (TGPA) will be 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) will be the GPA calculated using the student's entire record of applicable courses at McGill at the same level effective the Fall 2002 term. If the level is changed (e.g. from Master's to Doctoral), the CGPA will start again. For students with academic information prior to Fall 2002, who are continuing in the same program or are registered in a different program or level post-Fall 2002, the transcript displays a special message regarding the CGPA being calculated effective Fall 2002 onwards. If courses are repeated, all results are included in the GPA calculation. Therefore, grades of F or J continue to be used in the CGPA calculation even after the course is repeated or if a supplemental examination is taken.

Other Grades:

- IP** – **In Progress.** (Master's Thesis Courses Only)
- P** – **Pass.** Pass/Fail grading is restricted to certain seminars and examinations only. In such cases all grades in these courses are recorded as either Pass or Fail. Not included in GPA calculations.
- HH** – **To be continued.** The use of this grade is reserved for major research projects, monographs and comprehensive examinations as designated for graduate studies.
- J** – **Absent:** to be recorded for the student who did not write the final examination and had not been granted deferred status, or who did not complete an essential part of the course requirements without a valid reason. This is a failure and is calculated in the TGPA and CGPA as a failure. (Students may appeal the assignment of the grade of J, but circumstances such as appearing at the incorrect time for an examination would not be sufficient reason for this grade to be replaced by a deferral. Students who have earned sufficient marks to pass the course even though the final examination is not written, may opt to have their grade based on the record to date.)
- K** – **Incomplete:** deadline extended for submission of work in a course or for the completion of a program requirement such as a Ph.D. language examination (maximum four months). (Need a K contract signed.)
- KF** – **Incomplete/failed:** failed to meet the extended deadline for submission of work in a course or for the completion of a program requirement. This is a failure and is calculated in the TGPA and CGPA as a failure.
- KK** – **Completion requirement waived.** This is used in exceptional cases only, with the approval of the Director of the Graduate and Postdoctoral Studies Office.
- KE or K*** – **Further extension** granted with the approval of the Director of the Graduate and Postdoctoral Studies Office (maximum two years.) (Need a K contract signed.)
- L** – **Deferred:** for students whose final examinations or papers have been deferred, for reasons such as illness, at the time of the examination. The "L" grade must be cleared as soon as possible (maximum four months).

A medical certificate or appropriate document must be submitted to the Graduate and Postdoctoral Studies Office with a departmental recommendation for a deferral **before or immediately after** the examination. In particular, such recommendations will not be considered if medical reasons are brought forth after a grade is assigned.
 By commencing to write any examination, the student waives the right to plead medical causes for deferral or permission to write a supplemental examination, unless the medical problem occurs in the course of the examination and is documented by examination authorities.
- LE or L*** – **Further deferral:** permitted to defer examination for more than the normal period.
- NA or &&** – **Grade not yet available.**
- NR** – **No grade reported** by the instructor (recorded by the Registrar).
- Q** – Course continued in next term.
- Satisfactory/Unsatisfactory** – **Not used for graduate students.**
- W** – **Withdrew with approval.** A course dropped, with permission, after the change of course period. Not included in GPA calculations.
- WF** – **Withdrew failing:** a course dropped, with special permission in 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 included in GPA calculations. (Not used in Music.)
- WL** – Withdraw from a deferred examination (approved by GPSO).
- W-- or --** – **No grade.** Student withdrew from the University.

7.8 Failure Policy

Students who have failed one course required by their department while registered as a graduate student may automatically write one supplemental examination, if the departmental policy permits, or retake that course or substitute an equivalent course. For the purposes of this policy, "required course" includes either a course required by the student's program of study, or a course that has been designated by the department for an individual student's program of study. When a student retakes a course, he/she is required to pay the fee charged for the course in question.

Students with any further failures in that course, including the supplemental, or a failure in any other course, will be required to withdraw from their program of study. Ph.D. students and Master's students in thesis programs can also be required to withdraw from their program of study for documented lack of performance in research.

The failure policy does not pertain to the failure of comprehensive examinations, doctoral oral defenses, or thesis failures. In the case of a failed thesis or defense, the Thesis Failure Policy, detailed in the Thesis Guidelines, applies. In the case of a failed comprehensive examination, the Ph.D. Comprehensives Policy applies.

(Senate, October 11, 2000.)

(Revised, GPS Council, February 10, 2003)

Procedure to follow in cases of failure:

Procedure to follow in cases of failure:

The procedure in cases of initial failure is as follows: the failing grade is to be recorded and a letter sent to the Graduate and Postdoctoral Studies Office indicating that a supplemental examination is to be given under the Failure Policy. If the supplemental is passed, the second grade should be submitted. The same procedure applies for a recommendation of a retake or a substitution.

In the event of a failure of a supplemental exam, the department should request, in writing, that the student withdraw (with a copy of said letter forwarded to the GPSO).

Similarly, in the event of a failure in a second course, a written request for withdrawal (copied to the GPSO) should be sent to the student.

7.9 Language Policy

The language of instruction at McGill is English. Some courses are offered in French. 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 objects of the course.

7.10 Regulations Concerning Theses

A thesis submission package, which includes the Nomination of Examiners form and Thesis Submission form, may be obtained from the Graduate and Postdoctoral Studies Office (Thesis Office), Room 400, James Administration Building. The documents in this package contain important information regarding procedures and deadlines. It must be consulted by students who are in the process of writing a thesis in order to adhere to University regulations concerning the submission of a thesis. Thesis submission guidelines and forms are posted on the Web at www.mcgill.ca/gps.

Forms and guidelines are updated as procedures change. Students should keep informed of these changes by referring to the Web site.

Dates of submission of theses, convocations, etc. are listed in section 3 "Calendar of Dates 2004-2005" and are available on the Web at www.mcgill.ca/students-information/dates.

7.11 Graduation and Convocation

Students in non-thesis programs must indicate their expected graduation term on Minerva using the "apply for graduation" option under the Student Records menu and should verify this information on unofficial transcripts. Graduate certificates and diplomas, Master's degrees and doctoral degrees are granted by Senate to those students recommended for graduation by the Graduate and Postdoctoral Studies Office. Names of candidates who have completed all their program requirements are presented to Senate on

three occasions during the year: February, May and October. Transcripts of successful candidates will indicate a "degree awarded" notation along with the date on which the degree, diploma or certificate was granted and this is the official date of graduation. Students can verify their transcripts for this information three times a year as follows:

- Late February, if Term of graduation is Fall (degree granted February, Convocation in June)
- Early June, if Term of graduation is Winter (Convocation in June)
- Late October, if Term of graduation is Summer (Convocation in November)

Convocation ceremonies are held in June and November at which time the degree, diploma or certificate is conferred by the Chancellor of the University.

For more information regarding the Convocation ceremonies please refer to www.mcgill.ca/secretariat/convocations.

7.11.1 Dean's Honour List

Only graduate students who have completed their program within the University's time limitation for their program are considered for the Dean's Honour List designation.

The criteria for inclusion in the Dean's Honour List is as follows:

Master's Thesis Candidates:

Truly outstanding student recommended by the department.

Doctoral Thesis Candidates:

Truly outstanding student recommended by the Oral Defense Committee.

7.12 Access to Records

Statements of account and all other correspondence are sent directly to students who retain full control as to who has access to their records or accounts. (Officers and members of the University staff may also have access to relevant parts of such records for recognized and legitimate use.) No progress report or any other information is sent to parents and/or sponsors unless specifically requested by the student in writing.

In accordance with the 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 authorization of the student. When a student applies to McGill, he/she authorizes the University to release certain personal information (name, address, telephone number, e-mail address, date of birth, program and student status) to the following persons and bodies listed below.

The following persons and bodies are included in the authorization:

- libraries of other Quebec universities with which McGill established reciprocal borrowing agreement (I.D. number and bar code may also be disclosed to such libraries)
- the Quebec Ministry of Education, in order to create, validate and/or modify the student's Permanent Code
- the appropriate authorities involved with the external or internal funding of the student's fees (financial records may also be disclosed to such authorities)
- the Association of Universities and Colleges of Canada
- 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
- the school(s) or college(s) which the student attended

Students who choose not to authorize the University to disclose personal information to the following organizations, must complete and submit an opposition form. The opposition form is available at the Admissions, Recruitment and Registrar's Office.

- students and alumni who have volunteered to speak with admitted students

- the Student Associations recognized by McGill University for the category(ies) for students to which the student belongs
- the McGill Alumni Association
- professional bodies or corporations (e.g., engineers, dentists)
- McGill Network and Communications Services for the purposes of listing the student's McGill e-mail address in an online e-mail directory.

7.13 Transcripts of Academic Record

7.13.1 Unofficial Transcripts

Students who require a copy of their student record can view and print their own unofficial transcript by accessing Minerva. This applies to records from 1972 to present. For pre-1972 records, an official transcript must be ordered.

7.13.2 Official Transcripts

Official transcripts can be ordered on-line via Minerva. Students who cannot access Minerva should fill out the "Request for Release of Official Document" form available online at www.mcgill.ca/student-records/transcripts or in person at the Admissions, Recruitment and Registrar's Office. Transcript requests may be submitted by mail, by fax, or in person but must be signed by the student. To protect privacy, we do not accept telephone or e-mail requests.

Admissions, Recruitment and Registrar's Office
James Administration Building
845 Sherbrooke Street West, Room 205
Montreal, Quebec H3A 2T5

7.13.3 General Information

Transcripts are free of charge.

Official transcripts are sent directly to the addresses provided by the student. Official transcripts in sealed envelopes can be given to those requesting them.

Requests are processed in 3 to 5 working days, somewhat longer for pre-1976 records and at peak times.

ARR cannot be responsible for transcripts that are lost or delayed in the mail.

The University will issue only complete transcripts recording all work attempted and results obtained in any and all programs. In no circumstances will partial transcripts be issued.

Official transcripts will NOT be issued for students registered on or after September 2000 who have failed to provide the information and/or documents necessary to obtain or verify their Permanent Code.

Transcripts will not be issued if you owe fees or fines over \$30. Official transcripts are produced on secure paper that cannot be copied.

7.14 Academic Integrity

In submitting work in their courses, students should remember that plagiarism and cheating are considered to be extremely serious offences.

Students who have any doubt as to what might be considered "plagiarism" in preparing an essay or term paper should consult the instructor of the course to obtain appropriate guidelines.

The possession or use of unauthorized materials in any test or examination constitutes cheating.

The Code of Student Conduct and Disciplinary Procedures includes sections on plagiarism and cheating. The Code is included in the "Student Rights and Responsibilities Handbook" (green book), distributed to new students at the Dean of Students' Orientation Session and accessible from www.mcgill.ca/stuserv. The Code may also be obtained from the Office of the Dean of Students in the Brown Student Services Building.

McGill University values academic integrity, which is fundamental to achieving our mission of the advancement of learning.

Therefore, all students must understand the issues associated with **academic integrity** (see www.mcgill.ca/integrity/ for more information).

Plagiarism in a thesis or a Ph.D. Comprehensive Examination contravenes McGill University's academic goals and standards. Consequently, any student found guilty of plagiarism under the Code of Student Conduct and Disciplinary Procedures (see the Handbook on Students Rights and Responsibilities available at www.mcgill.ca/secretariat/documents/) in a thesis or a Ph.D. Comprehensive Examination may face very serious penalties, even expulsion from the University without the degree.

7.15 Permanent Code (code permanent)

The Ministry of Education of Quebec (MEQ) requires all students attending a Quebec University, for whom the University receives funding from the MEQ, to hold a Permanent Code.

Students applying to McGill who already hold a Permanent Code should indicate this number on their application form.

Any student who has attended high school or CEGEP in Quebec should already have a Permanent Code issued by the MEQ. This identification number can usually be found at the top right-hand corner of a high school or CEGEP transcript.

Newly accepted students who do not hold a Permanent Code will receive information in their acceptance package on how to obtain one. For more on this subject, please refer to the Web site www.mcgill.ca/students-information/fees or contact the office by e-mail, permcode@mcgill.ca.

Deadlines: Permanent Code Data Form Submission

New students beginning in September (or January) have until October 15 (or February 15) to submit their Permanent Code Data Form along with the information and/or documents necessary to obtain or verify the Permanent Code.

Returning students will be blocked from obtaining transcripts and blocked from using the Registration and Student Records functions on Minerva if they have not provided the information and/or documents necessary to obtain or verify their Permanent Code. Late registration fees which may result will not be waived.

Impact of Non-Compliance

Failure to provide necessary documents may result in the student being assessed at a higher fee rate, and/or the student's admission to, or registration in, the University being rescinded.

Official transcripts will NOT be issued for students registered on or after September 2000 who have failed to provide the information and/or documents necessary to obtain or verify their Permanent Code.

7.16 Identification (ID) Cards

Students registered at McGill are required to present an ID card when writing examinations and when using libraries, Student Services, certain laboratories, and many residences.

An ID card cannot be issued until at least 24 hours after the student has registered. When requesting the card, new students must present permanent code information and proof of legal status in Canada (for a list of documents please see section 2.2). International students must also show proof of health coverage (Blue Cross certificate or confirmation of exemption). Contact International Student Services at (514) 398-6012 or consult their Website at www.mcgill.ca/stuser/iss for additional information.

ID cards will not be issued if any of the above documents are missing.

Registered students may obtain an ID card at these times and locations:

Wednesday, August 4 to Monday, August 16, 2004 Open 9:00 a.m. to 5:00 p.m. (except Fridays and weekends) <i>Canadian and Quebec students are encouraged to come during this period to avoid line-ups later in August. No international students can be carded before August 17.</i>	Admissions, Recruitment and Registrar's Office, James Administration Building, Room 205
Tuesday, August 17 to Tuesday, August 31, 2004 Open 9:00 a.m. to 5:00 p.m. including Friday, Saturday and Sunday, Aug. 20-22. Closed Saturday and Sunday, Aug. 28-29. <i>All students, including international students</i>	Lorne M. Trottier Building 3630 University Street
After September 1, 2004 Normal office hours	Admissions, Recruitment and Registrar's Office, James Administration Building, Room 205

On Macdonald Campus, registered students may obtain an ID card from the Student Affairs Office, Room 106, Laird Hall. From Monday, August 23 to Tuesday, August 31 by appointment (refer to Orientation Schedule).

From Wednesday, September 1 to Friday, September 10 (closed Monday, September 6).

Service is available between 9:00 a.m. and 11:30 a.m.

Other notes:

- students who do not register for consecutive terms should retain their ID card to avoid having to replace it when they reregister.
- if your card has expired there is no charge for a replacement as long as you hand in the old proximity card.
- if you change programs or faculties there is no charge as long as you hand in the old proximity card.
- if your card has been lost, stolen or damaged, there is a \$20 replacement fee.

The Student Identification Card is the property of the University and students withdrawing from all of their courses must attach their ID card to the withdrawal form or return their ID card to GPSO.

Students who need security access to labs or other facilities should refer to www.mcgill.ca/security/access.

7.17 Legal Name

All students are registered under their legal name as shown 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. International passport (for Canadians, a Canadian Citizenship card is acceptable).
4. Canadian Immigration Study or Work Permit document.
5. Certificate of Acceptance of Quebec (CAQ).
6. Letter from the International Student's Consulate or Embassy in Canada.
7. Marriage certificate translated into English or French by a sworn officer.

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.

Note: This is the name that will appear on the student's diploma or certificate on graduation, and on the student's transcript.

7.18 Verification of Name

Students should verify the accuracy of their name on McGill's student records via Minerva and make any necessary corrections to formatting, e.g., upper/lower case letters, accents and spacing.

Students **cannot change the name** on their record via Minerva. Requests for such changes must be made by presenting official documents (see section 7.17 "Legal Name") in person at the Admissions, Recruitment and Registrar's Office.

7.19 E-mail Communication

E-mail is one of the official means of communication between McGill University and its students. All students are assigned a Uniform E-mail Address (UEA). They should view and verify their UEA on Minerva, under the Personal Information menu. As with all official University communications, it is the student's responsibility to ensure that time-critical e-mail is accessed, read, and acted upon in a timely fashion. If a student chooses to forward University e-mail to another e-mail mailbox, it is that student's responsibility to ensure that the alternate account is viable.

It is a violation for any user of official McGill e-mail addresses to impersonate a University officer, a member of the faculty, staff or student body, in line with the McGill University "Code of Computer User Conduct" and relevant federal and provincial legislation.

More information about e-mail procedures is available at www.mcgill.ca/email-policy. E-mail support is provided by ICS Customer Support. Please refer to see section 11.2 "Computing Facilities".

7.20 Updating Personal Information

It is important that all students keep their official records up to date, especially their mailing or student billing address as these are used by the University year round. If all addresses on file are invalid or incomplete, a student's mail will be held. Once the addresses are updated, future mail will be sent.

Students should update their addresses and/or telephone number using Minerva.

Students who are away from campus and do not have access to the Internet may make the changes by writing to the Student Affairs Office or to the Admissions, Recruitment and Registrar's Office. A written request must include the student's signature.

Changes requiring verification of official documents, e.g., change of name or citizenship or correction of birth date, must be reported to the Admissions, Recruitment and Registrar's Office as soon as possible. Such changes can only be made in person.

8 Student Services and Information

8.1 Fellowships, Awards and Assistantships

Graduate and Postdoctoral Studies Office
(Fellowships and Awards Section)
James Administration Building, Room 400
845 Sherbrooke Street West
Montreal, Quebec H3A 2T5

Telephone: (514) 398-3990

Fax: (514) 398-2626

E-mail: graduate.fellowships@mcgill.ca

Website: www.mcgill.ca/gps (under Funding: Fellowships and Awards)

The Fellowships and Awards Section of the Graduate and Postdoctoral Studies Office provides information on many sources of support for Canadian and non-Canadian students, both new to McGill and continuing. Further information on these and other sources of funding can be found various publications on the Fellowships and Awards web pages. The Graduate Fellowships and Awards Calendar lists all internal awards as well as numerous external awards. "Making Ends Meet" is a guide to successful strategies for funding graduate studies. The Tomlinson Fellowships are awarded to the most outstanding applicants at the following levels: Master's programs in disciplines housed in the Faculty of Science, doctoral programs in any discipline, and postdoctoral research in any discipline.

Applications for Tomlinson Postdoctoral Fellowships must reach the proposed academic department by the first Monday in November – please consult the Website for application guidelines and forms.

Tomlinson Master's and Doctoral Fellowships, as well as other entrance fellowships are awarded on the basis of the application for admission, upon nomination by academic departments – please contact the proposed academic department directly for further information. To be considered for a Tomlinson Master's or Doctoral Fellowship, the application for admission must reach the proposed academic department by the first Monday in January (some departments impose an earlier deadline).

The GPSO also administers Major Fellowships for students who are currently enrolled in a McGill graduate program for subsequent years of studies. Competition deadlines are in the early fall prior to the funding period (e.g., Fall 2004 for funding in 2005-06) – please consult the Website for application guidelines and forms.

Differential fee waivers for International students provide eligible non-Canadian graduate students with waivers of the international tuition fee supplement. There are no application forms for differential fee waivers, since these are awarded on the basis of departmental nominations made to the Fellowships and Awards Section. Eligible students should contact their McGill department.

Research Assistantships, Teaching Assistantships and stipends from professors' research grants are handled by individual academic departments at McGill. All assistantship and stipend inquiries should be directed to departments.

8.2 Student Financial Assistance

Citizens and Permanent Residents of Canada

Need-based student financial aid programs are offered by the Federal/provincial governments. Applications should be submitted directly to the province (or territory) of residence. Application forms are available from the governmental authorities as well as the Student Aid Office. Information on governmental student aid and links to sites can be found on McGill's Financial Aid Website at www.mcgill.ca/stuserv/aid/aid.htm.

Citizens and Permanent Residents of the United States

Stafford Loans (subsidized and unsubsidized) and parental loans (PLUS) are available for studies at McGill. Students must submit a FAFSA application to have their financial need assessed. FAFSA may be completed on the web at www.fafsa.ed.gov. The resulting SAR and a Master Promissory Note (Stafford Application) are submitted to the Student Aid Office. Students may contact the Office for information on alternative loan programs and should also check with banks and other lending organizations in the U.S.

More information can be found on McGill's Financial Aid Website at www.mcgill.ca/stuserv/aid/aid.htm.

McGill Financial Aid

The Student Aid Office also administers the University's need-based financial aid program, which includes short term loans to cover emergency situations, limited bursary assistance, and a Work Study program. All applicants for aid must first apply for the maximum government assistance for which they may be eligible. Applications should be directed to:

Student Aid Office, Brown Student Services Building,
3600 McTavish Street, Montreal, Quebec H3A 1Y2
Telephone: (514) 398-6013/6014
Website: www.mcgill.ca/stuserv/aid/aid.htm

8.3 International Students

All students who are not citizens or Permanent Residents of Canada are required to obtain the necessary Visa and/or Study Permit documents **prior to entering the country. Do not leave home without proper documentation. You cannot change your status from Visitor to Student in Canada.**

Quebec Acceptance Certificate for Studies

– The process to come to Canada begins with an application Quebec Acceptance Certificate for Studies. There is a \$100 processing fee for this document. Details on how and where to apply for the CAQ are provided with the McGill Admissions package.

Study Permit – Issued by Immigration Canada through a Canadian Embassy or Consulate. (There is a processing fee of \$125 on all applications for Study Permits.)

A citizen of the United States, Greenland and/or St.Pierre-Miquelon is permitted to obtain the Study Permit at a Port of Entry, if in possession of the CAQ.

Applying to McGill from within Canada (outside Quebec) –

Students transferring from another Canadian institution outside Quebec to McGill should send their documents and CAQ application to the Montreal address of Immigration Quebec.

Students must normalize their status with Quebec and Canada Immigration prior to attending any classes at McGill.

For further information, or if there is an emergency, contact International Student Services by telephone during regular office hours, 09:00 to 17:00, or by e-mail.

International Student Adviser:

Telephone: (514) 398-4349

E-mail: international.students@mcgill.ca

Compulsory Health Insurance – By Senate regulation, all students who do not have Canadian citizenship or Permanent Resident status, as well as their accompanying dependents, must participate in a compulsory health insurance plan administered by the University.

Students registering for the first time in September (January) should note that Maternity Benefits for pregnancies which commenced prior to July 15th (November 15th) are not covered by the University's health insurance plan.

When registering by Minerva, students will be directed to the International Student Services Web page for enrolment procedures and schedule.

For information concerning rates, see section 10.6 "Other Fees". All inquiries related to this University policy must be directed to International Student Services Office.

Health Insurance:

Telephone: (514) 398-6012

E-mail: international.health@mcgill.ca

International Student Services, Brown Student Services Building,
3600 McTavish Street, Room 3215, Montreal, Quebec H3A 1Y2.
Website: www.mcgill.ca/stuserv/iss

8.4 Student Rights and Responsibilities

The Handbook on Student Rights and Responsibilities (green book) is available on the McGill Website, www.mcgill.ca/stuserv or from the Office of the Dean of Students.

8.5 Office of the Dean of Students

William and Mary Brown Student Services Building
3600 McTavish Street, Suite 4100
Montreal, QC H3A 1Y2

Telephone:

General Information: (514) 398-8238 or 398-3825

Dean/Associate Dean: (514) 398-4990

Fax: (514) 398-3857

The Dean and the Associate Dean of Students coordinate all student services at McGill and are available to provide assistance and/or information on almost all aspects of non-academic student life. Concerns of an academic nature will be directed to the proper individual, office or department.

8.6 Student Services – Downtown Campus

Unless otherwise indicated, on the Downtown Campus all student services offered by the Office of the Dean of Students 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 refer to the Student Services Website www.mcgill.ca/stuserv or the address indicated.

Athletics: offers programs in recreational, intercollegiate, instructional, intramural and sports clubs.

Athletics Complex, 475 Pine Avenue West (514) 398-7000

E-mail: athletics@mcgill.ca

Website: www.athletics.mcgill.ca

Career and Placement Service (CAPS): provides a range of services to McGill students, and recent graduates, in the field of student and graduate employment.

Brown Building, Suite 2200 (514) 398-3304

E-mail: careers.caps@mcgill.ca

Website: www.caps.mcgill.ca

Chaplaincy Service: concerned with the spiritual and mental well-being of all students.

Brown Building, Suite 4400 (514) 398-4104

E-mail: chaplaincy@mcgill.ca

Counselling Service: assistance for personal, social, and emotional problems as well as vocational and academic concerns.

Brown Building, Suite 4200 (514) 398-3601

E-mail: counselling.service@mcgill.ca

First Peoples' House: fosters a sense of community for Aboriginal students studying at McGill.

3505 Peel Street (514) 398-3217

E-mail: firstpeopleshouse@mcgill.ca

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 Building, Suite 2100 (514) 398-6913

E-mail: firstyear@mcgill.ca

Health Service: 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 Building, Suite 3300 (514) 398-6017

International Student Services: offers support to international students with non-academic matters (immigration, health insurance, etc.), runs a Buddy Program and an orientation program.

Brown Building, Suite 3215 (514) 398-4349

E-mail: international.students@mcgill.ca

Mental Health Service: a psychiatric clinic which offers easily accessible treatment for mental health problems.

Brown Building, Suite 5500 (514) 398-6019

Student (Financial) Aid Office: provides assistance in the form of loans, bursaries and work study programs to students requiring financial aid.

Brown Building, Suite 3200 (514) 398-6013 /6014 /6015
E-mail: student.aid@mcgill.ca

Student Housing (Off-Campus): maintains lists of available off-campus student housing.

Student Housing Office, 3641 University Street (514) 398-6010
E-mail: offcampus.housing@mcgill.ca
Website: www.mcgill.ca/offcampus

Residences: offers accommodation for approximately 1700 students (currently limited to students at the undergraduate level).

Student Housing Office (514) 398-6368
Website: www.mcgill.ca/residences

Office for Students with Disabilities: coordinates services to meet the special needs of students with disabilities.

Brown Building, Suite 3100 (514) 398-6009
E-mail: disabilities.students@mcgill.ca TDD: (514) 398-8198
Website: www.mcgill.ca/stuserv/osd/osd.htm

Tutorial Service: sponsors an extensive tutorial program for students.

Brown Building, Suite 4200 (514) 398-6011
E-mail: tutorial.service@mcgill.ca

8.7 Student Services – Macdonald Campus

While students who study on Macdonald Campus may make full use of all Student Services available at McGill, the Office of the Dean of Students, in cooperation with the Faculty of Agricultural and Environmental Sciences, offers students direct access to the services listed below.

Further information can be found on the Web at www.mcgill.ca/macdonald/resources/student-services and the Student Services Website www.mcgill.ca/stuserv.

Unless otherwise indicated, Macdonald Campus services are located in the Centennial Centre, Room CC 1-124,
21,111 Lakeshore Road.

Telephone: (514) 398-7992 Fax: (514) 398-7610

Counselling Services: a professional counsellor is available twice a week offering counselling for personal, social and emotional concerns as well as for academic and vocational concerns. Appointments are required.

Health Service: a referral service is available Monday through Friday. A nurse/health educator is on Campus three times a week and a physician may be seen by appointment on specified dates.
Telephone: (514) 398-7565

Off-Campus Housing: the Macdonald Campus service is available from June 1 to August 31 each year.
Telephone: (514) 398-7992

Student (Financial) Aid Office: Information about government loans, McGill loans and bursaries, and the Work Study Program can be obtained at the Centre. During the academic year (September to April) a counsellor visits the campus twice monthly to help students with financial problems.

Career and Placement Service (CAPS): this service brings together potential employers and students seeking permanent, summer and part-time career-related work.
Telephone: (514) 398-7582

Athletics: facilities available to Macdonald students are a gymnasium, pool, weight room, an indoor arena, tennis courts, lit playing fields and large expanses of green space. Instructional, recreational, intramural and intercollegiate activities are available.

Stewart Athletic Complex Telephone: (514) 398-7789

Website: www.agrenv.mcgill.ca/society/athletic

8.8 Student Accommodation

Downtown Montreal

Residences located on the downtown campus are available to undergraduate students only.

The University has very limited housing space for graduate students. Application forms can be obtained from the Student Housing Office, 3641 University Street, Montreal, QC, H3A 2B3.
Telephone: (514) 398-6050 Fax: (514) 398-2305
E-mail: housing.residences@mcgill.ca
Website: www.mcgill.ca/residences

Macdonald Campus

Information on the EcoResidence and Laird Hall can be obtained from: Campus Housing Office, P.O.Box 192, Macdonald Campus of McGill University, Sainte-Anne-de-Bellevue, QC H9X3V9.
Telephone: (514) 398-7716 Fax: (514) 398-7953
E-mail: residences@macdonald.mcgill.ca
Website: www.mcgill.ca/macdonald/campus/services/residences

Off-Campus Housing

The McGill Off-Campus Housing service publishes on-line lists of apartments for rent, apartments to share and rooms for rent in private homes throughout Montreal. The lists are updated daily and are available to all students with a valid McGill ID number. The Website also contains information on renting in Montreal and on Quebec lease laws, as well as links to other useful sites.

Phones and computers are available at the Off-Campus Housing Office to assist students in their housing search. The office is located in the Student Housing Office, 3641 University Street, Montreal, QC H3A 2B3.

Telephone: (514) 398-6010 Fax: (514) 398-2305
E-mail: offcampus.housing@mcgill.ca
Website: www.mcgill.ca/offcampus

The Off-Campus Housing Service is available on Macdonald Campus from June 1 to August 31. That office is located in Centennial Centre, Room CCI-124.
Telephone: (514) 398-7992 Fax: (514) 398-7610

8.9 Student Accommodation

Downtown Montreal

The majority of residence accommodation on the downtown campus is available to undergraduate students only. A small amount of housing in the form of apartments and shared-facilities houses is available for graduate students.

Application forms and detailed information on graduate housing is available on Student Housing website or can be obtained from the Student Housing Office, 3641 University Street, Montreal, QC, H3A 2B3.

Telephone: (514) 398-6050
Fax: (514) 398-2305
E-mail: housing.residences@mcgill.ca
Website: www.mcgill.ca/residences

Macdonald Campus

Information on the EcoResidence and Laird Hall can be obtained from:

Campus Housing Office, P.O.Box 192, Macdonald Campus of McGill University, Sainte-Anne-de-Bellevue, QC H9X3V9.
Telephone: (514) 398-7716 Fax: (514) 398-7953
E-mail: residences@macdonald.mcgill.ca
Website: www.mcgill.ca/macdonald/campus/services/residences

Off-Campus Housing

The McGill Off-Campus Housing service publishes on-line lists of apartments for rent, apartments to share and rooms for rent in pri-

vate homes throughout Montreal. The lists are updated daily and are available to all students with a valid McGill ID number. The Website also contains information on renting in Montreal and on Quebec lease laws, as well as links to other useful sites.

Phones and computers are available at the Off-Campus Housing Office to assist students in their housing search. The office is located in the Student Housing Office, 3641 University Street, Montreal, QC H3A 2B3.

Telephone: (514) 398-6010

Fax: (514) 398-2305

E-mail: offcampus.housing@mcgill.ca

Website: www.mcgill.ca/offcampus

The Off-Campus Housing Service is available on Macdonald Campus from June 1 to August 31. That office is located in Centennial Centre, Room CCI-124.

Telephone: (514) 398-7992

Fax: (514) 398-7610

9 Graduate Studies Guidelines and Policies

9.1 Guidelines for Academic Units on Graduate Student Advising and Supervision

The general guidelines suggested below are meant to encourage units to examine their graduate programs and to specify their own policies and procedures. These guidelines are directed primarily towards thesis programs but will, in part, be appropriate for non-thesis programs as well.

Each academic unit should have explicitly stated policies and procedures regarding the advising and supervising of graduate students, as well as established means for informing students of procedures and deadlines (e.g., orientation sessions, handbooks) and mechanisms for addressing complaints. Academic units should ensure that their policies and procedures are consistent with the Charter of Students' Rights. For their part, graduate students are responsible for informing themselves of these policies and procedures.

1. Assignment of Advisors, Supervisors and Committees

- i. Each unit should designate a member (or members) of the academic staff (usually the graduate program director) to monitor the progress of students throughout the graduate program, to ensure that all conditions of admission and requirements are fulfilled, to provide students with information on their program, their progress through it, sources of and policies on financial support, and to advise them how to resolve problems which may arise during their program.
- ii. As soon as possible, students should have a supervisor who has competence in the student's proposed area of research, and a program or thesis committee. Although procedures and timetables for choosing supervisors and committees may vary across programs, they should be consistent within a particular program and should be made clear to incoming students. Thesis supervisors must be chosen from academic staff in tenure-track positions. Faculty Lecturers and Research Assistants may not act as supervisors but in exceptional cases, may be co-supervisors. Emeritus Professors and Adjunct Professors may co-supervise. Professors (Special Category) may supervise or co-supervise students. In the case of supervision, the academic unit in question must ensure continuity of appropriate supervision of their graduate students.

2. Program

- i. Early in their program, students should be informed of the phases through which they must pass towards the achievement of the graduate degree, the approximate amount of time each phase should take, the criteria for its successful completion, and any deadlines relating to these phases.
- ii. It is important that students are made aware of whatever courses are required to complete their programs, that these courses are available, and that they relate to students' pro-

posed areas of research or to the development of related areas of scholarship.

- iii. Where relevant, students should also be informed early in their program of language requirements or comprehensive examinations. The guidelines, criteria and procedures for comprehensive examinations must be explicit and consistently applied in each program. Academic units should consider the rationale for language and comprehensive examinations and how they relate to the objectives of the graduate program.
- iv. Every effort should be taken to ensure that students choose, as soon as possible, realistic and appropriate areas of research commensurate with degree requirements.
- v. **There must be clear procedures established in every unit by which students receive guidance and constructive criticism on their progress on a regular basis through the program (e.g., regular meetings and/or E-mail communication with supervisors and committees, attendance at research seminars, semester or annual reviews of student progress).** In addition to regular meetings between the student and supervisor or advisory/thesis committee, each unit must establish a procedure to provide feedback to thesis students regarding their research progress. At least annually, there must be a meeting between the student, supervisor and advisory/thesis committee or, in the case where there is no such advisory/thesis committee, there must be a meeting between the supervisor and a departmental representative, at which objectives for the upcoming year are established and the prior year's research progress recorded and evaluated. A written record of such meetings must include the signature of the student, supervisor, and the advisory/thesis committee member or a departmental representative, and this record must be retained in the student's departmental file. (The Graduate Student Research Objectives Report Form, the Graduate Student Research Progress Record, and the Graduate Student Research Progress Report Form are to be utilized to keep a record of these meetings.) In the case where the student does not make expected progress, the advisory or thesis committee or, in the case where there is no such advisory or thesis committee, the student, supervisor and a departmental representative must meet at least once per semester for the subsequent twelve months to review progress and if appropriate to set new objectives. On the occasion of a second unsatisfactory progress report, the student may be required to withdraw from the program of study.
- vi. Students should be made aware of the cost living in Montreal and of sources of financial support (e.g., teaching or research assistantships, fellowships) and of the facilities available to them (e.g., study space, computers).
- vii. Students should receive guidance and encouragement in areas relating to their growth in scholarship, professional development and career planning. Examples may include, where appropriate, reporting research, writing abstracts, preparing papers for conference presentation or for publication, writing grant and fellowship applications, conducting a job search, and preparing for job interviews.
- viii. Units should be sensitive to special academic needs and concerns that may arise in the case of certain students, such as international students or students who undertake graduate studies after a long absence from university.

3. Responsibilities

Each unit should clearly identify the student's supervisory needs at each phase and the means by which these needs will be met. Some functions will be fulfilled by the Chair, some by the graduate program director, some by the supervisor and some by the committee. Each unit should clearly identify the specific responsibilities of each of these, as well as the responsibilities of students themselves.

- i. Each unit should consider the availability of student support, research facilities, space and availability of potential supervisors in determining the number of students admitted into the program.
- ii. Some examples of the responsibilities of the graduate program director are to be knowledgeable about program requirements, the composition of committees, the procedures for comprehensive and oral defense examinations, and other policies relating to graduate studies; to maintain a dossier on each student's progress; and to be sensitive to graduation deadlines and students' career plans.
- iii. Some examples of the responsibilities of a supervisor are to uphold and to transmit to students the highest professional standards of research and/or scholarship; to provide guidance in all phases of the student's research; to meet with their students regularly; to provide prompt feedback when work is submitted including drafts of the thesis; and to clarify expectations regarding collaborative work, authorship, publication and conference presentations.
- iv. Some examples of the responsibilities of the students are to inform themselves of program requirements and deadlines; to work within these deadlines; to communicate regularly with the supervisor and committee; and to submit progress reports to the supervisor and committee.
- v. The Chair of the unit should ensure that procedures are in place to address serious disagreements that may arise, for example, between a student and a supervisor or between a supervisor and committee members. Such procedures should involve a neutral mediator who will ensure that all sides of a dispute are heard before any decision is made.

4. Quality of Supervision and Teaching

- i. Academic units and the Graduate and Postdoctoral Studies Office should consider ways to assess and improve the quality of supervision and to help new supervisors, e.g., through workshops or mentoring models. Procedures for monitoring the quality of graduate student supervision and for providing constructive feedback for supervisors should be developed.
- ii. Graduate supervision should be recognized as an integral part of the academic responsibility of an academic unit and should be considered in the allocation of workload, as should the teaching of graduate courses.
- iii. Academic units should establish criteria of excellence in supervision and graduate teaching appropriate to their disciplines and should suitably reward those who meet these criteria, e.g., in decisions concerning tenure and promotion, or merit pay awards.
- iv. The maximum number of students under the direction of a single supervisor should be consistent with the ability of the supervisor to provide quality supervision, taking into account the workload of the supervisor and norms of the discipline.
- v. Procedures should be established for ensuring continuity in supervision when a student is separated from a supervisor – for example, when the supervisor takes a sabbatical leave, retires from McGill or changes universities or when the student leaves to complete field work or takes a job before submitting a thesis.

Revised by Council of FGSR, April 23, 1999 and October 6, 2003.

9.2 Policy on Graduate Student Research Progress Tracking

This is a new mandatory policy and procedure to track the research progress of graduate students. The policy is referred to in the amended Guidelines and Regulations for Academic Units on Graduate Student Advising and Supervision in section 2.v. in bold print. Documents to record progress can be found on the GPS website: www.mcgill.ca/gps/policies/revisions/.

The following is a summary of the main elements of the new **mandatory** policy. The following steps must be followed for each graduate student in a thesis program:

1. Annually, the student must meet with, at minimum, their supervisor(s) and a departmental representative. This meeting can occur in the context of an annual thesis or advisory committee in those departments that have thesis committees.
2. At the first such meeting (to be held shortly after thesis students begin their programs), written objectives/expectations for the year must be recorded on the first of the three forms, Form #1 (Graduate Student Research Objectives Report Form). All three people at the meeting must sign this form. A student who does not agree to sign the form must write a statement detailing his/her objections to the expectations recorded on the form.
3. Approximately one year later, and every year thereafter, the student, supervisor(s) and the departmental representative should meet again to review the progress that has been achieved toward the recorded objectives. Prior to the meeting, the student should record his/her accomplishments and progress for the year by completing Form #2 (Graduate Student Research Progress Record). This completed form is then evaluated by the supervisor and the departmental representative on Form #3 (Graduate Student Research Progress Report Form). All parties sign Form #3. A student who does not agree to sign the form must write a statement detailing his/her objections. At this same meeting, objectives for the following year should be recorded on Form #1, as per the procedure described in point 2, above.
4. In the event that recorded research progress is unsatisfactory, a new set of objectives should be developed for the student at the meeting, and recorded on Form #1. These new, or interim, objectives apply only to the next semester. Evaluation of progress should take place after that semester has concluded, following the steps described in point 3, above.
5. In the event that a student has any two unsatisfactory evaluations they may be required to withdraw from their program of study. These two unsatisfactory evaluations need not be successive.
6. All forms are to be kept in departmental files.
7. Departments that already have progress tracking forms may continue to utilize them, but these must conform to the fundamental principles underlying this new policy. Specifically, any departmental procedure or forms to record graduate research progress must:
 - be used **annually**;
 - be used in a meeting with the supervisor and one other departmental representative, and signed by all parties;
 - include a written statement of expectations approximately one year before any evaluation. (Note: This can be one semester in the case of expectations following an unsatisfactory evaluation.);
 - permit the student to submit a minority report and not sign;
 - state clearly that any two unsatisfactory evaluations may be grounds for requiring a student to withdraw.

Please note this new University policy is **MANDATORY**. Students may grieve against a department that fails to adhere to the policy and procedures outlined above.

This policy should be put into effect no later than September 2004.

Senate, September 2003.

9.3 Guidelines and Policy for Academic Units on Postdoctoral Education

The general guidelines listed below are meant to encourage units to examine their policies, procedures, and privileges for postdoctoral education. Every unit receiving Postdocs should have explicitly stated policies and procedures for the provision of postdoctoral education as well as established means for informing Postdocs of policies, procedures and privileges (e.g. orientation

sessions, handbooks, etc.), as well as mechanisms for addressing complaints. Academic units should ensure that their policies, procedures and privileges are consistent with these guidelines and the Charter of Students' Rights. For their part Postdocs are responsible for informing themselves of policies, procedures, and privileges.

1. Definition and Status

- i. Postdoctoral status will be recognized by the University in accordance with Quebec provincial regulations. Persons may only be registered with postdoctoral status for a period of up to five years from the date they were awarded a Ph.D. or equivalent degree. Time allocated to familial or health leave (as defined in the GPSO Calendar, General Information section 9.7 "Health and Parental/Familial Leave of Absence Policy") is added to this period of time. Leaves for other reasons, including vacation leave, do not extend the term. Postdocs must do research under the supervision of one or more McGill professors, including Adjunct Professors. They are expected to be engaged primarily in research with minimal teaching or other responsibilities.

2. Registration

- i. Postdocs must be registered annually with the University through the Graduate and Postdoctoral Studies Office. Registration will require an original or notarized copy of the Ph.D. diploma. Registration will be limited to persons who fulfil the definition above and for whom there is an assurance of appropriate payment and where the unit can provide assurance of the necessary resources to permit postdoctoral education.
- ii. Upon registration, the Postdoc will be provided with a University identity card issued by the Registrar's Office.

3. Appointment, Pay, Agreement of Conditions

- i. Upon registration, all Postdocs must be appointed regardless of whether their payment comes from a McGill account. Their appointments may not exceed their registration status.
- ii. In order to be registered as a Postdoc, an individual must be assured of financial support, other than from personal means, during his/her stay in the University equivalent at the time of appointment to at least 90% of the lesser of either the federal or the provincial research council postdoctoral fellowship pertinent to his/her discipline. There are no provisions for paid family leave unless this is stipulated in the regulations of a funding agency outside the University.
- iii. At the outset of a postdoctoral appointment, a written Letter of Agreement for Postdoctoral Education should be drawn up and signed by the Postdoc, the supervisor, and the department head or delegate (see sample Letter of Agreement on the Web at www.mcgill.ca/gps/postdoc). This should stipulate, for example, the purpose of the postdoctoral appointment (research and the advancement of knowledge), the duration of the fellowship/stipend, the modality of pay, the work space, travel funds, and expectations and compensation for teaching and student research supervision. Leaves from postdoctoral education must comply with the Graduate and Postdoctoral Studies Policies for Vacation, Parental/Familial, and Health Leave (Graduate and Postdoctoral Studies General Information section 9.4 "Vacation Policy for Graduate Students and Postdocs" and section 9.7 "Health and Parental/Familial Leave of Absence Policy"). Any breach of these conditions may result in grievance procedures or the termination of the postdoctoral appointment.
- iv. Postdocs with full responsibility for teaching a course should be compensated over and above their fellowship at the standard rate paid to lecturers by their department.
- v. The amount of research, teaching, or other tasks that Postdocs engage in over and above postdoctoral activities should conform to the regulations for Postdocs specified by the Canadian research council of their discipline. This applies to all Postdocs, including those whose funding does not come from the Canadian research councils.

4. Privileges

- i. Postdocs have the same pertinent rights as the ones granted to McGill students in the *Handbook of Student Rights and Responsibilities* (green book), available on the Web at www.mcgill.ca/secretariat/documents.
- ii. Postdocs have full graduate student borrowing privileges in McGill libraries through their identity card.
- iii. As a rule, Postdocs who are Canadian citizens or who have Permanent Resident status may take courses for credit. They must be admitted by their department as Special Students. These Postdocs may also be enrolled as part-time students in non-degree granting programs (i.e., graduate diplomas and graduate certificates). They will be charged a fee for these courses.
- iv. Postdocs may be listed in the McGill directory. The Computing Centre will grant Postdocs e-mail privileges on the same basis as graduate students upon presentation of an identity card.
- v. The Department of Athletics will grant Postdocs access to sports facilities upon presentation of their identity card. A "staff" fee will be charged on an annual or term basis.
- vi. Postdocs are members of the Post-Graduate Students' Society and an annual fee is automatically charged. Postdocs are permitted membership in the Faculty Club; an annual fee will be charged for this membership.
- vii. Postdocs are encouraged to participate in the Centre for University Teaching and Learning staff development seminars. They will be accommodated free of charge for courses which are open to faculty members.
- viii. Postdocs have access to the services provided by the Ombudsperson.
- ix. Canadian citizens, Permanent Residents, and International Postdocs may enroll in the second language written and spoken English courses provided by Continuing Education, the English and French Language Centre, or the Centre for the Study and Teaching of Writing. They must be admitted by their department as Special Students. They will be charged a fee for these courses. If the period of studies is longer than six months, International Postdocs must have a CAQ and a Study Permit.
- x. Postdocs have access to the Student Services. Fees are applicable. Information is available at www.mcgill.ca/stuserv.

5. Responsibilities

- i. Postdocs are subject to the responsibilities outlined in the *Handbook of Student Rights and Responsibilities* (green book), available on the Web www.mcgill.ca/secretariat/documents.
- ii. Each academic unit receiving Postdocs should clearly identify Postdocs' needs and the means by which they will be met by the unit.
- iii. Each academic unit should consider the availability of research supervision facilities, office space, and research funding before determining the Postdocs that they will accept.
- iv. Some examples of responsibilities of the department are:
 - to verify the Postdoc's eligibility period for registration;
 - to provide Postdocs with departmental policy and procedures that pertain to them;
 - to oversee registration and appointment of Postdocs;
 - to assign departmental personnel (e.g., graduate program director) the responsibility for Postdocs;
 - to oversee and sign-off on the Letter of Agreement for Postdoctoral Education;
 - to assure that each Postdoc has a supervisor, lab and/or office space, access to research operating costs and necessary equipment;
 - to include Postdocs in departmental career and placement opportunities;

- to refer Postdocs to the appropriate University policies and personnel for the resolution of conflict that may arise between a Postdoc and supervisor.
- v. Some examples of the responsibilities of the supervisor are:
- to uphold and transmit to his/her Postdocs the highest professional standards of research and/or scholarship;
 - to provide research guidance;
 - to meet regularly with his/her Postdocs;
 - to provide feedback on research submitted by the Postdocs;
 - to clarify expectations regarding intellectual property rights in accordance with the University's policy;
 - to provide mentorship for career development;
 - to prepare, sign, and adhere to a Letter of Agreement for Postdoctoral Education.
- vi. Some examples of responsibilities of Postdocs are:
- to inform themselves of and adhere to the University's policies and/or regulations for Postdocs for leaves, for research, and for student conduct as outlined in the *Handbook of Student Rights and Responsibilities* and the General Information, Regulations and Research Guidelines booklet of the Graduate and Postdoctoral Studies Office;
 - to present themselves for registration;
 - to sign and adhere to their Letter of Agreement for Postdoctoral Education;
 - to communicate regularly with their supervisor;
 - to inform their supervisor of their absences.
- vii. Some examples of the responsibilities of the University are:
- to register Postdocs;
 - to provide an appeal mechanism in cases of conflict;
 - to help eligible non-resident (immigration status) Postdocs obtain the Quebec Certificate of Eligibility for income tax purposes;
 - to provide documented policies and procedures to Postdocs;
 - to provide Postdocs with the necessary contacts for language courses, housing, immigration, daycare, schooling, and health care information.

Approved by Senate April 2000.

9.4 Vacation Policy for Graduate Students and Postdocs

Graduate students and Postdocs should normally be entitled to vacation leave equivalent to university holidays and an additional total of fifteen (15) working days in the year. Funded students and Postdocs with fellowships and research grant stipends taking additional vacation leave may have their funding reduced accordingly.

Council of FGSR April 23, 1999.

9.5 Ph.D. Comprehensives Policy

Preamble

The majority of doctoral programs at McGill require candidates to pass a comprehensive examination or set of examinations or equivalent, such as qualifying examinations, preliminary examinations, candidacy paper, comprehensive evaluation, thesis proposal, etc. The Calendar of the Graduate and Postdoctoral Studies Office (GPSO) includes the following statement:

A comprehensive examination or its equivalent is usually held near the end of Ph.D. 2. The results of this examination determine whether or not students will be permitted to continue in their programs. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations and approved by the Dean of Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of these details at the commencement of their programs.

It is recognized that expectations for the Ph.D. comprehensive will vary according to the needs of the discipline. It is important to make it clear to doctoral candidates what the expectations and

procedures are for their Ph.D. comprehensive, and to maintain consistency within a given program.

General Policy

1. At the beginning of the relevant academic year, units must provide doctoral students with a written description of the Ph.D. comprehensive, covering the following issues: objectives and content, format, timing, assessment, grading and reporting, failures. (See below for details.)
2. All units that have a Ph.D. comprehensive must adopt an administrative course number for it, usually XXXX701. One of the following forms of grading must be adopted and used consistently within the program: Pass/Fail or letter grades. ("Mixed" modes of grading are not permitted, i.e., some students within a program reported on a Pass/Fail basis and others by means of letter grades.)

Specific Issues

Objectives and Content

Units must specify the objectives of the Ph.D. comprehensive. Objectives may include assessing any of the following (or a combination), with a view to determining whether the student demonstrates the necessary research skills and academic achievements to be permitted to continue in the Ph.D. program. (This list is not intended to be exhaustive.)

- knowledge of the discipline (from the point of view of breadth)
- understanding of the proposed field of research
- ability to conduct independent and original research
- a thesis proposal
- professional skills
- ability to present and defend material orally

The content of the comprehensive must be consistent with the objectives and should be appropriately circumscribed. Students must be given an indication of the range of material that may be covered in the examination and suggestions as to how to cover this material (e.g., via reading lists, courses, etc.).

Format

The format of the comprehensive must be clearly stated and must be consistent across students within a particular program. The following list gives some of the more common formats, which are often combined. (This list is not intended to be exhaustive.)

- written examination of a specific duration
- take-home examination
- extended research paper(s)
- written research proposal
- oral exam (which may include or consist of a defense of a research paper or research proposal)

If the comprehensive consists of several parts, the relationship (if any) between them must be made clear.

Timing

Timing of the comprehensive must be specified, including the earliest and latest dates by which the comprehensive is to be completed. Students must be informed of the specific dates of the exam in sufficient time for them to prepare for it.

Given the importance of the Ph.D. comprehensive and the consequences of failure, the exam should be held reasonably early in the program, so that students do not spend several years preparing for it.

Prerequisites must be specified. For example, clarify whether all course work must have been completed prior to the comprehensive and whether the comprehensive is the final step before thesis research and writing.

Assessment, Grading and Reporting

Evaluation parameters must be made clear, including information about who sets the exam questions and who evaluates the student. If performance is assessed by a committee, clarify how the committee is appointed and who sits on it. In the case of written examinations, clarify whether the grading is done by one or more people.

Where there is more than one component to the examination (e.g., an oral exam plus a written exam), it must be made clear how

these components are factored into the final grade. For example, make it clear whether each component counts equally, whether the assessment is global, and whether failure on one part of the comprehensive examination (or on one question) results in an overall failure.

Feedback

The assessment and reasons for the decision must be documented and provided to the student in sufficient detail to allow the student to understand the decision, including identifying strengths and weaknesses. (A number of units have developed short forms specifically for this purpose.) In the case of oral examinations, the student should also be given feedback on presentation, logical exposition, ability to answer questions, etc.

In the case of oral exams, units may wish to consider the following: ensure that there is a reasonably detailed written assessment of the student's performance; tape the oral examination; allow the student to select a faculty member to act as a neutral observer; have one faculty member serve as a neutral chair (equivalent to a Pro-Dean); have an "outside" committee member; have the oral examination open to other students and faculty members.

Plagiarism

McGill University values academic integrity, which is fundamental to achieving our mission of the advancement of learning. Therefore, all students must understand the issues associated with **academic integrity** (see www.mcgill.ca/integrity for more information).

Plagiarism in a Ph.D. comprehensive Examination contravenes McGill University's academic goals and standards. Consequently, any student found guilty of plagiarism under the Code of Student Conduct and Disciplinary Procedures (see the Handbook on Students Rights and Responsibilities available at www.mcgill.ca/secretariat/documents/) in a Ph.D. Comprehensive Examination may face very serious penalties, even expulsion from the University without the degree.

Failures

i. Repeats

In the event of a failure, units must allow, without prejudice, one repeat of the comprehensive (in whole or in part). The first time a student fails, the student must be informed in writing by the department that he/she has failed the comprehensive and must be informed of conditions relating to a repeat of the examination. In such circumstances, the grade of HH (continuing) will be used. In the event of a second failure, a grade of F will be reported to the Graduate and Postdoctoral Studies Office and the student will be asked to withdraw from the Ph.D. program.

Conditions for retaking the examination must be clearly stated, including the time frame, potential dates, nature of the re-examination, committee membership, etc.

Units have the right to specify further requirements in the event of failure (e.g., requiring students to take an additional course or courses in areas where they have shown weakness on the comprehensive).

ii. Review and Reassessment

Rereads. In the case of written comprehensives, the Graduate Studies Reread Policy applies.

A student who fails an oral examination may request a review. In such cases, the Graduate and Postdoctoral Studies Office will conduct a review of the examination process and procedures.

Other relevant policies/offices

Charter of Student Rights
Graduate Studies Reread Policy
Office for Students with Disabilities

*Approved by Executive of Faculty of Graduate Studies and Research (FGSR) February 17, 1997
and Council of FGSR March 7, 1997.*

9.6 Graduate Studies Reread Policy

This policy applies only in the case of marks given for written work in 600- and 700-level courses. For 500-level courses and below, the reread policy of the appropriate undergraduate faculty applies.

Consultation

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, graduate students have the right, subject to reasonable administrative arrangements, "to consult any written submission for which they have received a mark and to discuss this submission with the examiner". Upon request by the student, the instructor of the course is obliged to conduct this consultation with the student.

(Note: Where materials have been graded by a TA and the student wants a reconsideration of the grade, the faculty member responsible for the course is expected to review the materials and the appropriateness of the grade. This is so even if the materials in question have already been discussed by the TA with the student.)

Verification

In a case where a student feels that totalling errors have been made in arriving at the final grade, the student can request the instructor to carry out a detailed check that all questions have been marked and that the final grade has correctly been computed on the basis of the term work, final examination, etc.

Rereads

According to the Charter, students have the right, subject to reasonable administrative arrangements, "to an impartial and competent review of any mark" (hereafter "reread").

No request for a reread is valid unless, at the time it is made, the student has already met with the faculty member responsible for the course to review the mark, or has made a reasonable attempt to do so.

Rereads can only be requested if a change upwards in the letter grade for the course is possible as a result of the reread. Assignments can only be reread if, together, they account for more than 20% of the course grade.

The reread by a second reader is a review of the mark, not the work assigned. It is the second reader's task to determine whether the original mark is fair and reasonable, not to give the work a totally new assessment.

1. The time limit for requesting a reread is within 30 days after posting of the final marks for the course. However, in the case of work which has been graded during the course and returned to the student, students must indicate in writing to the Graduate and Postdoctoral Studies Office within 5 working days of receiving the graded work their intention to request a reread. This intention must be confirmed within 30 days of the posting of the final marks for the course.

(Note: Material that is returned to a student **cannot be reread** unless arrangements have been made to ensure that the material has not been changed subsequent to the original grading; for example, the student can make a copy for the professor to retain either before handing the material in or immediately upon receiving it back from the instructor or at the point where the professor and student review the work together.

Instructors are strongly advised to write their corrections in red pen and to write comments which help the student to understand the mark assigned.)

2. The request for a formal reread must be made by the student in writing to the Graduate and Postdoctoral Studies Office and should specify the reasons for the request. It should include a statement indicating that the student has already met with the faculty member responsible for the course to review the mark or indicating why this has not been possible. The reread fee (\$35 for an exam, \$35 for a paper, \$35 for one or more assignments, to a maximum of \$105 per course) will be charged directly to the student's fee account after the result of the

reread is received. No fee will be charged if there is a change upwards in the letter grade for the course.

3. Administration of the reread is handled by the Graduate and Postdoctoral Studies Office, not by the department. The Office will contact the department to obtain the work to be reread, a list of potential readers, and details of the marking. All communication with the second reader is conducted by the GPSO.

The second reader is given the original assignment, with marginalia, corrections, summary comments and mark intact, as well as any notes from the instructor pertinent to the general nature of the course or the assignment and grading schemes, etc.
4. The student's and the instructor's names are blanked out to reduce the possibility of prejudice and to help meet the requirement of the Charter of Students' Rights that the review be impartial. The rereader's name will not be made known to the student or instructor at any time; the student's name will not be made known to the rereader at any time.
5. The second reader should support his or her assessment with a brief memorandum to the Graduate and Postdoctoral Studies Office. As a result of the reread process, the grade may become **higher or lower or remain unchanged**. The grade submitted by the second reader shall replace the original grade. The reread grade cannot be challenged.

In the case of requests for rereads of group work, all members of the group must sign the request, indicating that they agree to the reread. In the event that members of the group are not in agreement, the written request should indicate which students are requesting the reread and which students do not wish for a reread. In such cases, the outcome of the reread (whether positive or negative) will affect only the students in favour of the reread. Neither the reread grade nor the decision to opt in or out of the reread can be challenged.
6. The new grade resulting from the review will be communicated to the student in a letter from the Graduate and Postdoctoral Studies Office, with a copy to the academic unit.

Prepared by the Committee on Graduate Programs, Supervision and Teaching

Approved by Council of the Faculty of Graduate Studies and Research, May 12th 1995

9.7 Health and Parental/Familial Leave of Absence Policy

A leave of absence may be granted by the Graduate and Postdoctoral Studies Office for maternity or parenting (interpreted according to McGill's "Parental Leave Policy" for non-academic staff) reasons or for health reasons.

Such a leave must be requested on a term by term basis and may be granted for a period of up to 52 weeks. Students must make a request for such a leave in writing to their department and submit a medical certificate. The department shall forward the request to the GPSO.

During a **leave of absence for parental or familial reasons**, a student will not be eligible to take courses but he/she may request and expect guidance on thesis and research work and will have free access to the University's academic facilities. Library services will continue to be available by registering at the Circulation Desk of the Humanities and Social Sciences Library (McLennan-Redpath). In special circumstances, familial leave may be considered by the GPSO for a student when a close family member is ill.

During a **leave of absence for health reasons**, a student will not be eligible to request guidance on thesis and research work or to take courses. He/she will not have access to the University's academic facilities but Library services will normally continue to be available by registering at the Circulation Desk of the Humanities and Social Sciences Library (McLennan-Redpath).

A medical certificate must accompany such leave requests.

(Council of FGSR - March 1999)

Please refer to section 7.1.10 "Leave of Absence Status" for information regarding registration of graduate students and Postdocs on such leaves.

9.8 Failure Policy

Please refer to section 7.8 "Failure Policy", for information regarding the policy and procedures to follow in cases of failure.

10 Fees and Expenses

The University reserves the right to make changes without notice in the published scale of fees. (Note: The information in this section was prepared in April 2004.)

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

10.1 Fee Information Booklet

The *Fee Information* booklet, published in June of each year by the Student Accounts Office, contains additional information as well as any fee adjustments which may have been made after the publication of this Calendar. Students are bound by the policies and procedures contained therein. In the event of any discrepancy, the *Fee Information* booklet supersedes the Calendar.

A copy of the booklet will be sent to all new students. The contents are also available on the Student Accounts Website at www.mcgill.ca/student-accounts.

10.2 Access to Fee Information

Students can view their Account Summary by Term on Minerva. The Fall 2004 session fees become accessible as of August 1st.

10.3 Tuition Fees

The University will charge the following tuition fees in 2004-05.

Tuition fees vary according to the residence and citizenship status of the student. The rates described below only refer to credit activities.

Quebec Students

The 2004-05 tuition fees for Quebec students who are Canadian citizens or Permanent Residents are \$55.61 per credit or \$1,668.30 for 30 credits.

In accordance with provincial government requirements, students must provide proof that they qualify for assessment of fees at the Quebec rate; see section 10.4.1 "Documentation for Permanent Code, Citizenship and Proof of Quebec Residency" for details.

Note: Students who do not submit appropriate documentation by the stipulated deadline are billed at the non-Quebec Canadian or the international rate, depending on the documentation submitted.

If proof of status is submitted after a student has been billed, but before the document submission deadline, the tuition supplement will be waived. Any late payment and/or interest charges accumulated during the documentation evaluation period **will not** be waived.

Non-Quebec Students (Canadian or Permanent Resident)

The 2004-05 tuition fees at the Master's level for non-Quebec students who are Canadian citizens or Permanent Residents are \$146.71 per credit or \$4,401.30 for 30 credits. At the Ph.D. level, tuition fees are the same as for Quebec students.

In accordance with provincial government requirements, students must provide proof that they qualify for assessment of fees at the non-Quebec Canadian rate; see section 10.4.1 "Documentation for Permanent Code, Citizenship and Proof of Quebec Residency" for details.

Note: Students who do not submit appropriate documentation by the stipulated deadline will be billed at the international rate.

If proof of status is submitted after a student has been billed, but before the document submission deadline, the tuition supplement will be waived. Any late payment and/or interest charges accumulated during the documentation evaluation period **will not** be waived.

International Students

The 2004-05 tuition fees for international students at the Master's level are \$325.61 per credit (\$9,768.30 for 30 credits); at the Ph.D. level tuition fees are \$8,808.30 per year. Certain graduate programs charge fees at a different rate.

The international fees which are listed in section 10.11 "Yearly Fees and Charges" are representative of fees that students could expect to be charged.

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 the Admissions, Recruitment and Registrar's Office. Information is also available on the Web at www.mcgill.ca/students.

10.4 Documentation

10.4.1 Documentation for Permanent Code, Citizenship and Proof of Quebec Residency

The Ministry of Education in Quebec requires that McGill collect documentation from all students to ensure tuition fees are assessed correctly and to ensure a permanent code is issued by the Ministry for all students. Canadian citizens and Permanent Residents should take steps to mail or fax this documentation prior to arriving on campus. International students must bring the appropriate documents with them when they come to have their McGill identification card issued before the start of lectures.

10.4.2 Canadians or Permanent Residents of Canada

Any new student who is a Canadian or Permanent Resident, including Quebec residents, must mail or fax to McGill prior to arriving on campus:

- a. a legible photocopy of one of the following:
 - Certificate of Indian status card
 - Canadian birth certificate
 - Canadian citizenship card (both sides)
 - Record of Permanent Resident status in Canada (i.e. IMM1000 document/IMM 5292 and PR card - both sides)

and

- b. if the information was not already provided at the time of application to McGill, a signed Permanent Code form available at www.mcgill.ca/student-records/fees/permcode, indicating the names of the student's father and mother, or a Permanent Code.

Students can check if McGill has received their Permanent Code, after they have accepted the University offer of admission by viewing their unofficial transcript on Minerva. If the University has the Permanent Code on file it will be displayed at the top of the unofficial transcript, below their McGill ID.

10.4.3 Residents of Quebec

New students who are citizens or Permanent Residents of Canada, and who qualify for the Quebec rate of tuition fees, must also provide proof of Québec residency in addition to the documents listed in the above section. There are two ways of establishing Québec residency status:

1. **Without** an "Attestation of Residency in Quebec" form, where the student must qualify for one of the situations indicated below and submit proof to that effect:
 - a. Student was born in Québec. **Documents:** Quebec birth or baptismal certificate (issued prior to Jan. 1st, 1994) with place of birth clearly shown, valid Canadian passport indicating Quebec as place of birth;

- b. Student obtained Landed Immigrant status by virtue of a Certificate of Selection of Québec (CSQ). **Documents:** CSQ document, written confirmation from Immigration Quebec that a CSQ was issued;

- c. Student's high school and CEGEP transcripts transmitted electronically to McGill from the Ministry of Education of Quebec **indicate "Quebec" as the place of residence.** **Document:** final Quebec high school transcript;

- d. Student was approved for a Quebec loan for the current academic year. **Document:** Quebec loan certificate;

- e. Student is a member of an aboriginal community of Quebec. **Document:** letter from a band council official, band membership card.

2. **With** an "Attestation of Residency in Quebec" form (available at www.mcgill.ca/student-records/fees/poc) where the student must qualify for one of the situations indicated on the form and send it, signed and dated, along with **all** the documents requested on the attestation. A copy of the guidelines (in French) as established by the Ministry of Education of Quebec (MEQ) may be obtained from their Website at the following address: www.meq.gouv.qc.ca/ens-sup/FTP/rq-guide.pdf.

Students can check on Minerva to verify that their documents have been processed. Please allow approximately 15 working days to record receipt of your documentation.

10.4.4 International Students

New students who are international students must provide:

- a. one of the following:
 - Study permit issued by Immigration Canada and Certificate of Acceptation of Québec (CAQ)
 - Convention Refugee status document

and

- b. if the information was not already provided at the time of application to McGill, a signed Permanent Code form available at www.mcgill.ca/student-records/fees/permcode, indicating the names of the student's father and mother, or a Permanent Code.

Students can check if McGill has received their Permanent Code, after they have accepted the University's offer of admission by viewing their unofficial transcript on Minerva. If the University has the Permanent Code on file it will be displayed at the top of the unofficial transcript, below their McGill ID.

Mail or fax copies of documents prior to arrival on campus. The student's McGill ID number and contact information must show clearly on all documentation, and be mailed or faxed prior to arrival on campus. If McGill has not received this information prior to arrival, ID cards will not be issued and the student will be assessed international fees.

Mail or fax to:

Admissions, Recruitment and Registrar's Office, James Administration Bldg., Government Reporting Unit,
845 Sherbrooke Street West, 2nd floor
Montréal, QC, H3A 2T5
Canada

Fax: (514) 398-8939

For questions, **please e-mail** que-can@mcgill.ca or phone (514) 398-2224.

10.4.5 No Retroactivity

The Student Accounts Office will send students a fee statement based on the citizenship information and documentation on file at the time the statement is issued. If the appropriate proof required to support a citizenship or Quebec residency status is not received by the fee deadline indicated on the statement, students will be billed at the international rate of tuition. Late payment and interest charges may be incurred on the unpaid balance. Students who submit their proof of status after the payment deadline indicated will have the international supplement waived, but will be responsible for the late payment and interest charged to their account. Students should note that all documentation must be received by the end of the last day of classes of a current term to take effect for that term. All documents received after that date will be updated for

the following term only, and the higher fees cannot be retroactively reversed for a previous term.

10.5 Compulsory Fees

Student Services Fees

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

Through the Dean of Students' Office these services are available on campus to help students achieve greater academic, physical and social well-being. They include athletics facilities, student health and mental health, financial aid, counselling, tutorial service, off-campus housing, services for students with disabilities, chaplaincy, the Career and Placement Service, International Student Services, and the administration of the *Student Rights and Responsibilities Handbook*.

Student Society Fees

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

Changes to Student Society fees are voted upon by the students during the Spring referendum period.

Note: For International students, the student society fee includes the PGSS Dental Insurance plan of \$217. International students will also be obliged to participate in the University's compulsory International Health Insurance Plan, which at the 2003-04 rate, cost \$641 for single coverage. For more information, please contact International Student Services, (514) 398-6012.

Registration Charge

The University charges a per credit registration charge to all students in courses and programs. This is assessed as follows:

Graduate students whose fees are charged on a per credit basis:
\$6.50 per credit to a maximum of \$97.50 per term

Graduate students whose fees are charged on a flat rate basis (perterm):

Full-time / additional session / non-thesis extension \$97.50
Half-time \$48.75

Post-Graduate Medical Education:

40-52 weeks pay \$97.50; 1-39 weeks pay \$48.75

Transcript Charge

The University charges a per credit transcript charge to all students. This entitles students to order transcripts free of charge and is assessed as follows:

Graduate students whose fees are charged on a per credit basis:
\$5.83 per credit to a maximum of \$8.75 per term

Graduate students whose fees are charged on a flat rate basis (perterm):

Full-time / additional session / non-thesis extension \$8.75
Half-time \$4.38

Post-Graduate Medical Education:

40-52 weeks pay \$8.75; 1-39 weeks pay \$4.38

Information Technology Charge

The purpose of the information technology charge 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. The fee is assessed as follows:

Graduate students whose fees are charged on a per credit basis:
\$5.83 per credit to a maximum of \$87.45 per term

Graduate students whose fees are charged on a flat rate basis (perterm):

Full-time / additional session / non-thesis extension \$87.45
Half-time \$43.73

Post-Graduate Medical Education:

40-52 weeks pay \$87.45; 1-39 weeks pay \$43.73

Copyright Fee

All Quebec universities pay a per credit fee to Copibec (a consortium that protects the interests of authors and editors) for the right to photocopy material protected by copyright.

Graduate students whose fees are charged on a per credit basis:
\$.35 per credit to a maximum of \$5.25 per term

Graduate students whose fees are charged on a flat rate basis (perterm):

Full-time / additional session / non-thesis extension \$5.25
Half-time \$2.63

10.6 Other Fees

International Student Health and Accident Plan - Single (compulsory) (based on 2003-04 rates)	\$641
Application for Admission*	
all graduate programs except Management programs	\$60
Management programs	\$100
Reconsideration of Application to Associate Dean (Graduate and Postdoctoral Studies)	\$40
Admission appeals charge (to the University Admission Appeals Committee)	\$100
Late Registration	
<i>After regular registration deadline:</i>	
• All eligible returning students, except Special students and graduate part-time students	\$50
• Special students and graduate part-time students	\$20
<i>As of the second day of classes</i>	
• All students except Special students and graduate part-time students	\$100
• Special students and graduate part-time students	\$40
Late Course Change Fee (each change after deadline for course change)	\$25
Minimum Charge upon withdrawal (or, for newly admitted students, the deposit).	\$100
Re-reading Examination Paper (refundable in some faculties)	\$35
Supplemental Examination	\$35
Thesis Examination Charge (and resubmission fee, if applicable) (Payable by certified cheque or money order)	
- Master's thesis	\$75
- Ph.D. thesis	\$100
Graduation Fee (compulsory)**	\$60
Duplicate Student 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: 1.42% per month or 17.03% annually	
Returned cheque	\$20
Faculty of Music Fees:	
Audition Fee	\$60
Supplemental Practical Examination in Music.	\$150

* All students making application to the Graduate and Postdoctoral Studies Office are required to pay this fee, including those already registered at McGill.

If a department or an applicant defers an admission within the following year, the application fee need not be paid again.

** Students will be charged a graduation fee in their graduating year according to the following schedule: February graduation - end of November; May graduation - end of February; and October graduation - end of March. Students added to the graduation lists late will be charged accordingly.

10.7 Billings and Due Dates

Confirmation of Acceptance Deposit

In certain graduate departments, new students are required to make a deposit on tuition shortly after receiving notice of their acceptance to the University. Students will be required to confirm their acceptance of the offer of admission on www.mcgill.ca/minerva/applicants and pay the required deposit by credit card (Visa or Mastercard) at that time.

Invoicing of Fees

Students may request that their fee invoice be sent to a Student Billing Address by updating their personal information on Minerva. Otherwise invoices will be sent to the current mailing address.

Interest will not be cancelled due to non-receipt of fee invoices.

* Students should access the Student Accounts website at www.mcgill.ca/student-accounts for information on current due dates.

For most returning students who register during the regular registration period, an invoice will be mailed in early August, due on August 30th.

New students who register during the month of August will receive their invoice in early September, due on September 29th.

All students returning to the University for the Winter term must pay their fees by January 3, 2005.

New students starting in the Winter term will receive their invoice in early January, due on January 28th.

Late Payment Fees: Students who still have an outstanding balance greater than \$100 on their account as of October 29th (February 28th for the Winter term) will be charged a late payment fee of \$25 over and above interest.

10.8 Fees and Withdrawal from the University

All students who have accessed Minerva to register must officially withdraw in accordance with section 7.5 "Change of Course" if they decide not to attend the term(s) for which they have registered. **Otherwise they will be liable for all applicable tuition and other fees.**

Students who have accessed Minerva and who drop their last course from September 1st through to the withdrawal period with full refund, must submit a signed withdrawal form to be withdrawn from the University. They will be automatically charged a minimum charge of \$100 (or their deposit fee if newly admitted) to cover administrative costs of registration.

Students who discontinue their classes without taking steps to drop their courses and submit a withdrawal form will be liable for all applicable tuition and other fees.

10.8.1 Fee Refund Deadlines

The deadline dates for course refunds are independent of the deadline dates given for withdrawal from courses. See section 7.2.3 "Summer Registration" for information about fee refund after withdrawal from a Summer Term of Residence for newly admitted graduate students only.

Fall Term – up to and including September 19:

Returning students – 100%* refund (Less minimum charge of \$100 in the case of complete withdrawal.)

New students – 100%* refund (Less registration deposit.)

Fall Term – after September 19: No refund.

Winter Term – up to and including January 23:

Returning students – 100%* refund (Less minimum charge of \$100 in the case of complete withdrawal.)

New students – 100%* refund (Less registration deposit.)

Winter Term – after January 23: No refund.

* Including tuition fees, society and other fees, student services, registration and transcripts charges, and information technology charge.

10.9 Other Policies Related to Fees

10.9.1 Impact of Non-Payment

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 fees, student housing fees or loans on their due date. Access to Minerva for registration functions will be denied until these debts are paid in full or arrangements made to settle the debt.

Students who register in a given term who have amounts owing from previous terms must make payment arrangements with either the Student Aid Office or the Student Accounts Office prior to the end of the course add/drop period. Failure to do so will lead to the current term's registration being cancelled.

10.9.2 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 the academic standing does not permit the student to continue, all fees paid in advance will be refunded on application to the Student Accounts Office.

10.9.3 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 program at the undergraduate vs. one program at the graduate level, students may incur both society and faculty fees and/or additional tuition fees. Consult the student accounts website for further details.

Students in two programs may consult the Admissions, Recruitment and Registrar's Office for information on tuition fees. Adjustments to bills will be made throughout the term when fees cannot be automatically calculated.

10.10 Deferred Fee Payment

10.10.1 Students with Sponsors

Students whose fees will be paid by an outside agency such as the Department of Veterans Affairs, CIDA, a foreign government, or their University department (i.e., teaching assistants or demonstrators), must have written evidence to that effect. Students in any of the above categories should go to the Student Accounts Office with the appropriate documentation.

When a third party has agreed to pay fees on behalf of a student, payment will be recorded on the fee account thereby reducing 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 will be responsible for paying the fees plus the late payment fee and accrued interest.

10.10.2 Students receiving McGill Scholarships/Awards

Fall Term: McGill scholarships or awards are normally credited to the recipient's fee account by mid-August. These awards have the effect of reducing the student's outstanding balance.

Winter Term: Students will be able to view upcoming Winter term scholarships or awards on Minerva once processed by the Student Aid Office. These awards are post-dated and will be released to the student's fee account in January prior to Winter fees being due.

10.10.3 Students receiving Government Aid

Students are encouraged to pay their tuition promptly upon receipt of their government assistance. Interest on outstanding tuition is charged monthly beginning in August for returning students and in September for new students. Students who have applied for gov-

ernment assistance for full-time studies by June 30 will be entitled to an exemption of interest and late payment charges effective upon receipt of their aid at the Student Aid Office.

10.10.4 Graduate Awards/Teaching Assistantships

Graduate students who are recipients of awards where funds are paid directly to them (e.g. CIMR, NSERC, etc.) are normally required to pay their fees by the payment due dates. Students who are dependent on the income received from a Teaching Assistantship in order to pay their tuition should consult with their graduate department to see if they qualify for a deferral of their fees.

Arrangements can be made with the department to have regular deductions at source to pay tuition. To initiate these deductions, fill out the form "Student Fee Payroll Deduction Authorization" found on the website at www.is.mcgill.ca/minerva/Human_Resources/payroll/payroll_forms.htm

10.11 Yearly Fees and Charges

In thesis programs, students are charged a flat rate based on 15 credits per term.

In non-thesis programs, students are charged a flat rate (based on 15 credits per term) if they are registered full-time, or a per credit rate if they are registered for less than 12 credits.

In the M.B.A., M.L.I.S., S.T.M. and M.Ed. programs, students are charged per credit.

Part-time, Qualifying, Special, Diploma and Certificate students will be charged tuition fees at the per credit rate and will be subject to student society fees, student services fees, registration and transcripts charges, and information technology charges.

Note: The following fees have been established for 2004-05 at the rates indicated: Tuition, Registration and Transcript Charge and the Information Technology Charge. Student Services fees are subject to approval by the Senate Committee. Any changes to other charges will be updated as they are confirmed via the Student Accounts website www.mcgill.ca/student-accounts.

Fees and Charges (based 30 credits) *	Quebec Students	Non-Quebec Canadians		International Students all programs except those listed below	
	Master's and Ph.D.	Master's	Ph.D.	Master's	Ph.D.
Tuition					
Full-time	1,668.30	4,401.30	1,668.30	9,768.30	8,808.30
Half-time	834.15	2,200.65	834.15	4,884.15	4,404.15
Additional Session / non-thesis extension	1,668.30	1,668.30	1,668.30	1,668.30	1,668.30
Society Fees (see Note 1 and Note 2)					
Full-time	536.22	536.22	536.22	353.22	353.22
Half-time	129.30	129.30	129.30	129.30	129.30
Additional Session / non-thesis extension	472.30	472.30	472.30	289.30	289.30
Student Services ***					
Full-time	343.00	343.00	343.00	343.00	343.00
Half-time	206.00	206.00	206.00	206.00	206.00
Additional Session / non-thesis extension	114.00	114.00	114.00	114.00	114.00
Registration & Transcripts Charges					
Full-time	212.40	212.40	212.40	212.40	212.40
Half-time	106.20	106.20	106.20	106.20	106.20
Additional Session / non-thesis extension	212.40	212.40	212.40	212.40	212.40
Copyright Fee					
Full-time	10.50	10.50	10.50	10.50	10.50
Half-time	5.25	5.25	5.25	5.25	5.25
Additional Session / non-thesis extension	10.50	10.50	10.50	10.50	10.50
Information Technology Charge					
Full-time	174.90	174.90	174.90	174.90	174.90
Half-time	87.45	87.45	87.45	87.45	87.45
Additional Session / non-thesis extension	174.90	174.90	174.90	174.90	174.90
Total					
Full-time	\$2,945.32	\$5,678.32	\$2,945.32	\$10,862.32	\$9,902.32
Half-time	\$1,368.35	\$2,734.85	\$1,368.35	\$5,418.35	\$4,938.35
Additional Session/non-thesis extension	\$2,652.40	\$2,652.40	\$2,652.40	\$2,469.40	\$2,469.40

*Note that students registered non-resident pay fees of \$200 per year.

*** Fees subject to approval by the governing authority.

Macdonald Campus students' Student Society fees vary from the above as follows at both the doctoral and Master's level:

Quebec/Canadian – Full-time: \$634.12; Half-time: \$234.12; Additional session/non-thesis extension: \$579.42.

International – Full-time: \$451.12; Half-time: \$234.12; Additional session/non-thesis extension: \$396.42.

The following programs/departments have additional annual Student Society fees: Urban Planning – \$150 (Computer Fee - Engineering), Physics \$20; M.B.A. programs – \$100 (designated for Computer Room improvement); Law programs – \$102 (designated for computer facilities and Career and Placement Office); Music: \$72.00; Electrical Engineering: \$10.00; Education: \$8.00.

As of May 2004

CERTAIN SPECIAL PROGRAMS CHARGE DIFFERENT FEES

M.B.A. (Master's in Business Administration)

International Students (based on 30 credits per year)

Full-time Tuition	\$20,000.00
Society Fees	453.22
Student Services	412.00
Registration and Transcripts Charges	212.40
Information Technology Charge	174.90
Copyright Fee	10.50
Total Fees	\$21,263.02

International Master's Program for Practising Managers

All students – all fees: \$42,500 U.S.

Master in Manufacturing Management

The tuition fees over the program (normally 4 terms) will total \$25,000. Other fees are estimated to be as follows for the Fall and Winter terms:

	Quebec/ Canadian	International
Student Society	\$536.22	\$353.22
Student Services	412.00	412.00
Registration and Transcripts Charges	212.40	212.40
Information Technology Charge	174.90	174.90
Copyright Fee	10.50	10.50
Total Other Fees	\$1,346.02	\$1,163.02

11 Libraries and Computing Facilities

11.1 Libraries

All registered students have access to the McGill University Library system. This comprises 14 libraries, one reading room, the Division of Rare Books and Special Collections, and a number of affiliated collections in various specialized departments. MUSE, the on-line catalogue, is available in the libraries and remotely to search for print and electronic resources in the McGill Libraries. The Library Website can be accessed at www.library.mcgill.ca.

The acquisition of digitized information as a growing adjunct to traditional collections and the digitization of unique McGill collections form two important features of the virtual McGill Library. McGill Libraries' electronic databases may be queried on computer workstations in any library or – in many instances – searched from remote computers. The Library has around 600 databases currently available, including numeric databases and indexing and abstracting services. The Library also subscribes to approximately 10,000 full-text journals, both from publishers such as Oxford University Press, Elsevier Science-Direct, Wiley InterScience, Kluwer On-line, and Blackwell Synergy and from journal vendors and aggregators such as JSTOR, Project MUSE, Dow Jones Interactive, Lexis-Nexis, and IEEE. The numbers are rapidly growing.

The Humanities and Social Sciences Area Library located in the McLennan and Redpath Library Buildings is the largest library. There are separate libraries for law, health sciences, and physical sciences and engineering, as well as specialized libraries in various fields. In addition, the Macdonald Campus Library (agriculture, food science and environmental sciences) is located 20 km from the Downtown Campus.

Students registered for Master's and Ph.D. programs may obtain borrowing privileges for most Canadian university libraries upon presentation of their McGill University identification card when it clearly indicates their status, and a CREPUQ introduction card, available from the Office of the Director of Libraries.

11.2 Computing Facilities

11.2.1 IST Customer Services (ICS)

McGill ICS provides technical support for the following student services: E-mail, Dialup Access Service (DAS), Virtual Private

Network (VPN), REZ Voice and Data Service (post-installation), Wireless Network and WebCT. They may be reached on-line via the Virtual Help Desk at www.mcgill.ca/ics/vhd or by phone at (514) 398-3398, or in person at Burnside Hall in room 112.

11.2.2 Network and Communications Services (NCS)

McGill NCS provides data services including access to Local Area Networks (LANs), the Internet, e-mail, McGill central systems, and the McGill University Website - all from virtually anywhere on campus (wired or wireless) and remotely. They also provide voice service (with long distance and voice mail) to students in McGill Residences. The Website at www.mcgill.ca/ncs lists products and services offered by McGill NCS.

11.2.3 WebCT

WebCT is McGill's on-line course management system. WebCT is used in a large number of McGill courses. Currently most of them are taught in a hybrid fashion with WebCT serving as a component within a traditional class structure. As an on-line environment, WebCT provides key tools for extending the educational experience. Students can access content in various forms, post assignments, take quizzes and participate in on-line discussions. The WebCT Student Resources Website at www.mcgill.ca/webct/students provides an overview of WebCT tools, task-oriented how-tos and general advice for student success with educational technology. Help is available on-line via the Virtual Help Desk at www.mcgill.ca/ics/vhd and by phone at (514) 398-3398.

11.2.4 Computer Labs

The computer labs are provided by many faculties and departments for students in their programs. A list of these can be found on the Web via the McGill Gateway at www.mcgill.ca/index/computer. Check the unit listings or contact the unit directly for information concerning facilities and accessibility.

11.2.5 Instructional Communications Centre

The Instructional Communications Centre (ICC) provides services related to the use of technology in teaching. It is McGill's central facility for the loan of audiovisual equipment and support for video production.

The ICC Audiovisual Arrangements Section located in the lobby of the Redpath Library and the ICC office at the Macdonald Campus house a full range of audio, video, computer, and projection equipment available for loan to McGill students. Equipment is provided free of charge for credit course activities. Training in equipment use is available and advance reservations are highly recommended. Further details are available on the ICC Website www.mcgill.ca/icc/equipment/loan.

The ICC also maintains two video editing suites available for staff and students who wish to produce their own programs. These suites are self-instructional, and sessions should be reserved in advance. For more information or to reserve a session, please contact the ICC Main Office, 688 Sherbrooke St. W., Suite 1600, (514) 398-7200.

12 Research Policy, Patents, Postdocs, Associates, Trainees

12.1 Policy on Research Ethics

(Prepared by the Research Policy Committee of the Faculty of Graduate Studies and Research.)

1. Preamble

This Policy should be interpreted in a manner that is consistent with the vision of the University as a research community committed to the principles of honesty, trust, and collegiality and to the idea that fair play must prevail at all times.

It is important for the University community to have an explicitly stated ethical framework within which all research should be conducted. This need has been recognized by all the major funding agencies – the Canadian Institute of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), le Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT) formerly FCAR, and Fonds de la Recherche en Santé du Québec (FRSQ).

2. Introduction

This Policy on Research Ethics applies to all individuals who conduct research at McGill University or at one of its affiliated institutions. The term "research" includes all forms of funded and unfunded scholarly and creative work by McGill staff and students and by people who use McGill facilities for the creation, dissemination, and publication of scholarly work.

Some of the provisions of this Policy deal with matters that are also treated in other University guidelines and regulatory documents. In appropriate cases, reference to these guidelines and documents should also be made.

This Policy does not attempt to address all matters relating to the ethical conduct of research activities. Consequently, it is recognized that many academic units will require more specific provisions than those guidelines supplied in this Policy. Academic units are encouraged to develop and/or subscribe to more specific provisions.

3. The Responsibility of the University

The University requires honesty and integrity in research and scholarship. The University, through the appropriate administrative offices and in accordance with the provisions of this Policy and other applicable regulatory procedures, will (a) help facilitate the resolution of disputes concerning matters dealt with in this Policy (see article 9), and (b) investigate allegations of misconduct under this Policy and take action, as appropriate.

4. The Selection and Conduct of Research

Research projects should be managed, funding should be used and research should be conducted with due consideration for all University policies on research ethics. In addition to this Policy, these latter include policies set out in existing university regulations or guidelines, such as the Regulations on Research Policy, Policy on Intellectual Property, Regulations Governing Conflicts of Interest in Proprietary Research, the Policy on Ethical Conduct of Research Involving Human Subjects, and the Guidelines for Research with Animal Subjects.

The primary responsibility for the selection and conduct of research rests with the individuals performing the research. In the case of collaborative or team research, the research director or principal investigator is obliged to ensure that the members of the research team or group are aware of the contents of this Policy and of other applicable ethical norms governing the conduct of the research. In such cases, the research director or principal investigator should take all reasonable measures to ensure that the provisions of this Policy are complied with by the members of the research team. In the case of research conducted by students for academic credit, the instructor, supervisor or research director, as the case may be, in addition to informing the student of his or her obligations in respect of the ethical conduct of research, shall take further reasonable measures to ensure that the student's research is conducted in accordance with the provisions of this Policy and with other applicable ethical norms.

5. The Duty of Honesty and Integrity

Researchers are expected to maintain the highest standards of honesty and integrity. Any form of academic dishonesty, including but not limited to the following, is a serious offence:

(a) Falsification of Data

The gathering of data and research materials must be undertaken with honesty and integrity. Researchers should never publish data they know to be false or the result of deliberate acts of falsification.

(b) Plagiarism

Researchers should not knowingly represent the published or unpublished work of another person as their own or assist anyone else in doing so. The use by a researcher of work done by other people must be appropriately and adequately acknowledged. Plagiarism is an act of academic dishonesty.

Upon the demonstration that a researcher has represented another person's work as their own, it shall be presumed that the researcher did so knowingly; the researcher shall bear the burden of rebutting the presumption by evidence satisfying the person or body hearing the case that no such knowledge existed.

(c) Conflict of Interest

A conflict of interest arises where the researcher has a material interest of any nature – personal, financial, career or otherwise – that may conflict with the researcher's duty of honesty and integrity. Where a conflict of interest arises, a researcher must immediately disclose it in writing to his/her superior and to all other persons to whom it should be disclosed, in accordance with the context and with the highest standards of honesty and integrity.

(d) Misuse of Research Funds

Where a granting agency provides guidelines on the use of research funds, researchers and directors of research projects must follow those guidelines scrupulously. Researchers and directors of research must also follow all university guidelines on the management and disbursement of funds. Regardless of the source of research funding, it is not permitted to divert any of the research resources for personal or any other use, except in cases where the grant or contract specifically provides otherwise.

Nothing in the provisions of this policy is intended to impugn the actions of a person who has made an honest error, or who exercises judgement or interprets data or designs experiments in a way which may reasonably be the subject of honest differences of opinion.

6. Duties Where Research with Human and Animal Subjects is Concerned

(a) Human Subjects

All research involving human subjects must be conducted in a manner consistent with the highest scholarly and ethical standards, in accordance with the regulations and guidelines prescribed by Law, the Tri-Council Policy Statement: Ethical Conduct for Research Involving Human Subjects and the University.

(b) Animal Research

All animal research must be conducted in compliance with the guidelines of the Canadian Council on Animal Care (CCAC) and the University.

7. Collaborative Research

(a) Attribution of Authorship and Copyright Ownership

Research collaborators should establish as early as possible, how the attribution of authorship and how the allocation of copyright are to be divided between them.

(i) Attribution of Authorship:

In the absence of an agreement between the researchers, the following rules governing the attribution of authorship apply:

- authorship is attributed to all those persons who have made significant scholarly contributions to the work and who share responsibility and accountability for the results;
- an administrative relationship to the investigation does not of itself qualify a person for co-authorship;
- the order of the names in a publication is decided according to the quality of the contribution, the extent of the responsibility and accountability for the results, and the custom of the discipline.
- the attribution of authorship is not affected by whether researchers were paid for their contributions or by their employment status;

(ii) Duties of the Principal Author:

In the absence of an agreement between the researchers, where there are co-authors, the following further rules apply:

- the author who submits a manuscript for publication accepts the responsibility of having included as co-authors all per-

sons who are entitled to co-authorship, and none who are inappropriate;

- the submitting author should send each co-author a draft copy of the manuscript and should make a reasonable attempt to obtain consent to co-authorship, including the order of names; and
- other contributions should be indicated in a footnote or an "Acknowledgements" section, in accordance with the standards of the discipline and the publisher.

(iii) Ownership of copyright:

In the absence of an agreement between the researchers, the allocation of copyright is governed by university policy and the law.

(b) Student-Professor Collaborations

The rules in (a) apply to the case where the collaborators are professor and student. Further to those rules, a student should be granted due prominence on a list of co-authors of any multiple-authored article that is based primarily on the student's own dissertation/thesis, according to the practice in the discipline.

(c) University-Private Sector Research

Reference is made to existing university regulations in "Regulations, Policy and Guidelines: A Handbook for Academic Staff", Chapter 6 "Regulations on Research Policy", Chapter 8 "Policy on Intellectual Property" and Chapter 9 "Regulations Governing Conflicts of Interest in Proprietary Research".

(d) The Duty to Acknowledge Sources of Funding

All public and private funding sources (grants, contracts and gifts including endowed income that funds named chairs) used in the conduct of research should be acknowledged in resulting publications.

8. Data

(a) Definition of Data

"Data" in this article includes the methodology used to obtain results, the actual research results, and the analysis and interpretations by the researchers.

(b) Authorship and Copyright Data

The rules set out in article 7 of the Policy govern questions concerning the attribution of authorship of and the ownership of the copyright in Data.

(c) Gathering of Data

Data must be organized in a manner that allows ready verification. Data must be gathered in accordance with principles governing the use of human and animal subjects.

(d) Availability of Data

Subject to exceptions based on a duty of confidentiality and the laws respecting intellectual property and access to information, after data are published, they must be made available to any party presenting a reasonable request to examine them. In cases where there is a disagreement between the researcher and the person requesting the data, the matter shall be referred to the Office of the Vice Principal (Research) for resolution.

(e) Maintenance of Data

All original data must be retained for a reasonable length of time. A period of at least five years from the date of publication is recommended.

9. Disputes Between Co-Researchers

The provisions in this article govern disputes between co-researchers. They do not govern allegations of misconduct under this Policy. Allegations of misconduct are dealt with in article 10 of this Policy.

(a) The Duty on the Parties to Resolve Disputes

Where disputes between co-researchers arise, they should be resolved amicably and in a respectful and collegial fashion. Where a dispute cannot be resolved by the parties themselves, the parties should seek the advice of the appropriate authorities in their unit, who may help the parties resolve the dispute in any way to which the parties may agree, including conciliation, mediation, and binding and non-binding arbitration. To this end, the parties may agree that other persons become involved in the dispute in order to help facilitate its resolution. The parties may stipulate that their own

involvement in any dispute resolution process is without prejudice to their rights in any subsequent process.

(b) The Duty of the University to Investigate Disputes and to Help Facilitate the Resolution of the Disputes

The University has a duty to investigate disputes and to help facilitate their resolution, in accordance with the following provisions. However, the University has no obligation to ensure that disputes are resolved, since the resolution of disputes is ultimately subject to the will of the parties to the dispute.

If the dispute is between individuals working under a principal investigator(s), the principal investigator shall investigate and attempt to resolve the matter. If the principal investigator is involved in the dispute, the Head(s) [i.e., Chair(s), Director(s), etc.] of the Department(s) or academic unit(s) concerned shall investigate and attempt to resolve the matter. If any party involved in the dispute should object to the investigation of a Head, or if a Head is directly involved in the dispute or allegation of misconduct, the Dean of the appropriate Faculty, School or academic unit and/or the Vice-Principal (Research) shall be informed and shall either investigate the dispute and attempt to resolve it or nominate a senior academic staff member, acceptable to the parties, to act as investigator, who shall attempt to resolve the matter.

10. Disciplinary Action and Grievance

Any allegation of misconduct under this Policy made against a non-student member of the University, shall be dealt with in accordance with the disciplinary procedures generally applicable to that person. For the purposes of those procedures, misconduct under this Policy is a matter subject to discipline pursuant to those procedures. Any allegation of misconduct under this Policy made against a student shall be dealt with in accordance with the procedures established under the Senate Code on Student Conduct and Disciplinary Procedures, and, for the purposes of that Code, misconduct under this Policy is an academic offence.

Approved by Senate, March 22, 1995.

Approved by Board of Governors, May 29, 1995

12.2 Regulations on Research Policy

Preamble

Research in the University is relevant for the general benefits of society, as well as for specific intellectual purposes. It should be used to increase knowledge in ways that do not harm society. Furthermore, all teaching in the University should have a base in the creative experience of scholarly and scientific inquiry.

The University recognizes that research flourishes only in a climate of academic freedom. Since the conditions for good research in our many disciplines are quite different, individual investigators are normally expected to assume direct responsibility for the intellectual and ethical quality of the work. A serious responsibility rests on the individual members of the Community who are best equipped through special knowledge to remain aware of the consequences of their research activity; the researcher must balance the possibility of harmful application against potential benefits.

The present Regulations cover all research activity.

A gift is a voluntary transfer of property without valuable consideration or benefit of any kind to the donor, or to anyone designated by the donor. While a donor cannot impose obligations upon the University, the gift may be restricted as to its use. It may lead to the issuance of an official donation receipt for income tax purposes, at the request of the donor.

A research contract is an agreement between a sponsor and the University in which the University and researcher(s) agree to perform a specified research project and which generally confers upon the sponsor rights to the results of that project. Title to any intellectual property arising is negotiated. The University will normally be compensated for the assignment of licences or other options. A default on the part of the University or researcher to perform the obligations undertaken may give rise to a liability for contractual breach. A research contract is a business transaction, hence all direct and indirect costs of the University, including the salaries of researchers, may be charged to the sponsor. To the extent that the Dean of the Faculty considers the research activity

to be beyond the scope of normal research duties, researchers may earn honoraria apart from regular salary, under the terms of the research contract. Such remuneration and research activity should conform to the University policies on consulting.

A research grant given in aid of research through the University is financial support for a researcher, conducting research in a particular subject area, without formal detailed stipulation as to the direction of such research. The research conducted forms part of the staff member's regular research duties and is not normally the object of any additional compensation to the researcher. Title to the results of the research activity, including intellectual property, licensing or other related options is not vested in the grantor. A research grant does not generate enforceable obligations except as to the management of the funds for grant purposes and, where applicable, according to the grantor's guidelines or policies. A research grant has no limitations on publication and no requirements as to deliverables other than reporting and financial stipulations. A research grant usually covers direct costs, while indirect costs should be recovered whenever possible.

Regulations

1. The University does not allow its staff or students to be engaged in secret research on University premises or using University facilities.
2. Certain kinds of research data in the custody of governments and other agencies are restricted in order to protect the privacy of individuals or private corporations. If the restriction is not such as to prevent the eventual use of the research undertaken by students or staff members for theses or publications, these restrictions are permissible. Such restrictions, as they relate to the use of research undertaken by students or staff members for theses or publications, should not exceed the delays set out in Regulation 3.
3. The University shall not accept requests from outside bodies for delays in publication in excess of one year. The Vice-Principal (Research), however, shall have the right to agree to requests for delays up to two years in exceptional cases, for example, when patents are pending or intended. In the case of theses, the student shall agree in writing to such a delay before the request is considered.
4. All research contracts shall be negotiated by one of the University's Research units reporting to the Vice-Principal (Research), in association with the principal investigator.
5. Neither the name of the University nor that of any member of staff shall be used for publicity in connection with a research contract without the prior written approval of the Vice-Principal (Research).
6. Titles to intellectual property arising out of a contract, the obligations and abilities of different parties to seek patents, and the payment of associated royalties, shall be defined by the terms of the contract signed by the University, following negotiation by the Office of Technology Transfer.
7. Existing University Regulations on Conflicts of Interest in Proprietary Research shall apply to research arising out of research contracts.
8. No one may use University premises, or publications under its control or jurisdiction, to recruit in any manner a member of the University community as a participant in medical testing or in clinical trials involving human subjects related to non-University research projects.
9. A research director or principal investigator shall not employ a relative, whether by blood, marriage, or union, in a position funded by his or her research grant, contract, or otherwise under his or her jurisdiction, without prior written approval of the Vice-Principal (Research) and the relevant dean.
10. Applicants for contracts or grants whose source is a government military agency shall indicate on the Graduate Studies and Research check list/approval form whether this research has direct harmful consequences. Where the University so requires, the applicants shall furnish a written statement setting

out the possibilities of direct harmful application and potential benefits of their research.

11. The primary responsibility for undertaking research conforming to these Regulations rests upon the researcher. The Vice-Principal (Research) shall supervise the procedures to be followed by researchers in fulfilling their responsibilities under paragraph 10 respecting research contracts sponsored by government military agencies. The Vice-Principal (Research) shall advise the Board of Governors on whether the proposed contract conforms to McGill's guidelines on research. The Board of Governors has final authority to approve these contracts.
12. The Vice-Principal (Research) shall report to Senate, two years from their date of implementation, with respect to the general workings of the procedures and provide a summary of the decisions made.

Received by Senate, February 26, 1986, Minute 59

Approved by the Board of Governors, March 17, 1986, Minute 6053

Amendments Approved:

Board of Governors, September 15, 1986, Minute 6108 (Art. 8)

Board of Governors, October 20, 1986, Minute 6128 (Art. 9)

Amendments received by Senate, February 10, 1988, Minute 84 (Art. 10, 11 & 12)

Amendments approved:

Board of Governors, February 15, 1988, Minute 6323

(Art. 10, 11, & 12)

12.3 Policy on Student Involvement in Research

The following policy relates specifically to undergraduate and graduate students who are engaged in research as part of their university programs. Some sections also apply to those cases where an investigator enlists the services of an inexperienced person as assistant, technician, trainee, etc. in connection with a research project.

Health and Safety

- 1) It is the responsibility of the investigator to implement all possible measures that will ensure the health and safety of his/her research colleagues. Such measures include:
 - a) Strict adherence to the safety procedures set forth in the regulations of the building in which the research is being carried out.
 - b) Careful training of all new personnel in the correct usage of equipment and materials.
 - c) Provision of adequate protective clothing, first aid kits, etc. and their regular inspection.
 - d) Clear precautionary labelling of containers of hazardous materials.
- 2) Students, especially undergraduates, tend to have only temporary involvement with a research project and may be absent during routine safety drills. Particularly attention should be given to the instruction of each beginning student. Solitary work in a laboratory containing potential hazards should be strongly discouraged. Research projects shall avoid a requirement for solitary after-hours work.
- 3) Where research projects involve the use of specially hazardous materials (e.g. radioactive, carcinogenic or poisonous chemicals) departments shall ensure that students have signed a statement that they have received and read appropriate health and safety information and shall forward such statements to the Building Director. [Refer to McGill University Manual of Radiation Safety, June 1984.]
- 4) In cases of emergency, both staff and students are required to follow instructions issued by the Building Director or delegate.

Academic Considerations

- 1) When a student assists in a research project, a clear distinction should be made between work for which the student is paid,

and research training which contributes to the student's academic program.

- 2) As a general rule, paid work should not be considered eligible for credit towards an undergraduate course. In some departments, different arrangements have traditionally been held; in such departments open discussion should ensure that one policy is applied uniformly throughout the department and disseminated to students.
- 3) When a graduate student is assigned a salary or partial support by the investigator (e.g. from an operating grant or similar fund controlled by the investigator) a clear agreement should be made as to the duties expected of the student in conjunction with the investigator's own research project vis-à-vis the work contributing to the student's thesis.

Secrecy

- 1) When a student begins working with an investigator who may be funded in whole or in part by contracts, consulting agreements or grants from outside agencies, a clear agreement should be made at the outset as to the accessibility of research findings for publication.
 McGill's Research Policy prohibits staff researchers from engaging in research which may not subsequently be communicated to the scientific community through the normal channels of meetings and publications. Although exceptions to this rule are occasionally permitted by the Vice-Principal (Research), research projects assigned to students should be unrestricted and subject to the usual processes of thesis production and examination.
- 2) If at any time, during the program, the student's own research discoveries or those of other group members lead to a need for limitation on free communication, there should be full discussion by the whole group in concert with the administrative supervisor of the department, institute or faculty, of the reasons for such a proposal. In the event that a consensus is not reached, the matter shall be referred to the Vice-Principal (Research) for resolution.
- 3) When a thesis has been completed and satisfactorily examined, the student may wish to delay its publication or deposition in the McGill and National Libraries for a short period. Such requests may be made, in writing, to the Graduate and Postdoctoral Studies Office. Delays of one, or in exceptional cases, two years may be approved.

Proprietary Research*

*Section 8, 9 & 10 of the Regulations Governing Conflict of Interest in Proprietary Research, November 1985.

- 1) The enterprise in which a member has an economic interest may not employ University students. However, such an enterprise may enter into contractual agreements to this effect with the University or be a partner with the University within a program of one of the granting agencies.
 Where such enterprise has made a grant, gift or donation to the University, no payment out of such grant, gift or donation shall be made to the interested member without prior approval of the Principal.
- 2) Members intending to acquire an economic interest in an enterprise shall inform all students who may be affected by their actions at the earliest possible date. Students shall immediately be free to seek the advice of the departmental Chair, the Dean of the Faculty, or the Dean of Graduate and Postdoctoral Studies.
- 3) Where students are employed by such enterprise, the member having an interest therein shall ensure that students who have already done substantial work under their academic supervisor shall be able to continue in their chosen area of research. Where it is possible to differentiate between the project of the thesis student and that of the enterprise in such a way that the student may continue the thesis project unhampered, the Dean of Graduate and Postdoctoral Studies shall arrange for the appointment of a co-supervisor unconnected with the enterprise.

Responsibilities of the Student

Academic freedom brings responsibilities to students and staff alike. Students should realise that the good name and research reputation of the University and its professors rests in large measure upon the quality of research done by its students. Students, as members of the University, have the responsibility to follow the principles set out in the University Research Policy and in the regulations of the Graduate and Postdoctoral Studies Office.

Responsibilities of the University

- 1) The University shall inform students of all appropriate regulations and policies concerning research.
- 2) The University shall provide a safe research environment for student researchers.

12.4 Guidelines for Research Involving Human Subjects

All research projects involving the use of human subjects conducted at or under the auspices of McGill University require ethics review and approval by a McGill Research Ethics Board (REB) or an REB of a McGill affiliated hospital or an REB recognized by a formal agreement with the University, before the research may begin. There are five University Research Ethics boards: Faculty of Medicine, Faculty of Agricultural and Environmental Sciences, Faculty of Education, and two University committees (REB I and REB II). The following excerpt from the Tri-Council Policy Statement: *Ethical Conduct of Research Involving Humans* indicates the range of research projects or instances that should be reviewed by the REB: whether the research is conducted by staff or by students; whether the research is funded or not; whether the funding is internal or external; whether the subjects are from inside or outside the institution; whether the subjects are paid or unpaid; whether the research is conducted inside or outside Canada; whether the research is conducted inside or outside the institution; whether the research is conducted in person or remotely (e.g., by mail, electronic mail, World Wide Web, fax or telephone); whether the information is collected directly from subjects or from existing records not in the public domain; whether the research is to be published or not; whether the focus of the research is the subject; whether the research is observational, experimental, correlational or descriptive; whether a similar project has been approved elsewhere or not; whether the research is a pilot study or a fully developed project; whether the research is to acquire basic or applied knowledge; and whether the research is primarily for teaching or training purposes or whether the primary purpose is the acquisition of knowledge.

The following excerpt from the Tri-Council Policy Statement indicates the range of research projects or instances that should be reviewed by the REB:
 whether the research is conducted by staff or by students;
 whether the research is funded or not;
 whether the funding is internal or external;
 whether the subjects are from inside or outside the institution;
 whether the subjects are paid or unpaid;
 whether the research is conducted inside or outside Canada;
 whether the research is conducted inside or outside the institution;
 whether the research is conducted in person or remotely (e.g., by mail, electronic mail, World Wide Web, fax or telephone);
 whether the information is collected directly from subjects or from existing records not in the public domain;
 whether the research is to be published or not;
 whether the focus of the research is the subject;
 whether the research is observational, experimental, co-relational or descriptive;
 whether a similar project has been approved elsewhere or not;
 whether the research is a pilot study or a fully developed project;
 whether the research is to acquire basic or applied knowledge; and
 whether the research is primarily for teaching or training purposes or whether the primary purpose is the acquisition of knowledge.

Ethics approval must be renewed on an annual basis. All McGill members must be familiar with the McGill Policy on the Ethical Conduct of Research Involving Human Subjects which articulates the administrative structures, procedures and requirements for the ethical review of human subject research at McGill University. This document and further information on McGill Research Ethics Boards and their submission requirements can be found at www.mcgill.ca/rgo/ethics/human. For further information please contact the Research Ethics Officer at (514) 398-6831.

12.5 Guidelines for Research with Animal Subjects

A. Policies

1. The University Animal Care Committee (UACC)

The University Animal Care Committee is the University body responsible for ensuring the humane care and use of animals in research and teaching. The UACC is responsible for ensuring University-wide understanding of, and compliance with, the applicable requirements concerning the procurement, care and use of animals at McGill University and its affiliated institutions.

The University Animal Care Committee reports to the Vice-Principal (Research).

The major responsibilities of this committee are:

- a) to ensure that all animal care and use at the University and affiliated institutions is carried out in accordance with the policies and guidelines of the Canadian Council on Animal Care and McGill University.
- b) to establish policies and procedures to ensure that no research, teaching or testing involving animals (including field studies) commences without prior approval by a Facility Animal Care Committee. Animal use protocols are reviewed and approved by Facility Animal Care Committees on an annual basis with particular emphasis on the ethics of animal investigation. All teaching projects, and those categorized at "Pain and Discomfort" Level D will be referred to the UACC Subcommittee on Ethics for further review.
- c) to ensure that all research using animals has been peer reviewed for scientific merit, irrespective of funding source; and provide a mechanism for projects funded from internal or industry sources to be peer reviewed according to the CCAC guidelines on animal use protocol review.

2. Facility Animal Care Committees

Facility Animal Care Committees are established for each affiliated institution and each major University constituency using animals in research or teaching. The purpose of each FACC is to ensure that all animals used in research or teaching within its jurisdiction are used and cared for in accordance with all applicable requirements.

The Facility Committees have the authority to:

- a) stop any objectionable procedure if it considers that unnecessary distress or pain is being experienced by an animal;
- b) stop immediately any use of animals which deviates from the approved use, or any non-approved procedure, or any procedure causing unforeseen pain or distress;
- c) have an animal killed humanely if pain or distress caused to an animal cannot be alleviated.

B. Procedures for Obtaining Approval of Research Projects

To permit review and approval by the appropriate Facility Animal Care Committee a completed "Animal Use Protocol" form must be submitted at least two months prior to (1) starting new projects; (2) changes in animal use procedures, or (3) expiry of previously approved applications. Animal use applications must be renewed annually. Research funds may be withheld by the University administration for programs that are in non-compliance with either University or CCAC guidelines. Note that animal use theory and practical training is now mandatory for all personnel involved in a project using live animals.

The Animal Use Protocol form can be obtained at www.mcgill.ca/gps/rgo/animal/forms. For further information on forms, training courses, standard operating procedures, policy and regulations, consult the UACC Web site at www.mcgill.ca/rgo/animal/ or, contact the Research Ethics Officer (Animal Studies) at (514) 398-2837.

C. Animal Resources Centre

The Animal Resources Centre serves as the major centre of expertise in laboratory animal science and medicine for the animal-based research and teaching activities of McGill University and its affiliated hospitals. The Centre and its two veterinarians are responsible for advising on the care and use of experimental animals throughout the University and its affiliated hospitals. The Centre's veterinarians are also responsible, along with the Facility Animal Care Committees, for ensuring compliance with the standards of the Canadian Council on Animal Care (CCAC) for the care and use of experimental animals. Its professional, technical and clerical staff offer a comprehensive range of services to all teaching and research programs using experimental animals. The Centre also provides training and consultation in methods of animal experimentation and in laboratory animal science for technicians, students and academic staff through a recurring series of lecture and workshops, and through individual instruction.

12.6 Policy on Intellectual Property

1. Principles and Objectives

This policy sets forth the rules applying to ownership, distribution, and commercial rights to intellectual property developed by McGill University academic staff, administrative and support staff and students, as well as procedures that govern the use and distribution of intellectual property.

The primary functions of the University are education, research, and dissemination and creation of knowledge. The University's mission statement calls for "providing service to society in those ways for which we are well suited by virtue of our academic strengths". The University affirms the principles of wide freedom of research and of free publication of the information generated. To carry on research solely or even primarily in anticipation of profits would be incompatible with the University's objectives and primary functions. However, it must be recognized that Software or Inventions resulting from research often serve the public interest best when they reach the private sector under appropriate agreements and are protected by patents, if applicable. Even though some Inventions and Software may not be proper matter for intellectual property protection and are better disseminated through publication in learned journals, the University and the Inventor, in some cases, wish to promote their commercial development. The University and the Inventor should be allowed to benefit financially from transactions resulting from commercial development. The Intellectual Property Policy is therefore providing for the obligation for researchers to divulge inventions or softwares when commercial developments are anticipated as well as for a sharing mechanism for the benefits generated between McGill University and its researchers. As the University proceeds with helping researchers to commercialize their inventions, an assignment of rights will be required.

Intellectual property is the product of a cooperative relationship among academic staff, administrative and support staff, students, and the University and derives from the creative energies of the individual fostered by the academic community and the environment including infrastructure provided by the University. The Inventor and the University (and affiliated institutions) have a shared interest in the intellectual property. As hospitals and research centres affiliated with the University may have contributed to the resources and the environment that led to Inventions or Software, agreements between the University and its affiliated institutions will provide for proper recognition of the financial and other interests of all parties.

Since the University draws its operating and research funds in large measure from the governments of Quebec and of Canada,

the commercial development of its Intellectual Property must, to the extent possible, result in benefits to Quebec and Canada. The University further recognizes that the presence of a vibrant, local, knowledge-based economy is beneficial to its members and wishes to contribute to its development.

The objectives of this policy are:

To serve the public interest by contributing to the development of useful and morally acceptable products, services, and processes;

To contribute, to the extent possible, to the socio-economic well-being of Quebec and Canada;

To ensure equitable returns to the University in support of its academic mission, to affiliated institutions, and to the Inventors;

To meet government and the public expectations with respect to putting to use University discoveries.

2. Definitions

For the purpose of this policy, the following definitions apply:

“Author” means an employee of the University, whether academic or administrative and support staff, or another physical person associated with the University, who has written or created a Work.

“Contract of Employment” means a contract by which a person undertakes to do work for remuneration, according to the instructions and under the direction or control of the University.

“Days” means calendar days, unless used in conjunction with a qualifying word indicating a different meaning.

“Electronic Research Material” or “ERM” means the electronic representation, in whole or in part, of an Invention or Software, and includes but is not limited to, digitized blue prints, programming source codes and executable programs.

“Field of Academic Research” means the particular areas of research in relation to which an Inventor has published Works, or has received funding, or has made Inventions or has developed Software, in the course of his or her academic duties at any time during the six years preceding the date of disclosure of an Invention or Software.

“Field of Academic Research and Teaching” means the fields in relation to which an Inventor has been teaching, and the particular areas of research in relation to which he or she has published Works, or has received funding or has made Inventions, or has developed Software or Learnware, in the course of his or her academic duties at any time during the six years preceding the date of creation of Learnware.

“Founder” means an Inventor who accepts a significant role in the initial development phase of a spin-off company based wholly or in part on his or her Invention or Software.

“Incidental Use” means a use that plays a minor role in, and is not essential to, the development of an Invention or Software.

“Invention” means any new and useful process, formula, machine, manufacture or composition of matter, within the purview of the Patent Act.

“Inventor” means any employee of the University, whether academic or administrative and support staff, who is defined as such under patent legislation. In this policy, the term “Inventor” shall also be used in reference to development of Software. The word “Inventor” shall also mean a physical person, such as a visiting professor, an adjunct professor or a post-doc, temporarily working or doing research at the University.

“Know-How” means a skill or ingenuity that is available or known only to a limited number of persons, that is related to a licensed Invention or Software, and that is made known or available under license to the licensee of that Invention or Software.

“Lead Inventor” means that member of a group of co-Inventors designated by the group to act as its contact person with the University.

“Learnware” means Software designed for teaching purposes that provides for interaction with the user, or makes use of a Multimedia Product, or both. It includes technology-enabled learning products in electronic format.

“Moral Rights” means non-commercial rights related to the right of an Inventor to claim authorship and to protect the integrity of his or her work.

“Multimedia Product” means a product where software allows for interaction between the user and various media technologies such as the reproduction of sound and image.

“Net Income” means all consideration, including, without limiting the generality of the foregoing, royalties, cash, equity, and options, but excluding any and all consideration granted to a Founder in accordance with section 9.4, received by the Inventor(s) and the University from the sale, licensing, or other disposition of an Invention or Software, less the costs specifically related to the protection, licensing, distribution, or commercial development of the Invention or Software. Considerations include equity and options taken in lieu of royalties.

“Net Total Income” means the sum of Net Income and of any and all consideration granted to Founder in accordance with section 9.4.

“Net Royalties” means all royalties, including, without limiting the generality of the foregoing, any one time payment, milestone payment or pass-through royalty, received by the Inventor(s) and the University from the sale, licensing, or other disposition of an Invention or Software, less the costs specifically related to the protection, licensing, distribution, or commercial development of the Invention or Software.

“OTT” means the Office of Technology Transfer of McGill University.

“Software” means any set of instructions that is expressed, fixed, embodied or stored in any manner and that can be used directly or indirectly in a computer in order to bring about a specific result.

“Tangible Research Material” or “TRM” means the tangible embodiment of an Invention or Software, and includes but is not limited to biological materials, or physical devices.

“Work(s)” means literary, scientific, technical, dramatic, musical, artistic, architectural work material and any original production within the purview of the Copyright Act, with the exception of Software.

3. Application of the Policy

This Policy does not apply to students of the University except where: (a) they have contributed to a Work with one or more Authors affiliated to McGill University; (b) they have contributed to an Invention with one or more Inventors affiliated to McGill University or they have created an Invention that they wish to develop with the help of the University. Students who qualify under the above exceptions shall be treated as Inventors.

4. Policy on Copyright

4.1 Copyright:

In relation to any Work, the Author owns defacto copyright. The Author is entitled both to determine how the Work is to be disseminated and to keep any income derived from the Work.

4.2 Exceptions:

Notwithstanding section 4.1, Copyright in a Work might not belong to the Author if:

- a) the Work was created as a result of research sponsored by a third party pursuant to a written agreement with the University, wherein copyright is determined by specific terms of the agreement. Unless the terms of the agreement give ownership of copyright to the third party, copyright is owned by the University until all rights, such as a license or an option, granted to the third party under the agreement have been exercised or have become extinguished, at which point, the Authors becomes the sole owner of copyright;
- b) the Work was created pursuant to a formal agreement with the University, wherein copyright is determined by specific terms of the agreement;
- c) the Work contains Software as the primary constituent.

4.3 License to University:

The University is automatically granted a non-exclusive, royalty-free, irrevocable, indivisible and non-transferable license to use,

for its own academic purposes, all Works created by an Author: (a) with University assistance; or (b) with the use of University equipment, facilities, or resources; or (c) in the course of academic duties or work in the course of study, research or teaching. This license shall neither confer to the University commercial rights, nor the right to reproduce published Works. The University shall not disseminate Works in a way that would allow persons who are not members of the University community to have electronic access to them. For the purpose of this section, the University's "own academic purposes" refers to research carried on at the University, by professors, students and staff of the University, and teaching by professors of the University to students registered at the University.

5. Policy on Software and Inventions

5.1 Ownership of Rights to Inventions:

Subject to sections 5.3 and 5.4, the Inventor and the University jointly own the rights to Inventions created by an Inventor: (a) with University assistance; or (b) with the use of University equipment, facilities, or resources; or (c) in the course of academic duties or work in the course of study, research, or teaching.

5.2 Ownership of Rights to Software:

Subject to sections 5.3 and 5.5, the Inventor and the University jointly own the rights to Software created by an Inventor: (a) with University assistance; or (b) with the use of University equipment, facilities, or resources; or (c) in the course of academic duties or work in the course of study, research, or teaching; and in the case of Learnware, in the fields in which the Inventor has been teaching and doing research at any time during the six years preceding the date of creation of such Learnware.

5.3 Exception to Joint Ownership – Administrative and Support Staff:

Notwithstanding sections 5.1 and 5.2, where the Invention or Software was created by an Inventor who is a member of the administrative and support staff of the University, as a result of activities covered by his or her Contract of Employment, the rights to such Invention or Software are owned by the University.

5.4 Specific Exceptions Applicable to Inventions:

Notwithstanding section 5.1 and subject to section 5.3, the following categories of Inventions are not jointly owned by the University and the Inventor, and may be owned by the Inventor, the University, a third party, or jointly by two or more parties, as the case may be:

- a) where developed in the course of research sponsored by a third party pursuant to a written agreement with the University, wherein ownership rights are determined by specific terms of the agreement. Unless the terms of the agreement give ownership of the Invention to the third party, such Invention is owned by the University until all rights, such as a license or an option, granted to the third party under the agreement have been exercised or have become extinguished, at which point the Invention becomes jointly owned by the University and the Inventor;
- b) where developed in the course of a consulting agreement between the Inventor and a third party;
- c) where made by an Inventor in a domain outside his or her Field of Academic Research, and where only Incidental Use has been made of University facilities and resources. The rights are then owned by the Inventor;
- d) where made by an Inventor who is a member of administrative and support staff of the University, as a result of activities not covered by his or her Contract of Employment, and where only Incidental Use has been made of University facilities and resources. The rights are then owned by the Inventor;
- e) where the University assigned its rights to the Inventor in accordance with section 8.4 of this policy. The rights are then owned by the Inventor;
- f) where the Inventor assigned his or her rights to the University in accordance with section 7 of this policy. The rights are then owned by the University.

5.5 Specific Exceptions Applicable to Software:

Notwithstanding section 5.2 and subject to section 5.3, the following categories of Software are not jointly owned by the University and the Inventor, and may be owned by the Inventor, the University, a third party, or jointly by two or more parties, as the case may be:

- a) where developed in the course of research sponsored by a third party pursuant to a written agreement with the University, wherein ownership rights are determined by specific terms of the agreement. Unless the terms of the agreement give ownership of the Software to the third party, such Software is owned by the University until all rights, such as a license or an option, granted to the third party under the agreement have been exercised or have become extinguished, at which point the Software becomes jointly owned by the University and the Inventor;
- b) where developed in the course of a consulting agreement between the Inventor and a third party;
- c) where limited to the electronic form of a Work, or where it is ancillary to a Work. The rights are then owned by the Inventor;
- d) works of art, including works of art expressed in multimedia format. The rights are then owned by the Inventor;
- e) in the case of Software which does not constitute Learnware, where developed by an Inventor in a domain outside his or her Field of Academic Research, and where only Incidental Use has been made of University facilities and resources. The rights are then owned by the Inventor;
- f) where constituting Learnware developed by an Inventor in a domain outside his or her Field of Academic Research and Teaching, where only Incidental Use has been made of University facilities and resources. The rights are then owned by the Inventor;
- g) where developed by an Inventor who is a member of administrative and support staff of the University, as a result of activities not covered by his or her Contract of Employment, and where only Incidental Use has been made of University facilities and resources. The rights are then owned by the Inventor;
- h) where the University has assigned its rights to the Inventor in accordance with section 8.4 of this policy. The rights are then owned by the Inventor;
- i) where the Inventor assigned his or her rights to the University in accordance with section 7 of this policy. The rights are then owned by the University;
- j) where constituting learnware developed as part of a Web based course specifically funded by the University, the rights are then owned or apportioned in accordance with a written agreement between the University and the Inventor.

5.6 Disclosure:

Inventors are required to disclose to OTT those Inventions and Software described in sections 5.1, 5.2, 5.3, 5.4(a) and 5.5(a) that they wish to develop for commercial purposes before they are publicly disclosed. This disclosure is to be made to OTT, acting as the delegate of the Vice Principal (Research), through a "Report of Invention" ("ROI").

5.7 Moral Rights:

Inventors of Software may wish to defend their moral rights to their work. The University shall then provide appropriate advice and guidance to these Inventors.

6. Commercialization

6.1 Use of the word Inventor:

For the purpose of this section, except where otherwise specified in the text, the word Inventor shall, in cases where there are more than one Inventor, mean the Lead Inventor, or the Founder.

6.2 Decision of Inventors:

Inventors are not obliged to seek commercial development of their work, and the University will respect the decision of the Inventor not to commercialize his or her Invention or Software. Unless the Software is owned by a third party pursuant to section 5.5(a) or (b), or by the University pursuant to section 5.5 (j), Inventors of Software are free to license or distribute it without profit, or to put it in

the public domain so that it is easily accessible, as long as their plan to disseminate such Software is in accordance with guidelines developed, and from time to time updated by the Senate Committee on Technology Transfer for that purpose.

6.3 Preliminary Review:

OTT shall acknowledge receipt of the ROI. Within 30 days of receipt of the ROI, OTT shall meet with the Inventor to discuss the various options open to him or her regarding commercialization of the Invention or Software, and sources of information about those options. At the Inventor's request, meetings with experienced University Inventors may also be arranged.

6.4 Cooperation between the Inventor and OTT:

Participation of both the Inventor and OTT in the decisions regarding the commercialization of an Invention or Software is essential to the development and implementation of a successful commercialization plan. The Inventor and OTT shall cooperate in the development of a commercialization plan which will serve the interests of both the University and the Inventor. Inventors shall not protect or commercialize Invention or Software independently of the University.

6.5 Commercialization Plan:

Within 90 days of receipt of the ROI, or a longer delay if accepted by all parties, OTT and the Inventor will prepare a mutually acceptable commercialization plan outlining the options to be considered for the development of the Invention or the Software. The plan will be prepared in the spirit of this policy and will address matters such as the need for further evaluation, additional research, intellectual property protection, seed funding, potential sources of financing, as well as delays. The plan shall outline the responsibilities of OTT and the Inventor in the commercialization process. The commercialization plan may result in the assignment to the Inventor of the rights of the University in the Invention or Software, under section 8.4. Should OTT and the Inventor fail to agree on a mutually acceptable commercialization plan, the matter shall, at the Inventor's choice be resolved through the dispute resolution and appeals processes, pursuant to sections 10 and 11, or be resolved through the assignment of the Invention or Software to the Inventor pursuant to section 8.4(e).

6.6 Use of Invention or Software:

In cases where the University and the Inventor have divergent ethical concerns in relation to the use of the Invention or Software by third parties, the matter will be resolved in accordance with the mechanisms and procedures outlined in sections 10 and 11 of this policy.

6.7 Negotiation of Transaction:

Except for cases where the rights have been assigned to the Inventor under section 8 of this Policy, and except in respect of a Founder, OTT shall be responsible for the implementation of the commercialization plan, including, without limiting the generality of the foregoing, the negotiation of any and all agreements with third parties.

6.8 Documentation:

The Inventor shall execute any document reasonably required for the purpose of protecting the Invention or Software and furthering its commercial development.

6.9 Protection of Intellectual Property:

The University may seek patent protection or copyright registration of the intellectual property underlying the Invention or Software as appropriate. It does not seek protection for Inventions or Software that, in its judgment, do not have significant commercial potential. The University ceases to pursue protection of intellectual property where successful commercial development seems unlikely. Except as otherwise provided in this Policy, the cost incurred in the protection of intellectual property is borne by the University.

6.10 Alternate Arrangements:

Whenever appropriate, and provided they do not represent undue risk or generate unreasonable expenses for the University, OTT will consider proposals from the Inventor(s) aimed at lawfully minimizing the impact of income tax legislation for the Inventor(s).

6.11 Expenses:

In circumstances where the rights to the Invention or Software are assigned to an Inventor under section 8.4(c) or 8.4(e), all costs incurred by OTT in the protection of the intellectual property shall be borne by such Inventor, and reimbursed to OTT within a reasonable period of time.

6.12 Learnware:

OTT shall consult the Vice-Principal (Information Systems and Technology) in cases involving Learnware.

6.13 Tangible Research Material:

Tangible Research Material ("TRM"), may be distributed for academic purposes under agreements forbidding transfer to third parties. Where TRM is distributed for academic purposes, OTT charges recipients only costs related to reproduction, shipping, and handling. Where commercial development is envisaged, or where TRM is received from, or transferred to, a commercial entity, contracts concerning distribution or receipt of TRM are made through OTT.

6.14 Electronic Research Material:

Electronic Research Material ("ERM") may be distributed for academic purposes under agreements forbidding transfer to third parties. Where ERM is distributed for academic purposes, OTT charges recipients only costs related to the reproduction, shipping, and handling. Where commercial development is envisaged, or where ERM is received from, or transferred to, a commercial entity, contracts concerning distribution or receipt of ERM, including but not limited to, physical transfer on a storage medium, and electronic transfer via fax, telephone or Internet, is made through OTT.

7. Assignment of Rights

7.1 Assignment:

Except in cases where the rights of the University are assigned to the Inventor(s) under section 8.4, all rights to Inventions or Software that an Inventor wishes to develop for commercial purposes shall be assigned by the Inventor(s) to the University within 30 days of completion of the commercialization plan, at the latest. Except for moral rights where they exist, which shall remain with the Inventor, the University shall then become the sole owner of all rights to the Invention or Software.

8. Decision not to Commercialize and Transfer of Rights to Inventor

8.1 Decision not to Initiate Commercial Development:

After an Invention or Software is disclosed to the University, OTT shall decide whether it will pursue commercialization of such and shall inform the Inventor of its decision within 90 days of receipt of the Report of Invention. Should the Inventor disagree with that decision, he or she may, in writing, refer the matter to the Vice-Principal (Research), who will accept or reject the OTT recommendation and promptly communicate his or her decision to the Inventor(s).

8.2 Decision to Stop Commercial Development:

Once commercial development of an Invention or Software has been initiated, OTT may at some point in time decide to cease efforts toward commercial development. Should the Inventor disagree with that decision, he or she may, in writing, refer the matter to the Vice-Principal (Research), who will accept or reject the OTT recommendation and promptly communicate his or her decision to the Inventor(s).

8.3 No Appeal:

Notwithstanding section 6.5, a decision made by the Vice-Principal (Research) not to initiate commercial development under section 8.1, or to stop on-going commercial development under section 8.2, shall be final and shall not be subject to Appeal under section 10 of this policy.

8.4 Transfer of Rights:

The University shall assign its share of the rights to Inventions or Software to the Inventor(s) in the following cases. In such cases the Inventor(s) shall then become the sole owner of the rights to the Invention or the Software.

- a) The University declines to pursue commercialization, or decides to cease its efforts to commercialize the Invention or Software, under sections 8.1 or 8.2 of this policy;
- b) The University has been unsuccessful in commercializing the Invention or Software within a reasonable period of time;
- c) The University and the Inventor(s) agree that the Inventor(s) can successfully commercialize the Invention or Software independently of the University. In such a case, the Inventor(s) shall use best efforts to ensure benefits to Quebec and to Canada. Written approval of the Vice-Principal (Research) shall be obtained by the Inventor(s) before he or she enters into any commercialization agreement, including, without being limited to, a license agreement, a shareholders agreement and an option agreement, that place the Inventor(s) in a situation of potential conflict of interest, in particular in the case of an agreement with an enterprise in which the Inventor has a substantial interest;
- d) The Inventor(s) wish to develop Software for the purpose of licensing or distributing it without profit, or for the purpose of putting it in the public domain so that it is easily accessible, and his or her plan to develop such Software is in accordance with guidelines developed and from time to time updated by the Senate Committee on Technology Transfer for that purpose;
- e) OTT and the Inventor(s) have failed to agree on a mutually acceptable commercialization plan, and the Inventor(s) has chosen not to take advantage of the dispute resolution mechanisms contained at sections 10 and 11. In such a case, the Inventor shall use best efforts to ensure benefits to Quebec and to Canada. Written approval of the Vice-Principal (Research) shall be obtained by the Inventor(s) before he or she enters into any commercialization agreement, including, without being limited to, a license agreement, a shareholder agreement and an option agreement, that places him or her in a situation of potential conflict of interest, in particular in the case of an agreement with an enterprise in which the Inventor has a substantial interest.

8.5 Documentation:

Whenever rights are assigned to the Inventor under section 8.4, the University shall execute any document reasonably required for the purpose of protecting the Invention or Software and furthering its commercial development.

8.6 Inventor with a Private-Sector Affiliation:

Where an Invention or Software is developed by an Inventor who is receiving a salary from a private-sector enterprise for the purpose of working at the University, the University will consider licensing the private-sector enterprise to use such Invention or Software on terms that will take into account the University's relative contribution.

9. Revenues

9.1 Sharing of Income:

Net Income derived from the commercialization of Inventions or Software shall be shared between the Inventor(s) and the University on the following basis:

9.1.1 Commercialization by the University:

In the case where the University is responsible for the commercial development of the Invention or Software, the first \$10,000 of Net Royalties shall accrue to the Inventor. Of the balance of Net Income, 60% shall go to the Inventor(s) and 40% shall go to the University.

9.1.2 Commercialization by the Inventor(s):

In the case where the University assigns the rights to the Inventor(s) under section 8.4, and the Inventor(s) is responsible for the commercial development of the Invention or Software, Net Total Income shall be apportioned as described below:

- a) Royalties: Of the first \$100,000 of Net Royalties, 80% shall go to the Inventor(s) and 20% shall go to the University. Of any Net Royalties above \$100,000, 70% shall go to the Inventor(s) and 30% shall go to the University.

- b) Equity, Options and Other Consideration: Of the balance of Net Total Income, 70% shall go to the Inventor(s) and 30% shall go to the University.

9.1.3 Alternative Arrangements:

In cases covered by section 9.1.2, and where it is required by the conditions of the market specific to the transaction being contemplated, the University will consider reasonable proposals aimed at agreeing on an equitable sharing of Net Total Income different from that provided in said section.

9.2 Allocation of University's Share of Income:

In respect of royalties, the University's share of income shall be apportioned as follows: 25% to central administration, 25% to the faculties of the Inventors, 25% to OTT, and 25% to graduate fellowships. In respect of equity in the share capital of a company, the University's share of income shall be divided among central administration, the faculty(ies) of the Inventor(s), OTT, and research and fellowships on the basis of the following formula. In respect of equity, the share of central administration shall be earmarked for special projects that are not covered by the general budget of the University.

	\$1 to \$1M	\$1M to \$3M	over \$3M
Central Administration	33 1/3%	47%	65%
Faculty(ies)	33 1/3 %	20%	10%
OTT	16%	14%	0
Research & Fellowships	17 1/3%	19%	25%

9.3 Multiple Inventors:

In cases where there is more than one Inventor, the Lead Inventor shall provide OTT with an agreement, signed by all Inventors, covering the distribution of each Inventor's share of the Net Income. The Lead Inventor is responsible for the identification of all Inventors, including students.

9.4 Founders:

A Founder of a spin-off company may receive equity (shares or options) over and above his or her share of Net Revenues as an Inventor under this policy.

9.5 Sharing with Other Academic Institutions:

Where an Invention or Software is developed wholly or in part by an Inventor during a temporary stay at another academic institution, or by an individual from another academic institution on a temporary stay at the University, or jointly by an Inventor working at the University and a member of another academic institution working at the other institution, rights to such Invention or Software and Net Income shall be shared between the University and the other academic institution, taking into account the policies of both institutions. The sharing of Net Income will normally take into account the relative contributions of the individuals and their institutions. If the other academic institution is a research institute affiliated with a McGill teaching hospital, the sharing of ownership and Net Income shall be governed by agreements in place between the University and its teaching hospitals.

9.6 Exception:

Inventions or Software resulting from activities carried out by an Inventor who is a member of administrative and support staff under a Contract of Employment are excluded from this section, unless there is a written agreement to the contrary between such Inventor and the University.

10. Dispute Resolution

Any dispute with respect to the application of this policy shall be referred to the Vice-Principal (Research) under this section. All material relevant to the dispute shall be provided to the Vice-Principal by all parties to the dispute, within 10 working days of the day on which the matter is referred to him or her. The Vice-Principal shall invite comments by interested parties and shall be free to consult with experts, if required. All information provided to experts by the Vice-Principal shall be treated as confidential by such experts. The Vice-Principal shall share the opinion of the expert with all interested parties and shall invite them to comment within a fixed delay. The Vice-Principal shall promptly advise the parties in writing of his or her decision in the matter.

11. Appeals

11.1 Intellectual Property Appeals Committee:

There shall be an Intellectual Property Appeals Committee that shall hear appeals from decisions of the Vice-Principal (Research) or his delegate. The Intellectual Property Appeals Committee shall consist of 6 members appointed for three-year terms commencing September 1st, staggered, and 1 student member, appointed for a term of one year.

11.2 Appointment of Committee:

11.2.1 Prior to the 1st day of April each year, the President of the McGill Association of University Teachers or the President's designate and the Principal or the Principal's designate shall submit to the Senate Nominating Committee a jointly approved slate of names of academics and members of administrative and support staff of the University and/or Board members. This slate shall include at least one and a half times as many names as there are vacancies on the Intellectual Property Appeals Committee to be filled that year.

11.2.2 Prior to the 1st day of April of each year, the Executive Chairperson of the Post-Graduate Students' Society of McGill University, and the Principal or the Principal's designate, shall submit to the Senate Nominating Committee a jointly approved list of two names of graduate students, and the name of one undergraduate student.

11.2.3 From the slate proposed under section 11.2.1, and except in respect of the vacancy created by the end of the term of the student member, the Senate Nominating Committee shall strike a panel of nominees equal to the number of vacancies to be filled and shall also designate the chair and vice-chair of the Intellectual Property Appeals Committee. The Intellectual Property Appeals Committee shall include academics involved in teaching or research in a suitably broad range of those disciplines generally generating commercialization projects. The Senate Nominating Committee shall also recommend the appointment of one student member from the slate proposed under section 11.2.2.

11.2.4 The chair and vice-chair shall be persons qualified by education and experience to make decisions on matters that may be submitted to the Intellectual Property Appeals Committee.

11.2.5 The panel thus struck shall be submitted to Senate and to the Board of Governors for approval.

11.2.6 In the event of rejection of the panel in whole or in part by Senate or the Board of Governors, the procedure set out in sections 11.2.1 and 11.2.2 shall recommence.

11.3 Hearing Subcommittee

11.3.1 The Hearing Subcommittee shall be composed entirely of members of the Intellectual Property Appeals Committee and shall include: i) the chair or vice-chair; ii) one member selected by the Vice-Principal (Research); and iii) one member selected by the party who has brought an appeal before the Intellectual Property Appeals Committee.

11.3.2 If the Vice-Principal (Research) and the party who brought the appeal submit the same name, the chair shall choose that person and one other member of the Intellectual Property Appeals Committee to form the Hearing Subcommittee.

11.3.3 In the event that a vacancy occurs in the Hearing Subcommittee, the party who nominated the member in respect of whom such vacancy occurred shall forthwith nominate a replacement. In the event that the vacancy occurs in respect of the chair or vice-chair, the one shall replace the other, if available; if not available, the replacement shall be chosen by lot from the remaining members of the Intellectual Property Appeals Committee.

11.3.4 The members of the Hearing Subcommittee shall not be informed of the identity of the party who nominated them.

11.4 Conflict of Interest:

No member of the subcommittee shall sit in a particular instance if that person: a) is a member of the same department (or, in a faculty without departments, of the same faculty) as the party who is bringing an appeal; or b) is in a position of conflict of interest.

11.5 Notice of Appeal:

Subject to section 8.3, a party to a dispute may appeal the decision of the Vice-Principal (Research) or his or her delegate within 5 working days of receipt of such a decision, by filing a written notice of appeal with the Office of the Secretary-General. Within 10 working days of filing of the notice to appeal, the appellant shall file all relevant documentation and representations with the Office of the Secretary-General. The appellant shall notify the Vice-Principal (Research) and all other parties having an interest in the outcome of the dispute of his request to appoint a Hearing Subcommittee, and shall promptly provide them with a copy of the notice to appeal and all documentation and representations filed with the Office of the Secretary-General.

11.6 Dispute on Commercialization Plan:

Where the dispute submitted to the Hearing Subcommittee concerns the commercialization plan, the parties shall file with the Hearing Subcommittee the plans they are proposing. The Hearing Subcommittee shall have jurisdiction to decide which of the commercialization plans should be implemented. The Hearing Subcommittee shall also have the power to propose an alternative commercialization plan, in which case it shall indicate which of the parties shall be responsible for its implementation.

11.7 Secretary:

The Office of the Secretary-General shall provide a secretary for the Intellectual Property Appeals Committee.

11.8 Hearing and Decision:

The Hearing Subcommittee shall conduct the appeal in a manner consistent with principles of natural justice and shall ensure that all parties having an interest in the outcome of the decision have an opportunity to make representations and shall render a decision within 15 working days of its constitution, unless the parties consent in writing to a longer delay.

11.9 Advisors:

A party to the appeal has the right to be assisted by a member of the University community who has agreed to act in an advisory capacity to that party. The advisor shall receive no remuneration for acting as an advisor.

11.10 No Further Appeal:

The decision of the Subcommittee shall be final and binding upon all parties.

11.11 Reports:

The Intellectual Property Appeals Committee shall report annually to Senate on the administration of the procedures described here.

12. Enforcement

Acceptance of this policy is a condition of employment by the University, or engagement as a visitor in any University program. Students registered at McGill are also bound by this policy. This policy also applies to academic staff or administrative and support staff on sabbatical leave or leave of absence unless the host institution or company has rules which preclude the application of this policy and the University agrees in writing to other arrangements.

The University, Inventors and Authors shall execute all documents, forms, and agreements reasonably required to give full effect to this policy.

The policy shall apply to any and all Work, Invention, and Software disclosed after the date fixed for implementation of this policy.

13. Review

Every year, OTT shall report to the Senate Committee on Technology Transfer on the application of this policy. The Senate Committee on Technology Transfer shall review the report presented by OTT and make any recommendation it deems appropriate to Senate for possible forwarding to the Board of Governors.

The Senate Committee on Technology Transfer shall also review this policy at intervals of no more than two years commencing from the date of its implementation and report to Senate on the results of its review.

Approved by the Board of Governors - May 30, 2001

Date of Implementation - May 31, 2001

12.7 Regulations Governing Conflicts of Interest in Proprietary Research

The present regulations shall apply to all members of the University including academic, administrative and support staff and, where appropriate, students (hereinafter collectively referred to as "members"), and shall constitute part of the formal relationship between the member and the University.

A member shall fully disclose his/her interest, the extent of his/her time commitment, and the nature and scope of his/her activity in relation to any direct or indirect economic interest the member or his/her family may have or acquire in any enterprise to develop the research findings. Disclosure shall include but not be limited to any beneficial interest in the enterprise, be it a sole proprietorship, joint venture, partnership or corporation or being where the member acts as officer or director of a corporation, consultant, or member of a scientific advisory board. Such disclosure shall be made in writing to the member's Department Chair or Director of School, Institute or Research Centre (who shall make it available to interested departmental colleagues); to the Dean of his/her Faculty; and to the Vice-Principals (Academic) and (Research) prior to the commencement of the activity and annually thereafter.

If the member has any interest which could lead to a conflict of interest and if the member is a University administrator having control over positions and funds, the member shall resign the administrative post unless written permission to continue is obtained from the Vice-Principals (Academic) and (Research). No member may alone approve payment from University or University-administered research funds for any services or materials directly related to the proprietary research or enterprise in which he/she has a direct or indirect economic interest.

For the purposes of the present paragraph, a University administrator is defined as a Departmental Chair; a Director of a School, Institute or Centre or other academic unit; a Dean; a Vice-Principal; or the Principal.

If the commitment and activity to be given in relation to the enterprise are likely to interfere with academic duties, the member shall consult the relevant department Chair and Dean regarding the advisability of taking a leave of absence or converting to a part-time appointment at the University. Discussions to this end may be initiated by any of the interested parties.

When a member wishes to develop an invention or discovery or to become involved directly in the commercial application of research findings, he/she shall follow the University Inventions and Patents Policy and thereafter will maintain a clear distinction between University activities and participation in the promotion and commercial development of that invention or patent.

If the University intends to lease space within a Department, School, Institute, Centre or other academic unit to an enterprise (including one in which a member has an economic interest), the conditions of such lease arrangements shall be made known by the Chair, Director or Dean to the Faculty members in the Department, School, Institute, Centre or other academic unit before the lease is signed. Such leases shall be concluded in accordance with existing University by-laws on property leases. Lease arrangements shall be made in the best interests of teaching and research as determined by the Chair or Director and the Dean.

When a member uses his/her research for a commercial enterprise on or off-campus, University administrators, academic staff and support staff may not be employed in the service of such enterprise during University working hours as established by the relevant faculty or department nor allow interference with their University duties.

Use of University equipment by the staff of the commercial enterprise shall be limited to such use as is justified by the specialized nature of the equipment and shall be clearly defined in an agreement with the University, approved by the Chair of the relevant department, the Dean, and the appropriate officer in the Vice-Principal (Research) office. The use of equipment originally purchased from grants of external funding agencies will be regulated

both by the policies of such agencies and appropriate University regulations.

The enterprise in which a member has an economic interest may not employ University students. However, such an enterprise may enter into contractual agreements to this effect with the University or be a partner with the University within a program of one of the granting agencies.

Where such enterprise has made a grant, gift or donation to the University, no payment out of such grant, gift or donation shall be made to the interested member without prior approval of the Principal.

Members intending to acquire an economic interest in an enterprise shall inform all students who may be affected by their actions at the earliest possible date. Students shall immediately be free to seek the advice of the Departmental Chair, the Dean of the Faculty, or the Dean of Graduate and Postdoctoral Studies.

Where students are employed by such enterprise, the member having an interest therein shall ensure that students who have already done substantial work under their academic supervisor shall be able to continue in their chosen area of research. Where it is possible to differentiate between the project of the thesis student and that of the enterprise in such a way that the student may continue the thesis project unhampered, the Dean of Graduate and Postdoctoral Studies shall arrange for the appointment of a co-supervisor unconnected with the enterprise.

No attribute of or reference to the University or any of its officials, affiliated colleagues, associations or organizations, including the name or insignia shall be used to promote the enterprises of members, except where required by law.

Where members acquire an interest in enterprises set up by their colleagues, they do so as private individuals, and may not permit their official University positions to be used for publicity, endorsement or advertising purposes except where required by law.

Approved by Senate, April 3, 1985, Minute 75
Approved by Board of Governors, November 18, 1985, Minute 5922

12.8 Safety in Field Work

This policy has been established in light of the fact that research and teaching activities performed outside of the University's geographical boundaries may involve particular risks to the participants. It must be recognized that the risks associated with the work performed, the availability of University support services, the level of supervision, accessibility to emergency services, and local government legal requirements may differ significantly from activities carried out on University premises. Reasonable efforts must be made to ensure that all policies pertaining to the safety of University staff and students be used as minimum standards for field work.

The responsibility for ensuring these standards are considered rests on all persons who participate in the teaching and research activities in the field. The University expects those persons who directly supervise and carry out teaching and research in the field to inform the participants of these standards.

The following factors must be considered before undertaking field work:

- i) the state of health and immunization of all participants;
- ii) the risks associated with the work performed and the potential for contact with chemical, physical and biological agents;
- iii) the procedures for responding to accidents involving injuries, damage to property and equipment, and spills or leaks of hazardous materials;
- iv) the availability of first aid care and supplies, and access to emergency medical treatment;
- v) the environmental impact of the work performed;
- vi) the local government legal requirements related to safety;

- vii) the provision of training for all participants in field work regarding the risks associated with such work and the applicable safety measures.

Insurance Considerations for Field Work

Introduction

The following is a brief outline of the types of insurance which should be considered when undertaking field activities. Included is a description of the various policies which the University maintains, as well as additional coverages which are available through separate placement as necessary. For practical reasons, these descriptions are necessarily general, and any specific questions should be directed to the Risk Management and Insurance Department (398-6251).

Property Insurance

Direct physical loss or damage to University-owned equipment and materials are insured under a master policy which covers most situations of fortuitous property loss while located on University property. Coverage for the equipment when removed from University premises is available by contacting the Insurance Office. This coverage can extend to non-owned equipment as well.

Personal property of staff or students is not insured by the University. If desired, individuals should make separate arrangements in order to cover against loss.

Liability Insurance

The purpose of liability insurance is to protect against lawsuits arising from accidental or unintended occurrences to someone else's person or property. The University's Comprehensive General Liability Policy covers all faculty, staff and students while they are performing any activity pertaining to their academic and/or employment duties, including field activities. This policy will defend and indemnify against losses which arise by reason of liability imposed by law.

This policy applied on a worldwide basis and insures specifically against bodily injury, personal injury, death or damage to the property of others. It includes the personal liability of an individual insofar as the conduct which caused the loss was part of the individual's employment or academic duties.

Automobile Insurance

When using automobiles or similar vehicles for field work purposes, special care must be taken to comply with local laws and regulations. The University is unable to provide insurance for vehicles outside Canada and the United States, even though rented or purchased in the University's name. As a result, insurance coverage must be arranged locally to comply with jurisdictional requirements.

When renting vehicles on a short-term/worldwide basis, it is recommended that the Collision Damage Waiver (CDW) be declined in all cases where the corporate American Express card is used as payment. However, third party liability insurance is not considered optional coverage and should form part of the general rental costs. It would be prudent to confirm this fact.

Accident Insurance for Visitors and Students

The University can provide limited Accidental Death and Dismemberment Insurance, including emergency medical coverage, not only for visitors to Canada, but also for students travelling outside Canada. Specific arrangements should be made by contacting the Risk Management and Insurance Department.

Miscellaneous

Certain research situations require special insurance arrangements. The following is a listing of some of the special cases:

1. Use of aircraft: When leasing or chartering aircraft, special liability policies need to be arranged (this does not apply to passage on commercial aircraft).
2. War zones: Insurance policies generally have exclusions in some form regarding war risks, political insurrection, terrorism, etc., which require special policy placements.

3. Marine research: Trips involving ocean-going activities also necessitate special handling.
4. Cash: Whenever possible, it is recommended that credit cards or traveller cheques be used as opposed to carrying significant amounts of cash.

Operational By-laws on International Research and Cooperation Contracts

The Board of Governors has approved operational by-laws on International Research and Cooperation Contracts.

The Risk Management and Insurance Department should be contacted during the development stage of the project, and prior to the signature of the contract for the following reasons:

1. To ensure that the scope of liability contractually acquired does not supersede the limits of existing insurance programs.
2. To review and establish what forms of local (foreign) insurance are necessary where representatives of the University are established on a long-term or permanent basis in a host country.

In closing, although it is important to include insurance protection for all field situations, common sense and practical considerations for eliminating or reducing risks should always take precedence. While this document provides some general guidelines, please be aware that there are restrictions and exclusions in all insurance policies which may affect coverage. It is strongly recommended that all research supervisors refer specifically to the Risk Management and Insurance Department for clarification of University insurance coverage, and any assistance in arranging whatever special additional coverage may be required.

12.9 Procedure to Obtain Research Support

When a member of the University staff wishes to undertake research involving the use of the University's facilities, or when the funds are to be used to support activities in which students or Post-docs are to be engaged as part of their educational experience, the University considers the activity to be part of its pattern of research. They should refer to guidelines on "Procedures Concerning Research Support - Part II" of the Guide to Sponsored Research at McGill University available on the Web at www.mcgill.ca/research-policies/sponsored or contact the Office of the Vice-Principal (Research) at (514) 398-3991.

12.10 Research Grants Office (RGO)

The Research Grants Office is a centralized office that acts as liaison between McGill researchers and the external granting agencies/sponsors. RGO is responsible for making information on sources of funding available to the research community at large; assisting principal investigators in identifying research funding opportunities; maintaining and expanding the GENIUS database of research expertise at McGill and its affiliated hospitals; assisting faculty in the preparation and transmittal of applications; assuring compliance by the University with sponsors' policies and requirements; interpreting for faculty the regulations of the granting agencies; clarifying University policies and procedures for faculty and sponsors; and negotiating the terms and conditions of awards, whenever required.

The Research Grants Office authorizes the Research and Restricted Funds Office to open, renew and revise all internal and external research grant accounts, after verification that all required information is on file and complies with the University and Agency policies, regulations and procedures. RGO is also responsible for preparing the annual SIRU report on research funding on campus and at the affiliated hospitals for reimbursement of indirect costs from the Quebec Government. The Office is also responsible for producing annual research statistics for the University, granting agencies, government officials, etc.

It also administers all Internal Research Grants Programs of the Office of the Vice-Principal (Research).

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Please note that in the body of this Calendar, awards are listed alphabetically by their complete official names. In the index, awards are listed alphabetically by family name of benefactor if applicable.

All efforts have been made to ensure the accuracy of information in this Calendar. However, it is ultimately the responsibility of fellowship and award seekers themselves to verify program deadlines and requirements with the source agencies. The Graduate and Postdoctoral Studies Office, Fellowships and Awards Section cannot be held responsible for any errors or omissions, but would appreciate being informed of these, for correction or addition in the next edition.

The University reserves the right to make changes without prior notice to the information contained in this Calendar, including alteration of conditions and values of awards.

1 Graduate and Postdoctoral Studies Office, Fellowships and Awards Section

1.1 Location

Graduate and Postdoctoral Studies Office
Fellowships and Awards Section
James Administration Building, Room 400
845 Sherbrooke Street West
Montreal, Quebec H3A 2T5 Canada
Telephone: (514) 398-3990
Fax: (514) 398-2626
E-mail: graduate.fellowships@mcgill.ca
Web: www.mcgill.ca/gps

1.2 Administrative Officers

Martha Crago; B.A., M.Sc.A., Ph.D.(McG.) **Dean (Graduate and Postdoctoral Studies) and Associate Provost (Academic Programs)**

J.A. Nemes; B.Sc.(Maryland), M.Sc., D.Sc.(GWU) (William Dawson Scholar) **Associate Dean (Graduate and Postdoctoral Studies)**

Charlotte E. Légaré; B.Sc.(Montr.), M.Sc.(Sher.), M.B.A.(McG.) **Director, Graduate and Postdoctoral Studies Office**

Claude Lalonde, B.Sc.(Montr.), M.B.A.(McG.) **Manager, Fellowships and Awards**

Manon Lemelin **External Fellowship Competitions**

Brenda Stewart **McGill Fellowships and Differential Fee Waivers**

Cathy Duggan **Reception and General Funding Information**

1.3 A Message from the Dean

Graduate study and research in all scholarly, scientific and professional disciplines depends upon adequate financial support for students and postdoctoral fellows. At McGill University, the Graduate and Postdoctoral Studies Office, Fellowships and Awards Section provides information and administers several major internal fellowship competitions each year. The Office also coordinates McGill applications and distributes information related to numerous graduate and postdoctoral fellowship and award competitions administered outside the University. The Office works closely with individual applicants, academic departments at McGill, and external granting agencies in order to facilitate applications for all these sources of funding.

This Graduate Fellowships and Awards Calendar is published yearly by the Graduate and Postdoctoral Studies Office (GPSO), Fellowships and Awards Section to furnish current and prospective McGill students with information about financing graduate education. It contains descriptions of all McGill's internal graduate fellowships, as well as many external fellowships tenable for graduate and postdoctoral level study. In addition to this Calendar, the Office maintains a computerized data bank of many other, smaller or more specialized external fellowships and awards.

Students seeking admission to a McGill graduate program should note that individual academic departments make decisions about admission. The GPSO Fellowships and Awards Section will be pleased to advise about possible sources of funding; however, applications for funding should be directed to the department into which admission is sought. Students already enrolled in graduate studies at McGill may apply for some fellowships on their own and some through the auspices of their academic department. Appropriate procedures for application vary according to the particular fellowship.

The staff of the Office is well-informed and friendly, and encourages all current and prospective McGill students to visit, call, e-mail or write to obtain further information on appropriate sources of funding for graduate education.

*Martha Crago, Ph.D.
Dean (Graduate and Postdoctoral Studies) and
Associate Provost (Academic Programs)*

2 Financing Graduate Education

There are different ways to finance graduate studies at McGill University. A graduate student can:

- 1) win a fellowship from an external granting agency;
- 2) win an internal McGill Graduate Fellowship;
- 3) win a McGill departmental or faculty award;

- 4) obtain a stipend from their supervisor's research grant or contract;
- 5) receive funding in the form of loans and bursaries from the federal or provincial government;
- 6) receive a differential fee waiver for the international fee supplement.

In 2001-02, graduate students received over \$6 million in McGill fellowships and \$4.6 million in salaries. They also attracted approximately \$10 million in fellowship funding from Canadian and Quebec Government sources, as well as \$1.4 million in differential fee waivers for international students from the Quebec government. Over \$13 million from research grants and contracts was devoted to graduate student support. Preliminary estimates indicate that over \$4 million in fellowships was obtained through other external sources.

1) External Granting Agency Fellowships are listed in section 3, "External Fellowships". Currently, the value of awards offered by these agencies (including those supported by the Canadian and Quebec governments) varies from approximately \$15,000 to \$21,000 per year. Many may be renewed. Application deadlines for the majority of external granting agency fellowships fall during October to November, for fellowships tenable in September of the following year. Fellowships offered by external granting agencies for postdoctoral level study and research are described in section 7, "Postdoctoral Fellowships". Opportunities for funding to pursue graduate study and research outside of Canada are listed in section 8, "Exchange and Travelling Fellowships".

2) McGill Graduate Fellowships are described in detail in section 4, "McGill Graduate Fellowships". McGill Major Fellowships (valued at \$10,000 - \$15,000 per year, for one or more years) are offered only to students already enrolled in a Master's or doctoral program at McGill, who meet the specific eligibility requirements of the year's competition. Details regarding eligibility and specific deadlines for McGill Major Fellowships are available in early September from departments and the GPSO Fellowships and Awards Section Web site. For McGill students in the social science and humanities disciplines, the McGill Major Fellowship application deadline coincides with that of the Social Sciences and Humanities Research Council (SSHRC) doctoral fellowships competition (generally during the month of October). For McGill students in the natural science and engineering, and medical science disciplines the deadline coincides with that of the Natural Sciences and Engineering Research Council (NSERC) Postgraduate Scholarships competition (generally during the month of October). All students are advised to check deadlines with their departments during the summer.

Students need not be eligible for funding through external agencies in order to apply for a McGill Major Fellowship. However, all applicants for McGill Major funding must, if eligible, have applied to CIHR, SSHRC or NSERC and, if eligible, to the Quebec funding agencies: Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC) or Fonds de la recherche en santé du Québec (FRSQ).

Application forms for the McGill Major Fellowships are available to students currently enrolled at McGill from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps under Fall competitions. Completed application forms and all supporting documents should be returned directly to the academic department. No documentation should be sent to the GPSO Fellowships and Awards Section. Applications for McGill Graduate Fellowships tenable beginning in September 2004 must be received by McGill departments during the fall semester of 2004 (check with departments for specific deadlines).

In addition to the McGill Major Fellowships for continuing graduate students, McGill University provides a number of Recruitment Fellowships. There are two types of Recruitment Fellowships. Some are awarded through a specific competition, such as the Richard H. Tomlinson Fellowships (section 4.1.1), and the Max Stern McCord Museum Fellowships (see section 4.1.3, "Discipline-specific Recruitment Fellowships"). Others, such as the Max

Stern Recruitment Fellowships (section 4.1.2), and the Graduate Studies Fellowships (section 4.6) are allocated to selected academic departments for outstanding applicants seeking first admission to graduate studies at McGill during the following academic year. All applicants for first-time graduate admission are automatically considered by departments for a recruitment fellowship, if the unit has one to offer. There are no application forms, since awards are based exclusively on departmental nomination. For additional information, students should consult the academic unit from which they request admission.

3) McGill Departmental and Faculty Awards are listed in section 5, "Fellowships awarded by Departments and Faculties". It is the responsibility of the department, academic unit or faculty administering these awards to determine deadlines and values. Consequently, they vary greatly. The student should contact the Graduate Studies Coordinator or Director of the academic unit in which he/she intends to study for more information regarding departmental and faculty awards.

4) Stipends from Research Grants of Contracts provide an important source of support for graduate students in research programs. A faculty member can budget for support of graduate students to work on their thesis or project research when they apply for research grants. Several granting agencies allow the support to be treated as scholarship income for the student. Granting agencies usually specify either a minimum or maximum value for a stipend. Students should enquire with their proposed supervisor or department on the availability of stipends at the time of admission.

5) Loans and Bursaries are administered by the province in which the student is deemed to be a resident. Basic qualifications are that the applicant is a full-time student and a Canadian citizen; certain categories of Permanent Residents may also be eligible. The Quebec Student Loan and Canada Student Loan programs operate exclusively on the basis of financial need. Several provinces augment their loan programs with a loan forgiveness program to help students reduce their debt loads. The McGill Student Aid Office provides information regarding application procedures of these government loan programs. The Student Aid Office also administers institutional need-based funding including short-term loans to cover emergency situations, limited bursary assistance and a Work/Study program. Further information is provided in section 6, "Student Financial Assistance".

6) Differential Fee Waivers for International Students are available through three mechanisms: (a) McGill University is allocated a number of Differential Fee Waivers (DFWs) that it allocates through the departments. International students should enquire with their department for information regarding how to apply for these. (b) International students who register in Master's and Doctoral studies in French Language and Literature or Master's studies in Second Language Education (French as a Second Language) are exempt from the international supplement. (c) All students from France and a limited number of students from countries that entered bilateral agreements with Quebec have access to DFWs. Except for French citizens, students from such countries (see list in section 2.4) should apply to their home country for a DFW during the application for admission process.

2.1 General Fellowships Information

When an external fellowship announcement, received by the GPSO Fellowships and Awards Section, is of particular interest to a specific department or academic unit, the information is forwarded to that unit for posting and/or circulation. In addition, announcements of general interest are posted on the bulletin board outside the GPSO Fellowships and Awards Section, James Administration Building, Room 400. It is also entered into the computerized data bank of the Office for specialized searches and consultation by students, potential students and faculty members. The GPSO Fellowships and Awards Section maintains a small collection of reference books on funding for graduate study. These may be consulted at the reception desk.

2.2 Reference Books

In addition to the resources offered by the GPSO Fellowships and Awards Section, those seeking support for graduate study are encouraged to consult one or more of the many reference books and directories on the subject. Many major libraries, including McGill's McLennan Library, have publications listing fellowships and awards for graduate study, including the following:

- Awards Almanac;
- Annual Register of Grant Support;
- Awards for Postgraduate Study at Commonwealth Universities;
- Directory of Financial Aids for Women;
- Directory of Research Grants;
- Foundation Grant Index;
- Grants Register;
- National Student Aid Information Service;
- Postgraduate Study in Britain;
- Registry of Awards for Advanced Research in the Humanities;
- Study Abroad;
- Scholarships, Fellowships and Loans.

2.3 Funding Information on the Web

This publication is accessible on the Web at www.mcgill.ca/gps/fellowships under Publications. The GPSO site also contains specific information on competitions and links to the sites of various funding agencies, and forms for several McGill fellowships and awards may be downloaded.

The Graduate and Postdoctoral Studies Office also publishes a general guide on funding strategies entitled *Making Ends Meet*, which can also be found at www.mcgill.ca/gps/fellowships under Publications.

McGill University subscribes to the SPIN database for sources of research funding. The database is accessible free of charge to the end user from any computer on the McGill domain (or in any other participating university/institution). The database now carries a number of graduate and postdoctoral "fellowships, scholarships, awards, prizes, etc.". Access to the SPIN database, and search tips can be found at www.mcgill.ca/gps/fellowships.

Information for international students and fellows wishing to study in Canada is available on the Canadian Bureau for International Education (CBIE) Web site at www.destineducation.ca/index-flash.htm.

2.4 Information for International Students and Fellows

Funding opportunities for international students are not as plentiful as they are for Canadians since many forms of assistance provided by the federal and provincial governments are offered only to Canadian citizens or Permanent Residents of Canada. Opportunities for supplementing fellowship income by employment are also scarcer since international students and their dependents are not normally permitted by Canadian immigration authorities to work outside the university. Immigration officials also require all international students entering Canada to provide proof that they possess sufficient funds to cover at least one academic year's stay in Canada as well as return fare home. McGill's International Student Advisor suggests that single students have a minimum of \$15,000 for living expenses, in addition to tuition and ancillary fees, for every twelve months of study in Canada.

Non-Canadian students can, nonetheless, draw on a considerable variety of fellowships and other forms of assistance. There are, to begin with, several large, multi-disciplinary programs specifically aimed at funding study in Canada by students from abroad. These include: the Canadian Commonwealth Scholarship and Fellowship Program; the Government of Canada Awards to Foreign Nationals; and the Technical Assistance Scholarships and Fellowships and Canadian Fellowship Program for French-Speaking Countries, funded by the Canadian International Development Agency (CIDA). Applications for all these programs must be made through the government of the applicant's home country,

usually via the Ministry of Education. Applications sent by individuals directly to Canada cannot be considered.

All French citizens and a limited number of citizens supported by the following countries or governments may apply for an exemption of this type: Germany (a certain number of holders of Deutscher Akademischer Austauschdienst scholarships [DAAD]), Algeria, Andorra, Belgium (some members of the Communauté française and of the Flemish Community), Benin, Burkina Faso, Cameroon, Catalonia, China, Democratic Republic of the Congo, Republic of the Congo, Côte d'Ivoire, Egypt, Flemish Community, Gabon, Guinea, Israel, Lebanon, Luxembourg, Madagascar, Mali, Mauritania, Mexico, Niger, Panama, Peru, Rwanda, Senegal, Togo, Tunisia and Viet Nam. Students must apply to the government authorities (usually the Ministry of Education) of their home country at the time they apply for admission to the selected Quebec university. The foreign government authorities make the official recommendation of students to be exempted from higher fees. Further information can be found at www.meq.gouv.qc.ca/ens-sup/ens-univ/Coop.asp.

In addition, many of McGill's Graduate Fellowships, as well as many of the fellowships and prizes offered by various McGill departments and faculties, are offered without any restrictions concerning nationality. Unless otherwise specified in the description, fellowships listed in this brochure are open to students from all countries. International students should also note that the Graduate and Postdoctoral Studies Office makes it possible for some non-Canadian students to pay reduced foreign fees, by granting differential fee waivers. See section 4.5, "Differential Fee Waivers", as well as section 8, "Exchange and Travelling Fellowships".

Additional information on opportunities for financial assistance available to international graduate students and fellows can be found in the UNESCO publication "Study Abroad", available for consultation at the GPSO Fellowships and Awards Section, McLennan Library, as well as many national libraries around the world. "Study Abroad" can also be purchased directly from UNESCO distributors in member countries. The Canadian Bureau for International Education (CBIE) produces a free brochure entitled "Study in Canada", available on the Web at www.cbie.ca or upon request to: CBIE, 220 Laurier Avenue West, Suite 1100, Ottawa, Ontario K1P 5Z9 (613) 237-4820. International students may also find some general information regarding university study in Canada at various Canadian consulates and embassy offices abroad.

3 External Fellowships

External Fellowships are a major component of graduate student funding at McGill. The primary sources of external fellowships are the Federal Research Councils and the Quebec Provincial Research Funds which provided approximately \$10 million. The three Quebec agencies are: the Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), the Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC) and the Fonds de la recherche en santé du Québec (FRSQ). The Federal Councils are: the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC), and the Social Sciences and Humanities Research Council of Canada (SSHRC). The balance of external fellowships comes from a variety of award programs sponsored by private companies, agencies, foundations, other provincial and federal government agencies, as well as foreign governments and organizations. For every dollar that McGill graduate students received through the Graduate and Postdoctoral Studies Office, approximately eight dollars was received from external fellowships.

Students who wish to be considered for graduate level funding from external sources should contact the specific funding agency directly, as well as the McGill department where they intend to undertake graduate study and/or the GPSO Fellowships and Awards Section in order to ascertain their individual eligibility and specific program application or nomination procedures. Competi-

tions often take place one full year ahead of award tenure, therefore it is advisable to make inquiries well in advance of the date when funding is required. The GPSO Fellowships and Awards Section maintains up-to-date information and application forms for many externally funded award programs and will provide this when possible to interested individuals. It is, however, the responsibility of the applicant to verify directly with the agency all application procedures and deadlines, since these are subject to change each year.

Many funding agencies now have Web sites and some of them provide electronic application forms as well. Here are a few:

AUCC – www.aucc.ca
 British Council – www.educationuk.org/
 Canada Council – www.canadacouncil.ca
 CBIE – www.cbie.ca
 DAAD – www.daad.org
 Franco Canadien – www.ambafrance-ca.org/hyperlab
 FQRNT (formerly FCAR) – www.nateq.gouv.qc.ca
 FQRSC (formerly FCAR) – www.fqrsc.gouv.qc.ca
 FRSQ – www.frsq.gouv.qc.ca
 ICCS – www.iccs-ciec.ca
 CIHR – www.cihr.ca
 NRC – www.nrc.ca
 NSERC – www.nserc.ca
 Ontario Graduate School –
http://osap.gov.on.ca/eng/not_secure/OGS.htm
 SSHRC – www.sshrc.ca
 World Bank – <http://www.worldbank.org/wbi/scholarships/>
 SPIN Database by InfoEd International: McGill University subscribes to the SPIN database for sources of research funding. Please refer to section 2.3, "Funding Information on the Web".

EXTERNAL FELLOWSHIPS AND MCGILL FELLOWSHIPS

Students need not be eligible for funding through an external agency named above in order to apply for a McGill Major Fellowship. However, all applicants for McGill Major funding must, if eligible, have applied to CIHR, SSHRC or NSERC and, if eligible to the Quebec funding agency Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC) or Fonds de la recherche en santé du Québec (FRSQ).

TRANSCRIPTS AND DEADLINES

To obtain transcripts for larger external award competitions including FQRNT (formerly FCAR), FQRSC, FRSQ (formerly FCAR), NSERC and SSHRC, students must apply to their departmental graduate office several weeks prior to the application deadline. Students should check with their department or the Fellowships and Awards Section about all transcript ordering procedures and deadlines.

Deadlines for graduate and postdoctoral scholarships, fellowships and awards competitions from the Natural Sciences and Engineering Research Council (NSERC), Social Sciences and Humanities Research Council (SSHRC), Canadian Institutes of Health Research (CIHR), Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT), Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC), and the Fonds de la recherche en santé du Québec (FRSQ) generally fall in early October. Thus students should begin planning their external applications as early as August. The applicant is responsible for fulfilling the application requirements, using the forms for the current year. If the application form for the current year is not available in August, the student should nevertheless proceed to draft a proposed plan of study and research, and discuss it with two faculty members, who can later serve as referees.

The following alphabetical listing of external fellowships indicates deadlines, application requirements and values as known to the GPSO Fellowships and Awards Section at the time of publication of this Calendar. It is the responsibility of the applicant to verify directly with the agency all application procedures and deadlines. In cases where the GPSO Fellowships and Awards Section main-

tains an information file on a particular external fellowship, an "OFA" file number has been given. Please refer to this number when requesting information from the Office.

ALCAN RESEARCH FELLOWSHIPS

Eligibility: Applicants must be enrolled or accepted for full-time graduate studies, in a field of pure or applied science related to Alcan's activities. Preference is given to Canadian citizens or permanent residents. Each recipient of an Alcan Research Fellowship will be linked with a researcher in one of Alcan's Canadian laboratories.

Value: \$18,000 for Master's, renewable once; \$20,000 for Ph.D.s, renewable twice. One fellowship per university per year.

Deadline: December 1 (may vary).

Application: Applicants must submit a research project in one of the following fields: Raw Materials, Smelting process, Production Materials, Aluminum Metallurgy, Aluminum Use, Environment, Analytic Techniques, Modelling and Information Systems. Further information regarding application procedure available from the GPSO Fellowships and Awards Section.

ASSOCIATION OF UNIVERSITIES AND COLLEGES OF CANADA (AUCC) – NATIONAL FELLOWSHIPS PROGRAM

AUCC administers several fellowship competitions for graduate study at Canadian universities. Those currently available are listed below. In most cases, candidates must be Canadian citizens or Permanent Residents of Canada for at least one year prior to application. Information concerning eligibility, tenure, as well as application forms available from the Canadian Awards program, Awards Division, Association of Universities and Colleges (AUCC), 350 Albert Street, Suite 600, Ottawa, Ontario K1R 1B1. Tel: (613) 563-1236, www.aucc.ca.

- AUCC Finnish-Canadian Trainee Exchange Program
- AUCC Youth International Internship Project: A Global Partnership
- Bowater Maritimes Scholarship Program
- Canada-China Scholars Exchange Program
- Canadian Institutes of Health Research (CIHR) Science Writer Scholarship Program
- Canadian Wireless Telecommunications Association
- C.D. Howe Memorial Foundation Engineering Awards
- C.D. Howe Scholarship Program
- Cement Association of Canada Environmental Scholarships Program
- CIBC Youthvision Scholarship Program
- Department of National Defence Security and Defence Forum
 - R.B. Byers Post-Doctoral Fellowship Program
 - M.A. Scholarship Program
 - Ph.D. Scholarship Program
 - Internship Program
- Fairfax Financial Holdings Limited Program
- Fessenden-Trott Awards
- Frank Knox Memorial Fellowships Program
- Imperial Tobacco Canada Limited Scholarship Fund for Disabled Students
- International Space University Summer Program
- Mattinson Endowment Fund Scholarship for Disabled Students
- MDS Nordion Corporate Scholarship
- Office of Critical Infrastructure Protection and Emergency Preparedness Research Fellowship in honour of Stuart Nesbitt White
- The Paul Sargent Memorial Linguistic Scholarship Program
- Petro-Canada Graduate Research Award Program
- Queen Elizabeth II Silver Jubilee Endowment Fund for Study in a Second Official Language Award Program
- TD Canada Trust Scholarship Program for Outstanding Community Leadership
- Wellsizing the Workplace Scholarships

BRUNO M. CORMIER RESEARCH FUND

Eligibility: Awarded to Master's or doctoral level students conducting research in the humanities and social sciences relating to intervention with detained young offenders.

Value: \$5,000, non-renewable.

Deadline: February 28.

Application: Forms are available from the Fonds de recherche Bruno M. Cormier, Fondation La Cité des Prairies, 11815 Adolphe-Caron, Montreal, Quebec, H1E 6J8, Tel: (514) 648-5858, e-mail: fondationjc@sympatico.ca or the GPSO Fellowships and Awards Section.

OFA # 321

CANADA COUNCIL GRANTS

Eligibility: Grants are awarded for graduate level study in music. Other disciplines such as architecture, creative writing, art education, and communications are considered if the work is not primarily concerned with academic research. Various short-term project grants are also available in these disciplines.

Deadlines: Vary with the disciplines.

Application: Forms can be obtained by writing to: Arts Awards Service, Canada Council, PO Box 1047, 350 Albert Street, Ottawa, Ontario K1P 5V8 1. Tel: 1-800-263-5588 ext. 4138, www.canadacouncil.ca.

OFA # 383

CANADA GRADUATE SCHOLARSHIPS

In 2003, the Canadian Government announced the creation of new Canadian Graduate Scholarships, to be administered by the three funding councils: CIHR, NSERC and SSHRC. Details can be found under the graduate scholarship/fellowships sections of the three council web sites, as well as on our web site.

Value: Master's: \$17,500; Doctoral: \$35,000.

Please consult www.mcgill.ca/gps, under Fellowships and Awards for further information.

CANADIAN COUNCIL OF PROFESSIONAL ENGINEERS (CCPE) NATIONAL SCHOLARSHIPS

Eligibility: Candidates must be registered as full members with one of the provincial or territorial professional engineering associations, and have been accepted for post-graduate studies by a recognized university.

Value: \$7,500 - \$10,000.

Manulife Financial Scholarship: three scholarships of \$10,000 each for engineers returning to university for further study or research in an engineering related field.

Meloche Monnex Scholarship: two scholarships of \$7,500 for engineers returning to university for further study or research in a field other than engineering.

Encon Endowment: \$7,500 will be awarded for studies in the area of engineering failure investigation and/or strength of materials

Deadline: April 1.

Application: Information regarding specific application requirements and application forms are available from the National Scholarship Program, Canadian Council of Professional Engineers, 1100-180 Elgin St., Ottawa, Ontario, K2P 2K3, Tel: (613) 230-5759, Web: www.ccpe.ca/e/index.cfm.

OFA # 227

CANADIAN ENGINEERING MEMORIAL FOUNDATION – GRADUATE SCHOLARSHIP AWARDS

Eligibility: For female citizens of Canada or Permanent Residents enrolled full-time graduate engineering program at the Ph.D. level, based not only on academic recognition but demonstrated leadership, etc. One nomination per year is accepted from each university. Recipient must be willing to act as a role model.

Value: \$15,000.

Deadline: August 30, for nomination by Dean of Engineering to Foundation.

Application: Forms are available from the Canadian Engineering Memorial Foundation, 1100-180 Elgin St., Ottawa, Ontario, K2P2K3, Tel: (613) 230-5759.

Web: www.cemf.ca/scholar.htm/

E-mail: info@cemf.ca.

OFA # 9

CANADIAN FEDERATION OF UNIVERSITY WOMEN FELLOWSHIPS

Eligibility: Open to women who, at time of application, are citizens of Canada or who have held Permanent Resident status for at least one year, have been accepted into the proposed place of study and hold at least a Bachelor's degree or equivalent from a recognized university. Usually given to students already enrolled in a program.

Value: A number of fellowships at the Master's and doctoral level, ranging in value from \$1,000 to \$10,000 are available.

Deadline: November 30.

Application: For more information and application forms, write to: CFUW Head Office, 251 Bank Street, Suite 600, Ottawa, Ontario K2P 1X3. Tel: (613) 234-2732; www.cfuw.org/english/index.html.

OFA # 31

CANADIAN INSTITUTES OF HEALTH RESEARCH (CIHR) – DOCTORAL RESEARCH AWARDS

Eligibility: Open to Canadian citizens and Permanent Residents of Canada, engaged in full-time studies at the Ph.D. level in a discipline funded by the CIHR, normally under the supervision of a researcher who holds a CIHR grant. At the time of application, candidates must have completed between 12 and 36 months of graduate studies. Please note that health professionals may also be funded for doctoral studies through the Fellowship program (see postdoctoral section).

Value: From \$20,500 up to 35,000 for a maximum of 3 years.

Deadline: October 15, directly to the CIHR office.

Application: Application forms and the Grants and Awards Guide are available only on the Web. Further information is available from the GPSO Fellowships and Awards Section or the Canadian Institutes of Health Research, 410 Laurier Avenue W., 9th Floor, Ottawa, Ontario K1A0W9. www.cihr.ca.

CANADIAN INSTITUTES OF HEALTH RESEARCH (CIHR) - CIHR CGS MASTER'S AWARDS

Eligibility: The program is open to Canadian citizens and permanent residents. At the time of the CIHR deadline for application, candidates must have completed or be in the last year of a bachelor degree or have been registered for no more than 10 months as a full-time student in a Master's program. Only those students engaged in full-time Master's programs in which research is a major component are eligible for support. Please note that health professionals may also be funded for master's studies through the Fellowship program (see postdoctoral section).

Value: \$17,500.

Deadline: To be announced, through the Canadian university at which you are currently registered.

Application: Application forms and Awards Guide are available only on the Web. Further information is available from the GPSO Fellowships and Awards Section or the Canadian Institutes of Health Research, 410 Laurier Avenue W., 9th Floor, Ottawa, Ontario K1A 0W9. www.cihr.ca.

CANADIAN JAPANESE MENNONITE SCHOLARSHIP

This scholarship is sponsored by the National Association of Japanese Canadians and the Mennonite Central Committee Canada and was established to serve as a tangible symbol of an apology made to Japanese Canadians on behalf of Canadian Mennonites.

Eligibility: Open to Canadian students studying at Canadian universities at the graduate level. Some preference is given to facilitate academic work related to the Japanese Canadian experience. However, academic work related to other Canadian minorities will also be seriously considered.

Value: \$2,000.

Deadline: April 1.

Application: Information and application forms available from Mennonite Central Committee Canada, Canadian Japanese

Mennonite Scholarship Program, 134 Plaza Drive, Winnipeg, Manitoba R3T 5K9. Tel: (204) 261-6381. www.mcc.org/get-inv/scholar.html.

E-mail: canada@menmonitecc.ca.

OFA # 66

CHIANG CHING-KUO FOUNDATION FELLOWSHIP AWARDS (PH.D. DISSERTATION)

Eligibility: Doctoral candidates in the field of Chinese studies may apply for grants to help finance the completion of their dissertations. Applicants must have completed all requirements for their Ph.D. degree except for the dissertation and must not be employed or receiving grants from other sources.

Value: Varies depending on availability of funds and needs of applicant.

Deadline: February 1.

Application: Further information and application forms are available from: (Applicants from U.S. colleges and universities) - the American Council of Learned Societies, The Chiang Ching-Kuo Fellowship Program, 228 East 45th Street, New York, New York, 10017-3398 USA (212) 697-1505. (Applicants from Canadian colleges and universities) - CASA/ACEA, Centre d'études de l'Asie de l'est, Université de Montréal, C.P. 6128, Succursale centre-Ville, Montréal, Québec H3C 3J7. Tel: (514) 343-6569. E-mail: denm@cetase.umontreal.ca; www.casa.umontreal.ca

OFA # 113

EASTERN CANADA SLA CHAPTER SCHOLARSHIP

Eligibility: To be granted to a student entering the second year of graduate study in library and information science leading toward a Master's degree in an ALA accredited program in the regions covered by the Eastern Canada Chapter (Université de Montréal, McGill University, Dalhousie University).

Value: \$1,000.

Application: Further information and application forms may be obtained from: Darlene Canning (darlene.canning@mcgill.ca) PSEL, McGill University and Tess Troide (triode@cn.ca), Business Info. Centre, CN Railway.

ENVIRONMENT CANADA SCHOLARSHIP IN METEOROLOGY OR ATMOSPHERIC SCIENCES

Eligibility: Candidates must be Canadian citizens or Permanent Residents pursuing graduate level studies in one of the following fields: meteorology, atmospheric sciences, physics, chemistry, computing science, applied mathematics, physical geography.

Value: A stipend and all necessary fees (equivalent to an NSERC Postgraduate Scholarship). Awarded for one year, but may be renewed up to three years.

Deadline: February 15.

Application: Information regarding specific application requirements and application forms are available from the GPSO Fellowships and Awards Section or from: Research Directorate, Atmospheric Environment Service, Environment Canada, 4905 Dufferin Street, Downsview, Ontario, M3H 5T4. Tel: (416) 739-4436.

OFA # 178

FONDATION DESJARDINS - BOURSES DE MAÎTRISE ET DE DOCTORAT, PROGRAMME GIRARDIN - VAILLANCOURT

Eligibility: Applicants must be Canadian citizens, residing in Quebec, who will be undertaking full-time graduate study at a recognized university.

Value: Nineteen awards from \$5,000 to \$7,000, offered annually to Master's or doctoral students in all fields.

Deadline: March 1.

Application: Information regarding specific application requirements and application forms are available from the GPSO Fellowships and Awards Section, and La Fondation Desjardins, 1, Complexe Desjardins, C.P. 7, Succ. Desjardins, Montréal, Québec H5B 1B2 (514) 281-7171.

OFA # 198

FONDATION DESJARDINS - SUBVENTIONS DE RECHERCHE

Eligibility: Open to Canadian citizens, residing in Québec.

Value: Awards of \$25,000 spread over a two-year period are available to doctoral students studying a particular theme selected annually.

Deadline: April 1 (confirm with GPSO Fellowships and Awards Section).

Application: Information regarding specific application requirements and application forms are available from the GPSO Fellowships and Awards Section, and La Fondation Desjardins, Programme Subvention de recherche, 1, Complexe Desjardins, C.P. 7, Succ. Desjardins, Montréal, Québec H5B 1B2. Tel: (514) 281-7171; www.desjardins.com under MOUVEMENT DESJARDINS/Prix bourses et partenariats.

OFA # 257

FONDATION DU PRÊT D'HONNEUR BOURSE - PROJET

Eligibility: Established in 1944 by the Société Saint-Jean-Baptiste de Montréal, La fondation du prêt d'honneur offers a project bursary to a university student whose social science research pertains to the socio-economic development of Quebec. The student must be a Canadian citizen or Permanent Resident, be enrolled full-time at a recognized university and demonstrate the skills necessary to undertake a research project.

Value: \$3,000 for one year, renewable.

Deadline: February 1.

Application: Information and application materials available from La Fondation du prêt d'honneur, Maison Ludger-Duvernay, 82, rue Sherbrooke ouest, Montréal, Québec H2X 1X3.

Tel: (514) 843-8851. E-mail: rphilpot@ssjb.com; www.ssjb.com.

OFA # 50

FONDS QUÉBÉCOIS DE LA RECHERCHE SUR LA NATURE ET LES TECHNOLOGIES (FQRNT) (FORMERLY FCAR)/ FONDS DE RECHERCHE SUR LA SOCIÉTÉ ET LA CULTURE (FQRSC) BOURSES D'ÉTUDES DE CYCLES SUPÉRIEURS DE PERFECTIONNEMENT ET DE RÉINTÉGRATION À LA RECHERCHE

Eligibility: All fields, except the health sciences and human health research, are eligible for funding. There are also special programs in the arts, aerospace studies, natural resources and transport, as well as programs for persons returning to graduate studies. Students in the health sciences or undertaking research pertaining to human health should consult the FRSQ Web site. Candidates must be Canadian citizens or Permanent Residents of Canada and residents of Quebec as defined by la Loi et le Règlement sur l'assurance-maladie du Québec. Master's and doctoral level awards are tenable in Quebec and elsewhere.

Value: \$15,000 Master's level; \$20,000 doctoral level per year (renewable); other awards in specific fields are also available.

Deadline: Applicants with no university affiliation, to FQRNT in October. Applicants enrolled at McGill, to student's current department in October (check for precise deadlines).

Application: Fellowships Guide and application forms are only available on the Web. Further information available from the McGill GPSO Fellowships and Awards Section, graduate departments or from FQRNT, 140, Grande-Allée est, bureau 450, Québec, Québec, G1R 5M8. Tel: (418) 643-8560 or 1-888-653-6512; www.fqrnt.gouv.qc.ca and www.fqrsc.gouv.qc.ca.

OFA # 371

FOND DE LA RECHERCHE EN SANTÉ DU QUÉBEC (FRSQ)

Eligibility: Students in the health sciences or undertaking research pertaining to human health. Candidates must be Canadian citizens or Permanent Residents of Canada and residents of Quebec as defined by la Loi et le Règlement sur l'assurance-maladie du Québec. Master's and doctoral level awards are tenable in Quebec and elsewhere.

Value: \$15,000 Master's level; \$20,000 doctoral level per year (renewable); other awards in specific fields are also available. A special program for health professionals is also available.

Deadline: October 15 directly to FRSQ.

Application: Fellowships Guide and application forms are only available on the Web. Further information available from the McGill GPSO Fellowships and Awards Section, graduate departments or from FRSQ, 500, rue Sherbrooke Ouest, Suite 800, Montreal (Quebec) H3A 3C6. Tel.: (514) 873-2114. Fax:(514)873-8768. www.frsq.gouv.qc.ca.

G.G. ALLAN ROEHER INSTITUTE RESEARCH GRANTS IN THE FIELD OF INTELLECTUAL DISABILITIES FOR GRADUATE STUDENTS

Eligibility: Candidates must be Canadian citizens or Permanent Residents and be accepted into a full-time graduate program at a Canadian university. Field: a broad range of fields relating to human services and intellectual disabilities. Applicants must have definite research projects, supported by an academic advisor or an associate of the G.G. Allan Roeher Institute.

Value: Up to \$10,000.

Deadline: April 30.

Application: Information regarding specific application requirements and application forms are available from The Secretary, Bursaries and Grants Committee, The Roeher Institute, Kinsmen Bldg., York University, 4700 Keele Street, North York, Ontario M3J 1P3. Tel: (416) 661-9611.

OFA # 173

INSTITUT DE RECHERCHE EN SANTÉ ET EN SÉCURITÉ DU TRAVAIL DU QUÉBEC (IRSST) BOURSES DE RECHERCHE

Eligibility: Candidates must be Canadian citizens or Permanent Residents, domiciled in Quebec, who wish to gain research training in the field of occupational health and safety in a laboratory setting or as a member of a recognized team.

Value: \$14,100 for the Master's program and for the Ph.D. level, \$18,000 up to \$24,000 for studies outside Canada. Tuition fees in excess of \$750 are paid for students taking up the award outside of Quebec. The fellowships are awarded for one year and can be renewed.

Deadline: To IRSST by first Tuesday in November.

Application: Forms are available from the GPSO Fellowships and Awards Section; the McGill Department of Occupational Health, Charles Meredith House, 1130 Pine Avenue, or from the Institut de recherche en santé et en sécurité du travail du Québec, 505boul. de Maisonneuve ouest, Montréal, Québec H3A 3C2. Tel: (514) 288-1551; www.irsst.qc.ca

OFA # 463

INSTITUT DE RECHERCHE EN SANTÉ ET EN SÉCURITÉ DU TRAVAIL DU QUÉBEC (IRSST) BOURSES THÉMATIQUES (3^E CYCLE) EN INGÉNIERIE

Eligibility: Candidates must be Canadian citizens or Permanent Residents, reside in Quebec and must possess a Master's degree in Engineering. Selection is based on the candidate's academic merit and experience in scientific research. Projects must be clearly related to safety in the work place.

Value: \$20,000 - \$30,000 (renewable).

Deadline: To IRSST by first Tuesday in November.

Application: Information regarding specific application requirements and application forms are available from the GPSO Fellowships and Awards Section; the McGill Department of Occupational Health, Charles Meredith House, 1130 Pine Avenue, or the IRSST, 505 de Maisonneuve Blvd W., Montreal, Quebec H3A3C2. Tel: (514) 288-1551; www.irsst.qc.ca.

OFA # 463

IODE WAR MEMORIAL SCHOLARSHIPS FOR DOCTORAL STUDY IN CANADA OR OTHER COMMONWEALTH COUNTRIES

The International Order of the Daughters of the Empire (IODE) established these scholarships to honor the memory of the men and women who gave their lives in World Wars I and II. There is no restriction on field of study.

Eligibility: Candidates must be Canadian citizens holding a degree from a recognized university or degree-granting college in Canada and at time of application, must be enrolled in a program at the doctoral level, or expect to be in said program by the date tenure begins.

Value: Nine awards are tenable in any university in Canada or the Commonwealth, valued at \$15,000 for study in Canada and \$15,000, renewable, for study overseas within the Commonwealth.

Deadline: Must be submitted by December 1 to the "War Memorial Convener" of the province where the applicant received his/her Bachelor's degree.

Application: Information regarding specific application requirements, addresses of current provincial "War Memorial Conveners" and application forms are available from the the IODE Head Office, 40 Orchard View Blvd., Suite 254, Toronto, Ontario. Tel:(416)487-4416.

OFA # 22

J. BOLTON SCHOLARSHIP

Eligibility: Candidates must be Canadian citizens or Permanent Residents and must have completed an undergraduate degree in Canada. Available to students in or entering a program of study toward a graduate degree in Engineering. Preference to Master's level candidates, though doctoral candidates will be considered. This award is tenable only at Canadian universities and colleges.

Value: \$1,000.

Deadline: June 1.

Application: Applications, in triplicate, must be submitted to The Solar Energy Society of Canada Inc., 116 Lisgar Street, Suite 702, Ottawa, Ontario, K2P 0C2. Tel: (613) 234-4151, Fax: (613) 234-2988. E-mail: sesci@solarenergysociety.ca.

OFA # 494

J.H. STEWART REID MEMORIAL FELLOWSHIP

Field: Unrestricted, can be held at any Canadian university:

Eligibility: Applicants must prove acceptance into a doctoral program at a Canadian university, be Canadian citizens or Permanent Residents, have completed one year of graduate work by June and have a first-class academic record, at the time of application.

Value: \$5,000 for one year of doctoral studies.

Deadline: April 30.

Application: Information regarding application requirements and forms are available from the GPSO Fellowships and Awards Section and the Awards Officer, Canadian Association of University Teachers, 2675 Queensview Drive, Ottawa, Ontario K2B 8K2. Tel: (613) 820-2270. E-mail: accpu@caut.ca, www.caut.ca

OFA # 394

JOHN G. BENE FELLOWSHIP IN COMMUNITY FORESTRY

Eligibility: Open to Canadian citizens or Permanent Residents pursuing graduate degrees in social forestry. The award must be used in part to fund field research in a developing country. Study should focus on the relationship of forest resources to the social, economic and environmental welfare of people.

Value: \$15,000 per year, renewable once.

Deadline: March 1.

Application: Information and application forms available from John G. Bene Fellowship in Social Forestry, Centre Training and Awards Unit, International Development Research Centre, 250 Albert Street, Ottawa, Ontario, K1G 3H9. Tel: (613) 236-6163, ext. 2098. E-mail: cta@idrc.ca; www.idrc.ca/awards.

OFA # 1

JOINT JAPAN/WORLD BANK GRADUATE SCHOLARSHIPS

Eligibility: An applicant must: be a national of a World Bank member country; be under the age of 45; hold a Bachelor's degree in a development-related field; have at least two years of development-related work experience in the home country; provide proof of admission by May 1, to two universities; propose a development-related graduate program of study.

Value: Approximately \$30,000 (US), including travel, tuition, medical insurance; renewable once.

Deadline: February 1.

Application: Information and application forms available from Joint Japan/World Bank Graduate Scholarships Program, 1818 H Street NW, Washington, DC 20433 USA. Tel: (202) 473-6849. www.worldbank.org/wbi/scholarships.

OFA # 448

KREBS MEMORIAL SCHOLARSHIP

Eligibility: The scholarship is primarily intended to help candidates who wish to study for a Ph.D., in Biochemistry or allied biomedical science, but whose careers have been interrupted for non-academic reasons beyond their control. Tenable at any British university.

Value: A personal maintenance grant at an appropriate level and all necessary fees (equivalent to a Canadian Institutes of Health Research Studentship). Awarded for one year, but may be renewed up to a maximum tenure of three years. Offered in alternate years.

Application: Next competition 2005. Through the university department concerned. Forms may be obtained from the GPSO Fellowships and Awards Section; from the Administration Manager, The Biochemical Society, 59 Portland Place, London, England W1N3AJ; or from the Web at www.biochemsoc.org.uk.

OFA # 475

MACKENZIE KING OPEN SCHOLARSHIP

Eligibility: Open to graduates of any Canadian university for full-time postgraduate studies in Canada or elsewhere and, in any field. McGill only considers undergraduate applicants with First Class Honours Standing (CGPA of 3.7 or higher) and graduate applicants with cumulative "straight A" records.

Value: One scholarship of \$7,500 (subject to change).

Deadline: Normally February 1 to applicant's home university. Verify McGill's deadline with the GPSO Fellowships and Awards Section.

Application: Application is made through the "home" university, i.e., the Canadian university from which the applicant has or will receive the most recent degree. Further information and application forms are available from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships and Mackenzie King Scholarships Competition Office, c/o J. Blom, Curtis Building, 1822 East Mall, University of British Columbia, Vancouver, British Columbia V6T 1Z1.

OFA # 353

MELLON FELLOWSHIPS IN THE HUMANITIES

Eligibility: Citizens or Permanent Residents of the United States, presenting outstanding academic promise, and wishing to begin graduate work in preparation for a career of teaching and scholarship in a humanistic field of study.

Tenure: Awards may be taken to any accredited graduate school in the U.S. or Canada. Student must apply to a program leading to the Ph.D. degree.

Value: \$15,000 stipend plus tuition and standard fees; one-year entry level, portable merit fellowships.

Deadline: Early December (to request application see Web site).

Nomination and Application: Information regarding specific application requirements is available from the GPSO Fellowships and Awards Section or Robert Weisbuch, President and Director, The Andrew W. Mellon Fellowships in the Humanities, The Woodrow Wilson National Fellowship Foundation, 5Vaughn Drive, Suite 300, Princeton, New Jersey 08543-6313, USA. E-mail: mellon@woodrow.org, www.woodrow.org/mellon.

OFA # 238

MINISTÈRE DE L'ÉDUCATION SUMMER LANGUAGE BURSARIES

Eligibility: Under a joint agreement between the federal and provincial governments, Summer Language Bursaries are offered to full-time Canadian and Permanent Resident students who wish to learn French or English in a 5-week immersion course during the summer.

Value: The bursary, paid to the institution on the student's behalf, defrays the costs of tuition, mandatory instructional materials, and room and board, but does not cover pocket money, transportation costs or child care services, if applicable.

Deadline: Usually February 15.

Application: Application forms and information are available on the Web at www.cmec.ca/olp/index_eng_svf.htm or from the Provincial Coordinator of the student's province of residence. In Québec: the Coordonnateur, Bourses d'été de langues secondes, Programmes de langue seconde, 1035, rue de la Chevrotière, Québec, Québec, G1R 5A5. Tel: (418) 643-3750.

MONTREAL LAKESHORE UNIVERSITY WOMEN'S CLUB SCHOLARSHIP

Eligibility: One award at the graduate level open to female residents of the West Island who are undertaking or returning to full time university study.

Value: \$2,000.

Deadline: March 31.

Application: Information and application forms available from MLUWC Scholarship Committee (514) 683-7101. Fax: (514) 697-8672.

OFA # 541

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC) INDUSTRIAL POSTGRADUATE SCHOLARSHIPS

Eligibility: Awards are based on a specific research proposal involving student, faculty supervisor and collaborating company. Basic requirements are much like those of the regular NSERC Postgraduate Scholarships in the following entry. All applications require departmental endorsement and signed commitment from the sponsoring company.

Value: \$21,000 per year (of which \$6,000 must come from a sponsoring company), for up to two years.

Deadline: No NSERC Deadlines. McGill Deadline: 3 months prior to the beginning of term of tenure.

Application: Fellowships Guide and application forms are available only on the Web. A draft agreement satisfying the guidelines of McGill University and NSERC is available from the GPSO Fellowships and Awards Web site www.mcgill.ca/gps/fellowships. The signing authority for the University will rest with the GPSO. Further information available from the GPSO Fellowships and Awards Section or directly from the Scholarships and Fellowships Division, NSERC, 350 Albert Street, Ottawa, Ontario K1A 1H5. Tel: (613) 995-5992.

E-mail: school@nserc.ca, www.nserc.ca.

OFA # 375

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC) POSTGRADUATE SCHOLARSHIPS AND CANADA GRADUATE SCHOLARSHIPS.

Eligibility: For Canadian citizens or Permanent Residents who hold, or expect to hold, a degree in science or engineering from an approved Canadian university. Funding is available to undertake study and research in one of the fields (principally engineer-

ing, science, computing information services and agriculture) supported by NSERC. Awards are normally tenable at a Canadian university. McGill applicants must have obtained a GPA of 3.5 or better in each of the last 2 years of study.

Value: Master's: from \$17,300 up to \$17,500 for one year.

Doctoral: from \$21,000 to \$35,000 for up to three years

Deadline: Applicants with no Canadian university affiliation in the last 12 months, to NSERC, no later than November 15. Applicants enrolled at McGill or graduated in the last 12 months, to the department in early October (check for precise deadlines).

Application: Fellowships Guide and application forms are available only on the Web. Further information available from the GPSSO Fellowships and Awards Section and McGill departments in September or directly from the Scholarships and Fellowships Division, NSERC, 350 Albert Street, Ottawa, Ontario K1A 1H5.

Tel: (613) 995-5992. E-mail: schol@nserc.ca, www.nserc.ca

OFA # 375

PATRICIA HARNEY SCHOLARSHIP

Dr. Patricia Harney, NSAC Diploma Class of '48 and OAC Professor in Horticultural Science has, through her estate, made generous provisions to support NSAC students who wish to pursue graduate studies at Macdonald Campus, McGill University or the Ontario Agricultural College at the University of Guelph.

Eligibility: Nova Scotia Agricultural College (NSAC) graduate accepted or registered at Macdonald Campus of McGill University for graduate work in agriculture. Recipients, while registered at Ontario Agricultural College or Macdonald Campus may pursue research at NSAC.

Value: Two \$5,000 renewable scholarships. Awards are tenable for a maximum of two years for a Master's Degree program and three years for a Ph.D. program. Renewability will be based on maintaining scholarship standing in the program (A- or 80% or CGPA of 3.7 or higher).

Deadline: March 31 (check with Student Affairs Office).

Application: Applications must be submitted to the NSAC Awards Office, P.O. Box 550, Truro, Nova Scotia, B2N 5E3. Application forms are also available from Toni Bird, Student Affairs Office, Macdonald Campus of McGill University, 21111 Lakeshore, Ste-Anne-de-Bellevue, Quebec, H9X 3V9.

PEO INTERNATIONAL PEACE SCHOLARSHIPS

Eligibility: Offered to women of any nationality qualified for admission to a graduate degree in Canada or the USA.

Value: \$6,000 (U.S.).

Deadline: Anytime between August 15 and December 15 to submit eligibility documentation; January 31 to submit final application, if eligibility approved.

Application: Proof of eligibility must be established before an application will be considered. Send documentation to PEO International Peace Scholarship Fund, PEO Executive Office, 3700 Grand Avenue, Des Moines, Iowa, USA 50312-2899.

OFA # 127

POST SECONDARY STUDENT SUPPORT – DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT (DIAND)

Eligibility: For Canadian treaty/status Indians and Inuit pursuing graduate study leading to a Master's or doctoral degree.

Value: Tuition, travel and/or living expenses.

Deadline: June 15 and October 15 to the DIAND, regional councillor.

Application: "Financial Assistance Application" forms and further details are available from the DIAND, Quebec Region Indian and Inuit Affairs, CP 51127, Postal Counter G. Roy 320 St-Joseph east, Quebec, Quebec. Tel: (418) 648-7551 or the DIAND, Programming and Funding Directorate, in Ottawa. Tel: (613) 997-8396, 953-6771; www.inac.gc.ca/index_e.html.

OFA # 164

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL (SSHRC) DOCTORAL FELLOWSHIPS

Fields: Social sciences, humanities, commerce and fine arts.

Specialized awards related to Canadian studies, law and management are also available. Fellowships awarded to Canadian citizens are tenable in Canada or abroad.

Eligibility: Canadian citizens or Permanent Residents living in the country. Applicants must intend to pursue full-time studies leading to the Ph.D. or equivalent. McGill applicants must possess a cumulative GPA of 3.3 or better.

Value: 19,000 to \$35,000 per year, renewable for up to 3 additional years.

Deadline: Applicants with no university affiliation, to SSHRC, postmarked no later than November 15. Applicants enrolled at McGill, to the department in early October (check for precise deadlines).

Application: Fellowships Guide and application forms are available only on the Web. Further information available from McGill social science and humanities department offices, the GPSSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships and SSHRC, Constitution Square, Tower II, 350 Albert Street, Box 1610, Ottawa, Ontario K1P 6G4. Tel: (613) 992-0525. www.sshrc.ca

OFA # 372

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL (SSHRC) MASTER'S FIELDS

For students applying to, or registered in, a master's program in the social sciences or humanities at a Canadian university

Eligibility: Canadian citizens or Permanent Residents living in the country. Applicants must intend to pursue full-time studies in the first year of a master's program in the social sciences or humanities that includes advanced research training, or completed, at the time of taking up the award, no more than 12 months of full-time study or equivalent at the graduate level. McGill applicants must have a first class average.

Value: \$17,500 for one year.

Deadline: Applicants with no university affiliation, to SSHRC, to be announced. Applicants enrolled at McGill, to the department in early November (check for precise deadlines).

Application: Fellowships Guide and application forms are available only on the Web. Further information available from McGill social science and humanities department offices, the GPSSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships and SSHRC, Constitution Square, Tower II, 350 Albert Street, Box 1610, Ottawa, Ontario K1P 6G4. Tel: (613) 992-0525. www.sshrc.ca.

WALTER C. SUMNER FOUNDATION AWARDS

Eligibility: An applicant must: be engaged in or committed to commence doctoral studies in chemistry, physics or electronics at either Dalhousie University, McGill University, Queen's University at Kingston, University of Toronto, University of Saskatchewan, or University of British Columbia; be a Canadian citizen; be domiciled in one of the provinces of Canada; hold a degree from a Canadian university other than the one at which doctoral studies will be carried on during the tenure of a Fellowship; and have at least two years of experience in either teaching or industry in the chosen field if only a bachelor's level degree is held.

Value: \$4,000 to \$5,000, tenable for one year but may, on re-application, be awarded for one additional year.

Application: Students must apply to the department where they will study. The department then makes the recommendations to the Fellowships and Awards Section in early April. The GPSSO must forward nominations to the Foundation no later than April 15th of each year.

OFA # 79

ZONTA INTERNATIONAL FOUNDATION – AMELIA EARHART FELLOWSHIP AWARDS FOR WOMEN

Eligibility: Fellowships in aerospace-related sciences or engineering are offered to women of any nationality with a bachelor's

degree, admitted to a graduate school (in Canada or elsewhere) offering aerospace-related science or engineering degrees.

Value: \$6,000 (U.S.), renewable.

Deadline: November (check date with GPSO).

Application: Zonta International, 557 West Randolph Street, Chicago, Illinois, U.S.A. 60661-2206. Tel: (312) 930-5848.

E-mail: aubides@zonta.org. www.zonta.org/site/.

OFA # 170

4 McGill Graduate Fellowships

4.1 Recruitment Fellowships

4.1.1 Richard H. Tomlinson Fellowships

Established in 2000 through a very generous gift from Dr. Richard H. Tomlinson (Ph.D. 1948). Awarded annually by the Graduate and Postdoctoral Studies Office to recruit outstanding students into Master's and Doctoral degree program. Tomlinson fellows who accept a fellowship from an agency external to McGill will be entitled to one-half the full value of the Tomlinson Fellowship.

TOMLINSON MASTER'S FELLOWSHIPS IN THE FACULTY OF SCIENCE

Eligibility: The Tomlinson Faculty of Science Master's Fellowships are for new students accepted into a Master's program in a department within the Faculty of Science. (Consult the GPSO Web site, www.mcgill.ca/gps/fellowships for a list of eligible departments.)

Value: \$15,000, renewable annually based on satisfactory progress, to a maximum tenure of 2 years for master's level.

Deadline: Early January. (confirm precise deadline on GPSO Web site)

Application: Tomlinson fellowship award holders are selected on the basis of nominations made by departments. Applicants for a Tomlinson fellowship to support a Master's or Doctoral program at McGill must submit their application directly to departments by early January, along with their application for admission. www.mcgill.ca/gps.

TOMLINSON DOCTORAL FELLOWSHIPS

Eligibility: The Tomlinson Doctoral Fellowships are for new students accepted into a doctoral degree at any department at McGill University.

Value: \$20,000, renewable annually based on satisfactory progress, to a maximum tenure of 3 years for doctoral level.

Deadline: Early January (confirm precise deadline on GPSO Web site).

Application: Tomlinson fellowship award holders are selected on the basis of nominations made by departments. Applicants for Tomlinson fellowship to support a Master's or Doctoral program at McGill must submit their application directly to departments by early January, along with their application for admission. www.mcgill.ca/gps.

4.1.2 Max Stern Recruitment Fellowships

In addition to the McGill Major Fellowships for continuing graduate students, McGill University provides a small number of recruitment fellowships to selected academic departments for outstanding applicants seeking first admission to graduate studies at McGill during the following academic year. A small number of new non-renewable Recruitment Fellowships will be awarded in 2004-05. These are valued at approximately \$14,000 for one year. All applicants for first-time graduate admission are automatically considered by departments for a recruitment fellowship, if the unit has one to offer. There are no application forms, since awards are based exclusively on departmental nomination.

4.1.3 Discipline-specific Recruitment Fellowships

J.W. MCCONNELL FOUNDATION FELLOWSHIPS IN ENVIRONMENT

Established in 2000 by the J.W. McConnell Foundation to outstanding students entering the first year of a Master's degree in the area of Environmental Studies. Awarded by the GPSO to a graduate student in the area of Environmental Studies.

Value: \$15,000 each; renewable.

Deadline: Not offered until further notice.

MAX STERN MCCORD MUSEUM FELLOWSHIP

Established in 1991 by the trustees of the Max Stern estate.

Eligibility: Offered to meritorious graduate students who are seeking admission in the Faculty of Arts at McGill University and whose research will directly involve the collections of the McCord Museum. Please consult the McCord Museum Web site at www.mccord-museum.qc.ca for information on the various collections of the Museum. No citizenship restrictions. In 2004-05, one fellowship is available.

Value: \$20,000; renewable once at the Master's level, twice at the Ph.D. level.

4.2 McGill Major Fellowships (for continuing students only)

Each year the Graduate and Postdoctoral Studies Office of McGill University awards McGill Major Fellowships valued at \$10,000 to \$15,000 per year. Applications for most such fellowships are reviewed by the Graduate Fellowships Committee, while a small number are granted on the basis of departmental and/or faculty nominations.

Students who wish to be considered for graduate level funding offered by McGill, should immediately contact the department where they intend to undertake graduate study and/or the GPSO Fellowships and Awards Section in order to ascertain the sources of McGill funding for which they are eligible. Competitions often take place one full year ahead of award tenure, therefore it is advisable to make inquiries well in advance of the date when funding is required. It should be noted that virtually all McGill Graduate awards tenable in a given year are restricted to students who were enrolled in a McGill graduate program during the preceding year.

Value and Eligibility

Students already enrolled in Master's or doctoral study at McGill, may apply for a McGill Major Fellowship (valued at \$10,000 - \$15,000 per year, renewable in some cases), provided they meet the specific eligibility requirements of the year's competition. Details regarding eligibility and specific deadlines and application forms for McGill Major Fellowships are available from departments and the GPSO Fellowships and Awards Section. Tenure of Major fellowships is restricted to students registered full-time in the Ph.D.2 through to the Ph.D. 5 year.

Application Deadlines and Forms

All applications for McGill Major fellowships must be ranked by departments; applications should not be sent directly to the GPSO Fellowships and Awards Section.

For students in the social science and humanities disciplines, the McGill Major Fellowship application deadline coincides with that of the Social Sciences and Humanities Research Council (SSHRC) doctoral fellowships competition (generally early during the month of October). For students in natural science, engineering and medical science disciplines, the deadline coincides with that of the Natural Sciences and Engineering Research Council (NSERC) Postgraduate Scholarships competition (generally early during the month of October). For students in medical sciences, the deadline coincides with that of the Canadian Institutes of Health Research (CIHR) Doctoral Awards competition (generally early during the month of October). Forms and instructions are based on the corresponding external agencies' application forms and are available on the Web at www.mcgill.ca/gps.

External Fellowships and McGill Major Fellowships

All applicants for McGill Major funding must, if eligible, have applied to CIHR, SSHRC or NSERC and, if eligible to the Quebec funding agency Fonds Québécois de la Recherche sur la Nature et les technologies (FQRNT), Fonds Québécois de la Recherche sur la Société et la Culture (FQRSC) or Fonds de la recherche en santé du Québec (FRSQ).

Students who are offered both a McGill Major Fellowship and any other external or internal fellowship worth \$10,000 or more (including fee subsidies) must accept the latter and decline the Major. However, in some cases, students may be eligible for "topping-up" with a partial McGill Major Fellowship.

Announcement of Results

The final results of the McGill Major Fellowships competitions are announced in May by letter. The GPSO Fellowships and Awards Section will not give results over the telephone.

Description of Individual Major Fellowships

*** These fellowships are open to returning McGill graduate students only. For policies, application procedures, deadlines and forms, see the introduction to this section on McGill Major Fellowships.**

ALMA MATER FELLOWSHIP*

Established in 1982 by generous contributions to the Alma Mater Fund from many graduates who designated their gifts to the area of scholarships and student aid.

Eligibility: Open to students in any degree program in the Graduate Studies. No citizenship restrictions.

Value: \$10,000; renewable once.

ARTHUR C. TAGGE FELLOWSHIP IN THE HUMANITIES AND SOCIAL SCIENCES*

Eligibility: Tenable by a graduate of any approved university proceeding to a higher degree in any department in the Humanities or the Social Sciences. No citizenship restrictions.

Value: \$10,000, non-renewable. Awarded for one year only.

CARL REINHARDT FELLOWSHIP*

Established from the estate of the late Carl Reinhardt, who received Bachelor of Applied Science degrees from McGill University in Civil Engineering (1896) and Mining Engineering (1897).

Eligibility: Open to graduate students in the Departments of Physics, as well as Earth and Planetary Sciences. No citizenship restrictions.

Value: \$10,000; renewable twice.

CHALK- ROWLES FELLOWSHIP*

Established by Mary Laura Chalk, McGill's first woman Ph.D. in Physics (1928), in memory of her husband, William Rowles (Ph.D. 1928), Professor Emeritus of Agricultural Physics at Macdonald College.

Eligibility: Open to graduate students in the Department of Physics. No citizenship restrictions.

Value: \$10,000; renewable once.

CLIFFORD C.F. WONG FELLOWSHIP*

黃振輝 研究生獎學金

Eligibility: Founded in 1981 by Mr. Clifford C.F. Wong, B. Arch. 1960, to enable a graduate student to pursue studies towards a higher degree at McGill University. First preference will be given to students coming from the People's Republic of China and second preference to students coming from Hong Kong. In the absence of suitable candidates from these two regions, the fellowship would be available to suitable candidates from any country.

Value: \$12,000 plus tuition fees at the non-privatized rate; renewable once.

DALBIR BINDRA FELLOWSHIP*

Established in recognition of the late Professor Dalbir Bindra's contribution to teaching and research during his thirty years in the Department of Psychology at McGill.

Eligibility: Open to students registered in any program of the Graduate Studies, with a preference to those from developing countries.

Value: \$10,000; renewable once.

DAVID STEWART MEMORIAL FELLOWSHIP*

Established through a bequest by the late Agnes Stewart in memory of her father, David Stewart.

Eligibility: Offered to graduate students in the physical and biological sciences who demonstrate high ability and who are likely to enter a career of university teaching. No citizenship restrictions.

Value: \$10,000; non-renewable.

EILEEN PETERS FELLOWSHIP*

Established in 1993 with an endowment from the N.E. Peters Foundation.

Eligibility: Awarded by the GPSO with preference being given to women. Consideration, if appropriate, will be given to students pursuing graduate studies in the Faculty of Medicine or the School of Nursing. No citizenship restrictions.

Value: \$12,000, renewable twice.

ESTERINA AND GAETANO LIBERATORE FELLOWSHIP*

Established in 1995 through the generous gift of Luigi Liberatore.

Eligibility: The fellowships may be held by students registered in any graduate program at McGill. No citizenship restrictions.

Value: \$10,000; renewable twice.

FRIENDS OF MCGILL FELLOWSHIP*

The fellowship is made available through the McGill Development program by the Friends of McGill Inc., New York.

Eligibility: Open to graduate students in any discipline who are citizens of the United States of America.

Value: \$10,000; renewable once.

GREVILLE SMITH RESEARCH FELLOWSHIP*

Eligibility: Three fellowships are endowed by the trustees of the Greville Smith bequest for research by graduate students, one in Engineering, and one in Management, and one in any discipline, for overall excellence. The leadership qualities of the candidate, together with the usefulness to the community of the proposed study, is taken into consideration by the GPSO in their choice of fellows. No citizenship restrictions.

Value: \$15,000; renewable twice.

HAROLD H. HELM FELLOWSHIP*

Established in 1960 in honour of Harold Helm, then Chairman of the Executive Committee of the Board of Trustees of Princeton University.

Eligibility: Open to students in any degree program in graduate studies at McGill. No citizenship restrictions.

Value: \$10,000; renewable once.

HUGH MACLENNAN MEMORIAL FELLOWSHIP FOR THE STUDY OF CANADA*

Established in 1993 from the estate of Hugh MacLennan.

Eligibility: For students in the Faculty of Arts with preference being given to Canadian Studies. No citizenship restrictions.

Value: \$10,000; renewable twice.

J.W. MCCONNELL MEMORIAL FELLOWSHIP*

Established by the J.W. McConnell Foundation to support graduate studies and research at McGill University, and so to strengthen, in quality and in numbers, the academic staff of Canadian universities and schools.

Eligibility: The fellowships may be held by students registering in any graduate research program (except Medicine) at McGill. No citizenship restrictions.

Value: \$10,000; renewable twice.

LLOYD CARR-HARRIS FELLOWSHIP*

Established in 1995 through the generosity of the Lloyd Carr-Harris Foundation.

Eligibility: The fellowships may be held by students registered in any graduate program in the health sciences at McGill. No citizenship restrictions.

Value: \$15,000; renewable twice.

MAX E. BINZ FELLOWSHIP*

Established from the estate of the late Max E. Binz, who was born in Switzerland, emigrated to Canada in 1930, established a successful textile company, and became a generous benefactor of McGill University.

Eligibility: The fellowship is open to all students in degree programs in graduate studies. No citizenship restrictions.

Value: \$10,000; non-renewable.

MAX STERN FELLOWSHIP IN HUMANITIES AND SOCIAL SCIENCES*

Established through the generosity of the Dr. and Mrs. Max Stern Foundation.

Eligibility: The fellowship may be held by students registered in any graduate program in the humanities or social sciences at McGill. No citizenship restrictions.

Value: \$15,000, renewable twice.

MCGILL ALUMNAE SOCIETY FELLOWSHIP*

Established in 1988 to commemorate the 100th anniversary of the founding of the McGill Alumnae Society.

Eligibility: To be awarded to a research student in any faculty who is pursuing studies of benefit or significance to women. Preference will be given to women applicants. No citizenship requirements.

Value: \$10,000, renewable twice.

PHILIP F. VINEBERG GRADUATE FELLOWSHIP*

Endowed in 1992 in memory of Philip F. Vineberg, O.C., Q.C, B.A., M.A., B.C.L., L.L.D., former Professor and Emeritus Governor of McGill University.

Eligibility: Open to graduate students pursuing in an advanced degree in Arts, Education, Law, Library Science, Music, Religious Studies or Social Work, to finance one year of study. Awarded to a graduate student who best exemplifies the qualities of intelligence as demonstrated by academic record and creative thinking; breadth of interest, perspective and tolerance as demonstrated by cross cultural interests; record of service to others; excellence as demonstrated by a record of disciplined undergraduate achievement at another university and the promise of more to come. The fellowship is open to all eligible students with preference to Canadian citizens and Permanent Residents.

Value: \$10,000, non-renewable.

PHILIP P. BAILY FELLOWSHIP*

Eligibility: Established in 1995 through a generous bequest by Philip Pendlebury Baily (B.Sc. 1913, M.Sc. 1914) for students registered in any graduate program in the Faculty of Medicine or Science. No citizenship restrictions.

Value: \$12,000, non-renewable.

SAUL HAYES GRADUATE FELLOWSHIP*

Eligibility: Established by Edgar and Charles Bronfman in memory of Saul Hayes for graduate students undertaking research with preference to the areas of Civil Liberties and Human Rights. No citizenship restrictions.

Value: \$10,000; tenable for up to four years.

SOLVAY FELLOWSHIP*

Eligibility: Offered for the first year of graduate study in any department at McGill. The holder must have graduated in any undergraduate faculty of McGill in the session prior to that for which the award is given, and must obtain permission to proceed to graduate study. No citizenship restrictions.

Value: \$10,000; non-renewable.

SR TELECOM AWARDS

Established in 1997 through a generous gift from SR Telecom, Inc. **Eligibility:** The awards will be presented each year to enhance major fellowships for students in Engineering and Computer Science.

Value: minimum \$4,000 each.

WOMEN'S CENTENNIAL FELLOWSHIP*

Established in 1984 by the Graduate and Postdoctoral Studies Office to commemorate the 100th Anniversary of the Admission of Women students to McGill University.

Eligibility: Preference will be given to women applicants in a Ph.D. program. No citizenship restrictions.

Value: \$10,000; non-renewable.

4.3 Complementary McGill Awards to Major Fellowships

The Beijing, Neil Croll and Walter Hitschfeld Memorial Awards are given as award complements to the most highly ranked McGill Major Fellowship awardees, meeting the specific eligibility criteria of each award.

BEIJING MEMORIAL AWARD

Eligibility: Awarded on the basis of academic merit to a student working towards a higher degree at McGill University, with a preference to those from the People's Republic of China.

Application: No application necessary. Awarded by the Fellowships Committee of the GPSO to an outstanding student who has also been awarded a McGill Major Fellowship.

Value: \$1,000.

NEIL CROLL MEMORIAL AWARD

Established in memory of the late Professor Neil Croll, Ph.D., M.D., Professor of Parasitology and Director of McGill International, and a teacher and friend of students from developing countries.

Eligibility: For graduate students, with a preference to those from developing countries.

Value: \$1,000.

Application: No application necessary. Awarded by the Fellowships Committee of the GPSO to an outstanding student who has also been awarded a McGill Major Fellowship.

WALTER HITSCHFELD AWARD

Established in honour of W.F. Hitschfeld Ph.D., F.R.S., F.R.S.C., a teacher and friend of many such students and former Director of McGill International.

Eligibility: For graduate students, with a preference to those from developing countries.

Value: \$1,000.

Application: No application necessary. Awarded by the Fellowships Committee of the GPSO to an outstanding student who has also been awarded a McGill Major Fellowship.

4.4 Dissertation Fellowships**ROBERT AND MARY STANFIELD DISSERTATION FELLOWSHIP**

Established in 1994 through the Robert and Mary Stanfield Foundation.

Eligibility: Offered to a doctoral student (selected by the GPSO) nearing completion of the Ph.D. degree, involved in the study of Canada.

Value: Minimum \$6,000, non-renewable.

Deadline: Normally early April.

Application: Contact the GPSO Fellowships and Awards Section Web site for details on application/nomination procedures.

STANDARD LIFE DISSERTATION FELLOWSHIP

Established in 1997 by a generous donation by the Standard Life Insurance Company.

Eligibility: Awarded by the GPSO to an outstanding doctoral student in Health Sciences nearing the completion of a Ph.D. degree.

Value: Minimum \$6,000.

Deadline: Normally early April.

Application: Contact the GPSO Fellowships and Awards Section Web site for details on application/nomination procedures.

4.5 Differential Fee Waivers

The Graduate and Postdoctoral Studies Office awards approximately 120 Differential Fee Waivers per term to international students, approximate value: \$3,165 Ph.D., \$3,600 Masters.

Eligibility and Nomination Procedures

These differential fee waivers are restricted to international graduate students at McGill whose visa status requires them to pay full international tuition fees. Recipients must be registered full-time and be within the period of residency. (See explanation of residency in the General Information section of the *Graduate and Postdoctoral Studies Calendar*.) Students in a qualifying year or additional session are not eligible. Students in "privatized" programs are not eligible. All eligible international students are automatically considered by departments for differential fee waivers, if the unit has them to offer. There are no application forms, since these differential fee waivers are awarded based exclusively on departmental nomination. International students should read section 2.4, "Information for International Students and Fellows" for details on other differential fee waivers offered by the Government of Quebec.

4.6 Graduate Studies Fellowships

MGSF FELLOWSHIPS

Eligibility: Applicants should enquire with the academic unit where they are seeking admission or are registered.

Value: Minimum \$5,000.

Fellowship units of \$5,000 are awarded by the GPSO upon nomination by academic units. Fellowship units may be used as a part of a recruitment package; as a top-up for an external fellowship, for a teaching or a research assistantship; in combination to form a larger fellowship; as a dissertation fellowship, in accordance with the academic unit's established priorities.

KENNETH DOWNES GRADUATE AWARD

Established in 1998 by Kenneth Downes (Class of 1947).

Eligibility: Awarded by the GPSO to an outstanding graduate student.

Value: Minimum \$5,000.

4.7 Graduation Prizes and Awards

D.W. AMBRIDGE AWARD

This award was made possible by a gift to the late Douglas White Ambridge from the employees and shareholders on the occasion of his retirement from the presidency of Abitibi Power and Paper Company Limited on February 1, 1963.

Eligibility: Awarded to a graduate receiving the degree of Ph.D. in the Physical Sciences or Engineering. The winner is selected from candidates nominated by each department whose academic record, including research and thesis, is judged to be outstanding among all those who graduate during the academic year.

Value: \$1,000 plus an engraved plaque.

GORDON A. MACLACHLAN PRIZE

Established in 1990, with gifts from individuals and faculties, in recognition and appreciation of Professor Gordon A. MacLachlan's ten years of service to McGill as Dean of the Faculty of Graduate Studies and Research and Vice-Principal (Research).

Eligibility: Awarded annually by the GPSO to the most outstanding graduate receiving a Ph.D. degree during the academic year

in any discipline of the Biological Sciences. The winner will be selected from candidates nominated by eligible departments, based on the quality of their academic records, the scholarly significance of their research and the excellence of their theses and other publications.

Value: \$1,000.

GOVERNOR GENERAL'S GOLD MEDAL

Eligibility: Two medals are presented each year (normally at the Spring convocation) by McGill University, in the name of and on behalf of the Governor General of Canada to the most outstanding graduating Master's or doctoral students (one in Human Sciences and one in Natural Sciences). A maximum of one nomination per McGill department will be accepted each year, based on truly outstanding academic merit. Nominations are reviewed by a GPSO Selection Committee.

Value: Gold medal with an inscribed booklet.

Deadline: Early May, for departmental nomination to the GPSO Fellowships and Awards Section.

Application: Nomination forms are available on the Web in March. Nominations for the Governor General's Gold medal are often combined with nominations for the Ambridge, Jenckes and MacLachlan prizes described elsewhere in this Calendar. Further details are available from the GPSO Fellowships and Awards Section Web site.

K.B. JENCKES PRIZE

Established in 1990 by an endowment from the estate of the late K.B. Jenckes.

Eligibility: Awarded annually by the GPSO to the most outstanding graduate receiving a Ph.D. degree during the academic year in any discipline in the social sciences and humanities. The winner will be chosen from among candidates nominated by eligible departments and faculties, assessed by the quality of their academic records, the scholarly significance of their research and the stylistic and substantive excellence of their theses and other publications.

Value: \$900.

THOMAS HALIBURTON HENRY AWARD

Established in 2000 in honour of Thomas Haliburton Henry, 1922-1944, to be awarded by the GPSO to an outstanding graduate.

Value: Minimum \$1,500.

Deadline: Early May, for departmental nomination to the GPSO Fellowships and Awards Section.

5 Fellowships awarded by Departments and Faculties

The following pages list over 200 fellowships, awards and bursaries, according to specific discipline, which are administered directly by departments or faculties at McGill University, or are externally funded. Unless otherwise indicated, students should contact the McGill department or faculty office concerned for additional information and application or nomination procedures.

5.1 Multidisciplinary

ARTS AND SCIENCE CLASS OF 1966 AWARD

Established by the Arts and Science Class of 1966 on the occasion of its 25th anniversary of graduation.

Eligibility: Open to graduate students in Arts or Science to pursue research at the Redpath or McCord Museum. Candidates are selected on the basis of academic merit by a committee named by the Deans of Arts and Science.

Value: \$2,500 for one year only.

Application: There are no application procedures. Further information can be obtained from the Offices of the Dean of Arts and Dean of Science.

DELTA KAPPA GAMMA - DR. MILDRED BURNS AWARD FOR LEADERSHIP IN EDUCATION

Established in 2001 by the Delta Kappa Gamma Society in honour of Dr. Mildred Burns, a retired associate professor of the Faculty of Education. Awarded by the Faculty of Education Graduate Studies Scholarships Committee to a student upon graduation who has completed an M.A. in Educational Studies leadership option, on the basis of academic excellence. Preference shall be given to a female student, if two or more equally qualified students are identified. The student should have two or more years of relevant professional experience in the educational field.

Value: Minimum \$500.

DELTA UPSILON MEMORIAL SCHOLARSHIP

Founded by the McGill Chapter of the Delta Upsilon Fraternity in memory of its members who gave their lives in the Boer War, the Great War of 1914-18, and the Second War of 1939-45.

Eligibility: Open to students who have received an undergraduate degree from McGill University in any faculty and tenable for graduate study at any recognized university. The necessary CGPA is 3.5 or above.

Value: Average of \$5,000 (awards of lesser value may be made in certain cases).

Deadline: February 1.

Application: Forms and additional information are available from the GPSO Fellowships and Awards Web site at:

www.mcgill.ca/gps/fellowships. (Same form as Mackenzie King Open and Travelling Scholarships).

EBEN HOPSON FELLOWSHIP FOR STUDY AT MCGILL

Established through a 1988 donation from the North Slope Borough of Alaska in honour of Eben Hopson, Mayor of the North Slope Borough from 1972 to 1980, to advance the pursuit, promotion and sharing of knowledge in areas of common interest and relevance to the scientific, social and economic development, and the greater welfare of the North Slope Borough and the counties of the Circumpolar North.

Eligibility: Awards will be made for graduate studies at McGill in appropriate areas of Arctic studies, including but not necessarily limited to environmental problems within the Arctic regions, Arctic archaeology and prehistory, social problems of the Arctic (development, impact assessment studies, psychology, rural education, etc.), Arctic health and medicine, communications, indigenous Native Peoples (rights, languages and traditional culture), Humanities and Social sciences and Natural Sciences.

Value: \$6,000. Awards are renewable for a second year for Masters studies and up to a fourth year for Doctoral Studies.

Deadline: To the department in which the applicant intends to study, by March 1.

Application: Application information is available from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships.

JOHN WILLIAMSON FREDERICK PEACOCK MEMORIAL SCHOLARSHIP

Established in memory of Flight Lieutenant John Williamson Frederick Peacock, a member of the Delta Upsilon Fraternity, who was killed in action over Normandy in 1944.

Eligibility: Open to students who have received an undergraduate degree from McGill University in any faculty and tenable for graduate study at any recognized university. The necessary CGPA is 3.5 or above.

Value: Average of \$5,000 (awards of lesser value may be made).

Deadline: February 1.

Application: Forms and additional information are available from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships. (Same form as Mackenzie King Open and Travelling Scholarships).

NORTHERN SCIENTIFIC TRAINING PROGRAM

Eligibility: The Northern Scientific Training Program administers grants to graduate and undergraduate students to help cover the field expenses of working in the North. Program funding is

derived from the Department of Indian and Northern Affairs, Ottawa.

Value: Approximately \$3,000, awarded for one year only.

Deadline: November 15.

Application: Northern Scientific Training Program, c/o Professor W. Pollard, Department of Geography, McGill University.

RICHARD H. TOMLINSON FELLOWSHIPS IN UNIVERSITY SCIENCE TEACHING

Established in 2003 by a generous gift from Dr. Richard H. Tomlinson, Ph.D. 1948. The awards are for outstanding graduate and postdoctoral students in the Faculty of Science and other faculties, who will be engaged in research in the teaching of science at the university level. Awarded by the Dean of Science on the basis of academic merit upon recommendation from the Director of the Tomlinson University Science Teaching Project.

Professors in the Faculty of Science and other faculties will nominate candidates to the Director of the Tomlinson University Science Teaching Project, who will forward recommendations to the Dean of Science.

Value: Minimum \$17,500; renewable.

SIR YUE-KONG PAO FELLOWSHIPS

Established in 2002 by Anna Pao Sohmen, M.S.W. 1969, in honour of her father, Sir Yue-Kong Pao. Awarded by the GPSO to outstanding graduate students on the basis of academic merit.

Preference shall be given first to students from Ningbo University, and, secondarily, to students from the People's Republic of China.

Value: \$25,000.

THOMAS AND WILLA FERGUSON SMYTHE FELLOWSHIP

Eligibility: Founded by a bequest of the late Thomas Harold Smythe for students in any discipline from Botswana, Lesotho, Malawi, Namibia, South Africa, Swaziland, Zambia or Zimbabwe who intend to return to their countries upon completion of their studies in Canada. A strong preference is given to incoming students. Candidates must have been formally granted admission to a McGill graduate program at the time of nomination.

Value: Minimum of \$7,000 plus tuition fees at the non-privatized rate; renewable once.

Deadline: March 30 by McGill department.

Application: There is no application form, since this fellowship is based on department nominations.

5.2 Medical and Health Sciences**5.2.1 Various Medical Science Units**

ALBERT A. BUTLER AWARD IN ORTHOPAEDICS

Established in 2001 by Kaye Takamatsu-Butler in memory of Dr. Albert A. Butler, M.D., C.M. 1935. The award will be used to support residents doing research in the field of orthopaedics and/or postgraduate orthopaedic training at McGill. This support can include travel funds for residents to attend conferences, the purchase of research equipment and acknowledgement gifts such as book prizes. Awarded by the Program Director of the McGill Orthopaedic Surgery Residency Program in consultation with the Associate Dean of Postgraduate Medical Education.

Value: Maximum \$6,550.

ALEXANDER MCFEE FELLOWSHIP

Eligibility: Open to graduates of any approved university who are resident full-time candidates for higher degrees or diplomas at McGill. The award will be made in Physics, Chemistry, and Medical Sciences (with preference for cancer research).

Value: \$10,000.

ARTHUR S. HAWKES FELLOWSHIP

Established in 2000 through a generous bequest by Dr. Arthur S. Hawkes, Ph.D. 1945. Awarded by the Faculty of Medicine to an outstanding student in the Department of Biochemistry.

Value: Minimum \$5,000.

CHARLES JAMES PATTON, M.D., AND ELIZABETH ROSS PATTON MEMORIAL PRIZE

Eligibility: Established in 2003 by a bequest from Charles Francis Patton in memory of his parents, Charles James Patton, M.D., and Elizabeth Ross Patton. awarded by the postgraduate awards committee to an outstanding graduate student for excellence in medical research.

Value: Minimum \$400.

DEFI CORPORATIF CANDEREL STUDENTSHIP AND FELLOWSHIP

Eligibility: Open to Ph.D. and post-doctoral fellow candidates within their first year of working with staff of the McGill Cancer Centre and/or the Division of Research, Department of Oncology at McGill.

Application: Candidates must submit a C.V. with publications, letters of reference and an outline of their proposed project with investigator's name to: Dr. Michael L. Tremblay, McGill Cancer Center, 3655 Promenade Sir William Osler, Montreal, Quebec H3G 1Y6.

Value: \$10,000 Studentships – \$15,000 Fellowships. One year support in both cases.

DR. BENJAMIN SHORE PRIZE IN PLASTIC SURGERY

Established in memory of Dr. Benjamin Shore, M.D., C.M. 1965.

Eligibility: This prize will be awarded annually to a resident training in one of the McGill teaching hospitals who demonstrates outstanding performance in the Plastic Surgery Program. This prize will be used to fund travel to a national or international meeting in the field of plastic surgery or for special support of a resident doing research in plastic surgery. The Prize will be awarded by the Program Director of the Plastic Surgery Training Program in consultation with the Associate Dean of Post-graduate Medical Education.

Value: \$2,500.

DR. GERALD B. PRICE MEMORIAL AWARDS

Three awards, established in 2004, by family and friends, to honour Dr. Gerald B. Price's memory and his many contributions as Director of the Division of Experimental Medicine.

Eligibility: Awarded by the Division of Experimental Medicine on the basis of merit, through an annual competitive process, to students enrolled in the 2nd or 3rd year of the Ph.D. program in the Division of Experimental Medicine. The awards will be used to enhance the students' graduate training by providing travel funds for the presentation of a scholarly contribution at a scientific conference. The amount of the award is expected to be matched by the awardee's supervisor.

Value: \$650 each.

DR. PREMYSL "MIKE" PELNAR ACADEMIC ENRICHMENT AWARD

Established through a generous anonymous donation honouring Dr. Premysl Pelnar, a renowned occupational health physician.

Eligibility: Awarded to graduate students of the Department of Occupational Health to further their training and professional activities in the field of occupational health. Awarded by the Chair of the Department upon consultation with the Faculty.

Value: \$300 - \$600 per year.

F.C. HARRISON FELLOWSHIPS

Eligibility: These fellowships will be awarded on the basis of (1) academic achievement, (2) demonstrated research aptitude, (3) financial need. All registered and prospective full-time graduate students may apply for these awards.

Value: The Fellowships Committee of the Department of Microbiology and Immunology will award annual fellowships of up to \$5,000 to deserving candidates for graduate degrees in the Department.

Deadline: Completed application forms should be returned to the Fellowships Committee before June 1.

GEDDES PRIZE IN BIOMEDICAL ENGINEERING

Dr. L.A. Geddes (B.Eng. 1945; M.Eng. 1953; Hon.D.Sc. 1971) established an annual prize in Biomedical Engineering at the discretion of the Chair of the Department of Biomedical Engineering.

HARRY SHANKMAN SCHOLARSHIPS

A bequest from the late Annette Shankman Rieder in honour of her brother Harry Shankman, M.D., provides annual scholarships for meritorious medical students in the M.D./Ph.D. program. Awarded by the Faculty of Medicine Scholarships Committee, on the recommendation of the M.D./Ph.D. Program Director.

Value: Minimum \$3,000 each.

ISAAK WALTON KILLAM SCHOLARSHIPS/ JEANNE TIMMINS FELLOWSHIPS (NEUROSCIENCES)

Eligibility: The Montreal Neurological Institute offers fellowships for research and study in the fields of the clinical and basic neurosciences. Candidates must hold an M.D. or a Ph.D. degree. Those candidates with M.D. degrees will ordinarily have completed clinical studies in neurology or neurosurgery.

Value: Initial appointments will be for one year with a maximum value of \$25,000 (Canadian) with possible renewal.

Deadline: Receipt of application is October 15 for a fellowship commencing July 1 of the following year.

Application: Awards will be made on a strictly competitive basis. Apply in writing to the Assistant to the Director of the Montreal Neurological Institute.

JAMES FROSST FELLOWSHIP

Established in 1990 by the Department of Pharmacology and Therapeutics through a donation from Merck Frosst Canada Inc.

Eligibility: Primarily awarded by the graduate training committee to an outstanding international applicant to the program.

Value: \$10,000.

Deadline: All international applicants conditionally accepted to the program prior to May 1 are considered for the Fellowship.

JUDITH MAPPIN FELLOWSHIP IN WOMEN'S HEALTH

Established in 2002 by Judith Mappin, B.Sc. 1950, for an outstanding graduate student in the Faculty of Science's Department of Psychology pursuing research in Women's Health.

Eligibility: Awarded by the Department of Psychology upon the basis of academic merit.

Value: Minimum \$20,000: renewable.

MCGILL UNIVERSITY - MONTREAL CHILDREN'S HOSPITAL RESEARCH INSTITUTE FELLOWSHIPS

The McGill University - Montreal Children's Hospital Research Institute offers a limited number of post-doctoral and research fellowships.

Eligibility: Medical, dental or doctoral graduates undertaking full time training in pediatric research. Candidate must be supervised by an investigator with formal primary affiliation with McGill University - Montreal Children's Hospital Research Institute.

Deadline: December 1 for an April 1 or July 1 commencement date.

Value: Based on CIHR guidelines with respect to employment under grants.

Application: Forms are available from the Secretariat of the Research Institute, 4060 Sainte-Catherine Street West, Room 205, Montreal, Quebec, H3Z 2Z3

MCGILL UNIVERSITY - MONTREAL CHILDREN'S HOSPITAL RESEARCH INSTITUTE STUDENTSHIPS

The McGill University-Montreal Children's Hospital Research Institute offers a limited number of studentship awards.

Eligibility: Master's or doctoral level students conducting pediatric research. Candidates must be supervised by an investigator with a formal primary affiliation with the McGill University - Montreal Children's Hospital Research Institute.

Deadline: April 1 for a July 1 commencement date.

Value: \$14,000 per annum.

Application: Forms available from the Secretariat of the Research Institute, 4060 Sainte Catherine Street West, Room 205, Montreal, Quebec, H3Z 2Z3.

MELVILLE PRIZE IN PHARMACOLOGY

Established to honour Professor Kenneth I. Melville who was Chairman of the Department of Pharmacology and Therapeutics from 1953 to 1967 and Professor Emeritus from 1967 until his death in 1975.

Eligibility: Awarded annually to two graduate students: one senior, one junior; and Post Doctoral Fellow whose research presentation at the annual Pharmacology Research Day (or equivalent occasion) is judged by an *ad hoc* advisory committee to be the best.

Value: \$400/\$200/\$100.

MONTREAL LEAGUE FOR THE HARD OF HEARING AWARD

Established by a gift from the Montreal League for the Hard of Hearing Inc. for students in training.

Eligibility: Candidates must be enrolled at the graduate level in the School of Communication Sciences and Disorders doing work in the area of hearing impairment. Awarded by the School.

Value: \$1,000.

PERCY HERMANT FELLOWSHIPS IN OPHTHALMOLOGY

This fellowship, established by Mr. Percy Hermant, is divided among the first-year residents in ophthalmology.

Eligibility: Candidates must be graduates in Medicine of McGill or other approved medical schools, must be commencing the study of Ophthalmology at McGill and must be planning to practice this specialty in Canada.

Application: Apply to the Chair, Department of Ophthalmology, McGill University.

PRESTON ROBB FELLOWSHIP

Eligibility: Established in 1994, awarded on a strictly competitive basis by the Montreal Neurological Institute (MNI) to support the training of a clinical fellow to work jointly with one of its basic and one of its clinician scientists. Candidates must have an M.D. degree with clinical studies in neurology or neurosurgery.

Value: Initial appointments, one year to a maximum value of \$25,000.

Deadline: October 15 to MNI for a fellowship commencing July 1 of the following year.

Application: Application forms are available from the Director's Office, MNI.

ROLANDE AND MARCEL GOSSELIN GRADUATE STUDENTSHIPS

Eligibility: Established in 2003 by a bequest from Rolande Dubreuil Gosselin. Awarded by the Faculty of Medicine's Postgraduate Awards Committee to two Ph.D. students undertaking cancer research under the direction of a member of the McGill Cancer Centre.

Value: Minimum \$12,500 each.

ROWLAND C. FRAZEE POST GRADUATE FELLOWSHIP IN NEUROMUSCULAR DISEASES

Established in 1988 to honour Rowland Frazee's distinguished career with the Royal Bank of Canada and community service, to promote research into and the development of innovations of home and ambulatory treatment of young people with muscular dystrophy and other degenerative neuromuscular diseases.

Eligibility: Post-graduate (residency) physicians in the Department of Pediatrics with specialty training in pediatrics or a related discipline.

Value: \$10,000 per annum for five years.

Application: The fellowship will be administered by the Faculty of Medicine and the recipient will be selected by the Chair and senior members of the Department of Pediatrics in consultation with the Dean of the Faculty of Medicine.

SAMUEL S. LERNER MEMORIAL AWARD

Established in 2002 by a bequest from Grace Bernice Lerner in memory of her husband, Samuel S. Lerner.

Eligibility: Awarded by the office of the Associate Dean, Graduate Studies and Research of the Faculty of Medicine, to outstanding graduate students pursuing cancer research.

Value: Minimum \$250.

SIR EDWARD W. BEATTY MEMORIAL SCHOLARSHIPS FOR MEDICAL STUDENTS

Eligibility: Awarded annually to students of any nationality.

Applies to students registered in the M.D., C.M./Ph.D. program.

Value: Two scholarships, not necessarily of equal value.

Application: More information can be obtained by contacting the office of the Associate Dean, Medical Education and Student Affairs.

THEODORE SOURKES PRIZE

Established in 1992 by the Department of Pharmacology and Therapeutics in honour of Professor Theodore Sourkes.

Eligibility: Awarded annually to recognize outstanding contribution by a graduate student in the Department of Pharmacology and Therapeutics, as judged from a paper published in a peer-reviewed journal. Awarded by the Department to a student currently in the program or having graduated within a year.

Value: \$500.

5.2.2 Faculty of Medicine: Internal Studentships

The following studentships are open to full-time graduate students at McGill who have completed six months of research and study towards their degree. They are awarded upon recommendation of the Postgraduate Awards Committee of the Faculty. Information regarding these studentships is sent to departmental chairs by January of each year. Deadline for submission of applications is generally the first week in March. Further information can be obtained from the office of the Associate Dean, Graduate Studies and Research, Faculty of Medicine.

CLAUDE J.P. GIROUD BURSARY IN ENDOCRINOLOGY

Eligibility: Established by a bequest from Alix Auzolle Giroud in memory of her son, Dr. Claude J.P. Giroud, former professor of Experimental Medicine at McGill. Awarded on a competitive basis to a full-time graduate student pursuing research in Endocrinology.

DR. ARTHUR H. JUDSON FELLOWSHIPS

Established by a bequest from Frances Catherine Judson in memory of her husband. To be awarded by the Faculty of Medicine Postgraduate Awards Committee to graduate students as part of the Faculty of Medicine's internal studentships.

Value: \$10,500.

DR. JOHN A. LUNDIE RESEARCH FELLOWSHIP

Established in 2003 by a bequest by Dr. John A. Lundie for a graduate student pursuing cancer research.

Eligibility: Awarded by the Faculty of Medicine's Postgraduate Awards Committee. Preference shall be given to candidates pursuing research in the causes and/or cure of cancer.

Value: \$6,000.

ELAINE BÉLANGER GRADUATE STUDENTSHIP IN MEDICAL RESEARCH

Established in 2003 by a bequest from Elaine Bélanger for a graduate student pursuing medical research. Awarded by the Faculty of Medicine's Postgraduate Awards Committee.

Value: minimum \$6,500.

ELIZABETH STEFFEN MEMORIAL AWARD

Eligibility: Established in 1995 by a bequest of the late Elizabeth Steffen (M.D. 1945) and awarded by the Faculty of Medicine to contribute to the support of a full-time graduate student pursuing research in the Faculty of Medicine.

ESTHER CUSHING FELLOWSHIP

Eligibility: Established in 1992 for a student working towards a Master's or doctoral degree in the Faculty of Medicine.

F.S.B. MILLER MEMORIAL FUND

Eligibility: Established in 1982 to provide support for Genetic and Viral research in Neurobiology.

G. RUTHERFORD CAVERHILL FELLOWSHIP

Eligibility: Established in 1943 by Mrs. Rutherford Caverhill for full-time graduate study and training in the Department of Medicine.

GEORGE G. HARRIS FELLOWSHIP IN CANCER

Eligibility: Established in 1962 by a bequest of George G. Harris to provide a fellowship in Cancer Research.

GERSHMAN MEMORIAL SCHOLARSHIP FUND

Eligibility: Established in 1965 to record the bequest of funds from the Estate of Fannie Gershman as a memorial to her late husband Mr. Icko Gershman and herself. The income from this endowment is to be used for scholarships in the field of cancer research.

GORDON PHILLIPS FUND FOR RESEARCH IN CARDIOVASCULAR DISEASES

Eligibility: This fund provides a scholarship open to graduate students involved in cardiovascular research.

HARRISON WATSON SCHOLARSHIP

Eligibility: Established in 1953 by a bequest from the late Harrison Watson and Ruth Appleton Watson in memory of their only son, Captain Aubrey Wentworth Harrison Watson, D.S.O., M.C. The purpose of the scholarship is to encourage research into the causes and cures of tuberculosis and other diseases of an allied character.

HUGH E. BURKE RESEARCH FUND

Eligibility: Established in 1972 for medical research with preference given to requests for financial assistance for full-time graduate students.

IRMA H. BAUER RESEARCH FUND

Eligibility: The income from a bequest by the late Irma H. Bauer to be used for the support of a full-time graduate student doing research in the field of epilepsy.

J.P. COLLIP FELLOWSHIP IN MEDICAL RESEARCH

Eligibility: Fellowships are awarded for studies at McGill in Anatomy and Cell Biology, Bacteriology, Biochemistry, Histology, Pathology, Pharmacology or Physiology. Candidates must be full-time graduate students (M.Sc. or Ph.D.) in one of these subjects.

JAMES O. AND MARIA MEADOWS SCHOLARSHIP

Eligibility: Established to support graduate research preferably in the field of cancer, but worthy candidates working in other areas of medical or surgical research will also be considered.

JEANNETTE AND ABRAM VICTOR MEMORIAL SCHOLARSHIP

Eligibility: Open to full-time graduate students who are principally engaged in research on the physiology of the heart or its diseases.

JOHN MCCRAE FELLOWSHIP

Eligibility: Intended for graduate students of any approved medical school in the fields relating to surgery, urology, otolaryngology, radiology, etc.

MAYSIE MACSPORRAN GRADUATE STUDENTSHIPS

Established in 2002 by Maysie MacSparran, B.A. 1927, in memory of Esther Cushing and her parents, Dr. Frank R. England and Dr. Octavia Grace Ritchie England.

Eligibility: Awarded by the Faculty of Medicine's Postgraduate Awards Committee to top-ranked students in the official training programs in each of the Canadian Institutes of Health Research.
Value: Minimum \$9,000 each.

JOSEPH SCHUBERT MEMORIAL SCHOLARSHIP

Eligibility: For graduates of any approved medical school who are principally engaged in full-time graduate studies on the physiology of the heart or its diseases.

RUTH AND ALEX DWORKIN SCHOLARSHIP

Eligibility: Established in 1989, the Ruth and Alex Dworkin Fund will provide scholarships to students, doing postgraduate work in the field of oncology, who would not be able to pursue their studies in the absence of financial assistance. Students will be selected by the Postgraduate Awards Committee.

SAMUEL LUPOVITCH MEMORIAL SCHOLARSHIP

Eligibility: Open to full-time graduate students who are principally engaged in research on the physiology of the blood or its diseases.

5.2.3 Dentistry**DR. AND MRS. I.N. PESNER MEMORIAL PRIZE**

Established in 2001 by a bequest from Dr. Isidore N. Pesner, D.D.S. 1920, and Mrs. I.N. Pesner, to fund a graduate student prize in the Faculty of Dentistry. Awarded by the Faculty of Dentistry to an outstanding graduate student already in a residency or post graduate program, who will be presenting a paper at a national or international scientific meeting.

Value: Minimum \$500.

DR. E.T. & MRS. MARJORIE BOURKE AWARD

Established by a bequest from Marjorie Bourke in memory of her husband, Dr. E.T. Bourke, DDS, class of 1923.

Eligibility: Awarded by the Faculty of Dentistry to a student pursuing graduate studies in dentistry.

Value: Minimum \$1,800.

DR. LYON BERCOVITCH MEMORIAL AWARD

Established by a bequest from Olga Bercovitch in memory of her husband, Dr. Lyon Bercovitch, D.D.S., class of 1914.

Eligibility: Awarded by the Faculty of Dentistry to a student pursuing graduate studies in dentistry.

Value: Minimum: \$1,800.

DR. SOO KIM LAN PRIZE IN DENTISTRY**蘇金蘭醫生獎學金**

Established in 2000 by Arthur Lau, B.Arch 1962 and Crystal S.C. Lau, B.Sc. 1962, M.Sc. 1964, for graduate students in the Faculty of Dentistry to an outstanding graduating student who is entering a Residency or Post Graduate Program,

Value: Minimum \$500.

DR. WAH LEUNG FELLOWSHIP**梁甦華牙醫獎學金**

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in honour of Dr. Wah Leung, the first Dean of Dentistry at the University of British Columbia.

Eligibility: Awarded by the Faculty of Dentistry to an entering postdoctoral, doctoral or master's student in the Faculty of Dentistry who is working in pain, oral cancer or bone tissue research.

Value: Minimum \$20,000. Renewable once at the master's level and twice at the postdoctoral and doctoral levels.

DR. YU-MING LAM FELLOWSHIP

Established in 1999 by a generous gift from Dr. Yu-Ming Lam (DDS 1972) and family in honour of Mr. Yin-Bun Lam.

Eligibility: Awarded by the Faculty of Dentistry to an entering postdoctoral, doctoral or master's student in the Faculty of Dentistry.

Value: \$10,000, tenable for one year.

HONG KONG FELLOWSHIP IN DENTISTRY

Established in 2002 by a generous gift from a McGill graduate from Hong Kong. The fellowship will be awarded to an outstanding student who has graduated from a Chinese university and is entering a Postdoctoral, Ph.D. or M.Sc. program of study in the Faculty of Dentistry. Awarded by the Dean of the Faculty in consultation with the Graduate Studies Committee. The recipient will be someone who can be expected to make a significant contribution to the advancement of science in their home country after the completion of their studies.

Value: Minimum \$25,000.

5.2.4 Nursing

In addition to the following, several private corporations also provide funding (e.g., The Heart and Stroke Foundation). Students should consult the Director, School of Nursing, 3506 University Street, Montreal, Quebec, H3A 2A7

ALUMNAE ASSOCIATION OF THE MCGILL SCHOOL OF NURSING SCHOLARSHIP

Eligibility: Scholarships are available for students in graduate programs.

Value: Minimum of \$1,000 per award prorated by student status.

Deadline: Applications should be submitted by September 30.

Application: To the Chair of the Scholarship Committee, Alumnae Association, School of Nursing, 3506 University Street, Montreal, Quebec, H3A 2A7.

CANADIAN NURSES FOUNDATION FELLOWSHIP

Members of the Canadian Nurses Foundation and Canadian Nurses Association may apply for awards for study at the baccalaureate, master's and doctoral level. Special awards are identified for neuro-surgical, oncology, community health nursing, epidemiology, etc.

Eligibility: Applicants must be registered in a program and be willing to serve in a nursing position in Canada for one year for each academic year funded. Quebec applicants must apply for licensure in another Canadian province or territory in order to apply for a Fellowship.

Deadline: April 15.

Application: Apply to the Canadian Nurses Foundation, 50TheDriveway, Ottawa, Ontario, K2P 1E2 after November 1.

CORPORATION OF NURSES OF THE DISTRICT OF MONTREAL BURSARY

Bursaries are awarded yearly for study leading to a Master's degree or to a doctorate in nursing.

Application: For further information re: application, please write to: Corporation of Nurses of the District of Montreal, 666Sherbrooke Street W., Suite 1004, Montreal, Quebec, H3A1E7.

F. MOYRA ALLEN PRIZE

Established in 1987 in honour of Dr. F. Moyra Allen, B.N. (1948), Emeritus Professor of Nursing 1985, for her distinguished career and international renown.

Eligibility: Awarded by the School to a graduating student in the Master's program who shows potential for a distinctive career in the study and practice of nursing.

Value: 800.

IRMA K. RILEY AWARDS

Established through a bequest from Irma K. Riley, Cert. Nurs. 1951. Awarded on the basis of scholarly achievement by the

School of Nursing to outstanding non-nurse applicants entering the Qualifying program for a Master's degree in Nursing.

Value: Minimum \$2,800 each.

NESSA LECKIE MEMORIAL AWARD

Established in 2001 through a generous bequest from Nessa Leckie, B.N. 1961. Awarded by the School of Nursing to an outstanding student enrolled in the Master's program whose major focus is mental health or psychiatric nursing, who is working or has previously worked in the nursing field in an area relating to mental health or psychiatric nursing or who has demonstrated clinical expertise in this area. Not open to students in the Qualifying Year of the direct entry program.

Value: Minimum \$2,500.

ORDER OF NURSES OF QUEBEC BURSARIES

Value: Eight bursaries of \$10,000 are awarded each year to nurses for studies leading to a Master's degree or to a doctorate degree in nursing.

Deadline: March 15.

Application: To the Ordre des infirmières et infirmiers du Québec, Secretary of the Committee on Bursaries, 4200 Dorchester Blvd West, Westmount, Quebec, H3Z 1V4.

ROYAL VICTORIA HOSPITAL SCHOOL OF NURSING ALUMNAE ASSOCIATION BURSARY

Bursaries are available for graduates of the Royal Victoria Hospital, School of Nursing, who have been accepted into an approved University program.

Application: For further information apply to the Alumnae Office, Nurses' Home, Royal Victoria Hospital, 687 Pine Avenue West, Montreal, Quebec, H3A 1A1.

ST. JOHN AMBULANCE (ORDER OF ST. JOHN) OF CANADA BURSARIES

Eligibility: Available to experienced registered nurses preparing for leadership positions. Preference will be given to qualified applicants who are volunteers with St. John Ambulance.

Value: One bursary of \$1,000 from the Margaret MacLaren Memorial Fund for studies at the Master's level.

Deadline: February 15.

Application: Apply to the Chair of Bursary Funds, St. John Ambulance, National Headquarters, 312 Laurier Avenue East, Ottawa, Ontario, K1N 6P6.

W.K. KELLOGG FOUNDATION LOAN FUND

Value: This fund was established to assist students who have unexpected expenses while registered in courses at the School of Nursing.

Application: Consult the Director, Student Aid Office, Brown Student Services Building, 3600 McTavish Street, Montreal, Quebec, H3A1Y2.

5.2.5 Physical and Occupational Therapy**BARBARA ROSENTHAL PRIZE**

Established in 1992 as a tribute to Barbara Rosenthal's long-standing affiliation with the School of Physical and Occupational Therapy and her devoted years of service to the practice of occupational therapy.

Eligibility: Awarded to a full-time student in the Master's program in Rehabilitation Science with preference being given to an occupational therapist. The prize will be given by the School of Physical and Occupational Therapy on the basis of high academic standing during the first year of the program.

Value: \$225.

BOURSE DE RECHERCHE ANNE LANG ETIENNE

Value: \$1000. Offered to occupational therapists pursuing a Master's or Ph.D. degree who are full members of the Ordre des ergothérapeutes du Québec (OPEQ).

Application: August 15 - September 15. For further information contact the Ordre des ergothérapeutes du Québec, 2021 Union

Street, Suite 920, Montreal, H3A 2S9, Tel: (514) 844-5778, Fax: (514) 844-0478, E-mail: ergo@oeq.org, Web site: www.oeq.org.

BOURSE DE RECHERCHE EN MILIEU CLINIQUE ET BOURSE D'ÉTUDES SUPÉRIEURES

Eligibility: Offered to physiotherapists and also those registered in the Master's program.

Deadline: September 30.

Value: \$2,000 (Graduate Studies) and \$1,500 (Research).

Application: Apply to L'Ordre des physiothérapeutes du Québec, 7101 Jean-Talon est, bureau 1120, Anjou, Québec, H1M 3N7, Tel: (514) 351-2770, Toll free: 1-800-361-2001, Fax: (514) 351-2658, E-mail: physio@oppq.qc.ca, Web site: www.oppq.qc.ca.

JUDITH KORNBLOTH-GELFAND GRADUATE FELLOWSHIP

Established by her husband and Dynamic Capital Corporation as a tribute to Judith Kornbluth-Gelfand (Dip.Phys.Ther., class of 1958), in recognition of her interest in children suffering from neurological and neuromuscular disorders.

Eligibility: Awarded by the School of Physical and Occupational Therapy to an outstanding graduate student conducting research studies to improve the efficacy of physiotherapeutic rehabilitation with preference to pediatrics, neurological and neuromuscular disorders.

Value: \$2,000.

KAVITA KULKARNI MEMORIAL PRIZE IN REHABILITATION SCIENCE

Established in 2002 by family, friends and the Jewish Rehabilitation Hospital (JRH) Foundation in memory of Kavita Kulkarni, B.Sc.(Phys.Ther.) 2001. Kavita was an outstanding student in the School of Physical and Occupational Therapy whose sudden and tragic death was mourned by all who knew her.

Eligibility: Awarded by the School of Physical and Occupational Therapy on the basis of high academic standing excellence to an outstanding graduate student enrolled in a full-time degree program in the School. Preference shall be given to students pursuing research in Rehabilitation Science at the JRH.

Value: Minimum \$750.

MARGHERITA RAPAGNA MEMORIAL PRIZE IN REHABILITATION SCIENCE

Established in 2002 by family, friends and the Jewish Rehabilitation Hospital (JRH) Foundation in memory of Margherita Rapagna. Margherita was an outstanding student in the School of Physical and Occupational Therapy whose sudden and tragic death was mourned by all who knew her.

Eligibility: Awarded by the School of Physical and Occupational Therapy on the basis of high academic standing excellence to an outstanding graduate student enrolled in a full-time degree program in the School. Preference shall be given to students pursuing research in Rehabilitation Science at the JRH. **Value:**

Minimum \$500.

PATRICIA ANN MACDONALD WELLS VAN DAELE MEMORIAL AWARD

Established in 2003 by family, friends and colleagues of Patricia Ann MacDonald Wells Van Daele as well as graduates of the School of Physical and Occupational Therapy.

Eligibility: Awarded by the School of Physical and Occupational Therapy to students enrolled in the School's professional programs or to post-baccalaureate physical and occupational therapists registered in the Master's programs in Rehabilitation Science, in recognition of an outstanding clinical, community-based, or research project related to the aging population and/or clinical education.

Value: \$500.

5.3 Natural Sciences and Engineering

5.3.1 Various Agricultural and Biological Sciences Units

AJINOMOTO HEARTLAND/HALCHEMIX SCHOLARSHIP

Eligibility:

Awarded to a graduate student in animal and poultry science who is conducting research in the field of amino acids in the nutrition of monogastric livestock. Preference will be given to a Ph.D. candidate.

Eligibility: Awarded by the Faculty of Agricultural and Environmental Sciences Scholarships Committee on the recommendation of the Department of Animal Science.

Value: \$500.

AMY WONG BIOTECHNOLOGY AWARD

黃辛炯僖夫人生物技術獎

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959) from Hong Kong.

Eligibility: Awarded to the Institute of Parasitology to a qualified student from China, including Hong Kong, who is an outstanding entering student to the Biotechnology Graduate Certificate Program. The recipients are expected to return to their home country after the completion of their studies.

Value: Minimum \$10,000.

AMY WONG FELLOWSHIP

黃辛炯僖夫人獎學金

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959) from Hong Kong.

Eligibility: Awarded to a qualified student from China, including Hong Kong, who is an entering postdoctoral fellow, Ph.D. or M.Sc. student conducting agricultural production/food related research in the Faculty of Agricultural and Environmental Sciences. Awarded by the Dean of the Faculty in consultation with the departments. The recipients are expected to return to their home country after the completion of their studies.

Value: Minimum \$20,000. Renewable once at the master's level and twice for postdoctoral or doctoral levels.

ARTHUR WILLEY MEMORIAL FELLOWSHIPS

Eligibility: New applicants to the M.Sc. or Ph.D. program; to be awarded on the recommendation of the Biology Department.

Value: \$2,500; non-renewable.

Application: An application for admission must be received in the Biology Department prior to March 1.

BLAIR POSTGRADUATE FELLOWSHIPS

Eligibility: Established through a bequest to the Faculty of Agricultural and Environmental Sciences from the Blair Farm estate, Chateauguay Valley. Awarded annually to a doctoral candidate whose research has a clear relationship to problems of Quebec farms, with preference for marginal farms in south-western Quebec. For the Department of Agricultural Economics, M.Sc. students are eligible.

Value: \$5,000; renewable for up to three years.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee. Candidates will be requested to provide a one-page statement explaining how their project relates to the fellowship.

CASPER W. OWEN FELLOWSHIP

Eligibility: Graduate students, both M.Sc. and Ph.D. level, enrolled or planning to enroll in Plant Science are eligible for this award but preference will be given to entering students. Applicants should have outstanding academic records or equivalent research experience.

Value: \$10,000 (two instalments); renewable once. The department will ensure that the holder of the fellowship has an academic income of at least \$16,000.

Application: Apply to the Department of Plant Science. Entering graduate students should submit their fellowship application with application for graduate studies.

CATHERINE FREEMAN FELLOWSHIP IN HUMAN NUTRITION

Established in 2002 by Catherine Freeman, B.H.S. 1941, for an outstanding graduate student in the School of Dietetics and Human Nutrition.

Eligibility: Awarded by the Faculty of Agricultural and Environmental Sciences Scholarships Committee on the recommendation of the School.

Award: Minimum \$10,000.

DR. AND MRS. MILTON LEONG FELLOWSHIP

梁家康 醫生夫婦研究生獎學金

Established in 1994 through a donation of Dr. Milton H.K. Leong, B.Sc. 1966, M.D., C.M. 1970, and Susanna S.C. Leong (Liang), B.Sc. 1969, M.Sc. 1973 to support academic exchanges between McGill and Chinese universities. Available to graduate students in the Faculty of Science, with preference to students from Nankai, Peking, and Tsinghua Universities.

Eligibility: Awarded by the GPSO on the recommendation of the Faculty of Science.

Value: \$15,000; renewable once.

Application: Students apply through the McGill Major Fellowships competition; see section 4.2, "McGill Major Fellowships (for continuing students only)".

E. MELVILLE DUPORTE AWARD

Established by an endowment to honour the late E. Melville DuPorte, B.S.A., S.Sc., Ph.D., and D.Sc., long-time Professor of Entomology at Macdonald College and a respected leader and researcher.

Eligibility: Awarded to a student demonstrating excellence in the first year of graduate studies in Entomology in the Department of Natural Resource Sciences.

Value: \$500.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

FREDERICK DIMMOCK MEMORIAL FELLOWSHIP

Established in 1988 by an endowment in memory of the late Frederick Dimmock, a graduate of Macdonald College (1923).

Eligibility: Awarded annually by the Plant Science Department to a postgraduate student pursuing an aspect of research on cereal crops.

Value: Approximately \$4,000.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

HUGH BAILY AWARD

Established through a legacy by Philip Pendlebury Baily (B.Sc. 1913, M.Sc. 1914) in memory of his brother, Hugh Reginald Dawson Baily (Agriculture 1916), the first member of the University to give his life in the war of 1914-18.

Eligibility: Awarded to a graduate student in an agriculture-related field through the Faculty of Agricultural and Environmental Sciences. Preference will be given to students completing their dissertation who require less than one year of support.

Value: \$750.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

JOHN AND ETHELENE GAREAU FELLOWSHIP IN SCIENCE

Established in 2002 by John, B.Sc. 1952 and Ethelene Gareau, for an outstanding graduate student pursuing environmental research in the Faculty of Science, Department of Biology.

Eligibility: Awarded by the Department of Biology on the basis of academic merit.

Value: \$10,000.

LEWIS A. FISCHER MEMORIAL BURSARY IN AGRICULTURAL ECONOMICS

Established through donations in recognition of Dr. Fischer's contributions to the Department of Agricultural Economics from 1959 to 1989.

Eligibility: Awarded to a graduate student in Agricultural Economics, based on academic achievement and financial need. Preference will be given to an international student.

Value: \$1,000.

Deadline: April 1.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee. For more information contact the Department of Agricultural Economics.

LYNDEN LAIRD LYSTER MEMORIAL FELLOWSHIP IN PARASITOLOGY

Established in 1972 by a bequest from the estate of Arthur J. Lyster in memory of his son.

Eligibility: Awarded by the fellowships committee of the Institute of Parasitology to new applicants for graduate studies in parasitology who are nominated by the academic staff of the Institute. The fellowship will be awarded on the basis of strong academic standing and financial need. With other considerations being equal, preference will be given to candidates from (a) the Eastern Townships; (b) the Province of Quebec; and (c) Canada – in that order. Should there be no suitable candidate from Canada, the award will be open to any resident of the British Commonwealth or suitable person.

Value: \$14,000.

MACDONALD CLASS OF '44 ROWLES GRADUATE BURSARY

Established by the Class of '44 in honour of William and Laura Rowles to recognize with respect the affection and friendship, which the Rowles have shared with Macdonald students and graduates through the years.

Eligibility: Awarded to Macdonald graduate students who are in good academic standing and have demonstrated financial need. Preference will be given to Canadian students.

Value: \$750.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

MARGARET DUPORTE FELLOWSHIPS

Established by a bequest of the late Margaret DuPorte, B.Sc. (Agr.) 1936.

Eligibility: Awarded to students in the M.Sc. or Ph.D. programs in the Department of Natural Resource Sciences for graduate studies in Entomology.

Value: \$8,000 (two instalments).

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

MARIAN AND RALPH SKETCH FELLOWSHIP

Established in 2001 through a bequest from Marian Howard Sketch, in memory of her husband, the late Ralph M. Sketch B.S.A. '31, to encourage and support a student from China studying in a program offered on the Macdonald Campus. Awarded by the Scholarships Committee, Faculty of Agricultural and Environmental Sciences; tenable for two years at the M. Sc. Level or three years at the Ph. D. level.

Value: \$15,000.

MARY LOUISE TAYLOR FELLOWSHIP

Established in 1994 through a donation of Mrs. Judy Mappin, B.Sc. 1950, in memory of her late sister Mary Louise Taylor, B.A. 1952.

Eligibility: Awarded by the GPSO. The fellowships may be held by students registered in any graduate program in the Faculty of Science at McGill, with preference given to women. No citizenship restrictions.

Value: \$15,000; renewable once.

Application: Students apply through the McGill Major Fellowships competition; see section 4.2, "McGill Major Fellowships (for continuing students only)".

"OLD SUN" ENTRANCE SCHOLARSHIP

Established in 1994 by Joy Harvie Maclaren, a 1944 Macdonald dietetics graduate, in recognition of the 50th anniversary of her graduation and in honour of her late father. Eric Harvie was made Honorary Chief Old Sun by the Blackfoot tribe of Alberta in recognition of his great interest in their native culture and making it possible for this to be recorded for future preservation. Chief Old Sun and Chief Crowfoot together signed Treaty No. 7 with the Canadian Government in 1874 for land, peace and education.

Eligibility: Preference to Canadian aboriginal students (alternatively students from Western Canada) who are entering studies in dietetics, human nutrition, or environmental sciences on the Macdonald Campus. Applicants must demonstrate academic achievement, community involvement, leadership and financial need. Undergraduate and graduate students will be considered.

Value: \$3,000 - \$9,000. May be renewed for a maximum of two years subject to satisfactory standing and full-time status.

Application: Awarded by the Faculty of Agricultural and Environmental Sciences Scholarships Committee, after department invitation of candidates to apply.

PHILIP CARPENTER FELLOWSHIP IN BIOLOGY

Established in 1892 by Mrs. Philip P. Carpenter to provide "a post-graduate teaching fellowship or scholarship in Natural Science or some branch thereof."

Eligibility: New applicants to the M.Sc. or Ph.D. program; to be awarded on the recommendation of the Biology Department.

Value: Two awards of \$2,000 each year.

Application: An application for admission must be received in the Biology Department prior to March 1.

PLANT SCIENCE POSTGRADUATE AWARD

This memorial award was established by the family and friends of the late Robert Klinck, a former student.

Eligibility: Awarded to a student who has successfully completed at least one year of post-graduate studies in the Department of Plant Science and who has demonstrated good citizenship in the Department.

Value: Approximately \$1,200.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

ROLAND LOISELLE PRIZE IN PLANT GENETICS

Established in 2000 in honor of Roland Loiselle (B.Sc. Agr. 1949, M.Sc. 1951).

Eligibility: Awarded by the Department of Plant Science to a graduate student who is conducting research in plant genetics. The award is renewable for one year in an M.Sc. program and two years in a Ph.D. program subject to satisfactory progress reports from the supervisory committee. The recipient must be a citizen or Permanent Resident of Canada.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

Value: Minimum \$1,500.

ROTARY CLUB OF MONTREAL INTERNATIONAL AGRICULTURAL AWARD

Established by the Rotary Club of Montreal in 1997 to provide opportunity for international students in agriculture to study at McGill.

Eligibility: Awarded to an international student for graduate level studies at the Macdonald Campus in the area of agriculture and food production. Preference will be given to entering students from Asia, Africa or the Caribbean, who require additional financial assistance and who intend to return to their home country to train others.

Value: \$5,000. Renewable for one year in the M.Sc. program and two years in the Ph.D. program.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

SIR VINCENT MEREDITH FELLOWSHIP IN AGRICULTURAL ECONOMICS

Eligibility: Offered to an outstanding student admitted to the graduate program in Agricultural Economics. The recipients of this fellowship may be expected to participate in the teaching program of the department.

Value: \$10,000 (two instalments) renewable once on the basis of satisfactory progress.

Deadline: April 1.

Application: Apply to the Department of Agricultural Economics. Entering graduate students should submit their fellowship application with application for graduate studies.

T.W.M. CAMERON AWARD IN PARASITOLOGY

Eligibility: Open to M.Sc. or Ph.D. graduates at the Institute of Parasitology on completion of their degree. Awarded for excellence in parasitology, demonstrated in the course of study at the Institute of Parasitology.

Value: A book prize.

Application: Nominations by a selection committee of the Institute of Parasitology.

VINEBERG FAMILY FELLOWSHIP

Established in 1990 by the family of Gertrude Vineberg to support research on environmental quality.

Eligibility: Awarded by the GPSO on the recommendation of the Executive Committee of the Limnology Research Centre to an outstanding student pursuing graduate studies and research on fresh water pollution, conservation and rehabilitation.

Value: \$8,000, non-renewable.

WALTER M. STEWART POSTGRADUATE SCHOLARSHIP IN AGRICULTURE

From a fund established by the late Walter M. Stewart.

Eligibility: Awarded annually to students studying at the post-graduate level at Macdonald Campus. Preference will be given to graduates of Quebec universities. If there are insufficient suitable candidates at the postgraduate level in a particular year, funds will be awarded to undergraduate students in the Faculty of Agricultural and Environmental Sciences who have achieved high academic standing.

Application: By departmental recommendation to the Faculty of Agricultural and Environmental Sciences Scholarships Committee.

Value: \$4,000 awards, totalling \$20,000.

WERNER GRAUPE INTERNATIONAL FELLOWSHIP

Established in 1999 by a generous gift from the Werner Graupe and the Antje Graupe Pryor Foundation.

Eligibility: Awarded by the GPSO to an international student from a German or French university, enrolling in a Master's or Ph.D. program in Engineering at McGill. Preference is given to students from German universities, particularly Technische Universität Berlin. Students in Chemical and Civil Engineering are not eligible.

Value: \$25,000; renewable.

WILFRED YAPHE AWARD

Established in 1986 by the Department of Microbiology and Immunology, in memory of Dr. Wilfred Yaphe, Professor in the Department from 1966 until his untimely death in 1986.

Eligibility: Granted upon recommendation of the Graduate Committee of the Department of Microbiology and Immunology, to one M.Sc. student and one Ph.D. student who were awarded their degrees during the academic year.

Value: \$250.

5.3.2 Chemical Engineering

WILLIAM H. GAUVIN FELLOWSHIP IN CHEMICAL ENGINEERING

Established in the memory of William H. Gauvin, O.C., B.Eng. (1941), M.Eng. (1942), Ph.D. (1945), D.Sc. (Hon.) (1985), former Professor of Chemical Engineering.

Eligibility: Awarded by the GPSO to a student in the first or second year of Ph.D. study upon recommendation of the Department of Chemical Engineering. No citizenship restrictions.

Value: Up to \$15,000; renewable once.

5.3.3 Chemistry

CANADIAN SOCIETY FOR CHEMISTRY - MONTREAL-2001 GRADUATE AWARD

Established in 2002 by the organizing committee of the CSC-Montreal 2001 conference to recognize excellence and distinguished academic standing by students in the Department of Chemistry.

Eligibility: Awarded by the Department of Chemistry to one or more outstanding graduate students to support expenses related to the presentation of a paper or papers at a major national or international conference.

Value: Minimum \$2,650.

CARL A. WINKLER AWARD IN CHEMISTRY

Made possible by the donations of his graduate students, colleagues, friends, and a matching gift by Polysar Limited.

Eligibility: Given annually to the Ph.D. candidate who upon graduating is judged to be of outstanding academic excellence.

Value: Approximately \$1,000.

Application: No applications necessary. Awarded by the Chemistry Department.

COLL MCFEE MEMORIAL SCHOLARSHIP

Established in 1968 from a bequest of the late Miss Julia Beatrice Anderson McFee in honour of her father, Coll McFee and her brother, Malcolm Charles Coll McFee, B.A. (1905), B.Sc. (1908), M.Sc.

Eligibility: To a student proceeding to the M.Ed. (Secondary Education) degree in Chemistry or a graduate of the McGill Chemistry Department who is proceeding to a M.Sc. or Ph.D. degree.

Value: Varies.

Deadline: June 1.

Application: Apply to the Chair, Department of Chemistry.

DAVID J. SIMKIN AWARD IN PHYSICAL CHEMISTRY

Established in 1998 in honour of D.J. Simkin, physical chemistry professor in the Department of Chemistry from 1969-1997.

Value: \$500.

Application: Awarded by the Department of Chemistry to a doctoral student at the beginning of the student's third year of doctoral studies in physical chemistry research on the basis of excellence in graduate course work and research.

PALL DISSERTATION AWARD

Established in 1997 by Dr. David Pall.

Value: \$6,000.

Application: No application necessary. Awarded by the Department of Chemistry to an outstanding doctoral student who is in the last six months of the Ph.D. program.

RICHARD T. MOHAN SCHOLARSHIP

Established in 1971 to honour the memory of the late Richard T. Mohan.

Eligibility: Awarded to a post-graduate student proceeding to the Ph.D. degree.

Value: Varies.

Application: No applications necessary. Awarded by the Chemistry Department.

ROBERT ZAMBONI PRIZE(S) IN CHEMISTRY

Established in honour of Dr. Robert Zamboni (Ph.D. in Chemistry 1979), a distinguished Medicinal chemist at Merck Frosst Centre for Therapeutic Research.

Eligibility: Awarded by the Department of Chemistry on an annual basis to graduate students who have demonstrated excellence in research for the dissemination of their research.

Value: Minimum \$300.

T. STERRY HUNT AWARDS IN CHEMISTRY

Value: Several \$400 awards for best demonstrating.

Application: No applications necessary. Awarded by the Chemistry Department.

UDHO, PARSINI, DIWAN AWARD IN CHEMISTRY

Established in 1994 by Mr. G.C. Kakar, Dr. A. Kakar, and Mr. P. Kakar in memory of family members. Awarded on the basis of the best research paper published in the calendar year by a graduate student in the Chemistry Department.

Eligibility: Recipients must be registered at the time of submission of the research paper for the competition.

Value: \$300.

Application: Awarded by the Department of Chemistry in January each year.

5.3.4 Earth and Planetary Sciences

ALEXANDER A. MCGREGOR FELLOWSHIP IN EARTH AND PLANETARY SCIENCES

Established by Mr. Alexander A. McGregor (B.Sc. McGill '48).

Eligibility: Awarded on recommendation of the Department of Earth and Planetary Sciences to an outstanding research student in any field of the earth sciences.

Value: \$10,000.

CARL REINHARDT SCHOLARSHIPS AND BURSARIES IN PHYSICS AND EARTH AND PLANETARY SCIENCES

Established from the estate of the late Carl Reinhardt.

Eligibility: To be used for scholarships or bursaries or in the support of research for graduate students in Physics, and Earth and Planetary Sciences. Awards are made by the Chair of the department concerned.

Value: Varies.

DAVID HARRIGAN MEMORIAL PRIZE

Established in 1980 by his classmates, friends and family in memory of David Harrigan (B.Sc. 1973, M.Sc.A. 1975).

Eligibility: Awarded by the Faculty of Science Scholarships Committee on the recommendation of the Department of Earth and Planetary Sciences to a student with high standing in the M.Sc. (Applied) course, or to a graduate or undergraduate student with an interest in geochemistry.

Value: \$600.

GERALDINE ELIZABETH DAVIDSON FELLOWSHIP

Eligibility: Established in 1989 by a bequest from Geraldine E. Davidson to support students with good academic standing and financial need registered in Graduate Studies and studying towards a higher degree in the field of earth and planetary sciences. Awarded by the Department of Earth and Planetary Sciences.

Value: \$6,000.

J.B. LYNCH FELLOWSHIP IN EARTH AND PLANETARY SCIENCES

Eligibility: For an outstanding student commencing or continuing postgraduate studies in Earth and Planetary Sciences. Awarded by the Department of Earth and Planetary Sciences.

Value: \$10,000.

JOHN STEVENSON MEDAL

Eligibility: Awarded on the Department's recommendation to the graduating student ranking first in the M.Sc.A. program in Mineral Exploration in the Department of Earth and Planetary Sciences.

LEROY MEMORIAL FELLOWSHIPS IN EARTH AND PLANETARY SCIENCES

Established by friends of Captain O.E. LeRoy (Arts, 1895), who was killed at Passchendale, in October 1917.

Eligibility: May be awarded annually to a student who desires to proceed with postgraduate studies in Earth and Planetary Sciences at McGill.

Value: \$7,000.

Application: Awarded by the Department of Earth and Planetary Sciences.

WILLIAM HENRY HOWARD SCHOLARSHIPS

Eligibility: Open to undergraduate and graduate students in Earth and Planetary Sciences.

Value: Two scholarships of \$1,500 each.

Bequeathed in 1955 by the late Mrs. Florence P. Howard in memory of her husband.

Application: Awarded by the Department of Earth and Planetary Sciences.

5.3.5 Mining, Metals and Materials Engineering**B.J. HARRINGTON BURSARY IN MINING ENGINEERING**

Supported by graduates in Mining Engineering in memory of the late Professor B.J. Harrington.

Eligibility: Awarded annually to a suitable graduate student.

Value: \$4,000.

HORACE G. YOUNG FELLOWSHIPS

Eligibility: Awarded to graduates of McGill University who are conducting advanced research in the Department of Mining and Metallurgical Engineering.

Value: Seven awards of \$3,000 each are made annually.

Application: Awarded by the GPSO on the recommendation of the Chair of the Department of Mining, Metals and Materials Engineering.

JAMES DOUGLAS FELLOWSHIPS IN MINING ENGINEERING

Eligibility: Awarded annually to suitable graduate students.

Value: Five research and teaching fellowships of \$2,000 each in the Department of Mining, Metals and Materials Engineering endowed by the late Dr. James Douglas.

SIR WILLIAM DAWSON FELLOWSHIP IN METALLURGY

Endowed in memory of the late Sir William Dawson, Principal of McGill University from 1855 to 1893.

Value: Two research and teaching graduate awards of \$6,000 or six undergraduate awards totalling \$12,000 in the Department of Mining, Metals and Materials Engineering.

WILLIAM STEWART RUGH SCHOLARSHIP

Endowed by the late Helen Stewart Rugh in memory of her father, William Stewart Rugh.

Eligibility: The awards are made on the recommendation of the Chair of the Department of Mining, Metals and Materials Engineering.

Value: Five research and teaching postgraduate awards of \$3,000 each or up to ten undergraduate awards of \$1,500 each in the Department of Mining, Metals and Materials Engineering. Various Physical Science and Engineering Units

A.F. DUNLOP SCHOLARSHIPS

Travelling scholarships bequeathed in 1937 by the late Mrs. Catherine A. Dunlop for students graduating with the M.Arch.1 degree. Apply, stating proposed study, localities to be visited and date of departure, to the Director of the School before January 31. Selection is made by a Committee of Staff of the School of Architecture.

Value: Minimum \$2,500 each.

ALEXANDER MCFEE FELLOWSHIP

Eligibility: Open to graduates of any approved university who are resident full-time candidates for higher degrees or diplomas at McGill. The award will be made in Physics, Chemistry, and Medical Sciences (with preference for Cancer research).

Value: \$10,000.

ALVARO ORTEGA AWARD

Established in memory of Alvaro Ortega by his wife, Madeleine Ortega and colleagues. Prof. Ortega was a graduate of the McGill School of Architecture and established the School's graduate program in Minimum Cost Housing, where he taught for many years.

Eligibility: Awarded annually by the School of Architecture to a graduate student who is in financial need and good academic standing and whose research is in the area of low cost housing.

Value: \$500.

AMERICAN INSTITUTE OF ARCHITECTS HENRY ADAMS MEDAL AND CERTIFICATES OF MERIT

Established in 1986 and awarded for general excellence to graduating students in the professional program of architecture schools recognized by the Institute. The medal and certificate are awarded by the School of Architecture to the top ranking student, and a second certificate to the second ranking graduating student.

ARCOP/ALCAN AWARD

Awarded annually to a student in the final semester of the M.Arch.1 program for a design project demonstrating particular sensitivity to the architectural and cultural traditions of its location. The winner will be selected by a jury of three members, at least one of whom is a professional architect who is not a member of the staff of the School of Architecture.

Value: \$1,000.

CAE AWARD IN ENGINEERING EXCELLENCE

Established in 2002 by CAE Inc. Founded in 1947, CAE is a global leader in the provision of simulation and control technologies and training solutions for aerospace, defence and marine markets.

Awarded on the basis of high academic standing by the Faculty of Engineering Scholarships Committee. Preference shall be given to students entering first year of graduate studies in either the Department of Electrical and Computer Engineering or the Department of Mechanical Engineering.

Value: Minimum \$2,000.

CANADIAN INSTITUTE OF MINING AND METALLURGY MONTREAL BRANCH LOAN FUND

Established in 1958 by the Montreal Branch of the Institute of Mining and Metallurgy to provide loans to students in Geological Sciences, Metallurgical Engineering, and Mining Engineering.

CARL REINHARDT SCHOLARSHIPS AND BURSARIES IN PHYSICS AND EARTH AND PLANETARY SCIENCES

Established from the estate of the late Carl Reinhardt.

Eligibility: To be used for scholarships or bursaries or in the support of research for graduate students in Physics, and Earth and Planetary Sciences. Awards are made by the Chairs of the departments concerned.

CHARLES LEGEY FORTESCUE FELLOWSHIP IN ELECTRICAL ENGINEERING

Eligibility: Candidates must have majored in the field of Electrical Engineering and have received a Bachelor's degree from an engineering college of recognized standing. Preference will be given to applicants about to begin their first year of graduate work.

Deadline: January 31.

Value: Stipend of \$24,000 for one year of full time graduate work in Electrical Engineering at an engineering school of recognized standing located in the U.S. or Canada.

Application: Information available from: Secretary, Charles LeGeyt Fortescue Fellowships Committee, Institute of Electrical and Electronics Engineering, Inc., 345 East 47th Street, New York, NY 10017.

CLIFFORD C.F. WONG FELLOWSHIP IN ARCHITECTURE**黃振輝 建築學獎學金**

Eligibility: Established in 1987 by Clifford Wong (B.Arch. 1960), this prestigious award is open to students entering the graduate program in Architecture. According to the terms of the bequest, preference will be given to applicants from the People's Republic of China. Only in the event that there are no qualified applicants from China will the Fellowship be offered to a candidate from another country.

Value: A total fund of \$12,000 is available annually, from which award(s) are made at the discretion of the School of Architecture Graduate Fellowships Committee.

DR. JAMES E. GRIFFITHS AWARD IN MATERIAL SCIENCES

Established in 2001 by Dr. James E. Griffiths, Ph.D. 1959.

Awarded by the GPSO upon recommendation of the Faculty of Science to an outstanding incoming graduate student pursuing studies and research in material sciences in the Faculty of Science. Preference will be given to students holding an FQRNT (FCAR) or NSERC fellowship.

Value: Minimum \$2,000.

DR. AND MRS. MILTON LEONG FELLOWSHIP

See complete description under previous heading: Agricultural and Biological Sciences.

DR. ROBERT G.H. LEE FELLOWSHIP**李甘棠博士獎學金**

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in honour of Dr. Robert G.H. Lee, B. Eng. 1947 (Metallurgical Engineering).

Value: Minimum \$15,000. Renewable once at the master's level and twice at the postdoctoral or doctoral levels.

Application: Awarded by the GPSO on the recommendation of the Faculty of Engineering to an entering postdoctoral, doctoral or master's student in either Chemical Engineering or Mining and Metallurgical Engineering.

DR. SOO KIM LAN PRIZE IN ARCHITECTURE**蘇金蘭醫生獎學金**

Established in 2000 by Arthur C.F. Lau (B.Arch. 1962) and Crystal S.C. Soo Lau (B.Sc. 1962, M.Sc. 1964) in memory of the latter's mother, Dr. Soo Kim Lan. The prize is awarded by a committee of staff of the School of Architecture to an outstanding student completing the second semester of study in the Master of Architecture program.

Value: \$2,000.

DOW-HICKSON FELLOWSHIP IN PHYSICS

Eligibility: Awarded to a graduate student of any approved university proceeding to a higher degree in any branch of physics at McGill, or by a McGill graduate pursuing such studies elsewhere.

Value: Two fellowships of \$6,500 each.

Endowed by the late Professor J.W.A. Hickson.

Application: Current graduate students apply to the Chair, Department of Physics.

EMIL NENNIGER MEMORIAL FELLOWSHIP

Eligibility: Awarded annually to graduate students of Chemical and Civil Engineering on the basis of scholastic ability and general promise.

Value: Two Fellowships of \$3,000.

Funded by a donation from Mrs. F.S. Nenniger in memory of her husband's outstanding contribution to engineering.

Application: Apply to the Chair, Department of Chemical or Civil Engineering.

ENGINEERING CLASS OF 1936 AWARD

Established by graduates of the Engineering Class of 1936, in honour of their 60th reunion in 1996, to enable the Faculty of Engineering to attract high calibre candidates to McGill.

Eligibility: Available to students commencing graduate studies in Engineering with a preference to Ph.D. candidates. Awarded by the Faculty of Engineering Scholarships Committee based on recommendations by the Chairs and Directors of Departments and Schools within the Faculty.

Value: Minimum \$3,000.

ERIC L. ADLER FELLOWSHIP IN ELECTRICAL ENGINEERING

Eligibility: Established in 2003 by a graduate alumnus in honour of his former research supervisor, Professor Emeritus Eric L. Adler, for outstanding graduate students. Awarded by the Graduate and Postdoctoral Studies Office, upon the recommendation of the Department of Electrical and Computer Engineering, on the basis of academic merit.

Value: \$10,000; renewable once at the Master's level, twice at the Ph.D. level.

F.O. FOWLER MEMORIAL FELLOWSHIP

Based on donations from Canadian Pacific Forest Products Limited in memory of their employee, Frank Fowler, a graduate of McGill (B.Eng. '42). Awarded every two years.

Eligibility: Open to graduate students enrolled in a Master's of Engineering or Science program. Preference given to children of C.P. Forest Products Ltd. employees. Restricted to Canadian citizens.

Value: \$8,000; renewable once.

Application: For information contact the Chair, Department of Chemical Engineering or Chair, Department of Chemistry.

FRED LEBENSOLD MEMORIAL FELLOWSHIP IN ARCHITECTURE

Eligibility: Established in 1987 by Mrs. Ruth Lebensold and Family in memory of Fred Lebensold, distinguished Montreal architect and Professor in the McGill School of Architecture from 1952-1955. Awarded annually by the School of Architecture Graduate Fellowship Committee, on the basis of academic merit, to a student entering the Master of Architecture Program.

Value: \$3,500.

GAR LAM YIP MEMORIAL FELLOWSHIP IN GUIDED WAVE PHOTONICS

Established in 2000 by family, friends and colleagues in memory of Dr. Gar Lam Yip, distinguished professor in the Department of Electrical and Computer Engineering from 1973 - 1999. Awarded by the GPSO on recommendation of the Department to a top student at the Master's level in Electrical and Computer Engineering.

Value: Minimum \$16,500 annually; renewable.

GENERAL ELECTRIC AWARD IN ENVIRONMENTAL ENGINEERING

Established in 1997 by a generous gift from the General Electric Foundation.

Eligibility: Awarded by the GPSO to full-time graduate students in the Environmental Engineering Master's program on the recommendation of the program Advisory Committee.

Value: \$6,000.

HAROLD SPENCE-SALES PRIZE IN URBAN PLANNING

Established by graduates and friends of the School of Urban Planning to commemorate the fiftieth anniversary of the founding of urban planning education in Canada at McGill University by Professor Harold Spence-Sales.

Eligibility: Awarded to a student entering the second year of graduate studies, based on academic achievement, by the GPSO on the recommendation of the School of Urban Planning.

Value: Minimum \$250.

H.L. FETHERSTONHAUGH BOOK PRIZE

Established in memory of the late H.L. Fetherstonhaugh, M.C., F.R.A.I.C., F.R.I.B.A., R.C.A., a former member of staff in the School of Architecture. Awarded by the School of Architecture to the student with the highest standing in the course Professional Practice 1.

HUGH MCLENNAN MEMORIAL SCHOLARSHIP

Established by the Hon. John Stewart McLennan, Dr. Francis McLennan and Miss Isabella McLennan in memory of Hugh McLennan, son of the Hon. John Stewart McLennan, killed at the Battle Ypres in 1915. Awarded for travel to the student who has maintained the highest standing throughout professional studies in Architecture. Selection is made by a Committee of Staff of the School of Architecture.

Value: \$4,500.

JOHN BLAND SCHOLARSHIP IN ARCHITECTURE

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in honour of Professor John Bland, Director of the School of Architecture between 1941 and 1972. Awarded by a committee of staff of the School of Architecture to a graduating student to support work in China.

Value: \$6,000.

JOHN BONSALL PORTER SCHOLARSHIP

Eligibility: Open to full-time graduate students currently registered in a M. Eng. in Civil, Mechanical, or Electrical Engineering, preferably in Civil Engineering.

Value: \$1,000.

Founded by Dr. W.W. Colpitts (B.Sc. 1899).

Application: Apply to the Dean of the Faculty of Engineering.

Applications from graduates of other universities must be accompanied by certified statements of academic standing and letters of recommendation.

JOHN BRADBURY AWARD IN GEOGRAPHY

Established in memory of John Bradbury, remembered as one who inspired students and colleagues alike with his enthusiasm for understanding the world, and his commitment to improving the working conditions of ordinary people.

Eligibility: Awarded annually to a Master's student in Geography, alternately from McGill (even-numbered years) and Simon Fraser (odd-numbered years), whose thesis topic is related to John Bradbury's research interest in the economic geography of Canadian resource towns and international development, especially economic and social problems of resource town planning, economic restructuring, housing, class conflict and gender and work.

Value: \$1,000.

Application: Awarded by the Department of Geography.

JOHN F. DAVIS AWARD

Established in 2003 by John F. Davis, B.Eng. 1942, M.Eng. 1949, M.D.,C.M. 1950. Awarded every two years to a graduate student enrolled in the Department of Biomedical Engineering, by the Chair of the Department of Biomedical Engineering. The award will be for a significant contribution (Master's or Doctoral thesis, major conference paper or journal paper) for a subject applicable to diagnostic or treatment procedures for Neurological or Psychiatric disorders.

Value: Minimum \$500.

JOSEPH S. STAUFFER FELLOWSHIP

Established in 1992 by a gift from the Joseph S. Stauffer Foundation to the Faculty of Engineering.

Eligibility: Awarded to students commencing graduate studies in Engineering with preference to Ph.D. candidates. Awarded by the Faculty of Engineering Fellowships Committee, based on the recommendations of Chairs and Directors of academic units in the Faculty.

Value: \$5,000. In the event that the fellowship is awarded to an international student, the value may be increased to a maximum of \$10,000; renewable.

LOUIS B. MAGIL SCHOLARSHIP IN AFFORDABLE HOMES

Established in 1989 by the Groupe Magil in recognition of the contribution to the home building industry in Quebec made by Mr. Louis B. Magil, B.Arch. '36, architect and founder of Magil Construction Ltd.

Eligibility: Made annually by the School of Architecture to an outstanding student (or students) in the Master of Architecture program in Affordable Homes.

Value: \$2,000.

M.P. PAIDOUSSIS PRIZE IN MECHANICAL ENGINEERING

Established in 1993 by M. P. Paidoussis, Professor of Mechanical Engineering.

Eligibility: Awarded by the Department of Mechanical Engineering to the author of the best Master of Engineering thesis (in terms of content and literary style), for a student proceeding to doctoral study.

Value: \$300.

MARY LOUISE TAYLOR FELLOWSHIP

See complete description under previous heading: Agricultural and Biological Sciences.

MAUREEN ANDERSON PRIZES IN ARCHITECTURE

Established in 1995 by faculty, staff and students to honour the dedicated service of Maureen Anderson, a staff member from 1960-1995.

Eligibility: Awarded to undergraduate or graduate students in the School of Architecture on the basis of course work judged to be of high merit and superior written quality. Selection will be made by a committee of staff of the School of Architecture.

Value: Two prizes of \$200 each.

MAX DUNBAR AWARD IN OCEANOGRAPHY

Derived from contributions from former students of Prof. M. J. Dunbar in recognition of his teaching and research career at McGill. Awarded each year by the Oceanography Advisory Committee to a student in any marine field of study with an outstanding academic record.

Value: \$350.

MOTOROLA FOUNDATION GRADUATE AWARD IN ELECTRICAL AND COMPUTER ENGINEERING

Established in 2001 by the Motorola Foundation in conjunction with the Motorola Canada Software Centre [MCSC]. Awarded by the Department of Electrical and Computer Engineering to graduate students in Electrical, Computer or Software Engineering on the basis of outstanding academic achievement, with consideration for teamwork and leadership qualities. Preference will be given to Canadian citizens or Permanent Residents of Canada with an interest in wireless telecommunications or communications.

Value: \$3,750.

NORBERT SCHOENAUER AND DAVID FARLEY FELLOWSHIP IN ARCHITECTURE

Established in 2001 through a major donation by a Hong Kong graduate of the Chemical Engineering Class of 1959. Awarded by the School of Architecture to outstanding students in its post-graduate research programs addressing issues related to the urban environment.

Value: Minimum \$5,000.

PAPRICAN FELLOWSHIPS IN PULP AND PAPER ENGINEERING

Eligibility: Offered annually by the Pulp and Paper Industry of Canada for competition among full-time students in the Master of Engineering (without thesis) Pulp and Paper option. Applicants must be Canadian citizens or Permanent Residents.

Value: A number of fellowships of approximately \$20,000.

Application: For information apply to the Chair, Graduate Admission Committee, Department of Chemical Engineering.

PING KWAN LAU PRIZE IN ARCHITECTURE

劉秉鈞獎學金

Established in 2000 by Arthur Lau, B.Arch. 1962 and Crystal S.C. Lau, B.Sc. 1962, M.Sc. 1964, for graduate students in the School of Architecture. Awarded by the School of Architecture to an out-

standing graduating student who has demonstrated excellence in the research, site analysis and program preparation for the final design project of the M. Arch. I Program.

Value: Minimum \$500.

RAY (RAYMOND TAIT) AFFLECK PRIZE IN DESIGN

Established in 1989 in memory of Raymond Tait Affleck (FRAIC, RCA), B.Arch. 1947, by his family, colleagues and friends. Awarded to a student in the School of Architecture for distinction in Design in the M.Arch.1 final design project. The winner will be selected by a jury of three members, at least one of whom is a professional architect who is not a member of the staff of the School of Architecture.

Value: \$1,000.

R.M. FOWLER MEMORIAL FELLOWSHIP

Donated by the Pulp and Paper Industry of Canada in memory of Robert M. Fowler, president of the Canadian Pulp and Paper Association from 1945 to 1972.

Eligibility: Offered annually for competition among full-time students in the Master of Engineering (without thesis) Pulp and Paper option. Applicants must be Canadian citizens or Permanent Residents. Candidates will be judged on both their academic achievement and their demonstrated interest in a career in the Canadian pulp and paper industry.

Value: A fellowship of at least \$21,000.

Application: For information apply to the Chair, Graduate Admissions Committee, Department of Chemical Engineering.

RON RICE MEMORIAL AWARD

Established by family, friends, associates, students and graduates to honour the memory of Professor Ron Rice of the School of Urban Planning and the Department of Civil Engineering and Applied Mechanics, who passed away on August 20th, 2000.

Eligibility: Awarded to a student pursuing graduate studies in the field of Transportation Planning and/or Engineering, based on academic merit, by the GPSO on the recommendation of the School of Urban Planning and the Department of Civil Engineering and Applied Mechanics.

Value: \$1,000.

SCHOOL OF ARCHITECTURE FELLOWSHIPS

Eligibility: Offered annually (in January) to students in the graduate programs from funds contributed by graduates of the School of Architecture. First and second year students registered in the graduate programs in Architecture are eligible.

Value: Varying amounts.

ROYAL ARCHITECTURAL INSTITUTE OF CANADA MEDAL

Offered to a graduating student in the professional program who, in the judgment of the Faculty of the School of Architecture, has completed the most outstanding final design project/thesis for that academic year and who shows promise of being an architect of distinction after graduation. Selection is made by the School of Architecture.

STUART A. WILSON MEMORIAL PRIZE

Established in 1991 in memory of Stuart Anthony Wilson by family, friends and colleagues. Stuart Wilson graduated from the McGill School of Architecture in 1943 and taught there from 1948 to 1991. The prize is awarded by a committee of staff of the School of Architecture to the student with the best portfolio in the annual Sketching School.

Value: \$150.

WARREN FELLOWSHIPS IN GEOGRAPHIC INFORMATION SYSTEMS

Established by Roger Warren (B.Com. 1955) to graduate students with strong academic standing whose research is in geographic information systems. Awarded to one or more students by the GPSO upon the recommendation of the Department of Geography.

Value: Minimum \$5,000; renewable.

WERNER GRAUPE MEMORIAL MMM FELLOWSHIP

Established in 2001 in memory of Werner Graupe, a long-standing supporter and friend of the University, by the Masters in Manufacturing Management (MMM) program. Awarded by the MMM program fellowships committee to graduate students in the MMM program. Preference shall be given to students who are Canadian citizens or Permanent Residents and demonstrate fluency in French and English. Priority given to full-time students; part-time students will be considered for partial awards in the absence of qualified full-time candidates.

Value of full award: \$20,000.

WILFRED ONIONS MEMORIAL PRIZE

Established in 1991 in memory of Wilfred Onions, B.Arch. 1932, by family, friends and fellow graduates in Bermuda. This prize commemorates his passion for sketching and life-long commitment to the profession of architecture, and is awarded by a committee of staff of the School of Architecture to the student with the best single work in the Sketching School.

Value: \$200.

WORLD METEOROLOGICAL ORGANIZATION (WMO)

Eligibility: Open to applicants from developing countries, nominated by their governments, for studies or training in meteorology and operational hydrology at universities or meteorological training institutes in countries where facilities are available.

Value: Normally based on United Nations Development Programme stipend rates.

Application: Submitted by Government of candidate's country through the Director of the Meteorological/Hydrological Service, 41, avenue Giuseppe-Motta, 1211 Geneva 20, Switzerland, or the local United Nations Development Programme office.

5.4 Social Sciences and Humanities

5.4.1 Various Social Science and Humanities Units

ALEXANDER MACKENZIE FELLOWSHIP IN POLITICAL SCIENCE

Eligibility: Tenable by a graduate of any accredited university, conditional upon acceptance by the GPSO in the field of Political Science. A certain amount of tutorial and teaching work is required.

Value: One award of \$5,000 and one of \$3,000, possible renewal.

Application: No application is required.

ALLEN OLIVER FELLOWSHIPS IN ECONOMICS AND POLITICAL SCIENCE

Established by Mrs. Frank Oliver, of Edmonton Alta, in proud and loving memory of her son, the late Allen Oliver, M.C., B.A. Lieutenant, 26th Battery, C.F.A., who was killed in action at the Somme on November 18, 1916. Lieutenant Oliver was an honours graduate in 1915 in the Department of Economics and Political Science.

Eligibility: Awarded to the student who stands highest in first class honours in the Departments of Economics and Political Science at the final B.A. examination. The holder is required to pursue studies in Economics and Political Science at McGill or elsewhere.

Value: Two awards of \$2,500 (one in political science; one in economics).

Application: Through the Departments of Economics and Political Science.

ALLIANCE ATLANTIS FELLOWSHIPS IN COMMUNICATIONS

Established in 2000 through a generous gift from Alliance Atlantis Communications.

Eligibility: Awarded annually, by the Department of Art History and Communication Studies, to two students who have completed one year of study in the graduate program in Communications.

Value: \$12,500 each; non-renewable.

ANTONIO D'ANDREA MEMORIAL FUND

Established in 1999 in memory of Professor Antonio D'Andrea, Professor Emeritus, Department of Italian Studies.

Eligibility: Awarded by the Department of Italian Studies to provide financial support to graduate students of the Department to attend scholarly conferences.

Value: \$500.

ANNE DUDLEY NOAD AWARD

Established in 1983 in memory of Anne Dudley Noad, a long-time teacher of evening courses in Italian.

Eligibility: On the basis of academic standing, awarded by the Department of Italian Studies to a student entering a graduate program in Italian.

Value: \$300.

BANQUE NATIONALE FELLOWSHIP IN THE MCGILL INSTITUTE FOR THE STUDY OF CANADA

Eligibility: Awarded by the McGill Institute for the Study of Canada to an outstanding candidate for admission to a graduate program at any level, whose research interest will focus on some aspect of the study of Canada.

Value: \$12,000.

Deadline: February 15.

Application: Forms and additional information are available on the Web at www.mcgill.ca/gps under "Graduate Studies", "Fellowships and Awards", "Winter Competitions", or from the McGill Institute for the Study of Canada.

BERNARD MICHAEL TARSHIS AWARD

Established in 1986 by family and friends in memory of Mr. Bernard Michael Tarshis, B. Com. (1969). The award commemorates Mr. Tarshis' commitment to the moral, philosophical, and ethical ideals of the Judaic tradition.

Eligibility: Awarded by the Department of History to the most promising student entering the graduate program in History.

Value: \$1,000.

BOURSE D'EXCELLENCE EN LANGUE ET LITTÉRATURE FRANÇAISES GENEVIÈVE DE LA TOUR FONDUE

Créée en 2001 par la succession de Geneviève de La Tour Fondue à l'intention d'un étudiant de maîtrise ou de doctorat du Département de langue et littérature françaises. Décernée par le Département de langue et littérature françaises en reconnaissance de l'excellence du dossier universitaire.

Valeur : Minimum \$6,000.

BRAM GARBER FELLOWSHIP IN ART HISTORY

Established in 1988 in honour of Bram Garber, this tribute to a well-known and respected member of the Canadian business community was provided by the generous gifts of family and friends.

Eligibility: Students pursuing graduate studies in Art History at McGill, Faculty of Arts are eligible.

Value: \$4,000.

Application: Awarded by the GPSO upon recommendation of the Fellowships Committee of the Faculty of Arts, in cooperation with the Committee on Art History and Fine Arts or the Faculty will make the annual selection of the recipient.

CANADIAN CHINESE CULTURAL SOCIETY OF MONTREAL INC. SCHOLARSHIP

Eligibility: Founded in 1969, the Canadian Chinese Cultural Society of Montreal Inc. offers an annual scholarship to an undergraduate or graduate student majoring in Chinese Studies. Candidates must be Canadian citizens able to demonstrate financial need and registered as full time students in the third or fourth year of undergraduate studies or in a graduate program.

Value: \$1,000.

Deadline: April 30.

Application: Applications must be sent to the Scholarship Committee of the Society each year in order to be eligible for consideration for the award for the following academic year. The address is: Canadian Chinese Cultural Society of Montreal Inc.,

Suite 707, 1117 Ste. Catherine Street W., Montreal, Quebec, H3B1H9. Each applicant should indicate his/her field of studies and plans for the future, as well as a need for financial assistance. The scholarship will be awarded at an official function of the Society during the month of September.

CEDRIK GODDARD MEMORIAL AWARD IN ISLAMIC STUDIES

Established in 2001 by Thomas Albert and Ragna Tischler Goddard, relatives, and friends in memory of Cedrik Christopher Goddard (M.A. 1999). Awarded by the Institute of Islamic Studies in recognition for creativity and academic merit to a graduate student in Islamic Studies.

Value: Minimum \$500.

CREMONA MEMORIAL FELLOWSHIP IN LINGUISTICS

Established in 2002 by a bequest from Isida Bernardinis Cremona, B.A. 1965, M.A. 1967.

Eligibility: Awarded by the Department of Linguistics to an outstanding graduate student registered in the Ph.D. or M.A. program in Linguistics.

Value: Minimum \$6,000.

DAISY A. LATIMER MEMORIAL PRIZE IN HISTORY

Established in 1987 in memory of Daisy Latimer (B.A. 1971) by her devoted friend and former husband, Michael P. Paidoussis, and a few of her closest friends.

Eligibility: Awarded by the Department of History to the student completing the best M.A. thesis in History, preferably in European or Latin American History, proceeding to doctoral studies at McGill or at another distinguished university. A fine literary style in the thesis is a necessary co-requisite for this award.

Value: \$1,500.

DALE C. THOMSON PRIZE IN POLITICAL SCIENCE

Established in 2001 by Lizanne Ryan Thomson in loving memory of her husband Dale C. Thomson, a long-standing and dedicated professor at McGill University. Awarded by the Department of Political Science to an outstanding doctoral student. Preference shall be given to students studying in the field of Canadian Politics.

Value: Minimum \$1,000.

DAVID FATE NORTON AND MARY J. NORTON FELLOWSHIP IN PHILOSOPHY

Eligibility: Established in 2001 by David Fate Norton and Mary J. Norton to assist a graduate student working full-time on a Ph.D. thesis in Philosophy. Awarded on the basis of academic merit by the Department of Philosophy in the Faculty of Arts. Preference will be given to a student who will complete her or his dissertation in the coming academic year. Recipients must agree not to accept paid or unpaid employment (including any form of teaching, tutoring, grading of papers or research for another party) during tenure of the Fellowship.

Value: Minimum \$5,000 for one term; reapplication is permitted.

DEUTSCHE GESELLSCHAFT ZU MONTREAL SCHOLARSHIP

Eligibility: Canadian citizen or Permanent Resident pursuing graduate studies in German language and literature, including German Canadian studies.

Value: \$2,000.

Application: Awarded by the Department of German Studies.

DOW-HICKSON FELLOWSHIP IN THEORETICAL PHILOSOPHY

Endowed by the late Professor J.W.A. Hickson.

Eligibility: Tenable by a graduate of any approved university proceeding to a higher degree in Theoretical Philosophy (Metaphysics, Epistemology, Logic, History of Philosophy) at McGill.

Value: Maximum value \$10,000 (awards of lesser value may be made in certain cases). The holder may apply for a second year of tenure.

Application: Awarded by the Department of Philosophy.

DR. GAURI SHANKAR GUHA AWARD IN INTERNATIONAL DEVELOPMENT EDUCATION

Eligibility: Established in 2003 by Dr. Ratna Ghosh for an outstanding graduate student pursuing research in international development education in the Faculty of Education. Awarded on the basis of academic excellence and aptitude for research by the Faculty of Education Awards Committee.

Value: Minimum \$500.

DR. JOHN A. BRYANT MEMORIAL AWARDS

Established by the Butters Foundation in memory of Dr. John A. Bryant (B.Sc. 1949, M.D. 1951).

Eligibility: Awarded annually to graduate students pursuing studies in the integration of students with handicaps into school and society, by the Director of the Integrated Education Graduate Program.

Value: \$6,000.

ELLEN EDITH GRUBB STANSFIELD AWARD

Established in 2000 by a bequest by Ellen Edith Grubb Stansfield (B.A. 1929, M.A. 1931) in recognition of her experience, leadership and interest in education in general, schools and classrooms in particular. Awarded by the Faculty of Education to an outstanding student entering the first year of a full-time M.A. thesis or Ph.D. program in the Faculty of Education with research in classroom and school contexts.

Value: Minimum \$1,000.

FOUNDATION FOR THE MENTALLY RETARDED AWARD IN EDUCATION AND SOCIAL WORK

Established in 1997 by the Foundation for the Mentally Retarded (Quebec) Inc.

Eligibility: Awarded by the GPSO to graduate students in Education or Social Work whose studies or research focus on the social and educational integration of intellectually challenged persons, in either the English or the French educational systems.

Value: Four awards valued at \$1,000.

Deadline: May 1.

Application: Through the Faculty of Education and the School of Social Work.

GORDON J.A. WHITEHORNE RECRUITMENT FELLOWSHIP

Established in 2001 by the estate of Gordon James Alexander Whitehorne (B.A. 1938) for an outstanding student entering a doctoral program in the Faculty of Arts. Awarded on the basis of academic excellence by the Faculty of Arts.

Value: \$5,000.

GRETTA CHAMBERS FELLOWSHIP IN EDUCATION

Established in 2000 by a generous gift from the Friends of McGill University Inc. of New York to honour Gretta Chambers (B.A. 1947), Chancellor of the University from 1991 to 1999. Awarded to a deserving student in the postgraduate program in the Department of Integrated Studies in Education by the GPSO on the advice of the department with first preference to a U.S. citizen.

Value: \$10,000.

GUY DESAUTELS MEMORIAL PRIZE

Value: A prize established by the friends and colleagues of the late Guy Desautels.

Application: Awarded by the Department of Philosophy to a graduate student who has done outstanding work in the history of philosophy.

H. ANTHONY HAMPSON AWARD IN THE MCGILL INSTITUTE FOR THE STUDY OF CANADA

Established by family and friends in memory of H. Anthony Hampson (B.A. 1951) who was a leader of McGill capital campaigns and the first President of the Canadian Development Corporation.

Eligibility: Awarded by nomination of the McGill Institute for the Study of Canada to a deserving graduate student involved in the study of Canada.

Value: Minimum \$ 3,000.

HANS AND EUGENIA JÜTTING FELLOWSHIP

Established in 2000 by Hans Jütting and Eugenia Jütting, friends of McGill University.

Eligibility: Awarded to a meritorious student in German Studies.

Value: \$8,000.

Application: Awarded by the Department of German Studies.

HERSCHEL AND CHRISTINE VICTOR FELLOWSHIP IN EDUCATION

Established in 2000 by Herschel Victor, B.Com. 1944, for an outstanding graduate student in the Faculty of Education.

Eligibility: Awarded by the GPSO upon recommendation by the Faculty of Education, on the basis of academic merit.

Value: Minimum \$12,500; renewable.

HUGH MACLENNAN FELLOWSHIP FOR THE STUDY OF ENGLISH

Established in 1993 from the estate of Hugh MacLennan.

Eligibility: Awarded by the GPSO to students in the Faculty of Arts, with preference being given to the study of English, on the recommendation of the department. No citizenship restrictions.

Value: \$15,000; renewable.

INGRID SEMAAN PRIZE

Established by Professor Khalil I. Semaan in honour of his daughter, a McGill/SUNY student and a class of 1990 graduate in Sociology.

Eligibility: Awarded by the Institute of Islamic Studies to the student with the most outstanding thesis, essay or term paper that explores the contribution of women to Arabic culture.

Value: \$100.

ISABEL BILLINGSLEY PRIZE IN FRENCH STUDIES

Established by Andrew Billingsley, B.Sc. 1960, in memory of his mother, Isabel Billingsley (nee Rowat), B.A. 1930, who, during her time at McGill was both Class President of the Royal Victoria College (1929-1930) and recipient of the "Alliance française" scholarship which brought her to the Sorbonne during that same year.

Eligibility: Awarded annually by the Department of French Language and Literature on the basis of academic merit, to an outstanding graduate student who is completing an M.A. thesis. Preference will be given to a student whose first language is either English or a language other than French.

Value: Minimum \$1,000.

JEAN DE GRANDPRÉ PRIZE

Established by the Chancellor of McGill University, Jean deGrandpré; the Chrysler Corporation and Bell Canada.

Eligibility: Awarded by the Department of Art History and Communication Studies to a graduate student in Communications who has done outstanding work in the field.

Value: \$500.

J. JEFFERY SEMAAN PRIZE

Established in 1989 by Dr. Khalil Semaan in honour of his son, a McGill graduate in medicine.

Eligibility: Awarded to the student demonstrating the greatest accomplishment in first or second-year Arabic. Open to both graduate and undergraduate students.

Value: \$100.

Application: The award will be made on the recommendation of the Director of the Institute of Islamic Studies if the recipient is a graduate student or by the Faculty of Arts if the recipient is an undergraduate student.

LARA RIENTE MEMORIAL PRIZE IN LINGUISTICS

Established in 2002 by family, friends, fellow students, professors and the Jewish Rehabilitation Hospital Foundation in memory of Lara Riente, B.A. 1992, M.A. 2001. Lara was a gifted graduate of the Department of Linguistics whose sudden and tragic death was mourned by all who knew her.

Eligibility: Awarded by the Faculty of Arts Scholarships committee on the recommendation of the Department of Linguistics on the basis of high academic standing to a graduate or an under-

graduate student enrolled in a full-time degree program in Linguistics. Preference shall be given to students in Neurolinguistics and/or Morphology.

Value: Minimum \$500.

MARGARET GILLETT GRADUATE RESEARCH AWARDS

Funded by the Alumnae Society of McGill, these awards are granted by the McGill Centre for Research and Teaching on Women (MCRTW) in honour of Dr. Margaret Gillett, now retired, Macdonald Professor of Education at McGill University. Dr. Gillett initiated the Women's Studies program at McGill and was founding director of MCRTW.

Eligibility: For graduate students in any McGill department with research in Women's Studies leading to a degree.

Value: Up to \$1,000, including travel for research purposes.

Deadline: February 28.

Application: Application details and further information may be obtained from the MCRTW, McGill University, 3487 Peel Street, Montreal, Quebec H3A 1W7.

MARY KEENAN SCHOLARSHIP IN ENGLISH

Eligibility: Awarded by the Department of English to a student proceeding at McGill from the B.A. to the M.A. in English.

Value: \$500.

MCGILL INSTITUTE FOR THE STUDY OF CANADA FELLOWSHIPS

Eligibility: Established in 1994 with funds contributed by the Bronfman Family Foundation for the support of the Institute for the Study of Canada at McGill University, fellowships are awarded to students entering a doctoral program in the Faculty of Arts intending to pursue research on some aspect of the study of Canada.

Value: \$17,000, twice renewable, on evidence of scholarly progress and participation in the Institute's teaching and study

Deadline: February 15.

Application: Forms and additional information are available on the Web at www.mcgill.ca/gps under "Graduate Studies", "Fellowships and Awards", "Winter Competitions", or from the McGill Institute for the Study of Canada.

MCNAUGHTON FELLOWSHIPS IN CLASSICS

Eligibility: Awarded annually, on the basis of merit, promise and need, to students in their first year of the M.A. or Ph.D. program in Classics. These awards may be renewed for a second year at the discretion of the Department of History.

Value: Two awards, \$2,000 each.

Deadline: None.

Application: None: on the basis of the candidate's application for graduate studies.

MIRIAM AND PHILIP VINEBERG GRADUATE FELLOWSHIP IN ECONOMICS

Eligibility: Established by Philip Vineberg for the purpose of enabling a student of academic distinction to pursue studies towards a graduate degree in Economics at McGill University.

Value: \$1,200; renewable for a second year subject to high academic performance.

Application: Awarded by the Department of Economics.

MORTON AND BERNICE BROWNSTEIN FELLOWSHIP IN JEWISH STUDIES

Established in 1999 by Morton and Bernice Brownstein, this fellowship will be awarded by the Department of Jewish Studies to a graduate student or a postdoctoral candidate in the Department of Jewish Studies

Value: \$10,000.

MR. AND MRS. JOHNSON NG WAI YEE FELLOWSHIP

Eligibility: Established in 2003 by the Ng Family Trust in honour of Mr. and Mrs. Johnson Ng Wai Yee for an outstanding student from a developing country. Awarded by the Faculty of Arts Fellowships Committee on the basis of academic merit to a student, subject to international fees and from a developing country, who

is entering the first year of a Master's or Ph.D. program in the social sciences in the Faculty of Arts.

Value: Minimum \$10,000; renewable.

NATHAN BRECHER FELLOWSHIP IN ECONOMICS AND POLITICAL SCIENCE

Founded by a bequest of the late Nathan Brecher for the purpose of enabling a student of academic distinction in Economics or Political Science to pursue studies towards a graduate degree at McGill University.

Value: \$2,500.

Application: Awarded by the GPSO on the recommendation of the departments of Economics and Political Science.

NATHAN STEINBERG FELLOWSHIP IN POLITICAL SCIENCE

Established in 1994 by a gift from the Nathan Steinberg Family Foundation.

Eligibility: Awarded by the Faculty of Arts to graduate students in the Department of Political Science.

Value: \$15,000, renewable once.

Application: Students to be nominated by the Department of Political Science.

OSWALD HALL PRIZE

Established in 1992 in honour of Oswald Hall, Professor Emeritus at the University of Toronto, who obtained his M.A. in Sociology from McGill and taught here between 1946 and 1955. The prize has been endowed by donations, in particular royalties from the book "The Sociology of Work: Papers in Honour of Oswald Hall", donated by the book's editor, Professor Audrey Wipper of the University of Waterloo.

Eligibility: Awarded by the Department of Sociology to the best graduate student in the first year of studies.

Value: \$350.

PAUL F. MCCULLAGH AWARD

Awarded by the Faculty of Arts Scholarships Committee upon recommendation by the Classics Program Committee in the Department of History to a graduating student to pursue graduate work in the study of Latin language and literature or Ancient Greek language and literature.

Value: \$3,000.

PROFESSOR PAUL T.K. LIN FELLOWSHIP

Eligibility: Established in 2003 by an anonymous gift in honour of Professor Paul T.K. Lin, the first Director of the Centre for East Asian Studies at McGill. Awarded by the Faculty of Arts on the recommendation of the Department of East Asian Studies to a student entering the Department's Master's or Ph.D. program. Preference shall be given to students from the People's Republic of China.

Value: \$5,000; renewable.

R.E. WILKINSON AWARD

Eligibility: Awarded by the Department of Kinesiology and Physical Education to a student who has obtained a B.Ed. (Major in Phys. Ed.) or a B.Sc (kinesiology) from McGill and who is entering a full-time graduate program in the Department of Physical Education.

Value: \$800. Established by friends, colleagues and former students in honour of Prof. Robert E. Wilkinson, former Chairman of the Department of Physical Education.

RICHARD F. SALISBURY PRIZE IN ANTHROPOLOGY

In memory of Dean Richard Salisbury, founder of the McGill Department of Anthropology and colleague and teacher from 1962 to 1989.

Eligibility: Awarded by the Department of Anthropology for the best thesis of the year in Anthropology either at the M.A. or the Ph.D. level.

Value: \$200.

ROBERT VOGEL MEMORIAL AWARD IN HISTORY

Established in memory of Robert Vogel, an inspiring teacher, historian, former Chair of the Department of History and former Dean of the Faculty of Arts.

Eligibility: Awarded by the Department of History to the most promising student entering either the M.A. or Ph.D. program, whose focus of research is European history, broadly defined.

Value: Minimum \$1,000.

ROYAL BANK FELLOWSHIP IN UNIVERSITY TEACHING

Established in 1994 by the Royal Bank.

Eligibility: Awarded by the 4cGill Centre for University Teaching and Learning to a doctoral student who will conduct research in university teaching. Fellowship holders are expected to become involved in teaching improvement programs offered by the CUTL.

Value: \$15,000 renewable once.

Deadline: February 28.

Application: Apply to the Director, CUTL, 3700 McTavish.

SAMUEL LAPITSKY SCHOLARSHIP

Eligibility: To be awarded on the recommendation of the Departments of Sociology or Anthropology (each in alternate years).

Value: To aid with tuition fees.

Deadline: February 1.

Application: Apply to the Departments of Sociology in even years, or Anthropology in odd years.

SAUL AND FREDA FRANKEL PRIZE

Established in 2000 by Professor Saul Frankel (B.A., M.A., Ph.D. McGill), McGill professor in the Departments of Economics and Political Science from 1952 to 1969. Awarded to a graduating Honours or first-year M.A. student for an outstanding research paper on a topic in the 'history of ideas'. Awarded by the Faculty of Arts Scholarships Committee upon recommendation from an adjudicating committee.

Value: \$1,000.

SLAVA KLIMA PRIZE FOR EXCELLENCE IN ENGLISH LITERARY STUDIES

Established in 2002 by a bequest from Slava Klima, former professor of English Literature.

Eligibility: Awarded by the Department of English to an outstanding doctoral student in literature.

Value: Minimum \$1,250.

T. PALMER HOWARD, Q.C. AWARD IN CANADIAN HISTORY

Established in 1990 by the Pan-Canada Foundation to honour T. Palmer Howard, Q.C., B.A.(1931), B.C.L.(1934), in recognition of his interest in the research and writing of Canadian history.

Eligibility: Awarded by the History Department to a leading candidate entering the M.A. or Ph.D. program in Canadian history at McGill.

Value: \$2,000.

TERESA WHELAN KIERANS FELLOWSHIP IN ART HISTORY

Established in 1993 by Thomas Kierans, B.A. (1961), in honour of his mother.

Eligibility: Awarded by the GPSO on the recommendation of the Art History Department to a graduate student in Art History. No citizenship restrictions.

Value: \$12,500.

THE FOUNDATION FOR THE ADVANCEMENT OF PROTESTANT EDUCATION GRADUATE FELLOWSHIP IN HISTORY

Established in 2002 by The Foundation for the Advancement of Protestant Education for an outstanding graduate student in the Department of History.

Eligibility: Awarded by the Department of History to graduate students in History on the basis of academic excellence and outstanding research potential. Preference shall be given to students researching the history of Protestant education in the province of Quebec.

Value: Minimum \$7,500.

WARREN FELLOWSHIP IN THE MCGILL INSTITUTE FOR THE STUDY OF CANADA

Established in 2001 through a generous gift from Roger W. Warren, Commerce, 1955.

Eligibility: Awarded by the McGill Institute for the Study of Canada to a deserving First Nations graduate student pursuing research on some aspect of the study of Canada.

Deadline: February 15.

Value: \$15,000, renewable.

5.4.2 Law

AUBREY SENEZ FELLOWSHIP

Bequeathed by Aubrey Senez.

Eligibility: Awarded to a student entering a graduate program in the Faculty of Law, specializing in international business law. Preference is given to students from Montreal's South Shore.

Value: Minimum \$10,000; renewable.

CHIEF JUSTICE R.A. GREENSHIELDS MEMORIAL SCHOLARSHIPS FOR GRADUATE STUDIES

Eligibility: Bequeathed by the late Mrs. R.A.E. Greenshields in memory of her husband, the late Chief Justice Greenshields, B.A., B.C.L., D.C.L. and LL.B. These scholarships will be awarded to outstanding students, Canadian or foreign, entering the first year of graduate studies in the Faculty of Law. The thesis scholarships are awarded to outstanding students, Canadian or foreign, who are registered in the Master's program, who have already commenced work on their thesis, and who are in need of funds to aid with the expenses of their thesis research.

Value: \$5,000 scholarships, renewable on a fully competitive basis. \$1,000 thesis scholarships non-renewable.

Application: Scholarships: none; on the basis of the candidate's application for admission to graduate studies in Law. Thesis scholarships: students will be contacted by the Faculty of Law.

CLIVE V. ALLEN FELLOWSHIP

Established in 1999 through a generous gift by Nortel Networks in honour of its former Chief Legal Officer, Clive V. Allen, B.A. 1956, B.C.L. 1959.

Eligibility: Awarded by the Faculty of Law to a student entering the first year of graduate studies in the Institute of Comparative Law and specializing in international business law.

Value: Minimum \$5,000.

JOHN AND EDMUND DAY AWARD FOR GRADUATE STUDIES IN LAW

Established in 1996 by a generous bequest by Isabelle Day in memory of her grandfather, Edmund Thomas Day and great-grandfather, John James Day, both graduates of the Faculty of Law.

Eligibility: Awarded by the Faculty of Law to a graduate student in Law.

Value: \$2,000 - \$5,000.

Application: None; on the basis of the candidate's application for admission to graduate studies in Law.

ROBERT E. MORROW, QC, FELLOWSHIPS

Established in 1999 by friends and colleagues of Robert E. Morrow, QC, B.C.L. 1947.

Eligibility: Awarded by the Faculty of Law to outstanding students entering the first year of graduate studies in the Institute of Air and Space Law.

Value: Minimum \$5,000.

SETSUKO USHIODA-AOKI PRIZE

Established in 2001 by Dr. Setsuko Ushioda-Aoki (D.C.L. 1993). Awarded by the Faculty of Law on the basis of academic merit to a graduate student in the LL.M. program at the Institute of Air and Space Law.

Value: \$500.

WAINWRIGHT SCHOLARSHIP FOR LAW

Bequeathed by the late Arnold Wainwright, Q.C., B.A., B.C.L., D.C.L.

Eligibility: Awarded to outstanding students, Canadian or foreign, entering the first year of graduate studies at the Faculty of Law, McGill University, and intending to work on subjects of interest to, or pertaining to, the civil law tradition, or to students proceeding from the LL.M. to the D.C.L. program.

Value: One scholarship of \$5,000 and one scholarship of \$15,000, renewable on a fully competitive basis.

Application: None; on the basis of the candidate's application for admission to graduate studies in Law.

5.4.3 Library and Information Studies

BARBARA FINLAY PRIZE

Established in 1999.

Eligibility: Awarded by the Graduate School of Library and Information Studies to a full-time student with exceptional academic merit on completion of the first year of the M.L.I.S. program.

Value: Minimum \$250.

BARBARA GRAW SMYTHE AWARD IN LIBRARY AND INFORMATION STUDIES

Established in 2003 by William Smythe, B.Eng. 1948, in memory of his wife, Barbara Graw Smythe, B.A. 1946, B.L.S. 1947, to recognize an outstanding student entering the M.L.I.S. program in the Graduate School of Library and Information Studies.

Awarded by the School.

Value: Minimum \$500.

BERNARD ANDERSON OWER AWARD

Bequeathed by Roma Elizabeth Jane Ower in honour of her late husband, a graduate of the School of Library and Information Studies (B.L.S. 1936, M.L.S. 1996).

Eligibility: Awarded by the School of Library and Information Studies on the basis of academic achievement.

Value: Minimum \$1,500.

BETA PHI MU SCHOLARSHIPS

Eligibility: Open to a student at the Master's level accepted in a program accredited by the American Library Association.

Value: \$1,500.

Deadline: March 15.

Application: Forms are available from the Executive Secretary, Beta Phi Mu, Graduate School of Library and Information Sciences, University of Pittsburgh, Pittsburgh, Pennsylvania 15260.

CANADIAN LIBRARY ASSOCIATION SCHOLARSHIPS

Eligibility: Three scholarships are available to students in accredited library schools.

Value: Varies.

Application: Information and application forms are available from the Scholarships and Awards Committee, Canadian Library Association, 328 Frank Street, Ottawa, Ontario K2P 0X8.

DR. G.R. LOMER SCHOLARSHIPS

Value: Three scholarships of \$1,300 each are offered annually in honour of the late Dr. G.R. Lomer, former Director of the School.

DR. HERBERT STANLEY BIRKETT AWARD

Eligibility: To be awarded annually to the student who obtains the highest grade in course 405-671.

Value: \$200 from a gift by Miss Winifred Birkett in honour of her father, Dr. Herbert Stanley Birkett.

EASTERN CANADA CHAPTER SPECIAL LIBRARIES ASSOCIATION PRIZE

Eligibility: Awarded to the student in M.L.I.S. II who obtains highest standing in course 405-639.

Value: Varies.

ELIZABETH G. HALL SCHOLARSHIP FUND

Value: \$1,000 from the fund founded in honour of a former member of the McGill University Library staff.

ETHELWYN M. CROSSLEY SCHOLARSHIP FUND

Value: \$1,000 from the fund founded in honour of a former student of the School.

FINANCIAL ASSISTANCE FOR LIBRARY EDUCATION

American students are advised to write to SCOLE (Standing Committee on Library Education), American Library Association, 50 East Huron Street, Chicago, Illinois 60611, for a copy of Financial Assistance for Library Education.

GRANDE BIBLIOTHÈQUE DU QUÉBEC AWARD

Eligibility: Created in 2001 for McGill students enrolled in the M.L.I.S. program. It is awarded to a full-time student to foster research and training, and to encourage the pursuit of excellence. The jury of the GBQ Award comprises a representative of the GBQ, a professor and the Director of the GSLIS or a designated representative. Final selection is based on the academic record of the candidate as well as the quality of the candidate's written expression in French or English on a topic, chosen by the GBQ, that changes every year.

Value: \$5,000

H.W. WILSON FOUNDATION FELLOWSHIP

Value: A grant in the amount of \$5,000 made to McGill in 1986-87 for distribution as scholarship aid.

JANET AGNEW SCHOLARSHIP

Value: \$1,000 from a bequest of the late Janet M. Agnew, a graduate of and former instructor in the School.

JEAN BROWN SCHOLARSHIP

Eligibility: Awarded to an M.L.I.S. student on the basis of academic merit and financial need.

Value: \$900 from a bequest of the late Jean Brown (B.L.S. 1957, M.L.S. 1972).

LIBRARY AND INFORMATION STUDIES FELLOWSHIPS

Applicants accepted for admission to the program leading to the degree of Master of Library and Information Studies and students entering the second year of the program may apply to the Director of the School.

Value: Varies.

Deadline: Before March 1 to be considered for the following awards which are made primarily on the basis of academic merit.

AZELIE DE LENDRECIE CLARK AWARD

Established in 2001 by a bequest from Azelie de Lendrecie Clark, (M.L.S. 1961). Awarded to an M.L.I.S. student by the Graduate School of Library and Information Studies on the basis of academic merit.

Value: Minimum \$2,850.

MARGARET DOWNEY PRIZE

Established in 1999 by a bequest from Margaret A. Downey, B.L.A. (1941).

Eligibility: Awarded on the basis of academic merit to an M.L.I.S. student by the Graduate School of Library and Information Studies.

Value: Minimum \$500.

MARGERY TRENHOLME FELLOWSHIP

Established in 2002 through a bequest from Margery W. Trenholme, B.A. 1935, B.L.S. 1946.

Eligibility: Awarded by the Graduate School of Library and Information Studies to a graduate student who will be enrolled in one of its programs.

Value: Minimum \$6,500.

MARGERY TRENHOLME MEMORIAL AWARD IN LIBRARY STUDIES

Established in 2001 through a bequest from Margery Trenholme, (B.A. 1935, L.L.S. 1946), a lifetime friend of libraries and advocate of their place in the community. Awarded to an M.L.I.S student on the basis of academic merit by the Graduate School of Library and Information Studies.

Value: Minimum \$1,000.

MAUT LIBRARIAN'S SECTION AWARD

Established by the McGill Association of University Teachers (MAUT) Librarians' Section.

Eligibility: To be granted to a student admitted to the first year program of the Graduate School of Library and Information Studies. Applicants must be presently employed full-time library assistants who will have completed two years' continuous full-time employment with the McGill University Library System.

Value: \$300.

Deadline: March 1.

MIRIAM H. TEES SCHOLARSHIP

Established in 1989 by friends, family, alumni, and colleagues to honour Miriam H. Tees (B.L.S., 1951; M.L.S., 1975), former professor in the School

Value: \$1,000.

PRIZE FOR HIGHEST STANDING THROUGHOUT THE MASTER OF LIBRARY AND INFORMATION STUDIES PROGRAM

Eligibility: Awarded to the graduating student who obtains the highest standing in the M.L.I.S. program.

Value: Varies.

SPECIAL LIBRARIES ASSOCIATION SCHOLARSHIPS

Eligibility: For graduate study leading to a Master's degree at a recognized school of library or information science in the United States or Canada. College graduates or college seniors (citizens of the U.S. or Canada) with an interest in special librarianship are eligible.

Value: Up to four \$6,000 scholarships.

Deadline: January 15.

Application: Further information and application forms may be obtained by writing to the Special Libraries Association, Scholarship Committee, 1700, 18th Street N.W., Washington DC 20009.

SYRA DEENA TARSHIS FLEISHMAN BURSARY

Value: \$200 from the fund founded in memory of a former student of the School.

VIVI MARTIN FELLOWSHIP

Established in 1999 through a bequest from Eleanore Roberta Powell in memory of Vivi Martin (B.A. 1945, B.L.S. 1948).

Eligibility: Awarded to a graduate student who will be enrolled in a program in the Graduate School of Library and Information Studies.

Value: Minimum \$5,000.

VIRGINIA MURRAY PRIZE FOR CATALOGUING

Eligibility: Awarded to the student in M.L.I.S. I who obtains the highest grade in course GLIS 607.

Value: Varies.

WENDY PATRICK AWARD

Eligibility: To be awarded annually to the student who has the highest grade in course GLIS 671.

Value: \$150 from the fund established by the McGill Medical and Health Libraries Association (MMAHLA) in 1989.

5.4.4 Management

ALVIN J. WALKER GRADUATE FELLOWSHIP

Eligibility: Established by the estate of the late Alvin J. Walker.

Awarded on the basis of academic merit to a student entering the M.B.A. program.

Value: \$1,500.

Application: No application is necessary; recipients are to be selected by the Faculty of Management Scholarships Committee.

SHEILA WELLINGTON BMO FINANCIAL GROUP AWARD

Established by the Bank of Montreal in 1996 for students in the Faculty of Management.

Eligibility: Awarded by the Faculty of Management Scholarships Committee on the basis of high academic standing, leadership skills and community involvement to full-time students continuing in the M.B.A. or B.Com. program. Preference is given to female students in programs related to finance and/or economics. Eligible students wishing to be considered for this award should submit a c.v. and appropriate documentation supporting their extra-curricular university or community contribution, to the Associate Dean, B.Com Program or the Associate Dean, M.B.A. Program.

Value: \$6,000 for graduate students and \$2,000 for undergraduates.

Deadline: April 30.

Application: Eligible students wishing to be considered for this award should submit a c.v. and appropriate documentation supporting their extra-curricular university or community contribution to the Associate, B.Com. program or the Associate Dean, M.B.A. program.

C. DOUGLAS MELLOR PRIZE

Established in 1981 by the Montreal-based Chartered Accountancy firms.

Value: \$1,000.

Application: Awarded to a student in the Graduate Diploma Program in Public Accountancy whose academic record is judged to be outstanding among those who graduate during the academic year.

ASSOCIATION DES M.B.A. DU QUÉBEC AWARD

This prize will be awarded to a graduating student on the basis of academic performance, and proven leadership both inside and outside the classroom.

Value: \$1,000.

DONALD E. ARMSTRONG AWARD

Established by Seymour Schulich (B.Sc. 1961, M.B.A. 1965) and Lawrence Bloomberg (M.B.A. 1965) in 1996 in honour of Donald E. Armstrong, founding Director of McGill's Graduate School of Commerce.

Eligibility: Awarded by the Faculty of Management Scholarships Committee on the basis of high academic standing, proven leadership skills and active involvement in the community to a student in the M.B.A. program. For further information contact the M.B.A. Office, Faculty of Management.

Value: Minimum \$3,000.

EDI SCHOLARSHIP

Eligibility: Preference given to Canadian students entering the second year of the full-time program from the part-time program.

Value: Up to \$2,000.

Deadline: November 1.

Application: Candidates must submit a curriculum vitae and a financial aid form. Application forms available mid-September, after registration.

H.E. HERSCHORN GRADUATE SCHOLARSHIP

Eligibility: Tenable by a student entering either the first or the second year of the M.B.A. program. Open to Canadian students only.

Value: Established in 1965, covering the amount of the current tuition fees.

Application: Awarded by the Faculty of Management Scholarships Committee, no application necessary.

HELGI SOUTAR FELLOWSHIP

Established in 1998 through the generosity of Ian Soutar in honour of his wife, Helgi Soutar.

Value: \$38,000.

Application: Awarded by the Faculty of Management Scholarships Committee to a student from Estonia in the M.B.A. program based on high academic achievement and strong leadership skills. Awardees are expected to return to Estonia at some future date.

KENNETH F. BYRD PRIZE

Established in 1981 by the Montreal-based Chartered Accountancy firms.

Value: \$1,000.

Application: Awarded to a student in the Graduate Diploma Program in Public Accountancy whose academic record is judged to be outstanding among those who graduate during the academic year.

LIONEL PELHAM KENT SCHOLARSHIP

Established in 1998 in memory of Lionel Pelham Kent, C.A. through the generosity of family and friends.

Eligibility: Open to students entering the final year of the C.A. program, who intend to continue their program of studies at McGill. Awarded by the Faculty of Management Scholarships Committee. The winner will be chosen based on outstanding skills in written and oral communication combined with high academic standing.

Value: \$1,500.

LATIN AMERICA AWARD

Two awards valued at \$9,000 will be granted to students from Latin America entering the first year of the M.B.A. program. This award will be based on academic excellence and will be renewable for the second year. All applicants to the M.B.A. program will be considered. Recipients will be notified at the time of admission.

M.B.A. ENTRANCE AWARD

Eligibility: The selection is based on academic excellence.

Value: Each year the Faculty of Management Scholarship Committee awards a limited number of M.B.A. Entrance Fellowships valued at approximately \$1,500 (non-renewable).

Application: No application is necessary. All applicants to the M.B.A. program will be considered. Recipients will be notified at the time of admission.

M.B.A. INTERNATIONAL STUDENT AWARD

All international students are considered for renewable awards.

The number and size of these awards vary from year to year. The selection is based on academic excellence. All applicants to the M.B.A. program will be considered. Recipient will be notified at the time of admission.

MCGILL ASSOCIATES MEDAL FOR GREAT DISTINCTION IN THE M.B.A. PROGRAM

Eligibility: Established by the McGill Associates, a sterling silver medal will be awarded each Spring by the Scholarships Committee of the Faculty of Management to the leading student in the full-time M.B.A. program.

NORMAN STRAUSS DOCTORAL FELLOWSHIP IN PROFESSIONAL ETHICS IN BUSINESS

Endowed in 1992 by Edith Strauss in memory of her husband, this fellowship is intended to commemorate the integrity and character of Norman Strauss.

Eligibility: Awarded by the Faculty of Management to support outstanding doctoral students in Management who have demonstrated an interest in researching, studying and promoting business ethics. Consideration may be given to students pursuing research in the area of corporate social responsibility. Standing in the program to be evaluated by the Ph.D. Program Director.

Value: \$10,000, renewable once, based on satisfactory standing in the program.

PLLARCZYK FELLOWSHIP

First awarded in 1997, this fellowship will be awarded every second year. The purpose of this award is to create a distinguished international fellowship that will enable outstanding students from Poland to pursue a two year Master of Business Administration at McGill Faculty of Management. The fellowship is intended to be a comprehensive award covering the principal expenses which such students will incur while in Canada. Fellowship applications must meet the following criteria; Polish citizen under 40 years of age; Degree equivalent to a Canadian Bachelors degree, record of high academic achievement; TOEFL of 600; 2 years work experience, a written essay on career goals and expectations. Successful candidates must plan to return to Poland and participate in its economic life.

ROGER C. BENNETT PRIZE IN MARKETING

Established in 1999 with the support of friends and family of the late Roger C. Bennett, distinguished Professor of Marketing (Faculty of Management), who had a zest for life.

Eligibility: Awarded by the Faculty of Management Scholarships Committee to a graduating M.B.A. student who has demonstrated academic achievement and community involvement.

Value: Minimum \$1,250.

SCHULICH SCHOLARSHIP FOR ENTREPRENEURSHIP

Eligibility: Awarded to Canadian students entering the first year of the full time program. This scholarship will be awarded on the basis of entrepreneurial experience, potential and general scholastic ability. Candidates must submit an application, a statement providing evidence of entrepreneurial potential, a business plan, a curriculum vitae and financial aid form.

Value: \$5,000.

Application: Recipients chosen after registration. Application forms available mid-September.

5.4.5 Music**General Regulations in Music**

- Scholarships, awards, prizes and bursaries available in the Faculty of Music are awarded at the discretion of the Dean and the Faculty Scholarships Committee. No applications are required as all incoming and current students will automatically be considered.
- Awards are generally made in the Spring on the basis of auditions and/or dossiers of incoming students, and after the Spring term on the basis of academic standing during the preceding Fall and Winter terms.

ARTHUR AND HELEN HENDERSON SCHOLARSHIP

Eligibility: Preference will be given to students in organ and church music. Open to both graduate and undergraduate students.

Value: Approximately \$1,400.

CLARA LICHTENSTEIN MEMORIAL FELLOWSHIP

Eligibility: To be awarded to an outstanding student for graduate studies in Music. Initiated by Helmut Blume in memory of Clara Lichtenstein, the first instructor in Music at the Royal Victoria College, prime mover in the founding of the McGill Conservatorium (1904) and its Vice-Director until her retirement in 1929.

Value: Approximately \$8,800.

ERIC AWARD

Eligibility: Awarded to a graduate or undergraduate student in the Faculty of Music for outstanding achievement in the field of electro-acoustic music. Awarded by the Faculty of Music Scholarships Committee on the recommendation of the staff of the Electronic Music Studio. Established by Kevin Austin (B.Mus.'70, M.M.A.'73).

Value: Approximately \$350.

FACULTY OF MUSIC ENTRANCE SCHOLARSHIPS

Eligibility: Available to all incoming graduate and undergraduate students in a degree or diploma program in Music. Awarded on the recommendation of the Department of Performance and the Department of Theory.

Value: \$2,000.

FACULTY OF MUSIC SCHOLARSHIPS

Eligibility: Available to all students in a degree or diploma program in Music, both graduate and undergraduate. The fund originated through the generosity of patrons of the Martlet Concert and Ball which took place in April 1960. Subsequently many former students and friends of the Faculty of Music have contributed to the fund.

Value: \$100 - \$1,150.

FLORENCE MARJORIE BRACE AWARD

Established in 1999 by the estate of Florence Agnes Biltcliffe Brace in loving memory of her daughter, Florence Marjorie Brace. Awarded by the Faculty of Music Scholarships Committee to an outstanding undergraduate or graduate student in Music.

Value: \$1,300.

GIAN LYMAN MEMORIAL SCHOLARSHIP

Eligibility: To be given to a graduate or undergraduate student who is specializing in either the performance or history of early music. Established by the contributions of the family, friends and colleagues of the late Gian Lyman, a distinguished graduate of McGill's Faculty of Music, who died on April 22, 1974.

Value: Approximately \$1,800.

GUSTAV AND ROMANA BLUME MEMORIAL SCHOLARSHIP

Established in 1982 by Helmut Blume in loving memory of his parents.

Eligibility: Awarded by the Faculty of Music Scholarships Committee to a graduate student. Preference may be given to a student in Performance.

Value: Approximately \$1,200.

HELEN HALL PRIZE

Established in honour of Helen Hall by her friends.

Eligibility: Preference given to voice majors or students specializing in choral conducting. Open to both graduate and undergraduate students.

Value: Approximately \$600.

HERBERT A. MORSE MEMORIAL SCHOLARSHIP

Established in 1990 through a bequest from Dorothy E.M. Fairbairn in memory of her father.

Eligibility: Awarded to an outstanding student in the Faculty of Music.

Value: Approximately \$3,800.

HERBERT C. CALEY AWARD

Eligibility: Preference given to a student specializing in the performance or history of Baroque and early music. Open to both graduate and undergraduate students. Established by Mrs. Maude Caley in memory of her husband who died December 24, 1980.

Value: Approximately \$600.

JULIUS SCHLOSS MEMORIAL AWARD

Eligibility: Established by Mr. and Mrs. Oscar Schloss in memory of their brother, the composer Julius Schloss (1902-1972), one of the foremost pupils of Alban Berg in Vienna during the late

1920s and early 1930s whose collected works were donated by the family to the McGill Faculty of Music. This award is to be made to a graduate student in Music on the recommendation of the Graduate Committee of the Faculty of Music.

Value: Approximately \$1,500.

LEWIS LUTTER BURSARY

Established in 1988 by the Guttman family in honour of Mr. Lewis Lutter, a loyal and devoted associate of many years of Progress Brand Clothes, Inc. Awarded by the Faculty of Music to assist a talented student in the Faculty who is in financial need.

LLOYD CARR-HARRIS STRING SCHOLARSHIP

Established in 1999 through a generous gift from the Lloyd Carr-Harris Foundation. Awarded by the Faculty of Music Scholarships Committee on the recommendation of the String Area to exceptionally gifted string players entering an undergraduate or graduate program in Performance.

Value: \$10,000; renewable twice.

LUBKA KOLESSA PIANO AWARD

Eligibility: Established in 2003 by friends and former students in honour of Lubka Kolessa, a legendary concert pianist and McGill Faculty of Music professor from 1960-1971. Awarded to an outstanding piano student by the Faculty of Music Scholarships Committee.

Value: Minimum \$500.

MARGARET HOULDING MEMORIAL PRIZE

Eligibility: Awarded to a student in the Faculty of Music. Established in 1984 by the friends of the late Margaret Houlding.

Value: Approximately \$800.

MARIANNA EATON SCHOLARSHIP

Eligibility: Awarded to a graduate student in the Faculty of Music. Established by a bequest from the late Marianna Eaton (née Marianna Soulé Van Doren).

Value: Approximately \$2,600.

MARVIN DUCHOW MEMORIAL SCHOLARSHIP

Eligibility: To be awarded annually to a graduate student in Music. Established by the family and friends of Prof. Marvin Duchow, in his memory.

Value: Approximately \$1,400.

MAURICE POLLACK FOUNDATION FELLOWSHIP

Eligibility: To be awarded to an outstanding student for graduate studies in Music. Initiated by the Foundation in memory of Maurice Pollack, man of commerce and great benefactor in the areas of education, religious institutions and communal welfare.

Value: Approximately \$4,600.

MAX STERN FELLOWSHIP IN MUSIC

Established in 1992 through a donation from the Max Stern estate.

Eligibility: Awarded by the GPSO to doctoral level students in Music on the recommendation of the Faculty of Music. Exceptional students at the Master's level who demonstrate potential for doctoral studies may be considered. No citizenship restrictions.

Value: \$12,000, renewable.

OLYMPIA GARIBALDI-GALAVARIS PRIZE

Established in 2000 by Dr. George Galavaris in honour of his mother's 76th birthday.

Eligibility: The award is open to graduate students in the Faculty of Music. Awarded by the Faculty of Music to a graduate student specializing in Musicology or Music Theory with a sub-specialty in Music before 1700.

Value: Minimum \$250.

PHYLLIS AND BERNARD SHAPIRO FELLOWSHIP IN THEORY

Established in 2002 by faculty, alumni, family and friends in honour of Phyllis and Bernard J. Shapiro. Dr. Bernard J. Shapiro was the

Principal and Vice-Chancellor of McGill University from 1994 to December 2002.

Eligibility: Awarded by the Faculty of Music Graduate Committee to a graduate student in the Department of Theory.

Value: Minimum \$5,000; renewable.

PHYLLIS AND BERNARD SHAPIRO FELLOWSHIPS IN OPERA

Established in 2002 by faculty, alumni, family and friends in honour of Phyllis and Bernard J. Shapiro. Dr. Bernard J. Shapiro was the Principal and Vice-Chancellor of McGill University from 1994 to December 2002.

Eligibility: Awarded by the Faculty of Music Graduate Committee to graduate or diploma students in Opera/Voice Performance.

Value: Minimum \$5,000; renewable.

PRIX DE LA SOCIÉTÉ DE MUSIQUE CANADIENNE

Eligibility: Established by La Fondation des Amis de l'Art.

Awarded to a Composition student, graduate or undergraduate, who is a Canadian citizen in alternating years to McGill and l'Université de Montréal. Available to McGill students in 2004-05.

Value: \$500.

RACHEL AND BENJAMIN SCHECTER MEMORIAL SCHOLARSHIP

Established in 1997 by a bequest from the late Dr. Samuel Schecter in memory of his parents, Rachel and Benjamin Schecter. Awarded by the Faculty of Music Scholarships Committee to any full-time student in a degree or diploma in Music.

Value: \$3,600.

SARA BERLIND MEMORIAL FELLOWSHIP

Established by a bequest from Sara Berlind.

Eligibility: Awarded by the Faculty of Music to an outstanding student to pursue graduate studies in Music.

Value: \$5,000.

VERNA-MARIE PARR GÉLINAS AND PAUL-MARCEL GÉLINAS SCHOLARSHIPS

Established in 1998 by Verna-Marie Parr Gélinas, Dip. Social Work 1938, and Paul-Marcel Gélinas.

Eligibility: Awarded by the Faculty of Music to talented students studying in an undergraduate or graduate program in the Faculty of Music. Preference will be given to instrumentalists in the McGill Symphony Orchestra.

Value: Minimum \$1,800 each.

5.4.6 Religious Studies

A.R. GORDON AWARDS

Established in 1998 by a bequest from Janette R. Gordon in memory of her father, Rev. Alexander Reid Gordon, who was a Professor of Hebrew and Old Testament Literature at McGill University from 1907-1930.

Eligibility: Awarded on the basis of academic merit, by the Faculty of Religious Studies, to an undergraduate or graduate student in the United Theological College.

Value: \$3,000.

Application: Apply to the Dean of the Faculty of Religious Studies.

ARTHUR AND JESSIE LOCHEAD BURSARY FUND

Eligibility: For students planning to enter the Christian Ministry. Awarded on the basis of need.

Value: Varies.

Application: Apply to the Dean of the Faculty of Religious Studies.

DEIRDRE AND ROBERT STEVENSON AWARD

Eligibility: For students entering a graduate program at the Faculty of Religious Studies in which the study of Asian religions is a major component.

Value: \$3,000.

Application: Awarded by the Faculty of Religious Studies.

HOUSTON BURSARY

Established by a bequest from Thomas Houston.

Eligibility: For students in the Faculty of Arts and the Faculty of Religious Studies studying for the ministry of the Presbyterian Church in Canada or the United Church of Canada, with preference given to candidates whose mother tongue is French.

Value: Approximately \$500.

Application: Awarded by the Faculty of Religious Studies.

RELIGIOUS STUDIES BURSARY FUND

Eligibility: Established in 1980 by anonymous donors for undergraduate and graduate students in theological degree programs in the Faculty of Religious Studies. Awarded by the Faculty of Religious Studies on the basis of academic standing and financial need.

Value: Varies.

SAMUEL FINLEY NATIONAL BURSARY

Eligibility: Awarded at the discretion of the Dean of the Faculty of Religious Studies to a graduate student who is pursuing advanced studies in religion or theology.

Value: Usually \$300.

TOPPING MEMORIAL BURSARY

Established in 1976 by C.W. Topping in memory of his father, the Reverend N.B. Topping, a minister of the Methodist Church of Canada for fifty years.

Eligibility: Awarded at the discretion of the Dean of the Faculty of Religious Studies to a graduate student pursuing advanced studies in religion or theology who has financial need and shows promise of becoming both a scholar and a humanitarian.

Value: Varies.

5.4.7 Social Work

ESTHER KERRY AWARD

Established by the Alumni Committee of the School of Social Work to honour Esther Kerry, a valuable member of the Committee for many years.

Eligibility: Awarded to a student who wishes to pursue graduate studies in Social Work.

Value: Varies.

FREDA L. PALTIEL AWARD FOR IMMIGRANT AND MINORITY WOMEN'S HEALTH AND DEVELOPMENT

Eligibility: For students or faculty of the McGill School of Social Work to undertake a research, service or demonstration project concerned with the health needs of immigrant and visible minority women and their families. Preference will be given to projects undertaken with the involvement of the intended beneficiaries.

Value: Varies.

Deadline: September 1.

Application: Apply to the Director of the School of Social Work.

HAZELDINE SMITH BISHOP FELLOWSHIP

Established in 1998 by a bequest from Hazeldine Smith Bishop who received a diploma from the Montreal School of Social Work in 1944.

Eligibility: Awarded by the School of Social Work, on the basis of academic standing, to graduate students pursuing studies in community development and administration.

Value: Maximum \$15,000.

KEEFER FELLOWSHIP

Established by Mr. George Keefer.

Eligibility: Tenable by a student in Social Work who wishes to pursue graduate studies in social work practice related to the elderly.

Value: Varies.

LOTTE MARCUS SHELDON PRIZE

Established in 2000 by a bequest from Lotte Marcus Sheldon, a former faculty member of the School of Social Work. Awarded

annually by the School to a graduate student in Social Work who has generated a particularly innovative research or service project.
Value: Minimum \$500.

MARGARET GRIFFITHS AWARD IN CHILD WELFARE

Established in 1994 through a bequest from Professor Margaret Griffiths, a long-time member of the faculty of the McGill School of Social Work.

Eligibility: Awarded annually by the School of Social Work on the basis of academic and professional merit to an incoming full-time student in the Master of Social Work program, with a declared interest in services to children.

Value: Varies.

MARGARET MARY BURNS AWARD

Established in 1997 by a bequest from Margaret Mary Burns who received a Diploma from the Montreal School of Social Work in 1944.

Eligibility: Awarded on the basis of academic standing to graduate students by the School of Social Work.

Value: Maximum Varies.

MIRIAM AND E. MICHAEL BERGER FELLOWSHIP

Eligibility: Awarded annually by the School of Social Work to a graduate student of the School whose area of practice or research is in the field of community organization and/or social policy and who demonstrates academic competence and financial need.

Value: Varies.

MYER KATZ FELLOWSHIP IN SOCIAL WORK

Established in 1986 by contributions from former students, colleagues and friends, the School of Social Work Alumni Committee, and the McGill Advancement Program, on the occasion of the retirement of Professor Myer Katz from the Directorship of the School of Social Work.

Eligibility: Awarded annually to a student pursuing graduate studies related to clinical social work practice.

Value: Varies.

SCHOOL OF SOCIAL WORK ALUMNI PRIZES

The Alumni Committee of the School makes three awards each year to graduating M.S.W. students:

- 1) Alumni Prize for the Outstanding M.S.W. Thesis
- 2) Alumni Award for Excellence in Clinical Practice
- 3) Alumni Prize for the Outstanding M.S.W. Independent Study Project

Value: \$200 each.

6 Student Financial Assistance

6.1 Government Student Aid

6.1.1 Citizens and Permanent Residents of Canada

Need-based student financial aid programs are offered by the federal/provincial governments. Applications should be directed directly to the province (or territory) of residence. Application forms are available from the governmental authorities as well as the Student Aid Office. In formation on governmental student aid and links can be found on McGill's Financial Aid Website at www.mcgill.ca/stuserv/aid/aid.htm.

6.1.2 Citizens and Permanent Residents of the United States

Stafford Loans (subsidized and unsubsidized) and parental loans (PLUS) are available for studies at McGill. Students must submit a FAFSA application to have their financial need assessed. FAFSA may be completed on the Web at www.fafsa.ed.gov. The resulting SAR and a Master Promissory Note (Stafford Application) is submitted to the Student Aid Office. Students may contact the Office

for information on alternative loan programs and should also check with banks and other lending organizations in the U.S.

More information can be found on McGill's Financial Aid Website at www.mcgill.ca/stuserv/aid/aid.htm.

6.2 McGill Student Aid

The Student Aid Office administers the University's need-based financial aid programs which includes short-term loans, limited bursary assistance and a Work-Study program. All applicants for aid must first apply for the maximum government assistance for which they may be eligible. The Office is located in the Brown Student Services Building, 3600 McTavish, suite 3200, Telephone (514) 398-6013/14. A limited number of small bursaries are awarded on the basis of financial need and academic standing. Funding for the bursaries comes from several different sources at McGill including an annual transfer of funds to the Student Aid Office from the Graduate and Postdoctoral Studies Office.

CAROLINE AND RICHARD RENAUD BURSARIES

Endowed in 1999 with a generous gift from Carolyn and Richard Renaud.

Eligibility: Awarded on the basis of financial need by the Student Aid Office to students entering or enrolled in graduate studies at McGill with a preference to students in programs in the Graduate School of Library and Information Studies.

EBEN HOPSON BURSARY FOR STUDY AT MCGILL

Established in 1988 through a donation from the North Slope Borough of Alaska in honour of the late Eben Hopson, Mayor of the North Slope Borough from 1972 to 1980, to advance the pursuit, promotion and sharing of knowledge in those areas which are of common interest and relevance to the scientific, social and economic development, and the greater welfare of the North Slope Borough and the countries of the Circumpolar North.

Eligibility: For the support of students from the North Slope Borough of Alaska for graduate or undergraduate studies at McGill in any field deemed in the welfare of the North Slope Borough.

Application: Applications should be submitted to the GPSO and awards will be made by the Eben Hopson Fellowship committee and the North Slope Mayor or designee.

Value: \$6,000. Awards are renewable for a second year of Masters study to a fourth year of Doctoral studies and Bachelor's study.

GEORGES, PAUL AND ROBERT MASSON BURSARIES IN SCIENCE

Established in 2002 by Georges Masson, Ph.D. 1942, Paul Masson, B.A. 1968, and Robert Masson, B.Sc. 2002, to commemorate the three generations of Massons at McGill.

Eligibility: Awarded to one or more students in any department in the Faculty of Science. Preference shall be given to students in the departments of Biology and Mathematics. Awarded by the Student Aid Office on the basis of financial need.

GRADUATE STUDENTS' BURSARY FUND

Established in 1989 by the GPSO to assist full-time students in any graduate degree program. Awarded by the Student Aid Office to students requiring financial assistance to pursue studies or research at McGill.

GRADUATE STUDENTS' LOAN FUND

Established in 1951 by the Board of Governors for students in Graduate Studies.

IRVING ORRIN VINCENT BURSARY

Established by Mrs. J.B. Owen in memory of her father, the late Irving Orrin Vincent, B.A. 1907, M.A. 1908, a noted teacher and Principal of Edward VII School in Montreal from 1912 until his death in 1920.

Eligibility: Awarded annually by the Student Aid Office on the basis of academic merit and financial need to a graduating stu-

dent in the Faculty of Arts proceeding towards an M.A., M.Ed., or Doctorate in Classics or Education.

JENNIE AND JOSEPH SALOMON MEMORIAL BURSARY

Eligibility: Established by the children of Mr. and Mrs. J. Salomon in their memory. Awarded to a deserving student in need who has completed the final undergraduate year in the Faculty of Arts or Science, and is entering a graduate program. Tenable for one year.

VAN BERKOM AND ASSOCIATES INC. BURSARY

Established in 1998 by Van Berkomp and Associates Inc., an investment management firm specializing in small capitalization stocks. Awarded by the Student Aid Office to full-time students entering their second year of the MBA program, on the basis of high academic standing and financial need. Preference will be given to students pursuing a concentration in finance who wish to pursue a career in investment management.

Value: \$2,000.

7 Postdoctoral Fellowships

In accordance with McGill University's *Guidelines for Academic Units on Postdoctoral Education (Senate, April 2000)*, all internal and external postdoctoral fellowships with a value lower than the minimum financial support stipulated in the guidelines will be supplemented from sources other than the individual's personal means, including faculty or departmental funds, research grants or contracts or other allowable funds.

The guidelines stipulate that a postdoc must be assured of financial support, other than from personal means, during his/her stay in the University equivalent at the time of appointment to at least 90% of the lesser of either the federal (NSERC, SSHRC or CIHR) or the provincial (FQRNT, FRSQ or FQRSC) research council postdoctoral fellowship pertinent to his/her discipline.

Subject to change in regard of the value of the council fellowships, the minimum funding level in each disciplinary area in 2002-03 is:

- Social Sciences and Humanities: \$27,000
- Natural Sciences and Engineering: \$27,000
- Medical and Health Sciences: \$27,000

Individuals seeking postdoctoral funding in medical sciences may wish to contact the Research and Graduate Studies Office, McGill Faculty of Medicine, 6th floor, McIntyre Medical Building, 3655 Promenade Sir William Osler, which often receives postdoctoral funding information directly from external agencies.

An informal information site on postdoctoral fellowships and employment in the Sciences and Health Sciences has been compiled by the Association Bernard Gregory in France at www.abg.asso.fr under "L'emploi sur Internet". It provides links with various relevant sites.

SPIN Database by InfoEd International: McGill University subscribes to the SPIN database for sources of research funding. Please refer to section 2.3, "Funding Information on the Web".

7.1 Internal Postdoctoral Fellowships

AMY WONG FELLOWSHIP

黃辛炯僖夫人獎學金

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959) from Hong Kong.

Eligibility: Awarded to a qualified student from China, including Hong Kong, who is an entering postdoctoral scholar, Ph.D. or M.Sc. student conducting agricultural production/food related research in the Faculty of Agricultural and Environmental Sciences. Awarded by the Dean of the Faculty in consultation with the departments. The recipients are expected to return to their home country after the completion of their studies.

Value: Minimum \$20,000. Renewable once at the master's level and twice for postdoctoral or doctoral levels.

COMMANDER C. BELLAIRS POSTDOCTORAL FELLOWSHIPS

Eligibility: Tenable at the Bellairs Research Institute of McGill University, St. James, Barbados, for research in marine related fields including: biology, ecology, behavioural and avian ecology, geography and geology. Candidates should have recently attained their Ph.D. and must clearly demonstrate a definite need to carry out their research at the Institute.

Value: \$20,000 per year, plus travel expenses. Renewable once.

Deadline: April 1 to the GPSO Fellowships and Awards Section.

Check availability with for 2005 GPSO in February.

Additional information and application forms are available from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships.

OFA # 125

CONRAD F. HARRINGTON POSTDOCTORAL FELLOWSHIPS

Established in 1999 in honour of Conrad F. Harrington in recognition of his leadership in developing in McGill University Health Centre.

Eligibility: The postdoctoral fellowship in the area of amyotrophic lateral sclerosis (ALS) will support researchers who have received their M.D. or Ph.D. degrees and who wish to advance their research careers in the Faculty of Medicine in the McGill University Health Centre. In the event that there are no candidates investigating ALS, the fellowship will be awarded to support a postdoctoral candidate working in a related area of neurological disease. Awarded by the Postgraduate Award Committee of the Faculty of Medicine.

Value: \$17,000.

OFA # 157

DR. DAVID T.W. LIN FELLOWSHIP

林達威醫生獎學金

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in recognition of Dr. David T.W. Lin, B.Sc. 1937, M.D., C.M. 1940, a surgeon emeritus at the Royal Victoria Hospital, to support medical research.

Eligibility: Awarded by the Postgraduate Awards Committee of the Faculty of Medicine to a student at the postdoctoral, Ph.D. or M.Sc. level.

Value: Minimum \$20,000.

DR. ROBERT G.H. LEE FELLOWSHIP

李甘棠博士獎學金

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in honour of Dr. Robert G.H. Lee, B. Eng. 1947 (Metallurgical Engineering).

Value: Minimum \$15,000. Renewable once at the master's level and twice at the postdoctoral or doctoral levels.

Application: Awarded by the GPSO on the recommendation of the Faculty of Engineering to an entering postdoctoral, doctoral or master's student in either Chemical Engineering or Mining and Metallurgical Engineering.

DR. WAH LEUNG FELLOWSHIP

梁甦華牙醫獎學金

Established in 1998 by a generous gift from a McGill graduate of Chemical Engineering (Class of 1959), from Hong Kong, in honour of Dr. Wah Leung, the first Dean of Dentistry at the University of British Columbia.

Eligibility: Awarded by the Faculty of Dentistry to an entering postdoctoral, doctoral or master's student in the Faculty of Dentistry who is working in pain, oral cancer or bone tissue research.

Value: Minimum \$20,000. Renewable once at the master's level and twice at the postdoctoral and doctoral levels.

DR. YU-MING LAM FELLOWSHIP

Established in 1999 by a generous gift from Dr. Yu-Ming Lam (DDS 1972) and family in honour of Mr. Yin Bun Lam.

Eligibility: Awarded by the Faculty of Dentistry to an entering postdoctoral, doctoral or master's student in the Faculty of Dentistry.

Value: \$10,000. Tenable for one year.

MCLAUGHLIN FELLOWSHIP

Established by the R. Samuel McLaughlin Foundation for post-M.D. fellows undertaking research within McGill University and affiliated hospitals.

Eligibility: The Fellowship will be awarded by the Postgraduate Awards Committee of the Faculty of Medicine for one year, but the recipient is eligible to re-enter the competition for a second year of support. Applicants must be eligible to practice in Quebec.

Value: Minimum \$25,000.

PETER QUINLAN FELLOWSHIP

To honor the memory of Peter Quinlan, a fellowship fund has been established in his name by his family and friends.

Eligibility: The Peter Quinlan Fellowship will support young researchers (M.D. or Ph.D.) who wish to undertake postdoctoral training in Oncology at McGill University and its affiliated hospitals under the direction of a member of the Faculty of Medicine. The Fellowship will be awarded by the Postgraduate Awards Committee of the Faculty of Medicine for one year, but the recipient is eligible to re-enter the competition for a second year of support.

Value: Stipend will follow CIHR salary scale.

RICHARD H. TOMLINSON POSTDOCTORAL FELLOWSHIPS

Established in 2000 through a very generous gift from Dr. Richard H. Tomlinson (Ph.D. 1948). Awarded annually by the GPSO to recruit outstanding individuals into postdoctoral positions in any department at McGill University. Tomlinson Fellows who accept a fellowship from an agency external to McGill will be entitled to one-half the full value of the Tomlinson Fellowship.

Eligibility: The Tomlinson Postdoctoral Fellowships are for new postdoctoral scholars accepted into a postdoctoral research position at any department at McGill University.

Value: \$30,000, renewable annually based on satisfactory progress, to a maximum tenure of 2 years for postdoctoral level.

Application: Applications for a Tomlinson Postdoctoral Fellowship must reach the intended department by December 1, 2003 and should be accompanied by a letter from a McGill faculty member indicating their willingness to supervise the applicant's postdoctoral research in the event a fellowship is awarded. Current doctoral students and postdoctoral scholars at McGill are not eligible to apply.

Deadline: December 1.

www.mcgill.ca/gps/fellowships

SUSTAINABLE AGRICULTURE FELLOWSHIP

Established in 1995 through an endowment by a graduate of the Macdonald Farm Management and Technology Program, to foster innovative research in sustainable development that might not otherwise find support through traditional funding sources.

Eligibility: The proposed research would address themes such as food systems, agriculture, conservation, and the environment; sustainable systems and the community; issues in Canada's North; and food, nutrition and community development.

Value: \$35,000 at the postdoctoral level, may be renewable once.

Deadline: February 1, to Scholarships Committee for a fellowship commencing September 1.

Application: Awarded by the Faculty of Agricultural and Environmental Sciences Scholarship Committee on the basis of academic merit and suitability of the proposed research to the fellowship theme. Priority will be given to postdoctoral fellows. Additional information is available from the Macdonald Campus Student Affairs Office, 2111 Lakeshore, Ste-Anne-de-Bellevue, Quebec, H9X 3V9. Doctoral candidates will be considered in the second round if no suitable postdoctoral candidate is found.

7.2 External Postdoctoral Fellowships**ANDREW W. MELLON POSTDOCTORAL FELLOWSHIPS IN THE HUMANITIES AT STANFORD UNIVERSITY**

Eligibility: Applicants must be US Citizens or Permanent Residents. For scholar-teachers in the humanities, tenable at Stanford University, who will be receiving a Ph.D. no more than one year prior to the competition or on track to finish the degree program by the end of the academic years. Limited teaching duties are required.

Value: \$37,750 US per year, renewable.

Deadline: To be announced.

Application: Additional information and forms are available from the Office of the Dean, School of Humanities and Sciences, Stanford University, Stanford, California USA.

Tel:(415)723-9785. E-mail: mcahill@leland.stanford.edu; www.stanford.edu.

OFA # 269

CANADIAN HEALTH SERVICES RESEARCH FOUNDATION (CHSRF) POSTDOCTORAL AWARD COMPETITION

Candidates may be from any discipline or health professional background, but must have formal research training and some research experience related to applied health services or health policy. Targeted disciplines or professional backgrounds include, but are not limited to: social sciences and humanities, nursing, applied health services and policy, medicine, dentistry, pharmacy, optometry, veterinary medicine, chiropractic, and rehabilitative science.

Value: \$40,000 plus research allowance of \$5,000.

Application: Applications are due at the foundation by February 15. An application form is not required, but format and content guidelines must be observed. Information and guidelines can be found at

www.chsrf.ca/cadre/postdoctoral_awards_e.shtml.

CANADIAN INSTITUTES FOR HEALTH RESEARCH (CIHR) POSTDOCTORAL FELLOWSHIPS

Eligibility: A candidate must hold, or be completing, either a Ph.D. or a health professional degree (or equivalent) in a field such as medicine, dentistry, pharmacy, optometry, veterinary medicine, chiropractic, nursing or rehabilitative science. (Candidates cannot hold the award in the department where they received their Ph.D.)

Value: Varies from \$38,000 to \$47,500 plus research allowance (renewable).

Deadline: Applications are considered at two deadlines, October 1 and February 1.

Application: Application forms and the Grants and Awards Guide are available only on the Web. Further information is available from CIHR, 410 Laurier Avenue W., 9th floor, Ottawa, Ontario, K1A0W9, www.cihr.ca.

OFA #189

CHATEAUBRIAND SCHOLARSHIPS (POSTDOCTORAL)

Eligibility: This program offers young Canadian researchers the opportunity of a 6 to 12 month assignment in French universities, agencies or private sector. Candidates must be Canadian citizens and have received their Ph.D. in the last three years.

Value: Return travel to France, 1300 euros for a period of nine months, plus medical insurance and cost of travel.

Deadline: January 31.

Application: Information regarding specific application requirements and application forms are available from the Ambassade de France au Canada, Service scientifique, 464 Wilbrod Street, Ottawa, Ontario K1N 6M8 Fax: (613) 238-7884, Tel: (613) 593-7412, <http://ambafrance-ca.org/HYPER-LAB/FFCR/index.html>.

OFA # 229

CHIANG CHING-KUO FOUNDATION – FELLOWSHIP AWARDS (POSTDOCTORAL)

Eligibility: For postdoctoral research in the field of Chinese studies in the humanities and social sciences. Tenable anywhere.

Value: varies depending on availability of funds and needs of applicant.

Deadline: February 1.

Application: Additional information and forms are available from the CASA/ACEA, Centre d'études de l'Asie de l'est, Université de Montréal, C.P. 6128, Succursale centre-Ville, Montréal, Québec H3C 3J7. Tel: (514) 343-6569, E-mail: denm@cetase.umontreal.ca; www.casa.umontreal.ca.

OFA # 113

FONDATION DU PRÊT D'HONNEUR BOURSES DE RECHERCHE POSTDOCTORALE

Eligibility: Established in 1970, these postdoctoral awards were created to promote research in the social and economic field, particularly important for the development of Quebec. Candidates must be about to receive their doctoral degrees or have recently received them and have received a degree from a Quebec university within the last eight years. Applicants must also be Canadian citizens, or Permanent Residents and be a resident of Quebec for three years.

Value: \$20,000 for one year (may be renewable).

Deadline: February 1.

Application: Information and application forms available from the Comité des bourses postdoctorales, La Fondation du Prêt d'Honneur, Maison Ludger-Duvernay, 82 rue Sherbrooke ouest, Montréal, Québec H2X 1X3. Tel: (514) 843-8851. E-mail: sbouchard@ssjb.com.

OFA # 50

FONDS DE LA RECHERCHE EN SANTÉ DU QUÉBEC (FRSQ) POSTDOCTORAL TRAINING FELLOWSHIPS

Eligibility: Fellowships for postdoctoral research training (full-time) in health sciences. The candidate must hold either an M.D. or Ph.D. or equivalent in one of the health sciences or in a discipline with a specialization in health (sociology, psychology, anthropology, environment, biology, etc.), and must plan to undertake full-time research training in a university different from the one in which the doctoral degree was obtained. Applicants must be Canadian citizens or Permanent Residents when the fellowship commences. Some awards may also be awarded to non-Canadians.

Value: Varies from \$30,000 to \$39,323, renewable.

Deadline: October 15.

Application: Information regarding specific application requirements and application forms are available on the Web or from FRSQ, 550, rue Sherbrooke ouest, Bureau 1950, Montréal, Québec H3A 1B7. Tel: (514)873-2114; www.frsq.gouv.qc.ca

OFA # 345

FONDS QUÉBÉCOIS DE LA RECHERCHE SUR LA NATURE ET LES TECHNOLOGIES (FQRNT) (FORMERLY FCAR) BOURSES POSTDOCTORALES

Eligibility: These fellowships are offered to candidates who (during the last 2 years) have completed their doctoral studies in Quebec and now wish to undertake a post-doctoral position outside of the province or, have completed their Ph.D. elsewhere and wish to undertake post-doctoral work in a Quebec university. Candidates must be Canadian citizens or Permanent Residents, and residents of Québec.

Value: \$30,000 per year, up to two years.

Deadline: October 15 (confirm deadline with offices below).

Application: Forms are available on the Web or from FQRNT 140, Grande-Allée Est, Bureau 450, Québec, Québec, G1R 5M8. Tel:(418) 643-8560 or 1-888-653-6512; www.nateq.gouv.qc.ca

OFA # 371

FONDS DE RECHERCHE SUR LA SOCIÉTÉ ET LA CULTURE (FQRSC) BOURSES POSTDOCTORALES

Based on past experience with CQRS, there was a fall competition deadline of mid-October. At the time of publication, information for the new FQRSC postdoctoral fellowship competition was not yet available. Please check the FQRSC Web site for precise dates and eligibility criteria. www.fqrsc.gouv.qc.ca

Value: \$30,000 may be renewable.

FOREIGN GOVERNMENT AWARDS (POSTDOCTORAL)

The International Council for Canadian Studies (ICCS) administers a number of foreign government awards (including postdoctoral level support) on behalf of the Government of Canada and other foreign governments.

Eligibility: A common condition is that the applicant be a Canadian citizen and have completed a Ph.D. by the beginning of tenure of the award.

Value: Covers monthly living allowance, tuition and related fees, plus return travel (duration and actual value varies by country).

Deadline: Varies (confirm deadline with offices below).

Applications: Can be obtained on the Web or from the International Council for Canadian Studies, 75 Albert Street, S-908, Ottawa, Ontario, K1P 5E7. Tel: (613) 789-7828, www.scholarships-bourses-ca.org, e-mail: general@iccs.cic.ca or the GPSO Fellowships and Awards Section.

Countries currently supported:

Colombia, Finland, France, Germany (DAAD), Italy, Japan, Korea, Mexico, Chile, the Philippines, Netherlands, Russia and Spain.

Awaiting approval: Philippines.

OFA # 499

HANNAH INSTITUTE FELLOWSHIPS FOR POSTDOCTORAL STUDY IN THE HISTORY OF MEDICINE

Eligibility: Candidates must be Canadian citizens or Permanent Residents who have completed their Ph.D. or M.D. in the last three years, or will be doing so before November 1. Any applicant who can submit official documentation of a successful defence by February 1 will also be considered.

Value: \$28,500 to 35,000.

Deadline: November 1 (confirm with Hannah Institute).

Application: Information and applications may be obtained from the Associated Medical Services Inc. Web site: www.ams-inc.on.ca. Apply directly to Associated Medical services Inc. 14 Prince Arthur Avenue, Suite 101, Toronto, Ontario, M5R1A9. Tel: (416) 924-3368. E-mail: grants@ams-inc.on.ca.

OFA # 430

INSTITUT DE RECHERCHE EN SANTÉ ET EN SÉCURITÉ DU TRAVAIL DU QUÉBEC (IRSST) - BOURSES POSTDOCTORALES DE RECHERCHE

Eligibility: Candidates must be Canadian citizens or Permanent Residents, domiciled in Quebec and must possess a Ph.D. for no more than 4 years. Selection will take into account the relation of the proposed project to the priorities of the IRSST. Each application will be reviewed separately.

Value: \$27,000 - \$36,000. (Fellows whose program will be carried out outside Quebec may receive travel costs and some allowance for dependents.)

Deadline: First Tuesday in November.

Application: Information regarding specific application requirements and application forms are available from the GPSO Fellowships and Awards Section; the McGill Department of Occupational Health, Charles Meredith House, 1130 Pine Avenue; or the Institut de recherche en santé et en sécurité du travail du Québec, 505 boul. de Maisonneuve ouest, Montréal, Québec H3A 3C2. Tel: (514) 288-1551. E-mail: publications@irsst.qc.ca, www.irsst.qc.ca.

OFA #463

INSTITUT NATIONAL DE LA RECHERCHE SCIENTIFIQUE (INRS) POSTDOCTORAL FELLOWSHIPS

Eligibility: The INRS offers postdoctoral fellowships to researchers wishing to join research teams within one of its seven centres (affiliated with the Université du Québec located throughout the province). These carry out research on: culture and society, water, energy and materials, geological sciences, oceanography, health, telecommunications and urban planning. Candidates must have either recently completed their doctoral studies or be in the final stages.

Value: Approximately \$26,000 (renewable).

Deadline: March 26.

Application: Information regarding specific application requirements available from the INRS, 2600, boul. Laurier, Tour de la Cité, bureau 640, Case Postale 7500, Sainte-Foy, Québec G1V 4C7. Tel: (418) 654-2517. Fax: (418) 654-3858.

E-mail: rene-paul_fournier@inrs.quebec.ca; www.inrs.quebec.ca.

OFA #411

J. LOUIS LÉVESQUE POSTDOCTORAL FELLOWSHIP

Eligibility: The Fondation Armand-Frappier offers two \$25,000 Postdoctoral fellowships to candidates having recently obtained their doctoral degrees. The awardees train at the Institut Armand-Frappier in epidemiology, immunology, applied and environmental microbiology, vaccines and virology.

Value: \$30,000, renewable once.

Deadline: April 15.

Application: Information regarding specific application requirements available from the President, J. Louis Lévesque Fellowship Award Committee, Fondation Armand-Frappier, 531 boul. des Prairies, Ville de Laval, Québec H7V 1B7.

Tel: (514) 686-5360. Web site: www.inrs-iaf.quebec.ca

E-mail: Monique.lafond@inrs-laf.quebec.ca.

OFA # 232

JSPS POSTDOCTORAL FELLOWSHIPS FOR FOREIGN RESEARCHERS

This Japan Society for the Promotion of Science (JSPS) fellowship was established to assist foreign researchers wishing to conduct research in Japan.

Eligibility: Candidates must be a citizen of a country that has diplomatic relations with Japan, have obtained a doctoral degree within the five years preceding award tenure. Preference for natural sciences and engineering.

Value: Covers monthly living allowance, return travel, dependents allowance and medical insurance, for one year (renewable).

Deadline: Two applications periods, May and September.

Application: There are two nomination routes: a) through the nominating authority in the applicant's country (in Canada, NSERC); b) through a Japanese host researcher. Information and application materials available from Japanese Programs, NSERC, 350 Albert Street, Ottawa, Ontario, K1A 1H5. Tel: (613) 996-2009. E-mail: cep@nserc.ca. Web site: www.jsps.go.jp

OFA # 203

JUVENILE DIABETES FOUNDATION POSTDOCTORAL FELLOWSHIPS IN DIABETES RESEARCH

Eligibility: By the beginning of the period of support sought, applicant must hold a doctoral degree or equivalent from an accredited institution and must not be simultaneously serving an internship or residency. Applicants must be sponsored by an investigator affiliated full-time with an accredited institution, who agrees to supervise the applicant's training. The sponsor need not have a background in diabetes, but the research project must be diabetes-related.

Value: \$31,092 - \$44,616 for 2 years, \$5,500 research allowance. Based on number of years of relevant postdoctoral experience. Consists of a stipend and research allowance.

Deadline: September 15 and February 1.

Application: Information and application materials available from Grant Administrator, Juvenile Diabetes Foundation International,

120 Wall Street, 19th floor, New York, NY, 10005 USA.

Tel: (212) 785-9500. www.jdfrf.org/

OFA # 194

NATIONAL RESEARCH COUNCIL (NRC) RESEARCH ASSOCIATESHIPS

Eligibility: Candidates must have recently acquired (within the last five years) or expect soon to acquire a Ph.D. in a natural science or engineering field, or Master's degree in an engineering field. Associateships are open to nationals of all countries, but preference is given to Canadians. Research associates will be offered appointments to the staff of NRC, tenable at one of NRC's 16 laboratories.

Value: \$43,890 per year (usually for a two-year term), plus travel expenses.

Application: Information regarding specific requirements is available from the Research Associates Office, NRC, Montreal Road Building m-58, room E-U6, Ottawa, Ontario K1A 0R6. Tel: (613) 998-4126. Fax: (613) 954-1471. E-mail: ra.coordinator@nrc.ca; www.nrc.ca.

OFA # 112

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC) INDUSTRIAL RESEARCH POSTDOCTORAL FELLOWSHIPS

Eligibility: Candidates must hold or expect to hold a Ph.D. in a discipline supported by NSERC, by the proposed date of appointment. These fellowships are intended primarily for new doctoral graduates seeking employment in Canadian industry for the first time (a list of eligible nominating organizations and companies is available from the addresses below). Candidates must be nominated by an eligible organization or company to be considered for funding. Candidates must be Canadian citizens or Permanent Residents.

Value: \$30,000 (plus company contribution of \$10,000 minimum per year) plus travel expenses per year for a two-year period.

Deadline: Four competitions each year. (See NSERC Web site for details.)

Nomination/Application: Fellowship guide and application forms are available only on the Web. Further information available from the GPSO Fellowships and Awards Section or NSERC, Constitution Square, Tower II, 350 Albert Street, Ottawa, Ontario, K1A 1H5. Tel: (613) 996-3762 or 996-3769, www.nserc.ca. All inquiries related to this program should be directed to NSERC.

OFA # 375

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC) POSTDOCTORAL FELLOWSHIPS

Eligibility: Candidates must be Canadian citizens or Permanent Residents who have recently obtained, or are about to obtain a Ph.D. degree (in a field of research supported by NSERC). Funding is available to undertake postdoctoral research in one of the fields supported by NSERC. Awards are tenable at a Canadian university, provincial research council, as well as universities and research councils abroad.

Value: \$40,000 per year for two years.

Deadline: To NSERC by November 15.

Application: Fellowship guide and application forms are available only on the Web. Further information available from the GPSO Fellowships and Awards Section and many McGill departments in October or directly from Scholarships and International Programs, NSERC, Constitution Square, Tower II, 350 Albert Street, Ottawa, Ontario, K1A1H5. Tel: (613) 996-3762, www.nserc.ca.

OFA # 375

NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL (NSERC) VISITING FELLOWSHIPS IN CANADIAN GOVERNMENT LABORATORIES (VF)

Eligibility: Candidates must have received a Ph.D. within the last five years. There are no citizenship restrictions but there are quotas. Please consult the NSERC Web site. The fellowship is tenable in a number of Canadian government laboratories in the

areas of agriculture, communications, environment, health, fisheries, etc.

Value: \$40,800 per year, renewable for up to two more years.

Deadline: No deadline.

Application: Fellowship guide and application forms are available only on the Web. Further information available from Visiting Fellowship's Office, NSERC, Constitution Square, Tower II, 350 Albert Street, Ottawa, Ontario, K1A 1H5. Tel: (613)996-3762, www.nserc.ca.

OFA # 374

ORGANIZATION OF AMERICAN STATES (POSTDOCTORAL) FELLOWSHIPS

Eligibility: Offered to Canadian citizens and Permanent Residents for postdoctoral research in any field except medicine, in any of the OAS member countries.

Value: Covers monthly living allowance, health insurance, tuition and related fees, study material, plus return travel for one year (renewable).

Deadline: January 31.

Applications: Can be obtained on the Web or from the OAS Program Officer, International Council for Canadian Studies, 75Albert, S-908, Ottawa, Ontario, K1P 5E7, (613)789-7828, www.iccs-ciec.ca or the GPSO Fellowships and Awards Section.

OFA # 91

SHASTRI INDO-CANADIAN INSTITUTE POSTDOCTORAL RESEARCH FELLOWSHIPS

Eligibility: Candidates must be Canadian citizens or Permanent Residents and have completed a Ph.D. Affiliation with an Indian institution is not a prerequisite. Usually tenable in the social sciences and humanities.

Value: Rs. 13,038 living expenses per month and up to Rs. 3,300 per month for research, plus travel to and from India for 3 to 12 months.

Deadline: November 15.

Application Information regarding specific application requirements and application forms are available from the Shastri Indo-Canadian Institute, 1402 Education Tower, 2500 University Dr. N.W., Calgary, Alberta T2N 1N4. Tel:(403) 220-7467. E-mail: sci@ucalgary.ca, www.ucalgary.ca/~sici.

OFA # 88

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL OF CANADA THERESE F. CASGRAIN (POSTDOCTORAL) FELLOWSHIP FOR RESEARCH ON WOMEN AND SOCIAL CHANGE IN CANADA

Eligibility: Applicants must be Canadian citizens or Permanent Residents at the time of application and the award is only tenable in Canada. Affiliation with a university or an appropriate research institution is desirable but not a condition of the award. Applicants must have obtained a doctorate before taking up the award, though there are no restrictions as to time elapsed since obtaining the doctoral degree. The award is intended for research on "Women and Social Change in Canada".

Value: Up to \$40,000 per year, of which \$10,000 may be used for travel and research expenses. Non-renewable. Offered every even-numbered year.

Deadline: October 1.

Application: Forms are available only on the Web. Further information available from the GPSO Fellowships and Awards Section or SSHRC, Constitution Square, Tower II, 350 Albert Street, Ottawa, Ontario, K1P 6G4. Tel: (613) 992-0691, www.sshrc.ca/web/apply/program_descriptions/fellowships/casgrain_e.asp.

OFA # 342

SOCIAL SCIENCES AND HUMANITIES RESEARCH COUNCIL (SSHRC) POSTDOCTORAL FELLOWSHIPS

Eligibility: For persons who have obtained a doctoral degree no more than three years prior to the competition deadline and who intend to pursue full-time postdoctoral study or research while

affiliated with a university or recognized research institution. Applicants must be Canadian citizens or Permanent Residents. **Value:** \$35,028 (renewable) plus research allowance of up to \$5,000.

Deadline: October 1.

Application: Forms are available only on the Web. Further information available from the GPSO Fellowships and Awards Section or from the Social Sciences and Humanities Research Council of Canada, Constitution Square, Tower II, 350Albert Street, Ottawa, Ontario, K1P 6G4. Tel: (613) 992-0691; www.sshrc.ca.

OFA # 372

STAGES DE FORMATION POSTDOCTORALE AU QUÉBEC POUR JEUNES DIPLÔMÉS ÉTRANGERS

This program funds postdoctoral research internships in Quebec universities, enabling teams already involved in joint research to exchange young researchers.

Eligibility: Open to recent Ph.D.s (less than three years), citizens of one of the designated countries (excluding Canadian dual nationals): Germany, Spain, Italy, United Kingdom, Belgium, France, Switzerland, Australia, Denmark, United States, Japan, Norway, Finland, Sweden, Israel, South Korea. Priority is given to: biotechnology, information technologies, environment, space, health and new materials.

Value: Covers living allowance, return air travel and medical insurance, for a period of 6 to 12 months.

Deadline: April 15.

Application: Information and application materials available from Service de la coopération internationale, Ministère de l'Éducation du Québec, 1035, rue De La Chevrotière, 20e étage, Québec, QC G1R 5A5. Tel: (418) 646-8865.

OFA # 208

SUSTAINABLE AGRICULTURE FELLOWSHIP

Established in 1995 through an endowment by a graduate of the Macdonald Farm Management and Technology Program, to foster innovative research in sustainable development that might not otherwise find support through traditional funding sources.

Eligibility: The proposed research would address themes such as food systems, agriculture, conservation, and the environment; sustainable systems and the community; issues in Canada's North; and food, nutrition and community development.

Value: \$35,000 at the postdoctoral level, may be renewable once.

Deadline: February 1, to Scholarships Committee for a fellowship commencing September 1.

Application: Awarded by the Faculty of Agricultural and Environmental Sciences Scholarship Committee on the basis of academic merit and suitability of the proposed research to the fellowship theme. Priority will be given to postdoctoral fellows. Additional information is available from the Macdonald Campus Student Affairs Office, 21111 Lakeshore, Ste-Anne-de-Belleveue, Quebec, H9X 3V9. Doctoral candidates will be considered in the second round if no suitable postdoctoral candidate is found.

WOODROW WILSON INTERNATIONAL CENTRE FOR SCHOLARS POSTDOCTORAL FELLOWSHIPS IN THE HUMANITIES AND SOCIAL SCIENCES

Eligibility: No citizenship restrictions. Candidates must possess a Ph.D. degree in the humanities or social sciences and have published some major work beyond the Ph.D. dissertation.

Value: From \$26,200 to \$85,000.

Deadline: October 1 in Washington.

Application: Information regarding specific application requirements and application forms are available from the Fellowships Office, The Woodrow Wilson Centre, One Woodrow Wilson Plaza, 1300 Pennsylvania Ave. N.W., Washington, D.C. 20004-3027 USA. Tel: (202) 691-4170, Fax: (202) 357-4439.

E-mail:fellowships@wwic.si.edu, http://wwics.si.edu.

OFA # 278

8 Exchange and Travelling Fellowships

Information on funding opportunities for graduate study and research outside of Canada is contained in many of the reference books and directories listed in section 2.2, "Reference Books".

One of the most comprehensive publications is UNESCO's "Study Abroad", available for consultation at the Graduate and Postdoctoral Studies Office, Fellowships and Awards Section, the McLennan Library and many national libraries around the world.

Embassies, consulates and commissions of foreign countries located in Canada also are excellent sources of information on funding opportunities for students intending to study abroad.

Addresses and telephone numbers of all diplomatic representatives in Canada can be obtained from the Department of External Affairs in Ottawa at (613) 996-4376. For McGill students seeking funding for graduate study outside Canada, the graduate awards offices of foreign universities themselves are often the best source of information. The McLennan Library has a vast collection of foreign university catalogues. The French embassy in Ottawa has a complete Web site on France-Canada exchange programs at <http://ambafrance-ca.org/HYPERLAB/FFCR/index.html> under "l'aide-mémoire des échanges scientifiques franco-canadiens".

McGill University has signed a number of agreements with universities in other countries, many of which include a student exchange component. As a member of the Conference of Rectors and Principals of Quebec Universities (CREPUQ), McGill also participates in a number of student exchange programs with designated universities in the United States and Europe. Further information on such programs may be obtained from the Student Exchange Officer, Admissions, Recruitment and Registrar's Office, James Building Annex, McGill University. Tel: (514) 398-8342.

SPIN Database by InfoEd International: McGill University subscribes to the SPIN database for sources of research funding. Please refer to section 2.3, "Funding Information on the Web".

ALMA MATER STUDENT TRAVEL GRANT

Eligibility: The Alma Mater Student Fund, administered by the GPSO will provide support for McGill graduate students in any discipline to travel to attend a scholarly meeting or conference where they will be presenting a paper relating to their graduate research. Support for this program comes from the Alma Mater Fund of McGill University, as well as funds from the Social Science and Humanities Research Council of Canada (SSHRC) in the case of students in the social sciences and humanities, and the Post-Graduate Student Society (PGSS). Additional funding may also come from NSERC and SSHRC residual postgraduate scholarship funds, depending on availability.

Value: Awards from \$250 to \$1,000.

Deadlines: September 15, January 15 and May 15 of each year.

Application: Further details and application forms are available on the Web at www.mcgill.ca/gps under Fellowships and Awards, or from the GPSO Fellowships and Awards Section.

BOURSE PAUL BLANC

Offered alternately each year to a Canadian student from McGill or the Université de Montréal for graduate study in the Faculty of Science, Université de Lausanne, Switzerland and to a Swiss student from the Université de Lausanne for postgraduate study in Montreal. Research subsidies are also available.

Value: 15,000 Swiss francs, annually (approximately \$12,500 Canadian).

Deadline: No fixed deadline.

Application: For further information and application forms, write to: the Société académique Vaudoise, Case postale 3927, 1002 Lausanne, Switzerland. E-mail: secretariat@S-A-V.org www.S-A-V.org.

OFA # 206

ASSOCIATION OF UNIVERSITIES AND COLLEGES OF CANADA (AUCC) – NATIONAL FELLOWSHIPS PROGRAM

AUCC administers several fellowship competitions and exchanges for graduate study. Those currently available are listed below. In most cases, candidates must be Canadian citizens or Permanent Residents of Canada for at least one year prior to application. Information concerning eligibility, tenure, as well as application forms available from the Canadian Awards program, Awards Division, Association of Universities and Colleges (AUCC), 350 Albert Street, Suite 600, Ottawa, Ontario K1R 1B1. Tel: (613) 563-1236, www.aucc.ca.

Canada-Taiwan Scholarships Program

BRITISH CHEVENING SCHOLARSHIPS

Eligibility: Canadian citizens for postgraduate study in Great Britain in the general fields of politics, economics and science. Tenable for one year at a British university.

Value: Awards may cover either full costs, including tuition fees, or tuition fees only.

Deadline: January 31.

Application: Information regarding specific application requirements and application forms are available from the British Council, 80 Elgin Street, Ottawa, Ontario K1P 5K7. Tel: (613) 237-1530. E-mail: af572@freenet.carleton.ca; www.britcoun.org/canada

OFA # 86

CAMBRIDGE CANADIAN TRUST – GRADUATE SCHOLARSHIPS

The Cambridge Canadian Trust offers a number of scholarships each year to Canadian graduates for graduate study at the University of Cambridge. These include: Ph.D. scholarships, graduate Law scholarships, as well as the William and Margaret Brown, Tidmarsh and Pegasus Cambridge scholarships. Part-time bursaries are also available.

Eligibility: Canadian citizens for graduate study in various fields at Cambridge University.

Value: Scholarships cover tuition fees and/or airfare and/or a living allowance.

Deadlines: Vary depending on programme.

Application: Information regarding specific application requirements and application forms are available from the Cambridge Canadian Trust, Suite 203, 4 Beechwood Ave., Ottawa, Ontario K1L 8L9. Tel: (613) 744-6166 or the University of Cambridge, Secretary of Board of Graduate Studies, 4 Mill Lane, Cambridge CB2 1RZ, U.K.

OFA # 72

CANADA-UNITED STATES FULBRIGHT SCHOLARSHIPS FOR GRADUATE STUDENTS

Proposed projects must comply with the Canada-U.S. Fulbright Program goal of broadening research efforts in the wide range of subjects pertaining to the relationship between Canada and the United States.

Eligibility: Canadian or American citizen with student status.

Graduate students must be already accepted at a university in the host country. If a student has a proposed research project for a duration of nine months that cannot be conducted in the host country, then the student can receive funding, provided he/she is enrolled at a university in his/her home country.

Value: Approximately \$1,667 US per month to a maximum of \$15,000 US for nine months at a North American university.

Deadline: November 15 (for Canadian applicants).

Application: Forms for Canadian students available from the GPSO Fellowships and Awards Section or from: The Canada-US Fulbright Program, 350 Albert Street, Ste. 2015, Ottawa, Ontario K1R 1A4. Tel: (613) 237-5366. E-mail: info@fulbright.ca, www.us_ambassycanada.gov/fulbright.htm. Forms for American students available from: Institute of International Education, 809 United Nations Plaza, New York, NY, 10017-3580.

OFA # 96

CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA) AWARDS FOR CANADIANS

Eligibility: Canadian citizens seeking to enhance their expertise in international development who possess an undergraduate degree or diploma, and who are admitted to a graduate program. Applicants must demonstrate a commitment to international development, substantiated through the applicant's educational background, work, volunteer experience and personal interests. The program aims to promote better linkages and contacts with developing countries and to encourage long-term partnerships and cooperation.

Value: \$10,000 for one year of support. At least 25% of the time must be spent in the host country.

Deadline: Normally February 1 to CBIE (confirm with GPSO Fellowships and Awards Section).

Applications: Available from the Canadian Bureau for International Education, CIDA Awards for Canadians Program, 220 Laurier Avenue West, Suite 1100, Ottawa, Ontario K1P 5Z9. Tel: (613) 237-4820, ext. 234, www.cbie.ca.

OFA # 23

CELANESE CANADA INTERNATIONALIST FELLOWSHIPS

Eligibility: The Celanese Canada Internationalist Fellowships (CCIF) provide opportunities for Canadians to study abroad in order to build their international competence, and to further Canada's participation in the world economy into the new millennium. Open to Canadian citizens and Permanent Residents who hold at least one university degree, the latest normally awarded no longer than five years from the date of application. Applicants may be in the final year of a degree program. Tenable anywhere in the world outside Canada; preference will be given to candidates planning to work and study overseas.

Value: \$10,000 per year. The entire program abroad must be at minimum eight consecutive months (full academic year).

Deadline: March 1 to CBIE (confirm with GPSO Fellowships and Awards Section).

Applications: Available from the Canadian Bureau for International Education, 220 Laurier Avenue West, Suite 1100, Ottawa, Ontario K1P 5Z9. Tel: (613) 237-4820, www.cbie.ca.

OFA # 38

COMMANDER C. BELLAIRS GRADUATE FELLOWSHIPS

Eligibility: Tenable at the Bellairs Research Institute of McGill University, St. James, Barbados (specializing in marine biology, marine ecology, geography, geology, behavioural ecology and other fields). Candidates should be registered full-time in graduate studies at McGill and may apply at any point in their research program for a fellowship to allow them to work at Bellairs.

Value: Up to \$10,000 per year, plus travel expense for graduate level, and up to \$20,000 per year for postdoctoral level.

Deadline: April 1. Check availability for 2005 with GPSO in February.

Application: Additional information and application forms are available from the Fellowships and Awards Web page at: www.mcgill.ca/gps/fellowships.

OFA # 125

COMMONWEALTH SCHOLARSHIPS FOR GRADUATE STUDIES

Eligibility: This scheme provides opportunities for Canadian students to pursue graduate studies in other Commonwealth countries (list of countries may vary). Candidates must be Canadian citizens or Permanent Residents who are graduates of a Canadian university.

Value: Awards are normally made for two academic years and cover all expenses.

Deadline:

October 25 for the following countries: India, Sri Lanka, Trinidad and Tobago, and United Kingdom.

December 31 for the following countries: Fiji and New Zealand.

Application: Information and application forms are available on the Web or from the GPSO Fellowships and Awards Section and International Council for Canadian Studies (ICCS), 75 Albert, S-

908, Ottawa, Ontario, K1P 5E7. Tel: (613) 789-7828, Fax: (613) 789-7830. E-mail: general@iccs-ciec.ca, www.iccs-ciec.ca.

OFA # 49

DEUTSCHER AKADEMISCHER AUSTAUSCHDIENST (DAAD) – GERMAN ACADEMIC EXCHANGE FELLOWSHIPS

The German Academic Exchange Service (DAAD) offers scholarships to highly-qualified students for graduate study and/or research at universities or institutes in Germany.

Eligibility: McGill students may be eligible to apply for DAAD fellowships under three distinct programs: McGill/DAAD, Bourses Québec-Allemagne, and the Foreign Government Awards program run by ICCS.

DAAD Fellowships (Annual Grants) are open to graduating seniors, graduate students and Ph.D. candidates under 33 years of age, enrolled full-time at time of application. Applicants must have a well-defined research project that makes a stay in Germany essential, plus adequate knowledge of the German language to carry out their proposed research.

Value: DM 1075 to DM 1555 per month, plus air fare, tuition fees and health insurance.

Special Requirements - DAAD**1) Bourses Québec-Allemagne:**

Canadian citizen and Permanent Resident of Quebec.

Deadline: September 30 (confirm with the GPSO Fellowships and Awards Section).

2) McGill/DAAD:

Canadian or US citizen attending McGill University for at least one year (citizens of other countries must obtain prior permission from the DAAD).

Deadline: October 11 (confirm with the GPSO Fellowships and Awards Section).

3) Others:

Students who are ineligible under (1) or (2) should contact the DAAD Office, daadny@daad.org.

Application: Information and application forms are available from the GPSO Fellowships and Awards Section.

OFA # 306

DR. AND MRS. MILTON LEONG FELLOWSHIP FOR STUDY IN CHINA

梁家康 醫生夫婦中國研究學研究生獎學金
Established in 1994 through a donation of Dr. Milton H.K. Leong, B.Sc.1966, M.D., C.M.1971, and Susanna S.C. Leong (Liang), B.Sc. 1969, M.Sc. 1973 to support academic exchanges between McGill and Chinese universities. Available to McGill graduate students in the Faculty of Science who study at Nankai, Peking and Tsinghua Universities.

Eligibility: Awarded by the GPSO on the recommendation of the Faculty of Science.

Value: Up to \$15,000; tenable in China for up to one year.

FOREIGN GOVERNMENT AWARDS

The International Council for Canadian Studies (ICCS) administers a number of foreign government awards on behalf of the Government of Canada and other foreign governments.

Eligibility: A common condition is that the applicant be a Canadian citizen and have completed a first degree.

Value: Covers monthly living allowance, tuition and related fees, plus return travel for one year (renewable).

Deadline: Varies (confirm deadline with offices below).

Applications: Can be obtained on the Web or from the International Council for Canadian Studies, 75 Albert, S-908, Ottawa, Ontario, K1P 5E7. Tel: (613) 789-7828, www.iccs-ciec.ca or the GPSO Fellowships and Awards Section.

Countries currently supported: Chile, Colombia, Finland, France, Germany (DAAD), Italy, Japan, Mexico, Netherlands, Russia and Spain.

Awaiting approval: Peru, Venezuela.

OFA # 499

GOVERNMENT OF ITALY SCHOLARSHIPS

Eligibility: Canadian citizens and Permanent Residents wishing to pursue graduate studies for up to 8 months in Italy, in the following fields: Italian language and literature, music, visual arts, performing arts, art restoration and sciences.

Value: 1,500,000 Italian lire per month, plus medical insurance and return airfare.

Deadline: September 29 (short term), April 28 (long term).

Application: Forms are available from the GPSO Fellowships and Awards Section or from the Embassy of Italy, Cultural Office, 275 Slater Street, Suite 2100, Ottawa, Ontario, K1P 5H9. Tel: (613)232-2401. Web site: www.italcultur-qc.org/istituto/scholarships.htm.

OFA # 504

GRADUATE STUDENT RESEARCH SUPPORT IN THE SOCIAL SCIENCES AND HUMANITIES

Eligibility: Limited funds are available from the McGill Graduate and Postdoctoral Studies Office for support of certain aspects of graduate student research in the social sciences and humanities. This may include thesis research conducted at a site remote from McGill. This program will not cover typing or reproduction of theses, subsistence for field work or computer time and supplies.

Value: Awards up to \$3,500.

Deadline: April 17, October 17, January 16.

Application: Further details and application forms are available from McGill University, Research Grants Office, Room 429, James Administration Building. Tel: (514) 398-3790.

GUY DRUMMOND FELLOWSHIP IN POLITICAL SCIENCE

Eligibility: Originally endowed by the late Guy M. Drummond, killed in action in 1915, to encourage study in France. Recipients are nominated by the Department of Political Science, with preference to graduating honours students, on the basis of: academic record, likelihood of valuable future contribution to Canadian life and proficiency in French, among other things. Fellowships are tenable for study at an approved University or institute in Paris. One year fellowships may also be offered as entrance awards to Masters or Ph.D. students in political science intending to carry out graduate work related to France, or for continuing students to support a year in France as part of the graduate program.

Value: \$18,000 for up to 2 years, including \$7,000 for one year of study at McGill and \$11,000 for one year of study in Paris. One-year fellowships may also be offered.

Application: Further details on application and deadlines are available from the McGill Department of Political Science.

INTER-AMERICAN DEVELOPMENT BANK SCHOLARSHIPS

Eligibility: Candidates must: be a national of one of the member countries of the Bank, essentially a developing country, hold a bachelor's degree in the social sciences, law, business, or other development related technical field, have a superior academic record, have at least 2 years work experience in a development field, be currently enrolled in a graduate degree program and intend to return to their home country after completion of study.

Value: Covers full tuition, health insurance, stipend, travel and book allowance.

Deadline: May 15 (confirm with the GPSO Fellowships and Awards Section).

Application: Forms and additional information are usually available in March from the Inter-American Development Bank, 1300 New York Avenue N.W., Washington, D.C. 20577, USA. www.iadb.org.

OFA # 51

INTERNATIONAL DEVELOPMENT RESEARCH CENTER (IDRC) DOCTORAL RESEARCH AWARDS

Eligibility: These awards are intended to promote the growth of Canadian capacity in research on sustainable and equitable development from an international perspective. Normally, such research is conducted in Latin America, Africa, the Middle East or Asia. Applications will be accepted for research at the doctoral

level in areas corresponding to IDRC's research priorities.

IDRC's research activities focus on three program areas:

1) Social and Economic Equity; 2) Environment and Natural Resource Management, and 3) Information and Communication Technologies (ICTs) for Development.

Value: Up to \$20,000 per year, renewable once.

Deadline: Two cycles: May 15, December 1.

Application: Forms are available on the Web or from the GPSO Fellowships and Awards Section or the International Development Research Centre, Training and Awards Unit, 250 Albert Street, P.O. Box 8500, Ottawa, Ontario, K1G 3H9. Tel: (613) 236-6163, Ext. 2098. E-mail: info@idrc.ca, www.idrc.ca

OFA # 110

INTERNATIONAL FEDERATION OF UNIVERSITY WOMEN (IFUW) - INTERNATIONAL FELLOWSHIPS

Eligibility: Open to nationals of all countries, who are members of the IFUW. Women graduates can become IFUW members by joining one of the federations or associations of university women affiliated to IFUW, such as the Canadian Federation of University Women, or by becoming an independent member, if they live in a country without an IFUW affiliate. Candidates must be women graduate students, who have already completed one year of graduate level study and are well started on research.

These fellowships are tenable in a country other than that in which the candidate received her education or resides.

Value: 8,000 - 10,000 Swiss Francs.

Deadline: November 15.

Application: Information regarding specific application requirements and application forms are available from the IFUW, 8 rue de l' Ancien Port 1201 Geneva, Switzerland. Tel: (+4122)731 23 80 or the Canadian Federation of University Women, 297 Dupuis Street, Suite 308, Ottawa, Ontario K1L7H8. Tel: (613)747-7339. E-mail: ifuw@ifuw.org.

OFA # 75

JAPAN - CANADA ARTS AWARDS

Eligibility: Funded by the Canada Council. These awards assist individual Canadian artists to travel to Japan to carry out a program of work, study or research, which will strengthen ties between the arts communities of Japan and Canada. Artists should apply through Arts Grant "A" or "B", or short term or travel grants.

Value: \$5,000.

Deadlines: Vary with disciplines.

Application: Further information is available from the Arts Awards Service, Canada Council, 350 Albert Street, P.O. Box 1047, Ottawa, Ontario, K1P 5V8. Tel: 1-800-263-5588 or (613)566-4414

OFA # 383

JAPAN FOUNDATION - DISSERTATION FELLOWSHIPS

Eligibility: Canadian citizens and Permanent Residents, who are doctoral candidates in the humanities and social sciences, wishing to conduct dissertation research related to Japanese studies in Japan.

Value: 310,000 Japanese Yen monthly allowance, plus medical insurance, airfare, tuition fees and research allowance.

Deadline: December 1.

Application: Information regarding specific application requirements and application forms are available from the Japan Foundation Toronto Office, 131 Bloor Street West, Toronto, Ontario, M5S 1R1. Tel: (416) 966-1600, or the Consulate General of Japan, 600 de la Gauchetière Street West, Suite 2120, Montreal, Quebec, H3B 4L8. Tel: (514) 866-3429. E-mail: jftor@interlog.com; www.japanfoundationcanada.org

OFA # 219

JAPANESE GOVERNMENT (MONBUSHO) SCHOLARSHIPS

Eligibility: Scholarships in most disciplines are offered each year to Canadian citizens who wish to pursue their graduate studies in any subject in Japan. Candidates must be under 35 years of

age, have a university degree and be willing to study the Japanese language.

Value: Travel and living allowances for up to two years are provided, plus tuition fees.

Deadline: June, check with Consulate.

Application: Forms are available from Consulate General of Japan, Monbusho Scholarships, 600 de la Gauchetière Street West, Suite 2120, Montreal, Quebec, H3B 4L8.
Tel: (514) 866-3429.

OFA # 218

MACDONALD TRAVELLING SCHOLARSHIP

Eligibility: Founded by the will of the late Sir William Macdonald "for the purpose of enabling English speaking Law students to take a course of studies in France", the testator "deeming it of great importance that the English-speaking members of the legal profession should be proficient in the French language". The scholar selected is required to pursue a year's study in the Law faculty of a French University approved, in each case, by the Faculty. The award is made at the discretion of the Faculty to a student of the graduating class proceeding to the Bar, who has obtained First or high Second Class honours in the final examination, and who would be unable without such financial help to spend a year in France. The Faculty interprets the will of the late Sir William Macdonald as intending that the scholarship be awarded only to students preparing for the legal profession in the Province of Quebec. Under the present regulations the scholarship must be used in the year in which it is awarded.

Value: Approximately \$18,000.

Deadline: May 1.

Application: Candidates should apply to the Faculty of Law, Student Affairs Office.

MACKENZIE KING TRAVELLING SCHOLARSHIPS

Eligibility: Offered to a graduate of any Canadian university to engage in postgraduate studies in the U.S. or U.K in international or industrial relations (including international or industrial aspects of law, history, politics, economics). Applicants should be persons of unusual worth and promise. Awards are based on academic achievement, personal qualities and demonstrated aptitudes, as well as proposed program of study. McGill only considers undergraduate applicants with First Class Honours Standing (CGPA of 3.5 or higher) and graduate applicants with cumulative "straight A" records.

Value: Approximately four scholarships per year of up to \$10,000.

Deadline: Normally February 1 to applicant's home university.

Verify McGill's deadline with the GPSO Fellowships and Awards Section.

Application: Application is made through the "home" university, i.e. the Canadian university from which the applicant has or will receive the most recent degree. Further information and application forms are available from the GPSO Fellowships and Awards Web site at: www.mcgill.ca/gps/fellowships and Mackenzie King Scholarships Competition Office, Faculty of Graduate Studies, University of British Columbia, 235-2075 Westbrook Mall, Vancouver, British Columbia V6T1Z1.

OFA # 353

MINISTÈRE DE L'ÉDUCATION DU QUÉBEC (MEQ) – BOURSES D'ÉTUDES DE 2^E ET 3^E CYCLES À L'ÉTRANGER

The MEQ, in collaboration with the Ministère des affaires internationales, has concluded a number of study fellowships and tuition fee waivers with governments of the following countries: Brazil, Colombia, China, Mexico, Tunisia, and Germany.

Eligibility: Candidates must be Canadian citizens or Permanent Residents and must have resided in Quebec for the past year at least. Candidates must possess an undergraduate degree and be registered in a Master's or doctoral level program at a Quebec university at the time that the fellowship is granted. Candidates must also conform to the specific requirements of the particular program through which a fellowship is being sought, and in most cases be fluent in the language of the country where studies will be undertaken.

Value: Normally covers travel and living expenses, for one to two years.

Deadline: Vary from October through January, according to the program.

Application: Information regarding specific application requirements is contained in the publication "Découvrez de Nouveaux Horizons Universitaires: Bourses d'études de 2^e et 3^e Cycles" available from the GPSO Fellowships and Awards Section and Direction de la coopération, MEQ, Édifice Marie-Guyart, 1035, rue de La Chevrotière, 19^e étage, Québec (Québec) G1R5A5. Tel: (418) 644-3235,
www.meq.gouv.qc.ca/ens-sup/ens-univ/coop.asp.

OFA # 20

MOYSE TRAVELLING SCHOLARSHIPS

Eligibility: Founded by the late Right Honourable Lord Atholstan, to commemorate the "splendid services of Dr. Charles E. Moyses, for forty-two years Professor of English, during sixteen of which he was Dean of the Faculty of Arts and Vice-Principal of the University". Two one-year scholarships are awarded. One scholarship will be awarded by the Faculty of Arts and the other by the Faculty of Science. In the absence of applicants of sufficient merit in either of the faculties, applicants from final years in other undergraduate faculties, or from graduate students may be considered. Holders must devote the year of tenure to advanced study, preferably in a British or European university, but not to the exclusion of other institutions approved by the Faculty of Arts or of Science. Applicants must be available for interviews during the first two weeks of May.

Value: Arts - \$8,000 to \$12,000; Science - \$4,000 to \$8,000.

Deadline: April 1 at Office of Dean of Arts or Dean of Science.

Application: Further information on application procedures and forms are available from the Offices of the Deans of Arts and Science.

ONTARIO-QUÉBEC EXCHANGE FELLOWSHIPS

Eligibility: The Ontario-Québec Commission for Co-operation sponsors this exchange fellowship program, which permits Ontario anglophones to study in French in Quebec. Applicants must be Canadian citizens or Permanent Residents of Canada and have been residents of Ontario for at least one year. When receiving the fellowship, awardees must be enrolled full-time in the first year of a graduate degree.

Deadline: January 31.

Application: Information and application materials available from the Ontario-Quebec Exchange Fellowship Program, Ministry of Training, Colleges and Universities Student Support, Fellowships, P.O. Box 4500, 189 Red River Road., 4th Floor, Thunder Bay, Ontario P7B6G9. Tel: (807) 343-7257 (Toll-free: 1-800 465-3957), <http://osap.gov.on.ca>

Value: \$10,000 per year for Master's, renewable once; \$11,000 for doctoral level, renewable twice.

OFA # 399

ONTARIO GRADUATE SCHOLARSHIP PROGRAM

Eligibility: Canadian citizens or Permanent Residents, or holders of a student visa at the time of application, with at least an A-average in the last two years of study, for graduate studies (Master's or doctoral level) at an Ontario university.

Value: Up to \$5,000 for three terms.

Deadline: November 15.

Application: If not currently enrolled in an Ontario University, send application to the Ministry. If currently enrolled in an Ontario University, application must be made directly to the intended department. Information and application forms available from the Ontario Graduate Scholarship Program, Student Support, Ministry of Education and Training, P.O. Box 4500, 189 Red River Road, 4th floor, Thunder Bay, Ontario P7B 6G9. Tel: (807) 343-7257 (Toll-free: 1-800-465-3957), osap.gov.on.ca.

OFA # 398

ORGANIZATION OF AMERICAN STATES FELLOWSHIPS

Eligibility: Offered to Canadian citizens and Permanent Residents for graduate study and/or postdoctoral research in any field except medicine, in any of the 33 OAS member countries.

Value: Covers monthly living allowance, tuition and related fees, plus return travel for one year (renewable).

Deadline: January 31.

Applications: Can be obtained from the OAS Program Officer, International Council for Canadian Studies, 75 Albert, S-908, Ottawa, Ontario, K1P 5E7, Tel: (613) 789-7828. E-mail: general@iccs.ciec.ca, www.iccs-ciec.ca or the GPSO Fellowships and Awards Section.

OFA # 91

OVERSEAS RESEARCH STUDENTS (ORS) AWARDS

Eligibility: 800 to 850 awards are offered on a competitive basis to overseas students for a higher education degree at certain academic institutions in Britain. All fields of study are supported.

Value: Each award covers the difference between the tuition fee for a British graduate student and the "full-cost" fee for an overseas graduate student. Awards are renewable twice and can, therefore, be held for a maximum of three years.

Deadline: April 27.

Application: Applications should be obtained from the Registry or Scholarships Office of the British academic institutions concerned. Information is available from the ORS Awards Scheme, Woburn House, 20 Tavistock Square, London, U.K. WC1H 9HQ. E-mail: ORS_scheme@UniversitiesUK.ac.uk, www.universitiesUK.ac.uk/ORS

OFA # 488

PHILIP F. VINEBERG TRAVELLING FELLOWSHIP IN THE HUMANITIES

Established in 1988 by his family in memory of Philip F. Vineberg, O.C., Q.C., B.A., M.A., B.C.L., LL.D., former student, Professor and Emeritus Governor at McGill University, for a student graduating in a McGill degree program in arts, education, law, library science, music, religious studies or social work, toward one year of further studies in such disciplines at another university. Awarded to the student who best exemplifies the qualities of intelligence as demonstrated by academic record and creative thinking; breadth of interest, perspective and tolerance as demonstrated by cross cultural interests, desire to travel and record of service to others; excellence as demonstrated by a record of disciplined achievement and the promise of more to come.

Eligibility: The award will normally be made to a student in the final year of his or her undergraduate degree going into graduate studies in the next academic year, but exceptionally in cases of students completing graduate degrees and leaving McGill for further graduate or postgraduate studies elsewhere in the next academic year. Applicants who are offered substantial fellowship support from other external agencies may be prohibited from taking up the award.

Value: Up to \$14,500, plus commemorative medal.

Deadline: Mid-March to early April, check with the GPSO Fellowships and Awards Section for precise deadlines.

Application: Forms and information are available from the GPSO Fellowships and Awards Web site, www.mcgill.ca/gps/fellowships.

STUDENT EXCHANGE PROGRAMS – MCGILL UNIVERSITY AND THE CONFERENCE OF RECTORS AND PRINCIPALS OF THE UNIVERSITIES OF QUÉBEC (CREPUQ)

Note: These are not award or fellowship programs, but may be of interest to students wishing to study abroad for up to one year.

Purpose: These programs provide an opportunity for international education and all its benefits. Student participants remain registered at their home university (McGill), while attending a foreign campus. Currently, McGill University has over 100 bilateral student exchange agreements in 31 countries and more than 200 CREPUQ student exchange agreements in seven countries.

Information: Further information on these programs is available from the Student Exchange Officer, Admissions, Recruitment and Registrar's Office, James Building Annex, McGill University, Tel:(514)398-8342.

RHODES SCHOLARSHIPS

Eligibility: Two scholarships are awarded annually to scholars from the Province of Quebec. These scholarships are tenable at the University of Oxford. They are granted for two years with the possibility of a third year. Candidates must be Canadian citizens or domiciled in Canada and be between 19 and 25 years of age, without dependents. Students in any faculty may apply.

Value: At least £8,640 per year, which covers personal expenses and tuition.

Deadline: Completed applications must be submitted by mid-September.

Application: For further details of the exact deadline, tenure, eligibility, qualifications, and application forms apply to the McGill Office of the Dean of Students, 3600 McTavish Street, (514)398-4990.

OFA # 525

ROTARY FOUNDATION SCHOLARSHIPS

Eligibility: Candidates must possess a Bachelor's degree, be between the ages of 18 and 30, and be able to prove their ability to write, read and speak the host country language. Preference is given to applicants who wish to study in a country where the native language is different from their own.

Value: The award covers round trip transportation, room and board, tuition and miscellaneous related expenses for one academic year.

Deadline: Are set by the individual sponsoring club.

Application: Applications must be made through a Rotary Club in the area of the applicant's permanent residence or place of employment. In Montréal contact the Rotary Club of Westmount, 4646 Sherbrooke Street West, Westmount, Québec H3Z 2Z8. Tel: (514) 935-3344; www.rotary.org.

OFA # 212

SAINT JOHN'S COLLEGE, CAMBRIDGE STUDENTSHIPS

Eligibility: Applicants to the college for Ph.D. and M.Phil. degrees or for the Certificate of Advanced Study in Mathematics (Part 3 of the Mathematical Tripos) with intention of registering thereafter in a Ph.D. program.

Value: £6,620 (pounds sterling) per year (reviewed annually), plus approved university and college fees, allowances for dependants, contribution towards travel expenses, allowance for approved postgraduate experience and book grant.

Deadline: By the end of spring term to Saint John's College, Cambridge.

Application: There is no separate application form; all qualified applicants who have included St. John's amongst their list of preferred colleges and whose applications to the Board of Graduate Studies have reached the College by May 1 will be considered. Applicants are advised to apply to the Tutor for Graduate Affairs, St-John's College, Cambridge, CB2 1TP, England, no later than December 31.

OFA # 408

SHASTRI INDO-CANADIAN INSTITUTE – FELLOWSHIPS COMPETITION

Eligibility: Candidates must be Canadian citizens or Permanent Residents and possess a Bachelor's or Master's degree. The fellowships are to be used by students to enroll in an Indian institution of higher learning, to work towards a graduate degree or by students enrolled in graduate programs at Canadian institutions to conduct research on India towards a graduate degree (such students must affiliate with an Indian institution during the period of the grant). Areas of study include humanities and social sciences, management, law, the performing arts and short-term language training.

Value: Rs. 13,080 living expenses per month and up to Rs. 3300 per month for research, for varying durations depending on fellowship.

Deadline: June 30 (January 31 for Language Fellowships).

Application: Information regarding specific application requirements and application forms are available from the Shastrri Head Office, 1402 Education Tower, 2500 University Drive N.W., Calgary, Alberta, T2N 1N4. Tel: (403) 220-7467. E-mail: sici@ucalgary.ca, www.ucalgary.ca/~sici

OFA # 88

THOMAS SHEARER STEWART TRAVELLING FELLOWSHIP

Eligibility: The fellowship was established in 1967 by the family of the late Thomas Shearer Stewart, Q.C. a graduate of the Faculty of Law class of 1908 and is granted to a recent graduate of the Faculty of Law designated by the Dean of the Faculty. Preference is given to a graduate who is a Canadian citizen intending to reside in Canada upon completion of studies.

Value: \$12,000, awarded at the discretion of the Faculty of Law.

Deadline: May 1.

Application: Further information is available from the Student Affairs Office, Faculty of Law.

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1 Agricultural Economics

Department of Agricultural Economics
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Chair — J.C. Henning

1.1 Staff

Assistant Professor

D.K.Y. Mok; B.Math., B.E.S.(Wat.), M.Pl.(W.Ont.),
Ph.D.(Tor.)

Associate Professors

L.B.B. Baker; S.D.A., D.C.P.(Edin.), D.F.B.O.M.(Aberd.),
M.Sc.(Man.), Ph.D.(McG.)
J.C. Henning; B.Sc., Ph.D.(Guelph)
P.J. Thomassin; B.Sc.(McG.), M.S., Ph.D.(Hawaii)

Faculty Lecturer

M. Savard; B.Sc., M.Sc.(McG.), Ph.D.(UBC)

Adjunct Professor

Joan Marshall

1.2 Programs Offered

The Department of Agricultural Economics offers a program leading to the M.Sc.

It is possible for students to pursue doctoral studies through the Department of Economics with Agricultural Economics as a field of specialization. For specific requirements of that graduate program see the Department of Economics.

1.3 Admission Requirements

M.Sc.

Direct admission to the M.Sc. requires the completion of a B.Sc. in Agricultural Economics or a closely related area, with the equivalent cumulative grade point average of 3.0/4.0 (second class-upper division) or 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

The ideal preparation includes courses in agricultural economics, economic theory (intermediate micro and macro), calculus, linear algebra, and statistics. Students with deficiencies in these areas will be required to take additional courses as part of their degree program.

1.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

Department of Agricultural Economics
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7820
Fax: (514) 398-8130
E-mail: agr.econ@mcgill.ca

Applications will be considered upon receipt of a completed application form, \$60 application fee, and the following supporting documents:

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 570 on the paper-based test or 230 on the computer-based test) or IELTS (minimum 7 overall band). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate Schools), Biological Sciences-Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.

4. Canadian Money order in Cdn.\$.

5. U.S. Money Order in U.S.\$.

6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines - Applications, including all supporting documents must reach the department no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Qualifying Students - Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

1.5 Program Requirements

M.Sc. (46 Credits)

A minimum of 19 graduate course credits and the completion of a research thesis (27 credits) are required for the M.Sc. Students may specialize, by way of their research program, in agribusiness, development, finance, marketing and trade, policy, and resource and ecological economics.

Specific requirements are as follows:

1. Economic Theory (Micro and/or Macro) - 2 courses (6 credits)
2. Quantitative Methods - 1 course (3 credits)
3. Three other courses chosen in consultation with the Agricultural Economics Advisor with a minimum of one course in the Department of Agricultural Economics (9 credits).
4. Seminar (AGEC690) (1 credit)
5. M.Sc. Thesis 1, 2, 3, 4, 5 (27 credits)

1.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

AGEC 503 METHODS OF REGIONAL ANALYSIS. (3) (Winter) (Prerequisite: AGECE 200) (Not open to students who have taken GEOG 503) Advanced methods of regional economic analysis including analytical, general equilibrium modeling, regional and multiregional input-output models, spatial interaction modelling and methods used to measure localization and urbanization economies.

AGEC 611 PRICE ANALYSIS. (3) (Winter) Topics in advanced microeconomic theory with applications in agricultural economics.

AGEC 630 FOOD AND AGRICULTURAL POLICY. (3)

AGEC 633 ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS. (3) (Fall) An advanced course in the theory and problems of environmental and resource economics and in the analytical techniques used to assess environmental and resource use issues.

AGEC 642 ECONOMICS OF AGRICULTURAL DEVELOPMENT. (3) (Winter) This course focuses on the role of agriculture in economic development. Topics covered will be - development theories, economic efficiency, employment, technology adoption and structural change in developing countries. Also, agriculture, food and development policies and implications for long term planning will be discussed.

AGEC 679 FINANCING: ALTERNATIVE STRATEGIES. (3) (Fall) An in-depth study of the relationship between financing, asset acquisition, tenure, and property rights and obligations for farm businesses. Emphasis will be placed on the potential for the use of non-debt financial instruments such as Community Based Land Trusts (CBLT) and Community Supported Agriculture (CSA).

AGEC 685 SELECTED TOPICS IN AGRICULTURAL ECONOMICS. (3) This course is designed to permit students to explore agricultural economics topics that are not covered in other courses. Students may be asked to prepare a presentation or lead discussion on the selected topic for the benefit of other students and staff. (Pass/Fail grading.)

AGEC 690 SEMINAR. (1) This course will focus on current research on economic problems of agriculture through presentations by staff, students and special guests. All graduate students are required to register for this course, and make at least one major presentation.

AGEC 691 M.Sc. THESIS 1. (6)

AGEC 692 M.Sc. THESIS 2. (3)

AGEC 693 M.Sc. THESIS 3. (6)

AGEC 694 M.Sc. THESIS 4. (6)

AGEC 695 M.Sc. THESIS 5. (6)

2 Anatomy and Cell Biology

Department of Anatomy and Cell Biology
Strathcona Anatomy and Dentistry Building
3640 University Street
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Canada

Telephone: (514) 398-6335

Fax: (514) 398-5047

Web site: www.medicine.mcgill.ca/anatomy

Chair — J.J.M. Bergeron

2.1 Staff

Emeritus Professors

Y. Clermont; B.Sc.(Montr.), M.Sc., Ph.D.(McG.)
D.G. Osmond; B.Sc., M.B., Ch.B., D.Sc.(Brist.), F.R.S.C.
H. Warshawsky; B.Sc.(Sir G.Wms), M.Sc., Ph.D.(McG.)

Professors

A. Beaudet*; M.Sc., Ph.D., M.D.(Montr.)
G.C. Bennett; B.A., B.Sc.(Sir. G.Wms.), M.Sc., Ph.D.(McG.)
J.J.M. Bergeron; B.Sc.(McG.), D.Phil.(Oxon)
J.R. Brawer; B.S.(Tufts), Ph.D.(Harv.)
M. Burnier*; M.D., M.Sc., Ph.D.(Brazil)
A. Ribeiro-da-Silva; M.D., Ph.D.(Oporto)
L. Hermo; B.A.(Montr.), M.Sc., Ph.D.(McG.)
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C.R. Morales; D.V.M.(Argentina), Ph.D.(McG.)

B. Posner*; M.D.(Man.), Ph.D.(Iowa)
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Associate Professors

C. Autexier; B.Sc.(C'dia) Ph.D.(McG.)
P. Barker*; B.Sc.(S.Fraser), Ph.D.(Alta.)
O.W. Blaschuk*; B.Sc.(Winn.), M.Sc.(Man.), Ph.D.(Tor.)
E. Daniels; M.Sc., Ph.D.(Man.)
S. David*; Ph.D.(Man.)
E. Davis; B.Sc., M.Sc.(W.Ont.), Ph.D.(McG.)
T. Kennedy*; B.Sc.(McM.), M.Phil., Ph.D.(Col.)
A. Koromilas*; B.Sc., Ph.D.(Aristotelian U., Greece)
M.F. Lalli; B.S., M.A.(Bowling Green), Ph.D.(McG.)
M. Latterich; B.Sc., Ph.D.(Durham)
M. McKee*; B.Sc., M.Sc., Ph.D.(McG.)
P. McPherson*; M.Sc.(Man.), Ph.D.(Iowa)
A. Ribeiro-da-Silva*; M.D., Ph.D.(Oporto)
W. Sossin*; S.B.(M.I.T.), Ph.D.(Stan.)
S. Stifani*; Ph.D.(Rome), Ph.D.(Alta.)
H. Vali*; B.Sc., M.Sc., Ph.D.(Munich)
D. Walker*; B.Sc.(Geneva), Ph.D.(Salk), Ph.D.(Geneva)

Assistant Professors

C. Autexier; B.Sc.(C'dia) Ph.D.(McG.)
F. Bedford; B.Sc.(Birm.), Ph.D.(Lond.)
M. Greenwood*; B.Sc., M.Sc.(C'dia), Ph.D.(McG.)
T. Kennedy*; B.Sc.(McM.), M.Phil., Ph.D.(Col.)
N. Lamarche-Vane; B.Sc., Ph.D.(Montr.)
C. Mandato; B.Sc., Ph.D.(Wat.)
J.F. Presley; B.A., Ph.D.(Texas)
W. Sossin*; S.B.(M.I.T.), Ph.D.(Stan.)

Associate Members

C. Chalk, E. Chevet, C. Cuello, J. Henderson, P. Lasko, A. Leblanc, J. Schrag, P. Seguella, B. Suter, G. Wild

Adjunct Professors

A. Berghius, D. Cyr, M. Desjardins, G. DiBattista, M. Cygler
J. Drouin, S. Inoue, M. O'Connor-McCourt, A. Nantel,
J. Ostermann, P. Metrakos, J. Snipes, P. Thibault, D. Thomas

* Denotes cross or joint appointees.

2.2 Programs Offered

Graduate research activities leading to the presentation of the M.Sc. and Ph.D. thesis involve original experimental work in one of the areas being actively investigated by the Department's Research Supervisors. Current research projects include: cell biology of secretion; cell biology of endocytosis; signal transduction of cell receptors for growth factors and hormones; synthesis and migration of glycoproteins; subcomponents of the Golgi apparatus and their function; biogenesis and function of lysosomes; cell turnover in various tissues; control of cell growth and proliferation; molecular biology of extracellular matrix; structure, composition and function of basement membranes and connective tissue microfibrils; cell and microfibrils; cell and molecular biology of spermatogenesis; genetic expression of proteins in the formation of cytoskeletal components of spermatozoa; role of endocytosis and secretion by epididymal cells in sperm maturation; molecular biology of Sertoli cell secretions and their interaction with germ cells; synchronization of sperm production; transferrin, transferrin receptors and iron in germinal cells; differentiation of B lymphocytes in bone marrow in relation to mechanisms of humoral immunity, immunodeficiency states and B cell neoplasias; control mechanisms and cytokines in B lymphopoiesis; in situ organization and stromal cell-interactions of B lineage precursor cells in bone marrow; microenvironmental regulation of hemopoiesis; differentiation and regulation of cells mediating natural tumor immunosurveillance; tumor-cell biology; cell and molecular biology of the formation of dental enamel, dentin and bone; structure of organic matrices and inorganic crystals of dental enamel; role of hormones and their binding sites with calcified tissues; secretion and degradation of the proteins of enamel matrix, hypothalamo-pituitary function and gonadotropin patterns

in ovarian follicular development; polycystic ovarian disease; computer assisted modeling of morphometric and kinetic data; cell biology and molecular genetics of ageing; senescence and cell cycle-specific genes and their products.

Research in the Department investigates the dynamics and organization of molecules, organelles, cells and tissues in several major systems of the body. The work makes fundamental contributions to a number of established and emerging multidisciplinary fields: cell and molecular biology, cellular immunology and hematology, reproductive biology, calcified tissue biology, tumor cell biology, developmental biology, neurobiology and ageing.

The Department offers contemporary facilities for the wide range of techniques currently employed in research. Modern methods of cell and molecular biology, immunology and biochemistry are used in conjunction with specialized microscopy in a variety of experimental systems. Techniques used by Department members include labeling with radioisotopes and other tracers, radioautography, immunocytochemistry, histochemistry, cryo immune microscopy, fluorescence microscopy, high resolution electron microscopy, scanning electron microscopy, backscattered electron imaging, confocal microscopy, microinjection, video-microscopy in living cells, X-ray microanalysis, electron diffraction, freeze-fracture replication, computer reconstruction and quantitation, chromatography, subcellular fractionation, recombinant DNA technology, in situ hybridization, tissue grafting, cell and tissue culture, mutant and transgenic mice, hybridomas, and monoclonal antibodies.

The Department has one of the largest electron microscope facilities in Canada. Currently in use are three modern electron microscopes, including a high voltage instrument, the JEOL 2000FX. Combined with some of these microscopes are computer-aided analytical equipment capable of elemental microanalysis, histomorphometry, reconstruction and quantitation. The high voltage microscope is particularly useful for certain analytical electron optical procedures such as electron diffraction, lattice imaging and stereo electron microscopy.

2.3 Admission Requirements

M.Sc. and Ph.D. Programs

1. A B.Sc. degree in life sciences or any of M.D., D.D.S. or D.V.M. degrees from a university of recognized reputation.
2. Evidence of a high academic achievement with a minimum Cumulative Grade Point Average (CGPA) of 3.3 on 4.0.

Admission to a Qualifying Program

Applicants whose academic degree and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the area chosen may, upon recommendation of the Graduate Student Affairs Committee and with the permission of the Director of the Graduate and Postdoctoral Studies Office, be admitted to Qualifying Programs. The courses to be taken in qualifying programs will be stipulated by the Graduate Student Affairs Committee. (Note: Only one qualifying program of a maximum of one year is permitted.)

2.4 Application Procedures

Application for admission to graduate studies for the degrees of M.Sc. or Ph.D. in Anatomy should be made to the Chair of Graduate Studies, Department of Anatomy and Cell Biology.

Application forms and a brochure giving full details of the Graduate Program are available upon request.

Documents Required

1. Two official copies of complete university-level academic records to date (this also applies to McGill University transcripts). It may be desirable to submit a list of the titles of the courses taken, if transcripts give code numbers only.
It is the applicant's responsibility to contact the institution(s) attended and request that the transcripts be forwarded directly to the Department of Anatomy.

2. Two letters of recommendation.

It is the applicant's responsibility to arrange that these letters are originals, sent directly to the Department of Anatomy from the persons specified by the applicant.

3. Fee of \$60 in Canadian funds for processing the application.
4. TOEFL score (where applicable).

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

2.5 Program Requirements

The M.Sc. program is a 48-credit program. Students must complete 15 credits in course work and 33 credits of thesis research (ANAT698 and ANAT699).

For the Ph.D. degree, the student must complete a series of courses selected to suit individual requirements. In addition, Ph.D. candidates will write a comprehensive examination after the end of the first year.

For both degrees, the major emphasis is placed on the conduct of original research and the preparation of a thesis.

2.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ANAT 541 CELL AND MOLECULAR BIOLOGY OF AGING. (3) (Winter) (2 hours lecture, 2 hours conference) (Prerequisites: ANAT 261, ANAT 262, or by special permission) This course will focus on how the complex aging process can be studied by modern cell and molecular approaches. Topics will include discussion on animal model systems for aging, gene regulation controlling the aging process and age-dependent diseases.

ANAT 663D1 (4.5), ANAT 663D2 (4.5) HISTOLOGY. (Students must register for both ANAT 663D1 and ANAT 663D2) (No credit will be given for this course unless both ANAT 663D1 and ANAT 663D2 are successfully completed in consecutive terms) The study of the cytology and structure of tissues and organs.

ANAT 690D1 (3), ANAT 690D2 (3) CELL AND DEVELOPMENTAL BIOLOGY. (Students must register for both ANAT 690D1 and ANAT 690D2) (No credit will be given for this course unless both ANAT 690D1 and ANAT 690D2 are successfully completed in consecutive terms) Current developments in molecular cell biology and developmental biology will be presented by course coordinators and staff from primary papers in the scientific literature. These will be researched and critiqued by students through oral and written presentations. Two term papers are required for students taking the course.

ANAT 698 M.Sc. THESIS RESEARCH 1. (24)

ANAT 698D1 (12), ANAT 698D2 (12) M.Sc. THESIS RESEARCH 1. (Students must register for both ANAT 698D1 and ANAT 698D2) (No credit will be given for this course unless both ANAT 698D1 and ANAT 698D2 are successfully completed in consecutive terms) (ANAT 698D1 and ANAT 698D2 together are equivalent to ANAT 698)

ANAT 699 M.Sc. THESIS RESEARCH SEMINAR. (9)

ANAT 699D1 (4.5), ANAT 699D2 (4.5) M.Sc. THESIS RESEARCH SEMINAR. (Students must register for both ANAT 699D1 and ANAT 699D2) (No credit will be given for this course unless both ANAT 699D1 and ANAT 699D2 are successfully completed in consecutive terms) (ANAT 699D1 and ANAT 699D2 together are equivalent to ANAT 699)

ANAT 701 Ph.D. COMPREHENSIVE EXAMINATION. (0)

ANAT 701D1 (0), ANAT 701D2 (0) Ph.D. COMPREHENSIVE EXAMINATION. (Students must register for both ANAT 701D1 and ANAT 701D2) (No credit will be given for this course unless both ANAT 701D1 and ANAT 701D2 are successfully completed in consecutive terms) (ANAT 701D1 and ANAT 701D2 together are equivalent to ANAT 701)

3 Animal Science

Department of Animal Science
Macdonald Campus
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7794
Fax: (514) 398-7964
E-mail: animal.science@mcgill.ca
Web site: www.mcgill.ca/animal

Chair — X. Zhao

3.1 Staff

Emeritus Professor

J.E. Moxley; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(C'nell)

Professors

R.B. Buckland; B.Sc.(Agr.), M.Sc.(McG.), Ph.D.(Maryland)
E.R. Chavez; Agr.Eng.(Chile), M.Sc. Ph.D.(Calif.)
B.R. Downey; D.V.M.(Tor.), Ph.D.(McG.)
J.F. Hayes; B.Agr.Sc., M.Agr.Sc.(Dub.), Ph.D.(N.C.St.)
U. Kuhnlein; B.Sc.(Fed. Inst. of Tech., Zurich), Ph.D.(Geneva)
K.F. Ng-Kwai-Hang; B.Sc.(Agr.), M.Sc., Ph.D.(McG.)

Associate Professors

R.I. Cue; B.Sc.(Newcastle-upon-Tyne), Ph.D.(Edin.)
H. Monardes; Ing. Agr.(Concepcion, Chile), M.Sc., Ph.D.(McG.)
L.E. Phillip; B.Sc.(Agr.), M.Sc.(Agr.)(McG.), Ph.D.(Guelph)
K.M. Wade; B.Sc.(Agr.), M.Sc.(Agr.)(Dublin), Ph.D.(C'nell)
D. Zadworny; B.Sc., Ph.D.(Guelph)
X. Zhao; B.Sc., M.Sc.(Nanjing), Ph.D.(C'nell) (*William Dawson Scholar*)

Assistant Professors

V. Bordignon; D.V.M.(URCAMP, Brazil), M.Sc.(UFPel, Brazil), Ph.D.(Montreal)
R. Lacroix; B.Sc., M.Sc.(Que.), Ph.D.(McG.) (PT)
A.F. Mustafa; B.Sc., M.Sc.(Khartoum), Ph.D.(Sask.)
C. Ruiz-Feria; B.S. (Autonoma Chapingo, Mexico), M.Sc.(Texas A&M), Ph.D. (Ark.)

Adjunct Professors

P. Lacasse, D. Lefebvre, B. Murphy

3.2 Programs Offered

The Department provides laboratory facilities for research work leading to the degrees of Master of Science and Doctor of Philosophy in the disciplines of animal breeding (genetics), nutrition, and reproductive physiology, molecular biology, milk biochemistry and information systems. Within these areas advantage may be taken of strong research programs and expertise in molecular biology and milk biochemistry.

Students registered in the Department of Animal Science may develop programs in conjunction with other units at McGill, for

example the Nutrition and Food Science Centre or the School of Dietetics and Human Nutrition.

Each student has an advisory committee composed of the thesis supervisor and at least two other faculty members.

3.3 Admission Requirements

M.Sc. (Thesis)

Candidates are required to have either a Bachelor's degree in Agriculture or a B.Sc. degree in an appropriate, related discipline with an equivalent cumulative grade point average of 3.0/4.0 (second class-upper division) or 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

M.Sc. Applied

All candidates are required to have a B.Sc. degree or equivalent.

Ph.D.

Candidates are normally required to have an M.Sc. degree in an area related to the chosen field of specialization for the Ph.D. program.

3.4 Application Procedures

Applicants for graduate studies through academic units in the Faculty of Agricultural and Environmental Sciences must forward supporting documents to:

Department of Animal Science
Macdonald Campus of McGill University
21,111 Lakeshore

Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7792

Fax: (514) 398-7964

E-mail: animal.science@mcgill.ca

Applications will be considered upon receipt of a signed and completed application form, \$60 application fee, and the following supporting documents:

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 550 or 213 on computerized test) or IELTS (minimum 6.5 overall band). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate

Schools), Biological Sciences - Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines – Applications, including all supporting documents must reach the department no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students – Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

3.5 Program Requirements

M.Sc. (Thesis) (45 credits)

Four one-term courses or the equivalent and two seminar courses at the post-graduate level are required, as a minimum, although a student may be advised to take additional courses as specified by his/her advisory committee. Advanced undergraduate courses may be considered for graduate credit if approved by the student's committee and the Graduate and Postdoctoral Studies Office and passed at the graduate level; generally, this will not constitute more than one of the four required courses.

A minimum of 45 credits and completion of an acceptable thesis is required for the M.Sc. degree; 14 credits are for course work and 31 credits for the thesis (ANSC680, ANSC681, ANSC682,

and ANSC683). Exceptional M.Sc. students may be considered for Ph.D. status after one full year in the Department.

M.Sc. Applied (45 credits)

The M.Sc. Applied (non-thesis) degree is oriented to animal scientists already working in industry or government, to undergraduate students inspired by concepts in sustainable and integrated animal agriculture, to project leaders interested in animal resource management and to veterinarians. The program aims to provide graduate training in applied areas of animal production with a view towards integrating technology and management in animal production with allied areas of agricultural resource utilisation.

Project Component – Required (15 credits)

- ANSC643 (3) Project 1
- ANSC644 (3) Project 2
- ANSC645 (3) Project 3
- ANSC646 (3) Project 4
- ANSC647 (3) Project 5

Complementary Courses (30 credits)

12 credits from the following list:

- AEMA 610 (3) Statistical Methods 2
- ANSC501 (3) Advanced Animal Production Systems
- ANSC504 (3) Population Genetics
- ANSC508 (3) Tools in Animal Biotechnology
- ANSC551 (3) Carbohydrate & Lipid Metabolism
- ANSC552 (3) Protein Metabolism & Nutrition
- ANSC605 (3) Estimation: Genetic Parameters
- ANSC606 (3) Selection Index & Animal Improvement
- ANSC607 (3) Linear Models in Agricultural Research
- ANSC611 (3) Advanced Reproductive Physiology
- ANSC622 (3) Selected Topics in Molecular Biology
- ANSC630 (3) Experimental Techniques: Animal Science: Macro
- ANSC635 (3) Vitamins and Minerals in Nutrition
- ANSC636 (3) Analysis - Animal Breeding Research Data
- ANSC691 (3) Special Topic: Animal Sciences
- ANSC692 (3) Topic in Animal Sciences 1

18 credits from the following list:

- ABEN518 (3) Bio-Treatment of Wastes
- AGEC630 (3) Food and Agricultural Policy
- AGEC633 (3) Environmental and Natural Resource Economics
- AGEC642 (3) Economics of Agricultural Development
- BTEC501 (3) Bioinformatics
- BTEC502 (3) Biotechnology Ethics and Society
- ENTO550 (3) Veterinary and Medical Entomology
- FDSC535 (3) Food Biotechnology
- PLNT602 (3) Forage Crop Experimentation
- PLNT636 (3) Epidemiology and Management of Plant Disease
- SOIL521 (3) Soil Microbiology and Biochemistry
- WILD605 (3) Wildlife Ecology

Ph.D.

Since the Ph.D. is primarily a research degree, the amount of course work required may comprise a smaller portion of the total than is the case for the M.Sc., this will depend on the background of the individual student, and must be approved by the student's advisory committee. This course work must include two seminar courses at the graduate level and the Ph.D. Comprehensive Examination ANSC701.

The thesis must clearly show originality and be a contribution to knowledge.

3.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to

press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ANSC 501 ADVANCED ANIMAL PRODUCTION SYSTEMS. (3) (Winter) (3 lectures) An advanced course dealing with current world animal production systems (ruminant and monogastric) emphasizing their practices, constraints and relative efficiencies with a view to developing methods of improving productivity.

ANSC 504 POPULATION GENETICS. (3) (Fall) (3 lectures) A consideration of the problems involved in the improvement of animals and the application of genetics in their solution.

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 605 ESTIMATION: GENETIC PARAMETERS. (3) (3 lectures) (Given in alternate years.) General methods for the estimation of components of variance and co-variance are considered, with specific emphasis given to their application to heritability, repeatability and genetic correlation estimation.

ANSC 606 SELECTION INDEX AND ANIMAL IMPROVEMENT. (3) (3 lectures)

ANSC 607 LINEAR MODELS IN AGRICULTURAL RESEARCH. (3) (3 lectures) The theory and application of linear models to agricultural research is considered. Special emphasis is given to the analysis of experimental and survey data with unequal subclass numbers.

ANSC 611 ADVANCED REPRODUCTIVE PHYSIOLOGY. (3) (2 lectures, 1 seminar) (Given in alternate years.)

ANSC 622 SELECTED TOPICS IN MOLECULAR BIOLOGY. (3) (1 lecture and 2 seminars) (Prerequisite: MICR 500 or permission of instructor) Key examples of applications of molecular biology to the study of animal physiology and animal genetics will be drawn from the current literature and discussed in depth. The course has a dual purpose. It will familiarize students with current events at the forefront of molecular biology and will teach them how to read and critically evaluate research publications.

ANSC 623 TECHNIQUES MOLECULAR GENETICS: DNA SEQUENCING. (3)

ANSC 624 TECHNIQUES MOLECULAR GENETICS: DNA FINGER-PRINTING. (3) (Requires previous laboratory experience.)

ANSC 625 TECHNIQUES MOLECULAR GENETICS: POLYMERASE CHAIN REACTION. (3)

ANSC 630 EXPERIMENTAL TECHNIQUES: ANIMAL SCIENCE: MACRO. (3) (1 lecture, 1 lab) Lectures and laboratories dealing with animal experimentation. Emphasis on the design and conduction of animal studies, selection of experimental animals, chemical and biological assays, statistical analysis, interpretation of data and preparation of technical reports.

ANSC 635 VITAMINS AND MINERALS IN NUTRITION. (3) (3 lectures) Modularised course dealing with advanced topics in Nutrition. The core of the course will focus on vitamins and minerals.

ANSC 636 ANALYSIS - ANIMAL BREEDING RESEARCH DATA. (3) (3 lectures) An advanced graduate course to give training and experience in statistical techniques applied to quantitative genetics and animal breeding. To consider aspects of data handling of large data sets (100,000 observations), checks for consistency and connectedness in data. Considerations in choosing efficient analytical procedures in fitting these models and development of efficient numerical algorithms to apply these procedures.

ANSC 643 PROJECT 1. (3) Review of the literature and design of the project. This project relates to the M.Sc. Applied (non-thesis) degree.

ANSC 644 PROJECT 2. (3)

ANSC 645 PROJECT 3. (3)

ANSC 646 PROJECT 4. (3)

ANSC 647 PROJECT 5. (3)

ANSC 680 M.Sc. THESIS 1. (7) Independent research under the direction of a supervisor toward completion of M.Sc. thesis.

ANSC 681 M.Sc. THESIS 2. (7) Independent research under the direction of a supervisor toward completion of M.Sc. thesis.

ANSC 682 M.Sc. THESIS 3. (7) Independent research under the direction of a supervisor toward completion of M.Sc. thesis.

ANSC 683 M.Sc. THESIS 4. (10) Final submission and approval of M.Sc. thesis.

ANSC 691 SPECIAL TOPIC: ANIMAL SCIENCES. (3)

ANSC 691D1 (1.5), ANSC 691D2 (1.5) SPECIAL TOPIC: ANIMAL SCIENCES. (Students must register for both ANSC 691D1 and ANSC 691D2) (No credit will be given for this course unless both ANSC 691D1 and ANSC 691D2 are successfully completed in consecutive terms) (ANSC 691D1 and ANSC 691D2 together are equivalent to ANSC 691) Prescribed reading, conference or practical work on a selected topic in the student's area of specialization, not otherwise available in other courses; under staff supervision. An approved course outline must be on file in the Departmental office prior to registration deadline.

ANSC 691N1 SPECIAL TOPIC: ANIMAL SCIENCES. (1.5) (Students must also register for ANSC 691N2) (No credit will be given for this course unless both ANSC 691N1 and ANSC 691N2 are successfully completed in a twelve month period) (ANSC 691N1 and ANSC 691N2 together are equivalent to ANSC 691) Prescribed reading, conference or practical work on a selected topic in the student's area of specialization, not otherwise available in other courses; under staff supervision. An approved course outline must be on file in the Departmental office prior to registration deadline.

ANSC 691N2 SPECIAL TOPIC: ANIMAL SCIENCES. (1.5) (Prerequisite: ANSC 691N1) (No credit will be given for this course unless both ANSC 691N1 and ANSC 691N2 are successfully completed in a twelve month period) (ANSC 691N1 and ANSC 691N2 together are equivalent to ANSC 691) See ANSC 691N1 for course description.

ANSC 692 TOPIC IN ANIMAL SCIENCES 1. (3)

ANSC 692D1 (1.5), ANSC 692D2 (1.5) TOPIC IN ANIMAL SCIENCES 1. (Students must register for both ANSC 692D1 and ANSC 692D2) (No credit will be given for this course unless both ANSC 692D1 and ANSC 692D2 are successfully completed in consecutive terms) (ANSC 692D1 and ANSC 692D2 together are equivalent to ANSC 692) Prescribed reading, conference or practical work on a selected topic in the student's area of specialization, not otherwise available in other courses; under staff supervision. An approved course outline must be on file in the Departmental office prior to registration deadline.

ANSC 692N1 TOPIC IN ANIMAL SCIENCES 1. (1.5) (Students must also register for ANSC 692N2) (No credit will be given for this course unless both ANSC 692N1 and ANSC 692N2 are successfully completed in a twelve month period) (ANSC 692N1 and ANSC 692N2 together are equivalent to ANSC 692) Prescribed reading, conference or practical work on a selected topic in the student's area of specialization, not otherwise available in other

courses; under staff supervision. An approved course outline must be on file in the Departmental office prior to registration deadline.

ANSC 692N2 TOPIC IN ANIMAL SCIENCES 1. (1.5) (Prerequisite: ANSC 692N1) (No credit will be given for this course unless both ANSC 692N1 and ANSC 692N2 are successfully completed in a twelve month period) (ANSC 692N1 and ANSC 692N2 together are equivalent to ANSC 692) See ANSC 692N1 for course description.

ANSC 693D1 (1.5), ANSC 693D2 (1.5) TOPIC IN ANIMAL SCIENCES 2. (Students must register for both ANSC 693D1 and ANSC 693D2) (No credit will be given for this course unless both ANSC 693D1 and ANSC 693D2 are successfully completed in consecutive terms)

ANSC 693N1 TOPIC IN ANIMAL SCIENCES 2. (1.5) (Students must also register for ANSC 693N2) (No credit will be given for this course unless both ANSC 693N1 and ANSC 693N2 are successfully completed in a twelve month period)

ANSC 693N2 TOPIC IN ANIMAL SCIENCES 2. (1.5) (Prerequisite: ANSC 693N1) (No credit will be given for this course unless both ANSC 693N1 and ANSC 693N2 are successfully completed in a twelve month period)

ANSC 695 ANIMAL SCIENCE SEMINAR 1. (1) (1 hour) One of two seminars to be given by all students in an M.Sc. program. Consists of a review of literature in relation to the student's proposed research and an experimental design of the research to be conducted.

ANSC 696 ANIMAL SCIENCE SEMINAR 2. (1) (1 hour) One of two seminars to be given by all students in an M.Sc. program. Presentation of a current scientific topic which is not related to the student's research. The topic for the presentation should be cleared by the thesis supervisor.

ANSC 701 DOCTORAL COMPREHENSIVE EXAMINATION. (0) (See Faculty Regulations)

ANSC 701D1 (0), ANSC 701D2 (0) DOCTORAL COMPREHENSIVE EXAMINATION. (Students must register for both ANSC 701D1 and ANSC 701D2) (No credit will be given for this course unless both ANSC 701D1 and ANSC 701D2 are successfully completed in consecutive terms) (ANSC 701D1 and ANSC 701D2 together are equivalent to ANSC 701)

ANSC 797 ANIMAL SCIENCE SEMINAR 3. (1) (1 hour) One of two seminars to be given by all students in a Ph.D. program. Review of literature in relation to the student's proposed research and an experimental design of the research to be conducted.

ANSC 798 ANIMAL SCIENCE SEMINAR 4. (1) (1 hour) One of two seminars to be given by all students in a Ph.D. program. Presentation of a current scientific topic which is not related to the student's research. The topic for the presentation should be cleared by the thesis supervisor.

4 Anthropology

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Web site: www.arts.mcgill.ca/programs/anthro

Chair — Michael S. Bisson

4.1 Staff

Professors

Donald W. Attwood; A.B.(Calif.), Ph.D.(McG.)
Margaret Lock; B.Sc.(Leeds), M.A., Ph.D.(Calif.) (*joint appoint. with Social Studies of Medicine*) (on leave 2004-2005)

J erome Rousseau; M.A.(Montr.), Ph.D.(Cantab.)
Philip Carl Salzman; A.B.(Antioch), M.A., Ph.D.(Chic.) (*on leave 2004-2005*)

Bruce G. Trigger; B.A.(Tor.), Ph.D.(Yale), F.R.S.C. (*James McGill Professor*) (*on leave Jan.-Dec. 2004*)

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., M.A., Ph.D.(Calif.)
Laurel Bossen; B.A.(Barnard), M.A., Ph.D.(SUNY, Albany)
Ellen Corin; B.A., M.A., Ph.D.(Louvain) (*joint appoint. with Psychiatry*)

John Galaty; M.A., Ph.D.(Chic.)
Carmen Lambert; B.A.(Montr.), M.A., Ph.D.(McG.)
Kristin Norget; B.A.(Vic., B.C.), M.Phil., D.Phil.(Cantab.)
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

Andr  Costopoulos; B.A.(McG.), M.Sc.(Montr.), Ph.D.(Oulu, Finland)
Nicole Couture ; B.A. (Trent), M.A., Ph.D. (Chic.)
Sandra T. Hyde; B.A.(U.C. Santa Cruz), M.P.H.(Hawaii), Ph.D.(U.C. Berkeley)

4.2 Programs Offered

The Department offers training leading to the M.A. and Ph.D. in Anthropology. Admission is to the M.A. program, except when a student already holds a Master's degree. It is expected, however, that most applicants will be oriented towards achievement of the Ph.D.

The Department offers several alternative M.A. programs:

1. M.A. with thesis;
2. M.A. with research paper;
3. M.A. in Medical Anthropology, with or without thesis.

4.3 Admission Requirements

Master's

Admission to the M.A. program is open competitively to students holding an Honours or Major B.A. in Anthropology. Outstanding candidates with B.A. degrees in other disciplines but with substantial background related to anthropology are sometimes admitted on the condition that they complete a specified number of additional courses in Anthropology.

The applicants admitted usually have undergraduate Grade Point Averages of 3.5 or above on a 4.0 point scale.

Ph.D.

Admission to the Ph.D. program is open competitively to students with a Master's degree in Anthropology. In very special circumstances candidates with Master's degrees in related disciplines may be admitted.

4.4 Application Procedures

The deadlines for receipt of all application material for September admission is January 1.

Applications will be considered upon receipt of:

1. Graduate Application Form;
2. application fee (\$60), official transcripts;
3. two letters of recommendation;
4. statement of research interests (including reasons for wanting to pursue them at McGill); and
5. test results (GRE, TOEFL), if required.
(Canadian applicants are exempted from the GRE.)
(For international students who have not completed a previous degree at an English language university, a minimum TOEFL score of 550 or 213 on computer-based test is required.)

The Department admissions committee announces its selections by mid-March.

A number of teaching assistantships are available to graduate students in the Department. Applicants who wish to be considered for an assistantship, a McGill Recruitment Fellowship, or for Differential Fee Waivers (for international students) should include a note to that effect with their applications. For information regarding a variety of other fellowship programs, see the "Graduate Fellowships and Awards" section of the Graduate and Postdoctoral Studies Calendar.

Application information is available on the Department Web site.

4.5 Program Requirements

M.A. Degree

The purpose of the M.A. program is to provide advanced level training in anthropology and to prepare students for research at the Ph.D. level.

M.A. Degree with Thesis (48 credits)

The Master's degree with thesis is a 48-credit program: 4 courses (12 credits) and the M.A. thesis (36 credits).

The student's program of work, which is based on his/her research interests, is developed in consultation with the student's supervisor and the two other members of his or her advisory committee. Students are required to take four courses in the form of seminars and/or tutorials. The set of four courses should be directed toward and converge in the thesis research. M.A. thesis research may take the form of fieldwork but a library thesis is strongly advised so that students can proceed more rapidly to the Ph.D.

M.A. Degree with Research Paper (45 credits)

The Master's degree with research paper is a 45-credit program: 5 courses (15 credits), a Proseminar (6 credits) and the research paper (24 credits).

The student's program of work is developed in consultation with the student's supervisor and the two other members of his or her advisory committee. It consists of: five courses (seminars or tutorials), only one of which is optional, a research paper proposal and the research paper. They must also attend the Proseminar. The research paper will normally be based on library research but can involve limited and preferably local fieldwork. The research paper should demonstrate the student's ability to define a problem, place it in a theoretical and factual context, collect and analyze data, and write up a report.

M.A. Degree in Medical Anthropology (48 credits)

The M.A. program in Medical Anthropology is given jointly by the Department of Anthropology and the Department of Social Studies of Medicine (SSOM). For additional information, including seminar offerings, please refer to the SSOM section.

The program is open to students with backgrounds in the social sciences, the medical professions, or the medical sciences. The M.A. degree is awarded by the Anthropology Department and admission is granted by a joint admissions committee made up of representatives from Anthropology and SSOM. Within the medical anthropology program, candidates will apply for permission to take one of the following courses of study:

a) M.A. with Thesis

This course of study is taken by students with an academic background in anthropology. Course and thesis requirements are the same as described in the M.A. in Anthropology, with thesis, with the following differences: students are required to take two Seminars in Medical Anthropology (HSSM605, ANTH615), as two of their four courses.

b) M.A. with Research Paper

This option is offered as an alternative for students with a background in Anthropology. Students are required to take five courses: two Seminars in Medical Anthropology (HSSM605, ANTH615) as well as the following courses in anthropology: The-

ory 1, Research Methods, and Quantitative Methods. They must also attend the Anthropology Proseminar. In addition, students are required to write a research paper.

c) Special M.A. with Research Paper

This course of study is taken by students who lack a strong academic background in anthropology. These students are required to take eight courses (24 credits), including two seminars in Medical Anthropology (HSSM605, ANTH615) and at least five additional graduate courses in anthropology (Theory 1 and Research Methods are recommended). In addition, students are required to write a research paper.

Ph.D. Degree

The purpose of the Ph.D. program is to enable a student to make an original contribution to anthropological research in the form of a doctoral thesis. This must be based on a comprehensive understanding of prior research relevant to the topic investigated.

All requirements for the M.A. must be completed. Students holding an M.A. from another discipline may be requested to take seminars covering deficiencies in their previous training.

Candidates must (1) pass a language exam; (2) demonstrate comprehensive understanding of prior research in three subfields of anthropology through the successful completion of three courses; these courses are the Ph.D. Tutorials listed below; (3) submit and orally defend a research proposal; and (4) carry out field research and submit an original thesis for examination and oral defense.

- 1) A language examination, normally French, must be passed before an oral examination of the research proposal may be scheduled. Francophone students can satisfy the language requirement by demonstrating competency in English. The purpose of the language requirement is to ensure that the student has access to anthropological literature in at least two languages. Under special circumstances, a language other than English or French may be substituted, provided that there is sufficient anthropological literature on the student's research topic in that language.
- 2) Within the first year of Ph.D. study, students will select a thesis supervisor and at least two other thesis committee members. One of the latter may be from outside the Department. The committee as a whole helps the student to develop a topic for research, to learn the state of the art regarding the topic, and to write a research proposal. To ensure that students understand prior research, they must define three subfields which intersect with the thesis topic. One of these subfields is usually the literature on the geographic region where fieldwork will be carried out. One or more committee members will tutor the student in each selected subfield, and the student will prepare a bibliography of works read and discussed as well as a concise evaluation of the material covered in each. This written work will demonstrate understanding of prior research in each subfield.
- 3) The thesis proposal is also prepared in consultation with the committee members and under the direction of the thesis supervisor. It contains a brief review of the literature and controversies in the three relevant subfields, and a discussion of the proposed research (background, methods and hypotheses to be tested). When the proposal is finished, it must be read and approved by all members of the committee before it is submitted for oral examination. Copies of the proposal and of the bibliographies relating to the three subfields must be made available to all professors in the Department at least one week before the hearing.

The oral examination of the proposal and the three subfields is open to all staff and students. The first part of the examination will explore the student's general understanding of the three subfields selected. In the second part, the student may be questioned on the merits of any part of the proposal: theoretical assumptions, hypotheses, methods, understanding of the literature.

- 4) If the proposal is passed, the student will then carry out field research and write a thesis. Thesis drafts are read and commented on by the thesis committee. When the thesis is ready for examination, it is submitted to the Graduate and Postdoctoral Studies Office, which appoints an internal examiner (usually from within the Department) and an external examiner (an acknowledged authority in the field from outside the university). If both examiners approve the thesis, an oral defense is arranged before a committee appointed by GPSO.

4.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

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) (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 602 THEORY 1. (3)

ANTH 602D1 (1.5), ANTH 602D2 (1.5) THEORY 1. (Students must register for both ANTH 602D1 and ANTH 602D2) (No credit will be given for this course unless both ANTH 602D1 and ANTH 602D2 are successfully completed in consecutive terms) (ANTH 602D1 and ANTH 602D2 together are equivalent to ANTH 602)

ANTH 603 THEORY 2. (3)

ANTH 605 CULTURE AREA. (3)

ANTH 607D1 (3), ANTH 607D2 (3) PROSEMINAR IN ARCHAEOLOGY. (Students must register for both ANTH 607D1 and ANTH 607D2) (No credit will be given for this course unless both ANTH 607D1 and ANTH 607D2 are successfully completed in consecutive terms)

ANTH 609D1 (3), ANTH 609D2 (3) PROSEMINAR IN ANTHROPOLOGY. (Students must register for both ANTH 609D1 and ANTH 609D2) (No credit will be given for this course unless both ANTH 609D1 and ANTH 609D2 are successfully completed in consecutive terms) (ANTH 609D1 and ANTH 609D2 together are equivalent to ANTH 609)

ANTH 610 SOCIAL ORGANIZATION. (3)

ANTH 611 RESEARCH DESIGN. (3)

ANTH 614 ECONOMIC ANTHROPOLOGY. (3)

ANTH 615 SEMINAR IN MEDICAL ANTHROPOLOGY. (3)

ANTH 616 POLITICAL ANTHROPOLOGY. (3)

ANTH 625 CULTURAL ECOLOGY. (3)

ANTH 631 SYMBOLIC ANTHROPOLOGY. (3)

ANTH 634 ANTHROPOLOGY OF DEVELOPMENT 1. (3)

ANTH 635 ANTHROPOLOGY OF DEVELOPMENT 2. (3)

ANTH 638 COMPLEX SOCIETIES. (3)

ANTH 640 PSYCHOLOGICAL ANTHROPOLOGY. (3)

ANTH 648 STRUCTURAL ANTHROPOLOGY. (3)

ANTH 652 ANTHROPOLOGY AND GENDER. (3)

ANTH 660 RESEARCH METHODS. (3)

ANTH 665 QUANTITATIVE METHODS. (3)

ANTH 670 ARCHAEOLOGICAL THEORY 1. (3)

ANTH 671 ARCHAEOLOGICAL THEORY 2. (3)

ANTH 673 ARCHAEOLOGICAL FIELD METHODS. (3)

ANTH 676 ARCHAEOLOGICAL AREA. (3)

ANTH 678 ETHNOHISTORY. (3)

ANTH 680 TUTORIAL READING 1. (3)

ANTH 681 TUTORIAL READING 2. (3)

ANTH 682 TUTORIAL READING 3. (3)

ANTH 683 TUTORIAL READING 4. (3)

ANTH 684 TUTORIAL READING 5. (3)

ANTH 685 RESEARCH TUTORIAL 1. (3)

ANTH 686 RESEARCH TUTORIAL 2. (3)

ANTH 690 RESEARCH PAPER 1. (6)

ANTH 691 RESEARCH PAPER 2. (6)

ANTH 692 RESEARCH PAPER 3. (6)

ANTH 693 RESEARCH PAPER 4. (6)

ANTH 694 M.A. THESIS TUTORIAL 1. (6)

ANTH 695 M.A. THESIS TUTORIAL 2. (6)

ANTH 696 M.A. RESEARCH PAPER. (15)

ANTH 699 M.A. THESIS. (24)

ANTH 699D1 (12), ANTH 699D2 (12) M.A. THESIS. (Students must register for both ANTH 691D1 and ANTH 691D2) (No credit will be given for this course unless both ANTH 699D1 and ANTH 699D2 are successfully completed in consecutive terms) (ANTH 699D1 and ANTH 699D2 together are equivalent to ANTH 699)

ANTH 700 PH.D. PRELIMINARY EXAMINATION. (6)

ANTH 700D1 (3), ANTH 700D2 (3) PH.D. PRELIMINARY EXAMINATION. (Students must register for both ANTH 700D1 and ANTH 700D2) (No credit will be given for this course unless both ANTH 700D1 and ANTH 700D2 are successfully completed in consecutive terms) (ANTH 700D1 and ANTH 700D2 together are equivalent to ANTH 700)

ANTH 702 ADVANCED ANTHROPOLOGICAL THEORY. (3)

ANTH 760 ADVANCED ANTHROPOLOGICAL METHODS. (3)

ANTH 770 ADVANCED ARCHAEOLOGICAL THEORY. (3)

ANTH 773 ADVANCED ARCHAEOLOGICAL METHODS. (3)

ANTH 780 READING AND RESEARCH. (3)

ANTH 781 READING AND RESEARCH. (3)

ANTH 790 PH.D. TUTORIAL 1. (3)

ANTH 790D1 (1.5), ANTH 790D2 (1.5) PH.D. TUTORIAL 1. (Students must register for both ANTH 790D1 and ANTH 790D2) (No credit will be given for this course unless both ANTH 790D1 and ANTH 790D2 are successfully completed in consecutive terms) (ANTH 790D1 and ANTH 790D2 together are equivalent to ANTH 790)

ANTH 791 PH.D. TUTORIAL 2. (3)

ANTH 791D1 (1.5), ANTH 791D2 (1.5) PH.D. TUTORIAL 2. (Students must register for both ANTH 791D1 and ANTH 791D2) (No credit will be given for this course unless both ANTH 791D1 and ANTH 791D2 are successfully completed in consecutive terms) (ANTH 791D1 and ANTH 791D2 together are equivalent to ANTH 791)

ANTH 792 PH.D. TUTORIAL 3. (3)

ANTH 792D1 (1.5), ANTH 792D2 (1.5) PH.D. TUTORIAL 3. (Students must register for both ANTH 792D1 and ANTH 792D2) (No credit will be given for this course unless both ANTH 792D1 and ANTH 792D2 are successfully completed in consecutive terms) (ANTH 792D1 and ANTH 792D2 together are equivalent to ANTH 792)

5 Architecture

School of Architecture
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Director — David Covo

Graduate Program Coordinator — Alberto Pérez-Gómez

5.1 Staff

Emeritus Professors

Harold Spence-Sales; B.A. (Well.), A.A. Dipl., L.L.D. (S. Fraser)
Radoslav Zuk; B. Arch. (McG.), M. Arch. (M.I.T.), D.Sc. (U.A.A.),
F.R.A.I.C., O.A.Q., O.A.A.

Professors

Vikram Bhatt; N. Dip Arch. (Ahmed.), M. Arch. (McG.), M.R.A.I.C.
Derek Drummond; B. Arch. (McG.), F.R.A.I.C., O.A.Q., O.A.A.
(*William C. Macdonald Professor of Architecture*)
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

Annmarie Adams; B.A. (McG.), M. Arch., Ph.D. (Calif.), M.R.A.I.C.
(*William Dawson Scholar*)
Martin Bressani; B.Sc. (McG.), B. Arch. (McG.), M.Sc. (Arch.) (MIT),
D.E.A., Docteur (Paris-Sorbonne - Paris IV), O.A.Q.
Ricardo Castro; B. Arch. (Los Andes, Col.), M. Arch., M.A. (Oregon),
M.R.A.I.C.
David Covo; B.Sc. (Arch.), B. Arch. (McG.), F.R.A.I.C., O.A.Q.
Robert Mellin; B. Arch., M.Sc. (Arch.) (Penn. State), M. Arch. (McG.),
M.Sc., Ph.D. (U. Penn.), M.R.A.I.C., N.A.A.
Pieter Sijpkens; B.Sc. (Arch.), B. Arch. (McG.)

Faculty Lecturer

Julia Bourke

Course Lecturers

Manon Asselin, Jean D'Aragon, Lisa Landrum, Nadia Meratla,
Carlos Rueda Plata, David Theodore

Adjunct Professors

Cecile Baird, Ewa Bieniecka, Lawrence Bird, Michael Carroll,
Nathalie David, Howard Davies, Georges Drolet, Gordon
Edwards, François Émond, Julia Gersovitz, Nan Griffiths,
Dan Hanganu, Pierre Jampen, Richard Klopp, Phyllis Lambert,
Seymour Levine, Anna Mainella, Harry Mayerovitch, Sybil
McKenna, Serge Melanson, Rosanne Moss, Carl Mulvey,
Joanna Nash, Harry Parnass, Louise Pelletier, Mark Poddubiuk,
Louis Pretty, Daniella Rohan, Richard Russell, Robert Stanley,
Sheila Theophanides, Samson Yip, Jozef Zorko

Adjunct Professors

Cecile Baird, Ewa Bieniecka, Lawrence Bird, Julia Bourke,
Michael Carroll, Nathalie David, Howard Davies, Georges Drolet,
Gordon Edwards, François Émond, Julia Gersovitz,
Mark Ginocchio, Dan Hanganu, Phyllis Lambert, Seymour Levine,
Anna Mainella, Harry Mayerovitch, Serge Melanson,
Rosanne Moss, Carl Mulvey, Joanna Nash, Louise Pelletier,
Mark Poddubiuk, Louis Pretty, Daniella Rohan, Jacques
Rousseau, Richard Russell, Robert Stanley, Fred Weiser,
Samson Yip, Jozef Zorko

5.2 Programs Offered

M. Arch. I (professional), M. Arch. II (post-professional) (non-thesis), Graduate Diploma in Housing, Ph.D.

The professional M. Arch. I program 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.A.

There are two areas of study in the post-professional M. Arch. II and Ph.D. programs: Architectural History and Theory, and Housing (which includes Affordable Homes, Domestic Environments, and Minimum Cost Housing).

Information concerning the duration of programs, documents required of applicants, etc., may be obtained from: profdegree.architecture@mcgill.ca (M. Arch. I), postprofmaster.architecture@mcgill.ca (M. Arch. II and Graduate Diploma in Housing), or phd.architecture@mcgill.ca (Ph.D.).

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.

Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional 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 for 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.

5.3 Admission Requirements

M. Arch. I (professional) Program

Students holding the McGill B.Sc. (Arch.) degree, or equivalent, with a cumulative grade point average of at least 3.0 on a scale of 4.0, are eligible to apply for admission.

M. Arch. II (post-professional) (non-thesis) and Graduate Diploma in Housing

Students holding an accredited professional degree in architecture, or equivalent, with a cumulative grade point average of at least 3.0 on a scale of 4.0, are eligible to apply for admission. In special cases, candidates with a degree in a related field may be considered.

Ph.D.

Candidates with high standing in McGill's M. Arch. II, or who hold an equivalent degree from another university, are eligible to apply to this program. Those who do not have an appropriate background in the chosen research area may be admitted to Ph.D. I. Candidates who have an adequate background at the post-professional Master's level in the proposed area of research will be admitted to Ph.D. II.

A working knowledge of a language or languages relevant to the area of research may be required.

5.4 Application Procedures

Professional Master of Architecture: M. Arch. I

McGill B.Sc. (Arch.) Graduates:

1. Completed on-line application form accessible from the School's Web site at www.mcgill.ca/architecture or from www.mcgill.ca/applying/graduate.
2. A non-refundable application fee of \$60 (Cdn.).
3. A portfolio (8½" x 11" format) that includes the following:
 - samples of studio work from previous studies (please use Studio Project Description Form*),
 - samples of freehand drawing and sketching,
 - samples of professional work.
4. Summary of work experience (please use Work Experience Report form*).

Others:

1. Completed on-line application form accessible from the School's Web site at www.mcgill.ca/architecture or from www.mcgill.ca/applying/graduate.
2. A non-refundable application fee of \$60 (Cdn.).
3. A portfolio (8½" x 11" format) that includes the following:
 - samples of studio work from previous studies (please use Studio Project Description Form*),
 - samples of freehand drawing and sketching,
 - samples of professional work.
4. Summary of work experience (please use Work Experience Report form*).
5. Two sets of official transcripts sent directly by the registrars of all universities attended.
6. Two confidential letters of reference sent directly by the referees to the School of Architecture (please use Confidential Report on Applicant form*).
7. Course calendar descriptions of previous college and/or university studies.
8. Completed Program Comparison Chart*.
9. Proof of English language proficiency - minimum TOEFL score of 550 on the paper-based test (or 213 on the computer-based test). Please refer to the *Graduate and Postdoctoral Studies Calendar*, General Information section 5.3.

*These documents are available in PDF format on the School of Architecture Web site.

Post-professional programs:**M.Arch. II, Ph.D. and Graduate Diploma in Housing**

1. Completed on-line application form accessible from the School's Web site at www.mcgill.ca/architecture or from www.mcgill.ca/applying/graduate.
2. A non-refundable application fee of \$60 (Cdn.).
3. Two sets of official transcripts sent directly by the registrars of all universities attended.
4. Two confidential letters of reference sent directly by the referees to the School of Architecture.
5. A statement indicating the option chosen and the general area of research to be undertaken. Ph.D. applicants must submit a 3-page research proposal.
6. A portfolio (8½" x 11" format) containing at least five examples of the applicant's work. Folded drawings are unacceptable.
7. At least one example of a report or paper written by the applicant.
8. Proof of English language proficiency (TOEFL) – minimum score of 550 on the paper-based test (or 213 on the computer-based test). Please refer to the *Graduate and Postdoctoral Studies Calendar*, General Information section 5.3.

5.5 Program Requirements**M.Arch. I**

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 is a six-term (minimum) design program leading to a non-professional degree, Bachelor of Science (Architecture). Applicants whose background includes a university

degree in an area not related to Architecture should apply to the B.Sc.(Arch.) program. Further information on the B.Sc.(Arch.) program can be found in the Faculty of Engineering section of the Undergraduate Programs Calendar, available at www.mcgill.ca. The second part, for students with the B.Sc.(Arch.) degree, or the equivalent, is the professional Master of Architecture program.

The professional Master of Architecture program is a one-and-a-half year, or three-term course of studies leading to the M.Arch. I degree. Applicants whose background includes a non-professional degree in Architecture equivalent to the McGill B.Sc.(Arch.) may be eligible for admission directly to the professional M.Arch. I program. In certain cases, qualified applicants may be required to complete a qualifying year, up to a maximum of 30 credits or two terms, before entering the three-term M.Arch. I program. Further information may be obtained at the School of Architecture website: www.mcgill.ca/architecture/programs/professional.

M.Arch.I Program of Study (45 credits)

ARCH550	(3)	Urban Planning 1
ARCH551	(3)	Urban Planning 2
ARCH554	(2)	Mechanical Services
ARCH555	(2)	Environmental Acoustics
ARCH671	(4)	Design Research and Methodology
ARCH672	(6)	Architectural Design 1
ARCH673	(8)	Architectural Design 2
ARCH674	(2)	Professional Practice 1
ARCH675	(2)	Professional Practice 2
ARCH676	(2)	Specifications and Building Costs
ARCH678	(3)	Advanced Construction
ARCH679	(1)	Architectural Journalism
ARCH680	(1)	Sketching School 2

6 credits of complementaries/electives, of which a minimum of 3 credits must be from an architectural complementary.

Unless otherwise indicated, the above courses are restricted to students in the professional program.

M.Arch.II (45 credits)

The post-professional Masters (M.Arch.II) is open to applicants who have a professional degree in architecture. Students holding the McGill B.Arch. (former) or M.Arch.I (new) degree, or an equivalent professional qualification, with a CGPA of at least 3.0 on a 4.0 point scale, are eligible for admission to the graduate programs. In special cases, applicants with a degree in a related field may be considered. The primary requirement for the M.Arch.II is 30 credits of course work, to be completed in the first two terms, and a 15-credit project report that can be completed during the summer, or in the following fall term. The residence requirement for the M.Arch.II degree is three academic terms, making it possible for students who elect to work on their project report in the summer term to obtain their degree after twelve calendar months in the program.

Ph.D.

Doctoral candidates must have their thesis proposal approved by their advisor (ARCH700) before embarking on their research. A Thesis Advisory Committee is then struck and is responsible for monitoring the student's research. For course number ARCH701, a comprehensive research proposal is required, as well as a demonstration of broad knowledge in the field. Candidates will submit two further reports in formal meetings with the Advisory Committee, who will review the work in progress (ARCH702 and ARCH703). The final meeting takes place after the Committee has reviewed the full draft of the dissertation. If approved, the dissertation will then be submitted in its final form to the Thesis Office. Acceptance of the thesis by the examiners is followed by an oral defense.

Graduate Diploma in Housing

The Graduate Diploma in Housing is open to applicants who have a professional degree in architecture. The Diploma program is a two-term program which is intended for professionals who have worked in the area of housing in North America or in the developing world. The program is designed for those who, while wishing

to advance their knowledge in the housing field, are not able, or inclined, to undertake studies towards a Master's degree.

5.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

☐ Denotes limited enrolment

Denotes courses not offered in 2004-05.

ARCH 520 MONTREAL: URBAN MORPHOLOGY. (3) (2-1-6) (Prerequisite: ARCH 251)

ARCH 521 STRUCTURE OF CITIES. (3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor)

☐ **ARCH 522 HISTORY OF DOMESTIC ARCHITECTURE IN QUEBEC.** (3) (2-0-7) (Prerequisite: ARCH 251) (Departmental permission required).

☐ **ARCH 523 SIGNIFICANT TEXTS AND BUILDINGS.** (3) (2-0-7) (Prerequisite: ARCH 251) (Alternating with ARCH 524) (Departmental permission required).

☐ **ARCH 524 SEMINAR ON ARCHITECTURAL CRITICISM.** (3) (2-0-7) (Prerequisite: ARCH 251) (Alternating with ARCH 523) (Departmental permission required).

☐ **ARCH 525 SEMINAR ON ANALYSIS AND THEORY.** (3) (2-0-7) (Prerequisite: ARCH 202 or permission of instructor) (Departmental permission required) Analysis and evaluation of significant architectural projects with reference to contemporary architectural theories.

ARCH 526 PHILOSOPHY OF STRUCTURE. (3) (2-0-7) (Prerequisite: ARCH 202 or permission of Instructor) (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 534 ARCHITECTURAL ARCHIVES. (3) (3-0-6) (Prerequisites: ARCH 250 and ARCH 251 or equivalent.) (Restriction: Open only to architecture students.)

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 1. (3) (2-0-7) (Prerequisite: B.Sc.(Arch.) or permission of instructor) (Not normally open to Urban Planning students) Theory and practice. An examination of different basic approaches to urban planning with special reference to Quebec.

ARCH 551 URBAN PLANNING 2. (3) (2-1-6) (Prerequisite: ARCH 550) Urban design and project development, theory and practice. Detailed analysis of selected examples of the development process and of current techniques in urban design. Includes case studies from Quebec and elsewhere.

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.

ARCH 622 CRITICAL WRITING. (3) (2-1-6) Seminar to critically review an architectural topic.

ARCH 623 PROJECT PREPARATION. (3) (2-1-6) Guided background preparation for the project.

ARCH 624 HISTORY AND THEORY PROJECT. (15) (0-15-30) Thematic, site-specific experimental design with an emphasis on process, including 1) survey/mapping and 2) preparation of text, drawings and models.

ARCH 627 RESEARCH METHODS. (3) (2-1-6) Different approaches and research methods in housing. Setting of goals and objectives, identification of appropriate research methods, collection and evaluation of information, analysis and synthesis of data, and presentation of the findings.

ARCH 628 HOUSING PROJECT REPORT. (15) (0-15-30) A supervised project report based on material developed by candidates in the project preparation course. It may include on-site explorations of housing projects, surveying and documentation, critical analysis, and creative mapping of the same, plus an evaluation report.

ARCH 630 HOUSING SEMINAR 1. (3) (2-0-7) Strategies for affordable and low-cost housing. Investigation of cost-saving measures both at urban and dwelling unit levels. An analysis of recent low-cost housing projects.

ARCH 631 HOUSING SEMINAR 2. (3) (2-0-7) Strategies for affordable and low-cost housing. Investigation of cost-saving measures both at urban and dwelling unit levels. An analysis of recent low-cost housing projects.

ARCH 634 HOUSING REPORT. (6) (2-10-6)

ARCH 635 SELECTED TOPICS IN HOUSING 1. (3) (3-0-6) Special topics related to housing.

ARCH 636 SELECTED TOPICS IN HOUSING 2. (3) (3-0-6) Special topics related to housing.

ARCH 645 HOUSING PROJECT 1. (6) (2-10-6) Innovative housing designs; lectures and studio work leading to a design project.

ARCH 646 HOUSING PROJECT 2. (6) (2-10-6) Innovative housing designs; lectures and studio work leading to a design project.

ARCH 650 ARCHITECTURAL HISTORY SEMINAR 1. (8) (3-5-16) Western Architectural history from Antiquity to the Renaissance. A hermeneutic reading of primary sources, i.e. a section or chapter of an historical treatise, a frontispiece or image, in the framework of recent scholarship on the subject.

ARCH 651 ARCHITECTURAL HISTORY SEMINAR 2. (8) (3-5-16) Early Modern European theory of architecture, 17th - 19th centuries. A hermeneutic reading of primary sources, i.e. a section or chapter of an historical treatise, a frontispiece or image, in the framework of recent scholarship on the subject.

ARCH 652 ARCHITECTURAL THEORY SEMINAR 1. (4) (4-0-8) Phenomenology and hermeneutic.

ARCH 653 ARCHITECTURAL THEORY SEMINAR 2. (4) (4-0-8) The experience of modernity in cultural criticism, philosophy, literature and art.

ARCH 671 DESIGN RESEARCH AND METHODOLOGY. (4) (1-4-7) An architectural design problem is selected, bibliographic research undertaken, site selection established: program developed and theoretical approach evolved in preparation for course ARCH 673.

ARCH 672 ARCHITECTURAL DESIGN 1. (6) (2-10-6) A series of complex architectural and urban design issues are addressed with the intention of improving the student's facility to critically assess existing design solutions, to seek alternatives and to articulate clearly the rational and the impact of alternative proposals.

ARCH 673 ARCHITECTURAL DESIGN 2. (8) (2-14-8) (Prerequisite: ARCH 671 and ARCH 672) An individual, student-selected and faculty-approved study of complex architectural design objectives involving site and building program constraints, the integration of building systems and the demonstration of comprehensive design and presentation skills.

ARCH 674 PROFESSIONAL PRACTICE 1. (2) (2-0-4) The architect's relationship to his/her client: responsibility, business conduct, supervision, arbitration, issuing of certificates, competitions, standard forms of contracts, payments, liens, servitudes, public health, building regulations, fees.

ARCH 675 PROFESSIONAL PRACTICE 2. (2) (2-0-4) (Prerequisite: ARCH 674) The construction process will be examined. Topics include project and construction management, contracting methods, tendering, sureties, site safety, negotiations, cost control, quality control, delay claims, legal hypothecs. Standard documentation and procedures will be reviewed, including CCDC contract, OAQ forms, CSC MasterFormat.

ARCH 676 SPECIFICATIONS AND BUILDING COSTS. (2) (2-0-4) Principles of writing architectural specifications; discussion of actual specifications and practice in specifying for common trades; essays on common building materials; costing of materials and building assemblies.

ARCH 678 ADVANCED CONSTRUCTION. (3) (2-0-7) (Prerequisite: ARCH 674) An exploration of construction in relation to architectural design; research in advanced methods of construction and structure related to design problems and built projects; appropriate technologies and alternatives.

ARCH 679 ARCHITECTURAL JOURNALISM. (1) (0-0-3) (Prerequisite: ARCH 674) The project deals with the review and criticism of a recently constructed controversial building.

ARCH 680 SKETCHING SCHOOL 2. (1) (0-0-3) An eight-day supervised field trip in the late summer to sketch places or things having specific visual characteristics.

ARCH 690 THESIS RESEARCH 1. (3) (0-2-7) Ongoing research pertaining to thesis.

ARCH 691 THESIS RESEARCH 2. (6) (0-2-16) Ongoing research pertaining to thesis.

ARCH 692 THESIS RESEARCH 3. (6) (0-2-16) Ongoing research pertaining to thesis.

ARCH 693 THESIS RESEARCH 4. (12) (0-2-34) Ongoing research pertaining to thesis.

ARCH 700 DISSERTATION PROPOSAL. (0) Evaluation of research proposals to finalize a preliminary thesis proposal. Development of a comprehensive framework for the research project.

ARCH 701 COMPREHENSIVE ORAL EXAMINATION. (0) Presentation of research to an Advisory Committee, including a comprehensive review of material in the field.

ARCH 702 PROGRESS REPORT 1. (0) Research in progress and the writing of the dissertation.

ARCH 703 PROGRESS REPORT 2. (0) Final presentation of the dissertation to the committee.

6 Art History

Department of Art History and Communication Studies
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Chair ; Director, Graduate Programs in Communication Studies — TBA

Director, Graduate Programs in Art History —
Christine Ross

6.1 Staff

Emeritus Professors

John M. Fossey; B.A.(Birm.), D.U.(Lyon II), F.S.A., R.P.A.
George Szanto; B.A.(Dart.), Ph.D.(Harv.)

Professor

Hans J. Böker; Ph.D.(Saarbrücken), Dr. Ing.-habil(Hannover)

Associate Professors

David Crowley; B.A.(Johns H.), M.Sc.(Penn.), Ph.D.(McG.)
Christine Ross; M.A.(C' dia.), Ph.D.(Paris I)
Will Straw; B.A.(Carl.), M.A., Ph.D.(McG.) (*on leave Sept. 2004 - Aug. 2005*)

Assistant Professors

Jenny Burman; B.A.(C' dia), M.A., Ph.D.(York)
Ting Chang; B.A.(McG.), M.A.(Tor.), Ph.D.(Sussex)
Charmaine Nelson; B.F.A., M.A.(C' dia), Ph.D.(Man.)
Bronwen Wilson; B.A., M.A.(U.B.C.), Ph.D.(Northwestern)
Angela Vanhaelen; B.A.(W.Ont.), M.A., Ph.D.(U.B.C.)

Adjunct Professors

David W. Booth, Louis De Moura Sobral, Johanne Lamoureux,
Charles Levine, Constance Naubert-Riser

6.2 Programs Offered

M.A. and Ph.D.

Areas of Specialization:

Western Medieval Art; Medieval Architecture; Post-Medieval Architecture; Renaissance Art; Baroque Art; Late Eighteenth and Nineteenth Century Art; Twentieth-Century Art; Chinese Art; Canadian Art; Methodology; Feminist Art History

To obtain financial aid information please consult the Graduate and Postdoctoral Studies Web site at www.mcgill.ca/gps or e-mail graduate.fellowships@mcgill.ca.

For programs in Communications, refer to section 18.

6.3 Admission Requirements

Entrance into either the M.A. or Ph.D. programs is limited to the best qualified applicants. A minimum CGPA of 3.3 out of 4.0 or the equivalent, i.e., B+ (75%), is required.

To apply to the M.A. program, candidates are normally expected to have a B.A. Honours degree either in Art History alone or in Art History and one other closely related field. But regardless of the program, the Department normally requires a minimum of 36 credits (at least 12 courses) in Art History with emphasis on European art and architecture. For candidates from institutions not offering the above number of credits in Art History, provision is made, upon consultation with the Director of Graduate Programs, for a program of study which would then qualify the candidate to apply for M.A. work.

In order to apply to the Ph.D. program, candidates must normally hold an M.A. degree preferably in Art History or an M.A. degree in a closely related field together with an appropriate number of Art History credits such as are described for entrance into the M.A. program. Applicants are strongly encouraged to consult with the Director of Graduate Programs. The number of entrants to the doctoral program is necessarily limited to the most highly qualified applicants.

It should be noted that courses in studio practice, although useful, cannot be counted among the 36 Art History credits for either the M.A. or Ph.D. programs. Also please see as well the language requirements given under the degree programs below.

The Department also requires a 250-word statement outlining the candidate's major interest in Art History as well as an example of written work. Applicants should send complete dossiers by January 15 to the Graduate Administrative Coordinator, Department of Art History and Communication Studies.

6.4 Application Procedures

Applications will be considered upon receipt of:

1. Completed and signed application form.
2. A non-refundable application fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:
 - a. Credit card (by completing the appropriate section of the application form).
 - b. Certified cheque in Cdn. currency drawn on a Canadian bank.
 - c. Certified cheque in U.S. currency drawn on a U.S. bank.
 - d. Canadian Money Order in Cdn. currency.
 - e. U.S. Money Order in U.S. currency.
 - f. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.
3. Two official copies of all transcripts are required for admission. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent. Documents submitted will not be returned. It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only.
4. Two letters of recommendation on letterhead or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferable in the applicant's area of specialization, are required. It is the applicant's responsibility to arrange for these letters to be sent.
5. Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by completing the TOEFL exams (minimum score 550 on the paper-based test or 213 on the computer-based test). Results must be submitted as part of the application.

6. Statement of interest of at least 250 words addressing the candidate's major interest in Art History and the proposed area of research.
7. An example of written work.
8. Proof of Citizenship (certified photocopy of passport, birth certificate or equivalent).

Deadline for application is January 15.

Inquiries regarding the Programs should be addressed to the Graduate Administrative Coordinator, Department of Art History and Communication Studies (ahcs@mcgill.ca).

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

6.5 Program Requirements

Master of Arts

M.A. Degree in Art History (45 credits)

Required Courses (30 credits)

- ARTH 600 (3) Advanced Pro-Seminar
 ARTH 605 (3) Master's Thesis Preparation
 ARTH 698 (12) Thesis Research 1
 ARTH 699 (12) Thesis Research 2

Complementary Courses (15 credits)

Course work of 15 graduate level credits of which a maximum of 6 credits, upon the advice of the supervisor and with the permission of the Graduate Studies Director, may be taken from a list of courses offered in other disciplines as approved by the Department.

Language requirements for the M.A. degree: Beside a proficiency in English and French, students must demonstrate reading knowledge of any language relating to their research project assessed by means of a written translation of a text.

Doctor of Philosophy

Ph.D. Degree in Art History

Required Courses (3 credits)

- ARTH 600 (3) Advanced Pro-Seminar
 ARTH 701 (0) Ph.D. Comprehensive Examination

Ph.D. Thesis Research

Complementary Courses (12 credits)

Course work of 12 graduate credits of which a maximum of 6 credits, upon the advice of the supervisor and with the permission of the Graduate Studies Director, may be taken from a list of courses offered in other disciplines as approved by the Department.

Language requirements for the Ph.D. degree: Beside a proficiency in English and French, students must demonstrate reading knowledge of any language relating to their research project assessed by means of a written translation of a text.

The Department is prepared to direct dissertations in fields wherein adequate supervision and resources can be provided; see section 6.2. Candidates are also advised to consult the General Information section of the *Graduate and Postdoctoral Studies Calendar*.

6.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva-students (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Students may also consult the Department Web site (www.arts.mcgill.ca/programs/AHCS) for information.

The course credit weight is given in parentheses after the title.

ARTH 600 ADVANCED PRO-SEMINAR (3)

ARTH 605 MASTER'S THESIS PREPARATION. (3) (Restriction: For Art History students only.) The aim is to introduce the student to research methods specific to his/her area of thesis work.

ARTH 617 MODERN ART. (3)

ARTH 618 ART HISTORY - 1400-1900 1. (3)

ARTH 619 ART HISTORY - 1400-1900 2. (3)

ARTH 630 DIRECTED READING COURSE. (3) Directed Reading Course for graduate students in Art History.

ARTH 641 GREEK ART AND ARCHAEOLOGY 1. (3)

ARTH 642 GREEK ART AND ARCHAEOLOGY 2. (3)

ARTH 643 GREEK ART AND ARCHAEOLOGY 3. (3)

ARTH 646 MEDIEVAL ART AND ARCHAEOLOGY. (3)

ARTH 647 ART OF THE ITALIAN RENAISSANCE. (3)

ARTH 648 ART OF THE ITALIAN RENAISSANCE. (3)

ARTH 653 BAROQUE ART AND ARCHITECTURE. (3)

ARTH 654 BAROQUE ART AND ARCHITECTURE. (3)

ARTH 655 BAROQUE ART AND ARCHITECTURE. (3)

ARTH 656 19TH CENTURY PAINTING AND SCULPTURE. (3)

ARTH 657 19TH CENTURY PAINTING AND SCULPTURE. (3)

ARTH 660 CONTEMPORARY ART AND CRITICISM. (3)

ARTH 661 CONTEMPORARY ART AND CRITICISM. (3)

ARTH 673 RENAISSANCE AND POST-RENAISSANCE 1. (3)

ARTH 674 RENAISSANCE AND POST-RENAISSANCE 1. (3)

ARTH 675 RENAISSANCE AND POST-RENAISSANCE 1. (3)

ARTH 678 RENAISSANCE AND POST-RENAISSANCE 2. (3)

ARTH 679 ROMAN ART AND ARCHAEOLOGY 1. (3)

ARTH 687 PROBLEMS IN WESTERN MEDIEVAL ARCHITECTURE AND SCULPTURE. (3)

ARTH 698 THESIS RESEARCH 1. (12) (Restriction: No credit will be given for this course unless both ARTH 698 and ARTH 699 are successfully completed.) For the completion of thesis research.

ARTH 699 THESIS RESEARCH 2. (12) (Prerequisite: ARTH 698.) (Restriction: No credit will be given for this course unless both ARTH 698 and ARTH 699 are successfully completed.) For the completion of thesis research.

ARTH 701 PH.D. COMPREHENSIVE EXAMINATION. (0)

ARTH 701D1 (0), ARTH 701D2 (0) PH.D. COMPREHENSIVE EXAMINATION. (Students must register for both ARTH 701D1 and ARTH 701D2) (No credit will be given for this course unless both ARTH 701D1 and ARTH 701D2 are successfully completed in consecutive terms) (ARTH 701D1 and ARTH 701D2 together are equivalent to ARTH 701)

ARTH 701N1 PH.D. COMPREHENSIVE EXAMINATION. (0) (Students must also register for ARTH 701N2) (No credit will be given for this course unless both ARTH 701N1 and ARTH 701N2 are successfully completed in a twelve month period) (ARTH 701N1 and ARTH 701N2 together are equivalent to ARTH 701)

ARTH 701N2 PH.D. COMPREHENSIVE EXAMINATION. (0) (Prerequisite: ARTH 701N1) (No credit will be given for this course unless both ARTH 701N1 and ARTH 701N2 are successfully completed in a twelve month period) (ARTH 701N1 and ARTH 701N2 together are equivalent to ARTH 701) See ARTH 701N1 for course description.

ARTH 705 THESIS METHODS. (3) (Restriction: For Art History graduate students only.) The aim is to introduce the student to research methods specific to his/her area of dissertation work.

ARTH 714 RESEARCH: MODERN ARCHITECTURE - 1750 TO PRESENT. (3)

ARTH 715 RESEARCH: MODERN ARCHITECTURE - 1750 TO PRESENT. (3)

ARTH 716 RESEARCH: MODERN ARCHITECTURE - 1750 TO PRESENT. (3)

ARTH 724 ART CRITICISM 2. (3)

ARTH 725 METHODS IN ART HISTORY. (3)

ARTH 730 CURRENT PROBLEMS: ARCHITECTURAL HISTORY 1. (3)

ARTH 731 CURRENT PROBLEMS: ARCHITECTURAL HISTORY 2. (3)

7 Atmospheric and Oceanic Sciences

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E-mail: graduateinfo.aos@mcgill.ca

Web site: www.mcgill.ca/meteo

Chair — J.R. Gyakum

7.1 Staff

Emeritus Professors

R.R. Rogers; B.S.(Texas), S.M.(M.I.T.), Ph.D.(N.Y.)

E.J. Stansbury; M.A., Ph.D.(Tor.)

Professors

J.F. Derome; B.Sc., M.Sc.(McG.), Ph.D.(Mich.)

H.G. Leighton; B.Sc., M.Sc.(McG.), Ph.D.(Alta.)

C.A. Lin; B.Sc.(Br.Col.), Ph.D.(M.I.T.)

L.A. Mysak; B.Sc.(Alta.), M.Sc.(Adel.), A.M. Ph.D.(Harv.),
F.R.S.C.

R. E. Stewart; B.Sc.(Man.), M.Sc., Ph.D.(Tor.)

M.K. Yau; S.B., S.M., Sc.D.(M.I.T.)

I.I. Zawadzki; B.Sc.(Buenos Aires), M.Sc., Ph.D.(McG.)

Associate Professors

P. Bartello; B.Sc., M.Sc., Ph.D.(McG.) (*joint appoint. with Mathematics*)

J.R. Gyakum; B.Sc.(Penn.St.), M.Sc., Ph.D.(M.I.T.)

D. Straub; B.S., M.S.(SW Louisiana), Ph.D.(Wash.)

Assistant Professors

P. Ariya; B.Sc., Ph.D.(York) (*William Dawson Scholar*) (*joint appoint. with Chemistry*)

F. Fabry; B.Sc., M.Sc., Ph.D.(McG.) (*joint appoint. with McGill School of Environment*)

Adjunct Professors

G. Brunet, S. Laroche, R. Menard, F. Saucier, A.Zadra

7.2 Programs Offered

The Department of Atmospheric and Oceanic Sciences offers courses and research opportunities in atmospheric, physical oceanographic, and climate fields leading to the M.Sc. and Ph.D. degrees. Research programs include the main areas of atmospheric science, such as cloud and precipitation physics, dynamic meteorology, numerical weather prediction, atmospheric chemistry, radar and satellite meteorology, and mesoscale meteorology. Research projects in physical oceanography include the modelling of ocean circulations as well as studies of sea ice and paleoclimates. Some faculty members are associated with the Centre for Climate and Global Change Research, which brings together researchers from several departments to work on problems affecting the evolution of our planet, with emphasis on climate-related questions. Topics of research of this nature in the Department include large scale air/sea interaction, air/sea-ice interaction, inter-annual and longer term variability of the atmosphere and oceans, and cloud-radiation climate interaction.

Other faculty members are associated with the Cooperative Centre for Research in Mesometeorology which also includes researchers in several other departments at McGill, in the Département de Physique at the Université du Québec à Mon-

tréal, and in Montreal offices of the Meteorological Service of Canada. The objective of the Centre is to study the evolution, maintenance and decay of mesoscale precipitation systems. Such systems, whose sizes range from 10 to 300 km, are important for the precipitation climatology of southern Quebec.

Facilities include the J. Stewart Marshall Radar Observatory, a radar wind profiler and a laser ceilometer and several years of global atmospheric data. Graduate students have access to large and small computers, including the NEC supercomputer of the Meteorological Service of Canada.

Financial assistance in the form of research or teaching assistantships is available for all qualified graduate students.

7.3 Admission Requirements

Applicants for the M.Sc. program must meet the general requirements of the Graduate and Postdoctoral Studies Office and hold a bachelor's degree with high standing in atmospheric science, physics, mathematics, engineering, or equivalent.

The normal requirement for admission to the Ph.D. program is an M.Sc. degree in atmospheric science, physical oceanography, or related discipline with acceptably high standing. Students without a Master's degree in Atmospheric Science (Meteorology) or Physical Oceanography but with a strong background in related disciplines (physics, mathematics, engineering) may be admitted to the Ph.D. program. They enter at the Ph.D. I rather than the Ph.D. II level, and devote the first year of the program mainly to course work.

Inquiries should be addressed directly to the Chair of Admissions, Department of Atmospheric and Oceanic Sciences.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

7.4 Program Requirements

M.Sc. Degree

Depending on their background, students must take from 9 to 27 credits of courses chosen from any course offered by the Department at the 500 and 600 levels, up to but not including ATOC691. In some instances, courses in this Department may be replaced by courses given by other departments at the 500 level or higher with the approval of the Department. Usually, students with no previous background in atmospheric science (or physical oceanography) are required to take 27 credits of courses, while students with a strong B.Sc. or Diploma in meteorology or a related field may take as few as 9 credits of courses.

Students must also complete a minimum of 24 thesis-research credits from ATOC691, ATOC692, ATOC693, ATOC694, ATOC695, ATOC696 and ATOC699. All students must take seminar course ATOC694 and complete ATOC699. The M.Sc. degree requires a minimum of 45 credits in total. This includes course credits, a minimum of 12 thesis credits and the completion of a thesis satisfying all the requirements of the Graduate and Postdoctoral Studies Office. Normally the equivalent of 12 months of full-time work is required to obtain these thesis-research credits, in addition to the time needed for the courses mentioned in the preceding paragraph. It is possible for students to write a thesis based on research in atmospheric, oceanic, or climate topics.

M.Sc. - Computational Science and Engineering (CSE) Option (minimum 46 credits)

Students can complete the CSE Option by including in their course selection ATOC669D1/ATOC669D2, plus two of CIVE602, COMP522, COMP540, COMP566, MATH578 and MATH579; and two other approved courses from a list available in the Department of Atmospheric and Oceanic Sciences but which will usually be ATOC513 and ATOC515. The rest of the credits are thesis courses.

Ph.D. Degree

The Ph.D. program consists of supervised research and normally a minimum of two approved courses. Candidates are required to submit a written thesis proposal, to present a Ph.D. proposal

seminar and to take the Ph.D. oral comprehensive examination. The standard Graduate and Postdoctoral Studies Office requirements concerning a thesis must be satisfied.

7.5 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ATOC 512 ATMOSPHERIC AND OCEANIC DYNAMICS. (3) (Fall) (3 hours lectures) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: 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) (3 hours lectures) (Undergraduate Prerequisite: 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 CLIMATE DYNAMICS 1. (3) (Fall) (3 hours lectures) (Undergraduate Prerequisite: Permission of instructor) (Restricted to 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 CLIMATE DYNAMICS 2. (3) (Winter) (3 hours lectures) (Undergraduate Prerequisite: Permission of instructor) (Restricted to 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) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: ATOC 512 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) (Undergraduate Prerequisite: ATOC 540 or permission of instructor) (Restricted to 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) (Undergraduate Prerequisite: Permission of instructor) (Restricted to 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 558 NUMERICAL METHODS AND LABORATORY. (3) (Winter) (1 hour lecture; 4 hours laboratory) (Undergraduate Prerequisite: Permission of instructor) (Restricted to Graduate students and final-year Honours Atmospheric Science students. Others by special permission.)

ATOC 568 OCEAN PHYSICS. (3) (Winter) (3 hours lectures) (Undergraduate Prerequisite: ATOC 512 or permission of instructor) (Restricted to 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.

ATOC 616 TOPICS - GEOPHYSICAL FLUID DYNAMICS. (3) (3 hours) Advanced topics in the dynamics of oceanic and atmospheric flows.

ATOC 619 ATMOSPHERIC CHEMISTRY. (4) (3 hours) (Prerequisites: CHEM 213, CHEM 273, MATH 222 and MATH 315 or equivalents, or permission of instructor) (Restriction(s): Offered in odd years. Students should register in CHEM 619 in even years. Not open to students who have taken or are taking ATOC 419, CHEM 419, or CHEM 619)

ATOC 620 PHYSICAL METEOROLOGY 1. (3) (2 hours) Thermodynamics of the atmosphere. Instability and convection. Solar and terrestrial radiation. Radiative transfer. Radiation budgets.

ATOC 621 PHYSICAL METEOROLOGY 2. (3) (2 hours) Atmospheric aerosols, nucleation of water and ice. Formation and growth of cloud droplets and ice crystals. Initiation of precipitation. Severe storms and hail. Weather modification. Numerical cloud models.

ATOC 626 ATMOSPHERIC/OCEANIC REMOTE SENSING. (3) (3 hours)

ATOC 646 MESOSCALE METEOROLOGY. (3) (3 hours)

ATOC 666 TOPICS IN OCEAN CIRCULATION. (3) (3 hours) Recent observations of mesoscale and large-scale ocean circulation. Inverse methods and their application to tracer distributions and deep ocean circulation. Review of modern theoretical developments such as geostrophic turbulence, homogenization of potential vorticity, ventilated thermoclines, wind and buoyancy driven ocean circulation models, and coupled ice-ocean circulation models.

ATOC 670 READING COURSE: METEOROLOGY 1. (3) Assigned reading of a specialized topic in meteorology with formal evaluation.

ATOC 671 READING COURSE: METEOROLOGY 2. (3) Assigned reading of a specialized topic in meteorology with formal evaluation.

ATOC 672 READING COURSE: OCEANOGRAPHY 1. (3) Assigned reading of a specialized topic in oceanography with formal evaluation.

ATOC 673 READING COURSE: OCEANOGRAPHY 2. (3) Assigned reading of a specialized topic in oceanography with formal evaluation.

ATOC 691 MASTER'S THESIS LITERATURE REVIEW. (3) Review of relevant literature in preparation for the M.Sc. research.

ATOC 692 MASTER'S THESIS RESEARCH 1. (6) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 692N1 MASTER'S THESIS RESEARCH 1. (3) (Students must also register for ATOC 692N2) (No credit will be given for this course unless both ATOC 692N1 and ATOC 692N2 are successfully completed in a twelve month period) (ATOC 692N1 and ATOC 692N2 together are equivalent to ATOC 692) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 692N2 MASTER'S THESIS RESEARCH 1. (3) (Prerequisite: ATOC 692N1) (No credit will be given for this course unless both ATOC 692N1 and ATOC 692N2 are successfully completed in a twelve month period) (ATOC 692N1 and ATOC 692N2 together are equivalent to ATOC 692) See ATOC 692N1 for course description.

ATOC 693 MASTER'S THESIS RESEARCH 2. (6) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 693N1 MASTER'S THESIS RESEARCH 2. (3) (Students must also register for ATOC 693N2) (No credit will be given for this course unless both ATOC 693N1 and ATOC 693N2 are successfully completed in the same calendar year) (ATOC 693N1 and ATOC 693N2 together are equivalent to ATOC 693) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 693N2 MASTER'S THESIS RESEARCH 2. (3) (Prerequisite: ATOC 693N1) (No credit will be given for this course unless both ATOC 693N1 and ATOC 693N2 are successfully completed in the same calendar year) (ATOC 693N1 and ATOC 693N2 together are equivalent to ATOC 693) See ATOC 693N1 for course description.

ATOC 694 MASTER'S THESIS PROGRESS REPORT AND SEMINAR. (3) Written report on the M.Sc. research progress and oral presentation of the report in seminar form to staff and students.

ATOC 695 MASTER'S THESIS RESEARCH 3. (6) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 696 MASTER'S THESIS RESEARCH 4. (6) Independent research under the supervision of the student's M.Sc. supervisor.

ATOC 699 MASTER'S THESIS. (12) Independent research under the supervision of the student's M.Sc. supervisor leading to the M.Sc. thesis.

ATOC 699N1 MASTER'S THESIS. (6) (Students must also register for ATOC 699N2) (No credit will be given for this course unless both ATOC 699N1 and ATOC 699N2 are successfully completed in a twelve month period) (ATOC 699N1 and ATOC 699N2 together are equivalent to ATOC 699) Independent research under the supervision of the student's M.Sc. supervisor leading to the M.Sc. thesis.

ATOC 699N2 MASTER'S THESIS. (6) (Prerequisite: ATOC 699N1) (No credit will be given for this course unless both ATOC 699N1 and ATOC 699N2 are successfully completed in a twelve month period) (ATOC 699N1 and ATOC 699N2 together are equivalent to ATOC 699) See ATOC 699N1 for course description.

ATOC 700 PH.D. PROPOSAL SEMINAR. (1)

ATOC 701 PH.D. COMPREHENSIVE (GENERAL). (0)

ATOC 701D1 (0), ATOC 701D2 (0) PH.D. COMPREHENSIVE (GENERAL). (Students must register for both ATOC 701D1 and ATOC 701D2) (No credit will be given for this course unless both ATOC 701D1 and ATOC 701D2 are successfully completed in consecutive terms) (ATOC 701D1 and ATOC 701D2 together are equivalent to ATOC 701)

ATOC 751 SEMINAR: PHYSICAL METEOROLOGY. (6)

ATOC 751D1 (3), ATOC 751D2 (3) SEMINAR: PHYSICAL METEOROLOGY. (Students must register for both ATOC 751D1 and ATOC 751D2) (No credit will be given for this course unless both ATOC

751D1 and ATOC 751D2 are successfully completed in consecutive terms) (ATOC 751D1 and ATOC 751D2 together are equivalent to ATOC 751) Seminars on topics in physical meteorology. Students are required to present one or more seminars during the year on their thesis research and to participate actively in the seminars given by others.

ATOC 752D1 (0.5), ATOC 752D2 (0.5) ATMOSPHERIC, OCEANIC AND CLIMATE DYNAMICS. (Students must register for both ATOC 752D1 and ATOC 752D2) (No credit will be given for this course unless both ATOC 752D1 and ATOC 752D2 are successfully completed in consecutive terms) Seminars on topics in atmospheric, oceanic and climate dynamics. Students are required to present one or more seminars during the year on their thesis research and to participate actively in the seminars given by others.

8 Biochemistry

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Admissions Information (514) 398-1898

Student Affairs Officer (514) 398-7266

Fax: (514) 398-7384

E-mail: admissions.biochemistry@mcgill.ca

Web site: www.mcgill.ca/biochemistry

Web site: www.mcgill.ca/biochemistry/chemicalbiology

Chair — David Y. Thomas

8.1 Staff

Emeritus Professors

Angus F. Graham; M.Sc., Ph.D., D.Sc.(Edin.), F.R.S.C.

Rose M. Johnstone; B.Sc., Ph.D.(McG.), F.R.S.C.

Samuel Solomon; M.Sc., Ph.D.(McG.), F.R.S.C.

Theodore L. Sourkes; M.Sc.(McG.), Ph.D.(C'neil), F.R.S.C.

Professors

Rhoda Blostein; B.Sc., M.Sc., Ph.D.(McG.)

Nicole Beauchemin; B.Sc., M.Sc., Ph.D.(Montr.) (*joint appoint. with Oncology*)

Philip E. Branton; B.Sc., M.Sc., Ph.D.(Tor.) (*Gilman Cheney Professor of Biochemistry*)

Peter E. Braun; B.Sc., M.Sc.(Br.Col.), Ph.D.(Berk.)

Vincent Giguère; B.Sc., Ph.D.(Laval) (*joint appoint. with Oncology*)

Phillippe Gros; B.Sc., M.Sc.(Montr.), Ph.D.(McG.) (*James McGill Professor*) F.R.S.C.

Annette A. Herscovics; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C. (*joint appoint. with Oncology*)

Robert E. MacKenzie; B.Sc.(Agr.) (McG.), M.N.S., Ph.D.(C'neil)

Edward A. Meighen; B.Sc.(Alta.), Ph.D.(Berk.)

William Muller; B.Sc., Ph.D.(McG.)

Walter E. Mushynski; B.Sc., Ph.D.(McG.)

Morag Park; B.Sc., Ph.D.(Glas.) (*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.)

John R. Silvius; B.Sc., Ph.D.(Alta.)

Nahum Sonenberg; M.Sc., Ph.D.(Weizmann Inst.) F.R.S.C. (*James McGill Professor*)

Clifford P. Stanners; B.Sc.(McM.), M.A., Ph.D.(Tor.) (*joint appoint. with Oncology*)

David Y. Thomas; B.Sc.(Bristol), M.Sc., Ph.D.(Univ. College, Lond.), F.R.S.C.

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

Albert Berghuis; B.Sc., M.Sc.(Rijks Univ. Groningen, The Netherlands), Ph.D.(UBC)

Kalle Gehring; M.Sc.(Mich.), Ph.D.(Berk.)

Alain Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.) (*joint appoint. with Oncology*)

Annim Pause; B.Sc., M.Sc.(U. Konstanz, Germ.), Ph.D.(McG.)

Assistant Professor

Maxime Bouchard; B.Sc., Ph.D. (Laval)

Imed Gallouzi; Maîtrise, DEA, Ph.D.(Montpellier, France)

Jason Young; B.Sc.(Tor.), Ph.D.(McM.)

Associate Members

Karine Auclair (*Chemistry*), John J. Bergeron (*Anatomy and Cell Biology*), Katherine Cianflone (*Exp. Medicine, RVH*), Mark A.

Featherstone (*Oncology*), William C. Galley (*Chemistry*), Michael

Hallett (*Computer Science*), Peter J. Roughley (*Shriners' Hosp.*),

Erwin Schurr (*Exp. Medicine, RVH*), Charles Scriver (*Pediatrics,*

MCH), Bernard Turcotte (*Exp. Medicine, RVH*), Simon Wing

(*Medicine*), Xiang-Jiao Yang (*Mol. Oncol., RVH*)

Adjunct Professors

Prabhat Arya (NRC, Steacie Inst. for Mol. Sciences);

Michael Cordingley (Boehringer-Ingelheim);

Mirek Cygler (NRC/BRI); Jacques Drouin (Clin. Res. Inst.);

Karen Meerovitch (Phybiotech); Donald Nicholson (Merck

Frosst); Maureen D. O'Connor-McCourt (NRC/BRI);

Enrico Purisima (NRC/BRI); Sophie Roy (Merck Frosst);

Marc Therrien (Clin. Res. Inst.)

8.2 Programs Offered

The Department of Biochemistry offers training at both the M.Sc. and Ph.D. levels. There are a wide variety of areas in which specialized training for the Ph.D. can be obtained. The Department also offers the Chemical Biology Interdisciplinary Graduate Option, together with the Departments of Chemistry and Pharmacology and Therapeutics. Students interested in training in this option must first be accepted for graduate studies by one of the participating departments. Information on this option can be found at the following web address: www.mcgill.ca/biochemistry/chemicalbiology.

The Department concentrates on the following key areas of research: signal transduction; molecular genetics; gene regulation; oncogenes; structure, function and regulation of proteins; membrane structure, function and assembly; intracellular protein targeting; embryonic development; bioinformatics; chemical biology and cellular neurobiology. A summary of the research interest of faculty members is available on the Department's Website.

Funding

Prospective students are urged to make every effort to secure their own funding. All students accepted to the program must be financially supported either by their supervisor or through studentships or fellowships. Applications may be made for a variety of fellowships administered by the University or by various private, provincial or federal agencies. Deadlines for completion of most fellowship applications vary from October to February for studies beginning the following September. For more information on fellowships and awards, see the Graduate and Postdoctoral Studies Office Web site www.mcgill.ca/gps.

8.3 Admission Requirements

Admission is based on the candidate's academic record, letters of recommendation, curriculum vitae and personal statement. A minimum grade point average of 3.2/4.0 (B+) is required. Files that do not meet the minimum requirement will not be considered.

Master's Program

Candidates for the M.Sc. degree must hold a B.Sc. degree or its equivalent in Biochemistry or in related disciplines (e.g., biology, chemistry, physics, physiology, microbiology).

Doctoral Program

Candidates who have completed their M.Sc. degree may be admitted directly to the Ph.D. program. Candidates who are admitted to the M.Sc. program and who are interested in the Ph.D. may transfer directly to the Ph.D. program after successfully completing the transfer seminar (BIOC 701) and all course requirements. The M.Sc. thesis requirement is then waived.

International Applicants

International students whose language of instruction is not English must submit the following documents in order to be considered for admission:

- TOEFL: Minimum score of 600 (250 on computer-based test).
- GRE: Subject Test in Biochemistry, Cell and Molecular Biology with a minimum score of 550.

Admissions Requirements - Chemical Biology Option

As for the regular graduate programs of the participating departments, acceptance into the Chemical Biology Option consists of two steps:

1. Preliminary approval by the Department's Graduate Committee based on the student's transcript, references and other documents submitted with the application. The criteria for assessment at this level are the same as for the regular graduate programs of the participating departments.
2. Acceptance by an individual research director. For students wishing to participate in the Chemical Biology Option, the director must propose a research project for the student that provides training in the methods and philosophy of chemical biology. Project proposals are assessed by the Chemical Biology Program Committee.

8.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. curriculum vitae;
3. application fee (\$60);
4. two letters of recommendation from professors;
5. two official transcripts;
6. test results (TOEFL/GRE) if applicable.

All information is to be submitted to the Admissions Officer, Department of Biochemistry. All applicants are encouraged to approach staff members during or before the application process since no students are accepted without a supervisor.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

Deadlines

Applications should be submitted as early as possible in order to meet the following deadlines:

Canadian applicants: March 1 for September admission
July 1 for January admission

International applicants: November 1 for September admission
April 1 for January admission

8.5 Program Requirements**Coursework**

All students are required to complete a minimum of 6 course credits as part of their M.Sc. or Ph.D. program. The Graduate Admissions Committee may stipulate additional course work depending on the background of the candidate. Unless stipulated on the decision form, students, after consultation with their research director and with the approval of the Chair of the Graduate Admissions Committee, may choose their courses from those offered by Biochemistry, Experimental Medicine, Biology, Chemistry, Physiology as well as other graduate and advanced undergraduate courses in the medical and allied sciences. The following courses are required for those who have not completed an equivalent: BIOC 450 Protein Structure and Function, and BIOC 454 Nucleic Acids.

Departmental Seminars: Members of the staff and visiting scientists present their work to the Department at weekly and bi-weekly intervals respectively throughout the academic year. Graduate students are required to attend all the above seminars and other informal seminars, and are encouraged to attend meetings of scientific communities.

Master's Program

The M.Sc. program is comprised of 45 credits:

BIOC696	(3)	Research Seminar
BIOC697	(9)	Thesis Research 1
BIOC698	(12)	Thesis Research 2
BIOC699	(15)	Thesis Research 3

and a minimum 6 credits of course credits, as specified above.

Additional courses may be required, depending on the student's background.

The M.Sc. program usually requires a minimum of two years of study. Students in the M.Sc. program are required to complete all course requirements and submit a thesis.

Doctoral Program

The requirements for the doctorate are: successful completion of the minimum of 6 course credits specified above, **plus** any additional course work stipulated by the Graduate Admissions Committee; the comprehensive oral exams; submission of a thesis, and its oral defence.

Transfer to the Ph.D.

After 21 months students may transfer to the Ph.D. program only if all transfer requirements have been fulfilled. This includes completion of BIOC701 **and** the minimum of 6 course credits specified above, **plus** any additional course work stipulated by the Graduate Admissions Committee. The M.Sc. thesis requirement is then waived.

Comprehensive Oral Exams

All students who plan to proceed to the Ph.D. degree, as well as students entering at the Ph.D. level, must present and pass the following comprehensive oral exams, listed as courses:

- BIOC701 Research Seminar 1
- BIOC702 Ph.D. Thesis Proposal
- BIOC703 Research Seminar 2.

Program Requirements - Chemical Biology Option

The curriculum of the Chemical Biology Option is structured so that in completing the option, students also complete the course requirements for the regular graduate programs in their home departments. For this reason, program requirements are listed separately for each department, even though the 'core' content in Chemical Biology (9 lecture credits plus 2 or 4 seminar credits for each program) is the same for each. The course requirements for the Chemical Biology Option taken through the Biochemistry Department are available at www.mcgill.ca/biochemistry/chemicalbiology.

8.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

BIOC 503 IMMUNOCHEMISTRY. (3) (Winter) (Prerequisites: BIOC 311, BIOC 312) This course, presented in lecture format, empha-

sizes 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.

BIOC 603 RECENT ADVANCES IN MOLECULAR GENETICS. (3) (Prerequisites: BIOC 454 and permission of instructor.) Recent advances in our understanding of gene function and its control in normal and diseased cellular systems will be discussed in depth. Course given based on minimum registration of 10 students. Contact Student Affairs Officer for information.

BIOC 604 MACROMOLECULAR STRUCTURE. (3) (Prerequisite: BIOC 450 or equivalent) (Lectures in French and English) X-Ray crystallography, NMR spectroscopy, computational methods and theoretical approaches to the determination and analysis of macromolecular structures. Theory and practical applications will be covered. Examples will include interpretation of structure as it applies to biological functions. In conjunction with the Université de Montréal.

BIOC 610 SEMINARS IN CHEMICAL BIOLOGY 1. (1) (Restrictions: Open only to students registered for the M.Sc. or Ph.D. Graduate Option in Chemical Biology.) First multidisciplinary seminar in chemical biology.

BIOC 611 SEMINARS IN CHEMICAL BIOLOGY 3. (1) (Restrictions: Open only to students registered for the M.Sc. or Ph.D. Graduate Option in Chemical Biology.) Third multidisciplinary seminar in chemical biology.

BIOC 695 THESIS RESEARCH 1 (CHEMICAL - BIOLOGY) (6) (Restrictions: Open only to students registered for the M.Sc. Graduate Option in Chemical Biology.) Research toward completion of thesis.

BIOC 696 RESEARCH SEMINAR. (3) (Open to M.Sc. Biochemistry students only.) Compulsory participation in the departmental seminar series. Graded pass/fail, based on participation.

BIOC 697 THESIS RESEARCH 1. (9)

BIOC 698 THESIS RESEARCH 2. (15)

BIOC 699 THESIS RESEARCH 3. (15)

BIOC 701 RESEARCH SEMINAR 1. (0) (Biochemistry graduate students) Presentation on original current laboratory research carried out by student.

BIOC 702 PH.D. THESIS PROPOSAL. (0) (Biochemistry graduate students) Dissertation presented to Committee.

BIOC 703 RESEARCH SEMINAR 2. (0) (Ph.D. students in Biochemistry) Presentation of the planned thesis including central findings and original contribution to knowledge in the field of research.

EXMD 615 MEMBRANE CARBOHYDRATES. (3) The structure, function and biosynthesis of glycoproteins, glycolipids and glycoaminoglycans, and the biological role of complex carbohydrates at the cell surface.

Advanced Undergraduate Courses

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 lipid 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 turnover; programmed cell death (apoptosis).

BIOC 404 BIOPHYSICAL CHEMISTRY. (3) (Winter) (Prerequisites: CHEM 204, CHEM 214 or equivalent) (Not open to students who have taken 180-404) 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. 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) (This course is also listed as 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.

9 Bioethics

For information, write to:
Chair, Master's Specialization in Bioethics
Biomedical Ethics Unit
3647 Peel Street
Montreal, QC H3A 1X1
Canada
Telephone: (514) 398-6980
Fax: (514) 398-8349
Web site: www.mcgill.ca/biomedicalethicsunit/masters

9.1 Staff

E. Bereza; B.A., M.D., C.M. (McG.), C.C.F.P. (C)
R. Crouch; B.A., M.A. (McG.)
C. Ellis; R.R.T. (VGH), M.A., Ph.D. (Tenn.)
K.C. Glass; A.M. (Chic.), LL.B., B.C.L., D.C.L. (McG.)
N. Gilmore; B.A. (College of the Holy Cross), Ph.D. (Lond.), M.D. (Vt.)
D. Jones; B.A. (Yale), J.D. (Harv.)
L. Turner; B.A. (Winn.), M.A. (Manit.), M.A., Ph.D. (S. Calif.)

9.2 Programs Offered

Master's Specialization in Bioethics.

The Master's Specialization in Bioethics is sponsored by the:
Faculty of Medicine, Department of Experimental Medicine;
Faculty of Law;

Faculty of Religious Studies; and
Faculty of Arts, Department of Philosophy.

Students receive an M.A., LL.M. or M.Sc. degree in the discipline chosen with a specialization in Bioethics.

9.3 Admission Requirements

M.D., bachelor's level professional training in a health science, or bachelor's degree in law, philosophy or religious studies. Other students may be considered on an individual basis.

Enrolment is limited to 12 students.

9.4 Application Procedures

Applications are made initially through the Biomedical Ethics Unit in the Faculty of Medicine, which administers the program and teaches the core courses.

Applicants must be accepted by the appropriate Faculty, the Bioethics Graduate Studies Advisory Committee, and the Graduate and Postdoctoral Studies Office.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

9.5 Program Requirements

The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (3credits minimum) offered by the base faculty or department and any graduate courses required or accepted by a base faculty for the granting of a Master's degree, for a total of 21 credits. A minimum of 45 credits is required including the thesis.

Registration Requirements: Depending upon the requirements of the base discipline, a minimum of three terms is required for completion of the program, including course work and thesis.

Thesis Supervision: Thesis supervision for students in the specialization is provided by a participating faculty member in the program. Thesis examination will be conducted according to the base discipline and the Graduate and Postdoctoral Studies Office norms.

Required Courses – Biomedical Ethics Unit (6credits)

BIOE680 (3) Bioethical Theory
BIOE681 (3) Bioethics Practicum

Required Course – base faculty (3 credits)

one of the following:

BIOE682 (3) Medical Basis of Bioethics
CMPL642 (3) Law and Health Care
PHIL543 (3) Seminar: Medical Ethics
RELG571 (3) Religion and Medicine

Complementary Courses (12 credits)

the remaining credits are to be taken in any graduate courses required or accepted by the base faculty for the granting of a Master's degree

Thesis Component – Required (24 credits)

BIOE690 (3) Thesis Literature Survey
BIOE691 (3) Thesis Research Proposal
BIOE692 (6) Thesis Research Progress Report
BIOE693 (12) Thesis

9.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

BIOE 680 BIOETHICAL THEORY (3)(Limited enrolment) A survey of some of the main problem areas and common argument forms used in current bioethics. Problem areas include consent, decisions to withhold or withdraw treatment, allocation of scarce resources, research with human subjects and confidentiality. Argument forms include those drawn from diverse ethical theories and traditions.

BIOE 681 BIOETHICS PRACTICUM. (3) (Limited enrolment) Four hours per week supervised placement within health care settings (e.g., intensive care, family practice, clinical ethics committees). In addition, students shall be assigned for the last month of the term to a single intensive placement. Participation in rounds, case discussions, and a weekly seminar.

BIOE 690 M.Sc. THESIS LITERATURE SURVEY. (3)

BIOE 691 M.Sc. THESIS RESEARCH PROPOSAL. (3)

BIOE 692 M.Sc. THESIS RESEARCH PROGRESS REPORT. (6)

BIOE 692D1 (3), BIOE 692D2 (3) M.Sc. THESIS RESEARCH PROGRESS REPORT. (Students must register for both BIOE 692D1 and BIOE 692D2) (No credit will be given for this course unless both BIOE 692D1 and BIOE 692D2 are successfully completed in consecutive terms) (BIOE 692D1 and BIOE 692D2 together are equivalent to BIOE 692)

BIOE 693 M.Sc. THESIS. (12)

BIOE 693D1 (6), BIOE 693D2 (6) M.Sc. THESIS. (Students must register for both BIOE 693D1 and BIOE 693D2) (No credit will be given for this course unless both BIOE 693D1 and BIOE 693D2 are successfully completed in consecutive terms) (BIOE 693D1 and BIOE 693D2 together are equivalent to BIOE 693)

BIOE 694 INDEPENDENT STUDIES 3. (3)

Base Faculty Courses

BIOE 682 MEDICAL BASIS OF BIOETHICS. (3) (Limited enrolment.) The seminar examines the medical basis of timely ethical dilemmas in health care. Content includes: clinical concepts of pathogenesis, disease, screening, diagnosis, therapeutic interventions and prognosis; decision-making in clinical care and institutional policy development; organization of health care systems including socialized medicine, public health and institutions providing health care; medical research.

CMPL 642 LAW AND HEALTH CARE. (3) (Limited enrolment.) Topics in this seminar will include philosophical and ethical foundations of law as applied in medicine, legal structures and their impact on health care, law and ethics of the health care professions, administrative and legal control of health care systems and other selected issues.

PHIL 543 SEMINAR: MEDICAL ETHICS. (3) (Prerequisite: PHIL 343 or written permission of the instructor) (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.

RELG 571 RELIGION AND MEDICINE. (3) (Winter) 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.

10 Biology

Department of Biology
Stewart Biology Building
1205 Avenue Docteur Penfield
Montreal, QC H3A 1B1
Canada

Telephone: (514) 398-6400
Fax: (514) 398-5069
E-mail: gradinfo.biology@mcgill.ca
Web site: www.mcgill.ca/biology

Chair — Paul F. Lasko

Chair of Graduate Program — Robert Levine

10.1 Staff

Emeritus Professors

Robert L. Carroll; B.S. (Mich), M.A., Ph.D. (Harv.), F.R.S.C.
F. Clarke Fraser; O.C., B.Sc.(Acad.), M.Sc., Ph.D., M.D.,
C.M.(McG.), D.Sc.(Acad.), F.R.S.C., F.R.C.P.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 Kalf; M.S.A.(Tor.), Ph.D.(Ind.)
John B. Lewis; B.Sc., M.Sc., Ph.D.(McG.)
Gordon A. Maclachlan; B.Sc., M.A.(Sask.), Ph.D.(Man.), F.R.S.C.
(*Macdonald Emeritus Professor of Botany*)
Barid B. Mukherjee; B.Sc.(Calc.), M.S.(Brig.Young), Ph.D.(Utah)
(*joint appoint. with Human Genetics*)
Rolf O. Sattler; B.Sc.(Tübingen), Ph.D.(Munich), F.R.S.C.

Professors

Graham A.C. Bell; B.A., D.Phil.(Oxon), F.R.S.C. (*James McGill
Professor*)
Gregory G. Brown; B.Sc.(Notre Dame), Ph.D.(N.Y.)
A. Howard Bussey; B.Sc., Ph.D.(Brist.), F.R.S.C. (*on leave
2003-04*)
Ronald Chase; A.B.(Stan.), Ph.D.(M.I.T.)
Rajinder S. Dhindsa; B.Sc., M.Sc.(Punj.), Ph.D.(Wash.)
Donald L. Kramer; B.Sc.(Boston Coll.), Ph.D.(U.B.C.)
Paul F. Lasko; A.B.(Harv.), Ph.D.(M.I.T.) (*Molson Professor of
Genetics*) (*joint appoint. with Anatomy & Cell Biology*)
Martin J. Lechowicz; B.A.(Mich. St.), M.S., Ph.D.(Wis.)
Louis Lefebvre; B.Sc., M.A., Ph.D. (Montr.)
Ronald J. Poole; B.Sc., Ph.D.(Birm.)
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*)(*on leave*)

Associate Professors

Thomas E. Bureau; B.Sc.(Calif), Ph.D.(Texas) (William Dawson
Scholar)
François Fagotto; Ph.D.(Neuchâtel)
Gregor Fussman; Diploma (Berlin), Ph.D. (Max-Planck-Institute)
Andrew Gonzalez; B.Sc. (U. Nott.), Ph.D. (Lond.)
Siegfried Hekimi; M.Sc., Ph.D.(Geneva)
Louis Lefebvre; B.Sc., M.A., Ph.D.(Montr.)
Robert L. Levine; B.Sc.(Brooklyn), M.Sc., Ph.D.(Yale)
Yutaka Nishioka; B.A., M.A.(Tokyo), Ph.D.(Col.)
Gerald S. Pollack; M.A., Ph.D.(Prin.)
Catherine Potvin; B.Sc., M.Sc.(Montr.), Ph.D.(Duke)
Neil M. Price; B.Sc.(U.N.B.), Ph.D.(U.B.C.)
Joseph Rasmussen; B.Sc., M.Sc.(Alta.), Ph.D.(Cal.)
Beat Suter; Dip., Ph.D.(Zur)(on leave)

Assistant Professors

Ehab Abouheif; M.Sc.(C' dia), Ph.D.(Duke)(*on leave 2003-04*)
Joseph Dent; B.Sc.(Mich), Ph.D.(Colo.)
Irene Gregory-Eaves; B.Sc. (Vic., B.C.), M.Sc., Ph.D. (Queen's)
Frédéric Guichard; B.Sc.(Montr.), Ph.D.(Laval)

Christian Hardtke; M.Sc., Ph.D.(Munich)
Paul Harrison; B.Sc. (National Univ. of Ireland), Ph.D. (Lond.)
Andrew Hendry; B.Sc.(Vic.,B.C.) M.Sc., Ph.D.(Wash)
Rudiger Krahe; Diploma (Alexander U.), Ph.D. (Humboldt)
Kevin McCann; B.A.(Dart), M.Sc., Ph.D.(Guelph)
Laura Nilson; B.A.(Colgate), Ph.D.(Yale) (*Canada Research Chair
in Developmental Genetics*)
Richard Roy; B.Sc.(Bishop's), Ph.D.(Laval)
Frieder Schoeck; Diploma (Erhangen), Ph.D. (Max Planck
Institute)
Jacalyn Vogel; M.Sc.(E.III.), Ph.D.(Kansas)
Tamara Western; B.Sc. (Dal.), Ph.D. (Br. Col.)
Monique Zetka; B.Sc., Ph.D.(Br. Col.)

Associate Members

Salvatore Carbonetto (*Montreal General Hospital*), Hugh Clarke
(*Royal Victoria Hospital*), Pierre Drapeau (*Montreal General
Hospital*), Robert Dunn (*Montreal General Hospital*), Michael
Ferns (*Montreal General Hospital*), David Green (*Redpath
Museum*), Kenneth Hastings (*Montreal Neurological Inst.*), Paul
Holland (*Montreal Neurological Inst.*), Roberta Palmour (*Allan
Memorial Inst.itute*), Anthony Ricciardi (*Redpath Museum*), David
Rosenblatt (*Royal Victoria Hospital*), Guy Rouleau (*Montreal
General Hospital*), Charles R. Scriver (*Montreal Children's
Hospital Research Inst.*), Teruko Taketo (*Royal Victoria Hospital*),
Harriet S. Tenenhouse (*Montreal Children's Hospital Research
Inst.*), David Y. Thomas (*Biochemistry Dept.*)

Adjunct Professors

Eldredge Bermingham (STRI), Allen Herre (STRI), Wayne Hunte
(U. West Indies), Benoit S. Landry (DNA Landmarks), William F.
Laurance (STRI), Malcom S. Whiteway (Bio Tech Inst.)

10.2 Programs Offered

The Department offers graduate training in many areas of biology with particular strengths in Molecular Genetics and Development, Evolutionary and Behavioural Ecology, Human Genetics, Limnology, Marine Biology, Neurobiology, and Experimental Plant Biology.

Graduate programs leading to the M.Sc. and Ph.D. degrees are offered. The emphasis in both programs is on development of the intellectual and technical skills necessary for independent research. The main component of both degrees is a thesis embodying the results of original research. Formal course requirements are few and are largely intended to fill gaps in the student's background.

The Stewart Biology Building is well equipped for graduate training and research in a wide variety of areas of biology. Its resources are greatly extended by affiliation with other organizations such as the Redpath Museum; the Groupe Interuniversitaire de Recherches Océanographiques du Québec (GIROQ); the Biotechnology Research Institute of the National Research Council of Canada; Macdonald Campus; the Montreal Neurological Institute; the Jewish General Hospital; the Montreal General, Montreal Children's and Royal Victoria Hospitals. Field research facilities include the Mont St. Hilaire Field Station (Quebec); the Huntsman Marine Science Centre (New Brunswick); the Subarctic Research Laboratory (Quebec); the Bellairs Research Institute (Barbados); and the Memphremagog Field Station (Quebec).

The Department specifies a minimum level of support for all graduate students. This amount is \$13,500 per annum plus tuition fees. The required minimum duration of support is two years for the M.Sc. program, five years for a Ph.D. student entering as Ph.D.1 (from a Bachelor's) and four years for a Ph.D. student entering as Ph.D.2.

10.3 Admission Requirements

Applicants must have a B.Sc. in a discipline relevant to the proposed field of study with an overall Cumulative Grade Point Average (CGPA) of 3.0/4.0 or a CGPA of 3.2/4.0 for the last two full-time academic years. Graduate Record Examination (GRE)

scores are not required, but may be submitted. The Test of English as a Foreign Language (TOEFL) is required of students who have graduated from a non-English language university outside of Canada. A score of 550 on the paper-based TOEFL (213 on the computer-based test) or 6.5 on IELTS, is the minimum standard for admission.

Admission is based on an evaluation by the Graduate Training Committee and on acceptance by a research director who can provide adequate funding for personal and research expenses. Prospective graduate students are encouraged to contact staff members with whom they wish to study before applying for admission.

10.4 Application Procedures

Application to the graduate program in Biology may be made on a paper application form or an on-line Web application form (a direct link to the on-line form is on the Department Web site) or a. The paper form that can be obtained directly from the Graduate Admissions Secretary. It is recommended to apply on-line.

All applicants should read the academic faculty and admission procedure sections on either the separate paper handouts or the Biology Department Web site before completing the application form. These guidelines contain specific information on the application process, summaries of the research areas of our staff and contact information.

Deadlines for applications and all supporting documents are March 1 for September admission (January 15 for international applicants) and October 15 for January admission (August 15 for international applicants). If application materials are received after these dates, it may be necessary to delay review of the applicant's file until the following admittance period. All inquiries pertaining to admission procedures should be directed to the Graduate Admissions Secretary.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

10.5 Program Requirements

The graduate program of each student is established and regularly evaluated by a three-member supervisory committee appointed by the Graduate Training Committee and chaired by the student's thesis supervisor.

All graduate students are required to participate regularly in the various seminar series and journal clubs offered by the Department.

M.Sc. REQUIREMENTS (45 credits)

Length of Program – Three full-time terms of resident study at McGill University is the minimum time requirement to complete the Master's degree. The normal and expected duration is two years.

Course Requirements – Forty-five credits are required for the M.Sc. degree. Students must complete the courses BIOL697, BIOL698 and BIOL699 (Master's Thesis Research 1, 2, 3). The research courses each carry a credit weight of 13 credits. In addition, six course credits are required and may be taken in Biology or in other departments and must be numbered 500 or higher. Additional course work may be required if the student's background is insufficient. A graduate pass (B- or better) is mandatory for all courses required for the M.Sc. degree.

Thesis – In Biology, the M.Sc. degree is considered to be a research degree and the candidate must present a thesis which should contain original contributions to knowledge.

M.Sc. – NEOTROPICAL ENVIRONMENT REQUIREMENTS (48credits)

Length of Program – Three full-time terms of resident study at McGill University is the minimum time requirement to complete the Master's degree. The normal and expected duration is two years.

Course Requirements – Forty-eight credits are required for this M.Sc. degree. Students must complete the courses BIOL697,

BIOL698 and BIOL699 (Master's Thesis Research 1, 2, 3). The research courses each carry a credit weight of 13 credits. In addition, six course credits are required from ENVR610 and BIOL640. Three credits must be chosen from POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550. Additional course work may be required if the student's background is insufficient. A graduate pass (B- or better) is mandatory for all courses required for the M.Sc. degree.

Participation in the MSE-Panama Symposium presentation in Montreal is also required.

Thesis – In Biology, the M.Sc. degree is considered to be a research degree and the candidate must present a thesis which should contain original contributions to knowledge.

Transfer from M.Sc to Ph.D. Program – The student's Supervisory Committee may recommend to the Graduate Training Committee that the student be permitted to transfer to the Ph.D. program. This is normally done at the end of the first year of the Master's program. Students who transfer into the Ph.D. program are required to take their Ph.D. Qualifying Examination within eight months of the transfer.

Ph.D. REQUIREMENTS

Length of Program – Candidates entering Ph.D.1 must complete at least three years of full-time resident study (6 terms). The normal and expected duration of the Ph.D. program is 4-5 years. A student who has obtained a Master's degree at McGill, or at an approved institution elsewhere, and is proceeding in the same subject towards a Ph.D. degree may, upon the recommendation of the Graduate Training Committee, enter at the Ph.D.2 level.

Course Requirements – Students are required to take 6 course credits. These courses may be taken in Biology or in other departments and must be numbered 500 or higher. Additional courses may be required if the student's background is insufficient. A graduate pass (B- or better) is mandatory for all courses required for the Ph.D. degree.

Ph.D. Qualifying Examination – The Qualifying exam is a formal evaluation of the student's ability to proceed to the attainment of the Ph.D. Students must pass the Qualifying Examination (BIOL700) no later than 15 months from the date of registration in the program. Students who transfer from the Master's program must take the exam within 8 months. Students who enter the Ph.D. program after completing an M.Sc. in Biology at McGill must take the exam within 12 months.

Ph.D. Seminar – All Ph.D. students must deliver a research seminar (BIOL702) at some time during the academic session (September-April) towards the end of their studies and preferably at least 3 months prior to the thesis submission.

Thesis – The Ph.D. is a research degree. The candidate must present a thesis which represents high scholastic attainment in a specialized field, demonstrated by independent and original research. After the thesis has been submitted and approved, the candidate is required to orally defend their thesis in an open forum.

Ph.D. REQUIREMENTS – NEOTROPICAL ENVIRONMENT

Length of Program – Candidates entering Ph.D.1 must complete at least three years of full-time resident study (6 terms). The normal and expected duration of the Ph.D. program is 4-5 years. A student who has obtained a Master's degree at McGill, or at an approved institution elsewhere, and is proceeding in the same subject towards a Ph.D. degree may, upon the recommendation of the Graduate Training Committee, enter at the Ph.D.2 level.

Course Requirements – Students are required to take 6 course credits: ENVR610 and BIOL640. Three more credits must be chosen from POLI644; SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550. Additional courses may be required if the student's background is insufficient. A graduate pass (B- or better) is mandatory for all courses required for the Ph.D. degree.

Participation in the MSE-Panama Symposium presentation in Montreal is also required.

Ph.D. Qualifying Examination – The Qualifying exam is a formal evaluation of the student's ability to proceed to the attainment of the Ph.D. Students must pass the Qualifying Examination (BIOL700) no later than 15 months from the date of registration in the program. Students who transfer from the Master's program must take the exam within 8 months. Students who enter the Ph.D. program after completing an M.Sc. in Biology at McGill must take the exam within 12 months.

Ph.D. Seminar – All Ph.D. students must deliver a research seminar (BIOL702) at some time during the academic session (September -April) towards the end of their studies and preferably at least 3 months prior to the thesis submission.

Thesis – The Ph.D. is a research degree. The candidate must present a thesis which represents high scholastic attainment in a specialized field, demonstrated by independent and original research. After the thesis has been submitted and approved, the candidate is required to orally defend their thesis in an open forum.

10.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses offered in alternate years.

Denotes courses not offered in 2004-05

BIOL 650 RECENT ADVANCES IN BIOLOGY 1. (3) Directed reading, seminar and discussion courses in subjects of current interest in biological research. Intended for students working individually or in classes on selected areas under the supervision of one or more staff members. Content and form are flexible to allow the Department to meet specific student demands or needs. Such courses are arranged by consultation with individual staff.

BIOL 651 RECENT ADVANCES IN BIOLOGY 2. (3) Directed reading, seminar and discussion courses in subjects of current interest in biological research. Intended for students working individually or in classes on selected areas under the supervision of one or more staff members. Content and form are flexible to allow the Department to meet specific student demands or needs. Such courses are arranged by consultation with individual staff.

BIOL 652 RECENT ADVANCES IN BIOLOGY 3. (3) Directed reading, seminar and discussion courses in subjects of current interest in biological research. Intended for students working individually or in classes on selected areas under the supervision of one or more staff members. Content and form are flexible to allow the Department to meet specific student demands or needs. Such courses are arranged by consultation with individual staff.

BIOL 655 LABORATORY PROJECTS AND TECHNIQUES 1. (3) Directed training in selected methods used in areas of current interest in biological research. Intended for individuals or classes working in selected areas under the supervision of one or more staff members. Form and content are flexible to allow the Department to meet specific student demands and needs. Each course is arranged by consultation with individual staff.

BIOL 656 LABORATORY PROJECTS AND TECHNIQUES 2. (3) Directed training in selected methods used in areas of current interest in biological research. Intended for individuals or classes working in selected areas under the supervision of one or more staff members. Form and content are flexible to allow the Department to meet specific student demands and needs. Each course is arranged by consultation with individual staff.

BIOL 697 MASTER'S THESIS RESEARCH 1. (13) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

BIOL 698 MASTER'S THESIS RESEARCH 2. (13) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

BIOL 699 MASTER'S THESIS RESEARCH 3. (13) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

BIOL 700 DOCTORAL QUALIFYING EXAMINATION. (0) The oral Qualifying Examination is a formal evaluation of the candidate's ability to proceed to the attainment of the Ph.D. Candidates must submit a thesis proposal in advance of the exam.

BIOL 702 PH.D. SEMINAR. (6) Doctoral candidates are required to give a public oral presentation of their major results before submitting a thesis.

Specific Courses

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100-to 500-level have limited enrolment).

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

BIOL 505 DIVERSITY AND SYSTEMATICS SEMINAR. (3) (Winter) (3 hours seminar) (Prerequisites: BIOL 215 and BIOL 304 or permission)

BIOL 516 GENETICS OF DEVELOPMENT. (3) (Winter) (3 hours lecture) (Prerequisites: BIOL 202, BIOL 300, BIOL 303; permission) (Not open to students who have taken 177-416) 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 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) (Not open to students who have taken 177-420) 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) (Prerequisite: BIOL 300, BIOL 303 or permission) Recent literature in the fields of molecular genetics and molecular biology. Topics include: signal transduction, cell function, genetic diseases in eukaryotes.

BIOL 530 NEURAL BASIS OF BEHAVIOUR. (3) (Winter) (1 hour lecture, 2 hours seminar) (Prerequisite: BIOL 306 or PHGY 311 or PSYC 308) (Not open to students who have taken 177-430) This course examines neural mechanisms underlying behaviour. Topics will be introduced by a lecture, supplemented by a review article. This will be followed by student seminars and/or discussions. Topics will vary according to current literature, but will likely include communication, visual behaviour, escape, orientation, neurogenetics and locomotion.

BIOL 531 NEUROBIOLOGY LEARNING MEMORY. (3) (Fall) (3 hours lecture and discussion) (Prerequisite: BIOL 306 or permission) (Not open to students who have taken 177-431)

BIOL 532 DEVELOPMENTAL NEUROBIOLOGY SEMINAR. (3) (Winter) (1 hour lecture, 2 hours seminar) (Prerequisites: BIOL 303 and BIOL 306 or permission) Discussions of all aspects of nervous sys-

tem development including pattern formation, cell lineage, path-finding and targetting by growing axons, and neuronal regeneration. The basis for these discussions will be recent research papers and other assigned readings.

BIOL 534 THEORETICAL ECOLOGY. (3) (Winter) (Prerequisites: BIOL 308 and either BIOL 309 or BIOL 373; and permission of instructor.) Advanced topics in theoretical ecology. Mathematical and computational tools available to explore the dynamical behaviour of model populations and communities. Models addressing major ecological theories: population stability, diversity and community functioning, epidemic and disturbance dynamics; spatial models, game theory, complex-system theories.

BIOL 540 ECOLOGY OF SPECIES INVASIONS. (3) (Winter) (3 hours lecture) (Prerequisite: BIOL 308 or permission of instructor) (Not open to U1 or U2 students) (Not open to students who are taking or have taken ENVR 540.) Causes and consequences of invasion, as well as risk assessment methods and management strategies for dealing with this global problem.

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) (Not open to students who have taken 177-444) 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 mutants.

BIOL 551 MOLECULAR BIOLOGY: CELL CYCLE. (3) (Fall) (3 hours lecture) (Prerequisites: BIOL 200, BIOL 201, BIOL 300) (Not open to students who have taken 177-451)

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 215, or equivalents, and permission of Program Coordinator) (Corequisites: ENVR 451, GEOG 404 and SOCI 565.) (Not open to students who have taken BIOL 453) (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. (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) (Restriction: Not open to students who have taken BIOL 468.) Cellular and molecular approaches to characterization of the human genome.

BIOL 569 DEVELOPMENTAL EVOLUTION. (3) (Winter) (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 genetic cis-regulation, developmental constraint and evolvability, heterochrony, phenotypic plasticity, and canalization.

BIOL 570 ADVANCED SEMINAR IN EVOLUTION. (3) (Winter) (3 hours seminar) (Open to undergraduates by permission) Detailed analysis of a topic in evolutionary biology, involving substantial original research.

BIOL 571 EXPERIMENTAL EVOLUTION/ECOLOGY. (3) (Winter) (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 sys-

tems. 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) (Not open to students who have taken 177-472) Evolutionary change in DNA and proteins and its implications for cellular, organismal, and population/species evolution.

BIOL 575 HUMAN BIOCHEMICAL GENETICS. (3) (Winter) (Not open to students who have taken BIOL 475.) Topics on the study of human systems that have led to advances in basic biology.

BIOL 588 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 632 LIMNOLOGY. (3) (2 hours lecture; 3 hours laboratory) (Prerequisites: BIOL 206 and/or permission) A study of the physical, chemical and biological properties of inland waters, with emphasis on their functioning as systems.

BIOL 640 TROPICAL BIOLOGY AND CONSERVATION. (3) (Restricted to students enrolled in Neotropical Environment Option (NEO) or permission of the instructor.)

BIOL 641 ISSUES IN TROPICAL BIOLOGY. (3) (Course will only be offered if enrolment is five students or more. Enrolment in the Neotropical Environment Option (NEO) or permission of the instructor) Advanced interdisciplinary topics relevant to environmental work in Latin America including tropical marine environmental physiology encompassing issues of pollution and toxicity, global climate change from an ecosystem and economical perspective, evolutionary ecology of tropical communities as related to the maintenance of species diversity.

11 Biomedical Engineering

Department of Biomedical Engineering
Duff Medical Building
3775 University Street
Montreal, QC H3A 2B4
Canada

Telephone: (514) 398-6736
Fax: (514) 398-7461
Web site: www.bmed.mcgill.ca

Chair — R.E. Kearney

11.1 Staff

Professors

T.M.S. Chang; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C) (*joint appoint. with Physiology*)
A.C. Evans; B.Sc.(Liv.), M.Sc.(Sur.), Ph.D.(Leeds) (*joint appoint. with Neurology and Neurosurgery*)
H.L. Galiana; B.Eng., M.Eng., Ph.D.(McG.) (*joint appoint. with Otolaryngology*)
R.E. Kearney; B.Eng., M.Eng., Ph.D.(McG.) (*joint appoint. with Physiology*)

Associate Professors

J.D. Boby; B.Sc., M.Sc.(McG.), Ph.D.(Tor.) (*joint appoint. with Surgery*)
W.R.J. Funnell; B.Eng., M.Eng., Ph.D.(McG.) (*joint appoint. with Otolaryngology*)
G.B. Pike; B.Eng., M.Eng., Ph.D.(McG.) (*joint appoint. with Neurology and Neurosurgery*)

Assistant Professors

D.L. Collins; B.Sc., M.Eng., Ph.D.(McG.) (*joint appoint. with Neurology and Neurosurgery*)
S. Prakash, B.Sc., M.Sc.(BHU-India), Ph.D.(McG.)

M. Tabrizian, B.Sc.(Iran), M.Sc., Ph.D.(PMC-France),
M.B.A.(HEC) (*joint appoint. with Dentistry*)

Associate Members

K. Cullen (*Physiology*), S. De Serres (*Physical and Occupational Therapy*), J. Gotman (*Neurology and Neurosurgery*), R. Mongrain (*Mechanical Engineering*), B.N. Segal (*Otolaryngology*), T. Steffen (*Surgery*), C. Thompson (*Neurology and Neurosurgery*)

Adjunct Professor

J.H.T. Bates (VT)

Research Associates

C. Baker, D. Guitton, A. Katsarkas

11.2 Programs Offered

The Department offers a graduate training program leading to Master's (M.Eng.) and Ph.D. degrees in Biomedical Engineering.

It provides instruction and opportunities for interdisciplinary research in the application of engineering, mathematics, and the physical sciences to problems in medicine and the life sciences. Courses are offered for graduate students in the life sciences and in engineering and the physical sciences.

Excellent laboratory facilities for basic and applied research are available in the Department and in the laboratories of associated staff located elsewhere in the Medical Faculty. The Department operates a network of high performance workstations and well-equipped mechanical and electronics workshops.

Basic research in the Department concentrates on the application of quantitative engineering analysis methods to basic biomedical research problems. Currently active areas of research include: neuromuscular and postural control, muscle mechanics, the vestibular system, oculomotor control, the auditory system, joint prosthetics, biomaterials, artificial cells and organs, and medical imaging, and bioinformatics in genomics and proteomics. Staff members are also active in more applied research related to the development of quantitative analysis tools and instruments for biomedical research. Areas of activity here include: signal analysis, system identification, modeling, simulation and parameter estimation, image processing, pattern recognition, ultrasound, and biorobotics.

11.3 Admission Requirements

See minimum admission requirements in Section 5 of the General Information section of the *Graduate and Postdoctoral Studies Calendar*.

11.4 Application Procedures

Please address enquiries directly to the Department.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

11.5 Program Requirements

Master's degrees (M.Eng.) require students to complete a minimum of 45 credits (24 thesis credits and 21 graduate course credits).

Graduate students may also be registered through departments of Medicine, Science and Engineering, and must then fulfill the requirements for advanced degrees imposed by their respective departments.

In addition, all students are required, through course work and independent study, to achieve a degree of inter-disciplinary competence appropriate to their area of specialization.

11.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been

added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

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) (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 multidimensional 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) (2-1-6) The principles and practice of making biological measurements in the laboratory, including theory of linear systems, data sampling, computer interfaces, basic electronic circuit design and machining.

BMDE 504 BIOMATERIALS AND BIOPERFORMANCE. (3) (3-0-0) (Restricted to 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) (1.5 hours lecture/1.5 hours seminar per week) (Restricted to 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 519 BIOMEDICAL SIGNALS AND SYSTEMS. (3) (2-0-8) (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.

BMDE 650 ADVANCED MEDICAL IMAGING. (3) (Prerequisite: MDPH 607) Review of advanced techniques in medical imaging including: fast magnetic resonance imaging (MRI), functional MRI, MR angiography and quantitative flow measurement, spiral and dynamic x-ray computed tomography, 2D/3D positron emission tomography (PET), basic PET physiology, tracer kinetics, surgical planning and guidance, functional and anatomical brain mapping, 2D and 3D ultrasound imaging, and medical image processing.

BMDE 651 ORTHOPAEDIC ENGINEERING. (3) (Restriction: Permission of the instructor.) Science and technology related to implants used for various orthopaedic reconstructive procedures, with emphasis on artificial hip and knee joint prostheses.

BMDE 690 THESIS RESEARCH 1. (3)

BMDE 691 THESIS RESEARCH 2. (3)

BMDE 692 THESIS RESEARCH 3. (3)

BMDE 693 THESIS RESEARCH 4. (6)
BMDE 694 THESIS RESEARCH 5. (6)
BMDE 695 THESIS SUBMISSION. (12)
BMDE 700 PH.D. COMPREHENSIVE. (0)

12 Bioresource Engineering

Department of Bioresource Engineering
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Chair — R. Kok

12.1 Staff

Emeritus Professor

R.S. Broughton; B.S.A., B.A.Sc.(Tor.), S.M.(M.I.T.), Ph.D.(McG.), LL.D.(Dal.)

Professors

S. Barrington; B.Sc.(Agr. Eng.), Ph.D.(McG.)
 R. Kok; B.E.Sc., Ph.D.(W.Ont.)
 C.A. Madramootoo; B.Sc.(Agr. Eng.), M.Sc., Ph.D.(McG.) (*James McGill Professor*)
 E. McKyes; B.Eng., M.Eng., Ph.D.(McG.)
 S.O. Prasher; B.Tech, M.Tech.(Punj.), Ph.D.(Br.Col.) (*James McGill Professor*)
 G.S.V. Raghavan; B.Eng.(B'lore), M.Sc.(Guelph), Ph.D.(Colo.St.) (*James McGill Professor*)

Associate Professors

R.B. Bonnell; B.Sc.(Geo.), B.Sc.(Agr.Eng.), M.Sc., Ph.D.(McG.)

Assistant Professors

M.O. Ngadi; B.Eng.(Agr.Eng.), M.A.Sc., Ph.D.(Dal.Tech.) (*William Dawson Scholar*)
 N. Wang; B.Eng.(E.E.), M.Eng.(I.E.) (Asian Institute of Technology), M.Sc.(E.E.), Ph.D (Kansas St.)

Assistant Professors

M.O. Ngadi; B.Eng.(Agr.Eng.), M.A.Sc., Ph.D.(Dal.Tech.)
 N. Wang; B.Eng.(E.E.), M.Eng.(I.E.) (Asian Institute of Technology), M.Sc.(E.E.), Ph.D (Kansas St.)

Research Associates

P. Enright, V. Orsat, V. Sosle

12.2 Programs Offered

The Department offers M.Sc. and Ph.D. research programs in various areas of bioresource engineering including: plant and animal environments; ecological engineering (ecosystem modelling, design, management, and remediation); water resources management (hydrology, irrigation, drainage, water quality); agricultural machinery, mechatronics and robotics; food engineering and food processing; postharvest technology; waste management and protection of the environment; artificial intelligence.

The interdisciplinary nature of bioresource engineering often requires candidates for higher degrees to work in association with, or attend courses given by, a number of other departments at both the McGill University Macdonald Campus and the Downtown Campus.

12.3 Admission Requirements

Candidates for M.Sc. and Ph.D. degrees should indicate in some detail their fields of special interest when applying for admission.

An equivalent cumulative grade point average of 3.0/4.0 (second class-upper division) or 3.2/4.0 during the last two years of full-time university study is required at the Bachelor's level. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program. Experience after the undergraduate degree is an additional asset.

12.4 Application Procedures

Applicants for graduate studies through academic units in the Faculty of Agricultural and Environmental Sciences must forward supporting documents to:

Department of Bioresource Engineering
 Macdonald Campus of McGill University
 21,111 Lakeshore
 Sainte-Anne-de-Bellevue, QC H9X 3V9
 Canada

Telephone: (514) 398-7773
 Fax: (514) 398-8387
 E-mail: robert.kok@mcgill.ca

Applications will be considered upon receipt of a completed application form, \$60 application fee, and the following supporting documents:

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 550 on the paper-based test or 213 on the computer-based test) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use department code 31 (graduate schools), Biological Sciences - Agriculture to ensure that your TOEFL reaches this Office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.

3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines – Applications, including all supporting documents must reach the Department no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students – Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

12.5 Program Requirements

M.Sc. (Bioresource Engineering)

At least 12 months of full-time study are required for this degree. A student may complete the requirements by obtaining 46 credits under the requirements of the thesis or non-thesis options.

M.Sc. Thesis Option

This option for the M.Sc. degree is oriented towards individuals who intend to develop a career in bioresource engineering research. The requirements for this option are:

1. completion and final acceptance of a supervised research thesis in one of the areas described above, according to the regulations of the Graduate and Postdoctoral Studies Office. This work is represented by courses M.Sc. Thesis 1 through 8, described below and equivalent to four credits each, for a total of 32 credits allotted to thesis work (ABEN691 to ABEN698).
2. 12 credits of postgraduate course work in bioresource engineering and other fields to be determined in consultation with the research director. It is required that the candidate include the scientific publication course in this category of credits.
3. Participation in graduate seminar during two terms.

M.Sc. Thesis Option – Neotropical Environment

The requirements for this option are:

1. completion and final acceptance of a supervised research thesis according to the regulations of the Graduate and Postdoctoral Studies Office. This work is represented by courses M.Sc. Thesis 1 through 8, described below and equivalent to

four credits each, for a total of 32 credits allotted to thesis work (ABEN691 to ABEN698).

2. 11 credits of required courses: ABEN651, ABEN652, ABEN699, BIOL640, and ENVR610.
3. 3 credits chosen from AGR1550, BIOL553, BIOL641, ENVR611, ENVR612, ENVR680, GEOG498, POLI644, SOCI565.
4. Participation in the MSE-Panama Symposium presentation in Montreal is required.

M.Sc. Applied – Non-thesis Option (Bioresource Engineering)

The non-thesis option is aimed towards individuals already employed in industry or seeking to improve their skills in specific areas (soil and water/structures and environment/waste management/and environment protection/post harvest technology/food process engineering/environmental engineering) in order to enter the engineering profession at a higher level. The requirements for a candidate registering for this option are:

1. a minimum of two project courses of 6 credits each (ABEN671 and ABEN 672).
2. 31 additional credits in graduate courses from the Bioresource Engineering Department or courses from other departments, relevant to topics which must be approved by the academic advisor. Selection of courses in each area can follow the format of the example shown below for the Food Process Engineering area: this option is offered under the regulations of the non-thesis degree in cooperation with the Department of Food Science and Agricultural Chemistry and the Department of Chemical Engineering. The candidate is expected to obtain 12 of the 31 non-project 500- or 600-level credits in the cooperating departments. The division of these 12 credits between the two departments should be decided between the candidate and the supervisors of the projects undertaken. In some cases, necessary senior undergraduate courses in the collaborative departments can be taken as additional credits towards the M.Sc., Applied.
3. participation in graduate seminar during two terms.

Candidates must meet the qualifications of a professional engineer either before or during their M.Sc., Applied program.

Each candidate for this option is expected to establish and maintain contact with his/her academic advisor in the Department of Bioresource Engineering some time before registration in order to clarify objectives, investigate project possibilities and plan a program of study.

M.Sc. Applied – Non-thesis Option – Neotropical Environment

The program consists of a minimum of 45 credits. The requirements for a candidate registering for this option are:

1. 20 credits of required courses: ABEN651, ABEN652, ABEN671, ABEN672, BIOL640 and ENVR610.
2. 3 credits must be chosen from AGR1550, BIOL553, BIOL641, ENVR611, ENVR612, ENVR680, GEOG498, POLI644, SOCI565.
3. 22 additional credits in graduate courses chosen in consultation with the academic advisor.
4. Participation in the MSE-Panama Symposium presentation in Montreal is required.

M.Sc. Applied – Environmental Engineering Option

The program consists of a minimum of 45 credits, of which, depending on the student's home department, a minimum of 5 and a maximum of 15 may be allotted to the project. The balance is earned by coursework, of which one to three approved undergraduate (below 500-level) courses are allowed. Candidates must possess a Bachelor's degree in engineering with superior academic achievement (a minimum cumulative grade point average of 3.0 out of a possible 4.0).

To complete the program, students must:

1. complete four required core courses;
2. complete a minimum of two engineering courses;

- complete a minimum of two non-engineering courses (each course should be chosen from a different department);
- complete a design or research project of 5 to 15 credits;
- complete all the remaining courses (to a total of at least 45 credits) as required in the student's departmental program (these courses must be approved by the student's Academic Advisor); and
- obtain a grade of B- (or 65%) or better in all required and approved courses.

Ph.D. - Bioresource Engineering

Candidates for the Ph.D. degree will normally register for the M.Sc. degree first. In cases where the research work is proceeding very satisfactorily, or where the equivalent of the M.Sc. degree has been completed previously, candidates may be permitted to proceed directly to the Ph.D. degree.

Requirements are:

- Courses of study selected for a Ph.D. program will depend on the existing academic qualifications of the candidate, and on those needed for effective pursuit of research in the chosen field. Candidates are encouraged to take an additional course of study of their own choice in some field of the humanities, sciences or engineering not directly related to their research. The program will be established by consultation of the candidate with a committee that will include the Research Director and at least one other professor.
- A comprehensive examination, ABEN701, will be taken either late in the first, or early in the second, registration year to qualify to proceed to the completion of the Ph.D. degree.
- Participation in graduate seminar during four terms.
- Satisfactory completion of a thesis.

Ph.D. – Neotropical Environment Option

The requirements for a candidate registering for this option are:

- 6 credits of required courses: ENVR610 and BIOL640.
- 3 credits chosen from AGRI550, BIOL553, BIOL641, ENVR611, ENVR612, ENVR680, GEOG498, POLI644, SOCI565.
- Participation in the MSE-Panama Symposium presentation in Montreal.
- Participation in graduate seminar during four terms.
- A comprehensive examination, ABEN701, will be taken either late in the first, or early in the second, registration year to qualify to proceed to the completion of the Ph.D. degree.
- Satisfactory completion of a Ph.D. thesis.

12.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

ABEN 501 SIMULATION AND MODELLING. (3) (Restrictions: U3 students and above. Not open to students who have taken ABEN 612.)

ABEN 502 DRAINAGE/IRRIGATION ENGINEERING. (3) (Prerequisite: ABEN 217) (Restrictions: U3 students and above. Not open to students who have taken ABEN 611.)

ABEN 504 INSTRUMENTATION AND CONTROL. (3) (3 lectures and one 2-hour lab) (Undergraduate Prerequisite: ABEN 312 or ECSE 281) Principles and operation of instrument systems used for measurement and control in agricultural processes and research.

ABEN 506 ADVANCES IN DRAINAGE MANAGEMENT. (3) (3 weeks intensive course) Land drainage in relation to soils and crops. Design of regional drainage systems, stability of ditches, ice prob-

lems. Design of subsurface drainage systems. Theories of flow into drain tubes. Hydraulics of wells. Drainage of irrigated lands. Water table control.

ABEN 509 HYDROLOGIC SYSTEMS AND MODELLING. (3) (3 hour lectures) 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.

ABEN 512 SOIL CUTTING AND TILLAGE. (3) (2 lectures and one 2-hour lab) (Undergraduate Prerequisite: ABEN 341).

ABEN 515 SOIL HYDROLOGIC MODELLING. (3) (3 lectures and one 3-hour lab).

ABEN 518 BIO-TREATMENT OF WASTES. (3) (One 3 hour lecture) 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.

ABEN 519 ADVANCED FOOD ENGINEERING. (3) (3 lectures and one 2-hour lab) (Prerequisites: ABEN 325 and MECH 426, or permission of instructor) 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.

ABEN 525 CLIMATE CONTROL FOR BUILDINGS. (3) (3 lectures and one 3-hour lab) (Prerequisite: ABEN 301) (Restriction: U3 students or above.)

ABEN 530 FERMENTATION ENGINEERING. (3) (3 lectures and one 3-hour lab) (Undergraduate Prerequisite: ABEN 325 or equivalent) (Graduate courses available to senior undergraduates with permission of the instructor) Advanced topics in food and fermentation engineering are covered, including brewing, bioreactor design and control and microbial kinetics.

ABEN 531 POST-HARVEST DRYING. (3) (Restrictions: U3 students or above. Not open to students who have taken ABEN 621)

ABEN 532 POST-HARVEST STORAGE. (3) (Restrictions: Not open to students who have taken ABEN 622) 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.

ABEN 608 SPECIAL PROBLEMS IN AGRICULTURAL ENGINEERING. (3) (2 conferences, either term) Laboratory, field and library studies and reports on special problems related to agricultural and biosystems engineering that are not covered in regular course work.

ABEN 616 ADVANCED SOIL AND WATER ENGINEERING. (3) (3 lectures)

ABEN 623 PROPOSAL PREPARATION. (3) (3 hours conferences) Critiques of proposals prepared by others. Preparation and defense of draft proposals for funding agencies.

ABEN 625 WATER QUALITY MANAGEMENT. (3) 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.

ABEN 651 DEPARTMENTAL SEMINAR M.Sc. 1. (1) To give seminars and participate in discussions.

ABEN 652 DEPARTMENTAL SEMINAR M.Sc. 2. (1) To give seminars and participate in discussions.

ABEN 671 PROJECT 1. (6) Prepare project outline, execute and report. This project relates to the M.Sc. (Applied) degree.

ABEN 671D1 (3), ABEN 671D2 (3) PROJECT 1. (Students must register for both ABEN 671D1 and ABEN 671D2.) (No credit will be given for this course unless both ABEN 671D1 and ABEN

671D2 are successfully completed in consecutive terms) (ABEN 671D1 and ABEN 671D2 together are equivalent to ABEN 671) Prepare project outline, execute and report. This project relates to the M.Sc. (Applied) degree.

ABEN 672 PROJECT 2. (6) Prepare project outline, execute and report. This project relates to the M.Sc. (Applied) degree.

ABEN 672D1 (3), ABEN 672D2 (3) PROJECT 2. (Students must register for both ABEN 672D1 and ABEN 672D2.) (No credit will be given for this course unless both ABEN 672D1 and ABEN 672D2 are successfully completed in consecutive terms) (ABEN 672D1 and ABEN 672D2 together are equivalent to ABEN 672) Prepare project outline, execute and report. This project relates to the M.Sc. (Applied) degree.

ABEN 691 M.Sc. THESIS 1. (4) Problem definition and literature Review.

ABEN 692 M.Sc. THESIS 2. (4)

ABEN 693 M.Sc. THESIS 3. (4) Methodology development.

ABEN 694 M.Sc. THESIS 4. (4) Experimentation 1.

ABEN 695 M.Sc. THESIS 5. (4) Experimentation 2.

ABEN 696 M.Sc. THESIS 6. (4) Data analysis.

ABEN 697 M.Sc. THESIS 7. (4) Draft thesis preparation.

ABEN 698 M.Sc. THESIS 8. (4) Thesis completion and acceptance.

ABEN 699 SCIENTIFIC PUBLICATION. (3) (Periodic conferences) Review and critique papers that are published in field of the candidate. Prepare draft paper(s) following the format of leading journals in field of study undertaken.

ABEN 701 PH.D. COMPREHENSIVE EXAMINATION. (0)

ABEN 701D1 (0), ABEN 701D2 (0) PH.D. COMPREHENSIVE EXAMINATION. (Students must register for both ABEN 701D1 and ABEN 701D2.) (No credit will be given for this course unless both ABEN 701D1 and ABEN 701D2 are successfully completed in consecutive terms) (ABEN 701D1 and ABEN 701D2 together are equivalent to ABEN 701)

ABEN 702 SPECIAL PROBLEMS IN AGRICULTURAL ENGINEERING 2. (3) (2 conferences, either term) Advanced level laboratory, field and library studies and reports on special problems related to agricultural and biosystems engineering which are not covered in regular course work. Designed for doctoral level students with experience in postgraduate studies.

ABEN 751 DEPARTMENTAL SEMINAR PH.D. 1. (0) To give seminars and participate in discussions.

ABEN 752 DEPARTMENTAL SEMINAR PH.D. 2. (0) To give seminars and participate in discussions.

ABEN 753 DEPARTMENTAL SEMINAR PH.D. 3. (0) To give seminars and participate in discussion.

ABEN 754 DEPARTMENTAL SEMINAR PH.D. 4. (0) To give seminars and participate in discussions.

13 Chemical Engineering

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Chair — R.J. Munz

13.1 Staff

Emeritus Professor

M.E. Weber; B.S.E.(Prin.), Sc.D.(M.I.T.), P.Eng.

Professors

D.G. Cooper; B.Sc., Ph.D.(Tor.)

J.M. Dealy; B.S.(Kansas), M.S.E., Ph.D.(Mich.), Eng.

M.R. Kamal; B.S.(Ill.), M.S., Ph.D.(Carn.-Mellon), Eng.

R.J. Munz; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(McG.), Eng.

A.D. Rey; B.Ch.E.(C.C.N.Y.), Ph.D.(Calif.) (*James McGill Professor*)

J.H. Vera; B.Mat.(Chile), Ing.Quim.(U.T.E.), M.S.(Calif.), Dr.Ing.(Santa Maria), Eng.

B. Volesky; M.Sc.(Czech. Tech. Univ.), Ph.D.(W.Ont.)

Associate Professors

D. Berk; B.Sc.(Bosphorus), M.E.Sc.(W.Ont.), Ph.D.(Calg.), P.Eng.

J.-L. Meunier; D.Ing.(E.P.F.L.), M.Sc., Ph.D.(I.N.R.S.), Eng.

Assistant Professors

S. Coulombe; B.Sc., M.Sc.A.(Sherb.), Ph.D.(McG.)

R.J. Hill; B.E.(Auck.), Ph.D.(C'nell)

R.L. Leask; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Tor.), P.Eng.

C.A. Leclerc; B.S.(Maine), Ph.D.(Minn.)

M. Maric; B.Eng.& Mgnt. (McM.), Ph.D.(Minn.), P.Eng.

S. Omanovic; B.Sc., Ph.D.(Zagreb)

P.D. Servio; B.A.Sc., Ph.D.(UBC)

Post-Retirement

J.-M. Charrier; Dipl.Ing., (E.N.S.A.M. Paris), M.S., Ph.D.(Akron), Eng.

W.J.M. Douglas; B.Sc.(Qu.), M.S.E., Ph.D.(Mich.)

Paprican Adjunct Professor

G.J. Kubes; B.Sc., M.Sc.(Prague), Ph.D.(Bratislava), P.Eng.

Adjunct Professors

A. Beils, C. Bélanger, P. Bisailon, W.A. Brown, R.H. Crotagino,

P.Csakany, M. Davidovsky, D. Dionne, S. Guiot, D. Juck,

D.J.McKeagan, C. Miguez, P. Nadeau, M. Perrier, N.P. Peters,

M.Renaud, B. Sarkis, R.C. Urquhart, L.A. Utracki,

P.Wood-Adams.

13.2 Programs Offered

The Department offers programs leading to the Master of Engineering, the Master of Science, and the Doctor of Philosophy degrees.

Two options are available for the M.Eng. degree: the thesis option and the project option. The M.Eng. (Thesis) is a research-oriented degree requiring a limited number of courses and a research thesis; the M.Eng. (Project) is a course-oriented degree which includes a project. Two specialized versions of the M.Eng. (Project) are offered: specialization in petrochemicals, polymers and plastics; specialization in environmental engineering.

The M.Sc. degree is appropriate for science graduates wishing to complete a Master's thesis without acquiring a broad engineering background. The requirements for the M.Sc. are similar to those for the M.Eng. (Thesis).

The Ph.D. is a research degree requiring a thesis which makes a distinct contribution to knowledge.

The Department's offices and research laboratories are located in the M.H. Wong Building, which was completed in 1996. Members of the Department are active in a number of research areas, including transport phenomena, separation processes, thermodynamics, chemical reaction engineering and catalysis, experimental and computational materials science, electrochemistry, plasma technology, polymer science and engineering, biochemical engineering, biotechnology, biomedical engineering, biomechanics, nanotechnology, sustainable energy development, gas hydrate systems, and environmental engineering. Most staff are members of one or more research groups.

Biotechnology research in the department includes the development of new processes/products, the environmental impact of biotransformation and biomedical applications. Strong collabora-

tions in these research areas exist with other engineering departments, the Faculty of Medicine and the Montreal Heart Institute. Research in biomedical engineering also includes development and characterization of biomaterials for human implants and biosensors.

Research in Plasma Technology includes fundamental studies in transport phenomena, reaction kinetics, optical emission and laser-absorption spectroscopy, and reactor design, as well as applied studies in plasma processing for environmental and biomedical engineering applications, advanced materials synthesis, and coating generation. Close collaboration is maintained with the Université de Sherbrooke through the Interuniversity Plasma Technology Research Centre (CRTP) and with other Québec universities through Plasma-Québec, a *Regroupement Stratégique FQRNT*.

Research related to the Environment is pursued on many fronts; for example, the plasma group is investigating plasma-assisted incineration, the biochemical group is evaluating biosorbents for heavy metals, the biodegradation of pesticides, and a number of projects considering the fate of plasticizers, chlorinated hydrocarbons and polymers in the environment. Other projects involve electrochemical treatment of wastewater, activated sludge treatment, development of environmentally-friendly corrosion inhibitors, etc.

Research in Computational Materials Science is a science-based program that seeks to design and control materials, products, and processes using molecular, mesoscopic, and macroscopic computational modeling. This work is in close collaboration with the National Science Foundation Center for Advanced Engineering Fibers and Films at Clemson University. The research in Computational Biomaterials Science seeks to understand the fundamental natural principles that lead to advanced materials such as superstrong spider silk fibers, natural foams, and biolubricants.

Research in colloids and interface science brings together a variety of theoretical, computational and experimental 'tools'. Current efforts are focused on the development of a novel optical-tweezer/micro-electrophoresis apparatus for probing the dynamics of "fuzzy" colloidal particles, and development of experiments and theory for studying the organization and dynamics of synthetic polymers grafted to lipid-bilayer membranes. The broader objectives are to understand in detail how macromolecules forming "soft" interfaces influence colloidal dynamics and equilibria.

13.3 Admissions Requirements

Admission to graduate study requires a minimum CGPA of 3.0/4.0 (or equivalent) for the complete Bachelor's program or a minimum GPA of 3.2/4.0 (or equivalent) in the last two years of full-time studies. Non-Canadian applicants whose mother tongue is not English must achieve a minimum TOEFL score of 577 on the paper-based test (233 on the computer-based test) prior to admission.

M.Eng. (Thesis), M.Eng. (Project)

Admission requires a Bachelor's degree (or equivalent) in chemical engineering or other engineering disciplines. Students with Bachelor's degrees in science wishing to pursue the M.Eng. first enter a Qualifying Program, normally of two terms, to prepare for entry into the M.Eng. program.

M.Sc.

Admission requires a Bachelor's degree (or equivalent) in science. In some cases, depending on the area of research, the student may be required to complete one or two extra courses as part of the graduate program.

Ph.D.

Program revisions are under consideration for September 2004

Admission requires a Master's degree (or equivalent) from a recognized university. Students in the Department's M.Eng. (Thesis) or M.Sc. program may transfer to the Ph.D. program after one year without submitting the Master's thesis following a formal "fast track" procedure.

13.4 Application Procedures

The application procedure is outlined on the Web at www.mcgill.ca/chemeng/grad/application. The first step in the process is to complete a pre-application form. The completed preliminary application form is evaluated by the Admissions Committee. A formal application is only requested of the candidate if there is a reasonable probability of admission.

Full applications will be considered when the Graduate Admissions Committee has received:

1. application form of the Graduate and Postdoctoral Studies Office (www.mcgill.ca/applying/graduate);
2. two official transcripts;
3. two letters of reference;
4. application fee of \$60 Canadian;
5. TOEFL test results (if required).

Application deadlines differ for International and Canadian (and Permanent Resident) students, to allow time to obtain a visa.

Deadlines for Canadian (and Permanent Resident) applicants:
 May 15 for September (Fall term) admission,
 October 1 for January (Winter term) admission,
 February 1 for May (Summer term) admission.

Deadlines for International applicants:

February 15 for September (Fall term) admission,
 August 1 for January (Winter term) admission,
 December 1 for May (Summer term) admission.

13.5 Program Requirements

M.Eng., M.Sc.

The Master's degrees require the completion of 45 credits and three terms of residence at McGill.

M.Eng. (Thesis), M.Sc.

Courses: 12 credits of graduate courses (500- or 600-level) (a minimum of 3 courses in Chemical Engineering, one of which is from the Chemical Engineering Fundamentals).

Research: 33 credits which include completion of a thesis proposal, presentation of a research seminar and submission of a thesis.

M.Eng. (Project)

Courses: 33-39 credits (a minimum of 18 credits in chemical engineering).

Project: (design or research): 6-12 credits.

The specialized versions of the M.Eng. (Project) follow the above distribution between courses and project.

The specialization in petrochemicals, polymers and plastics, which is offered in cooperation with the Institute Français du Pétrole (IFP), requires that the Winter term be spent at IFP in Paris where 15 course credits are completed. This program may be entered in September, January or May.

The specialization in environmental engineering requires the completion of a Core of 12 credits of environmental engineering courses and a research or design project related to the environment.

Ph.D.

The Ph.D. requires three years of residence at McGill.

Courses: A minimum of two 600-level Chemical Engineering courses; however, students must take at least three courses (or their equivalent) from the Chemical Engineering Fundamentals during their Master's and Ph.D. programs combined.

Research: completion of a thesis proposal, its defence, presentation of two seminars, and submission and defence of a thesis.

Chemical Engineering Fundamentals (Courses):

CHEE611	Heat and Mass Transfer
CHEE 621	Thermodynamics
CHEE631	Foundations of Fluid Mechanics
CHEE641	Chemical Reaction Engineering
CHEE662	Computational Methods

13.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

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 581 POLYMER COMPOSITES ENGINEERING. (3) (3-0-6) (Undergraduate Prerequisite: CHEE 481 or permission of instructor)

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 611 HEAT AND MASS TRANSFER. (4) Heat and mass transfer in laminar and turbulent flows; scaling; models for interphase transport.

CHEE 621 THERMODYNAMICS. (4) Theory and application of phase and chemical equilibria in multicomponent systems.

CHEE 631 FOUNDATIONS OF FLUID MECHANICS. (4) Rigorous derivation of equations of motion; creeping flow inviscid flow; boundary layer theory; hydrodynamic stability; turbulent flow, separated flows, drag on submerged bodies.

CHEE 641 CHEMICAL REACTION ENGINEERING. (4) Interpretation of chemical reaction data, especially for heterogeneous systems. Residence time, complete segregation, maximum mixedness, other advanced concepts. Reactor design.

CHEE 643 THERMAL PLASMA TECHNOLOGY. (3) (Prerequisite: Permission of the instructor) An introduction to thermal (high temperature) plasmas as applied to chemical and materials engineering. Degree of ionization, velocity distribution function, plasma parameters, collisions and diffusion, energy states, plasma generation, diagnostic techniques for plasma and particles, particle-plasma interaction, mathematical modelling of plasma systems, applications.

CHEE 662 COMPUTATIONAL METHODS. (4) Methods of weighted residuals; solution to non-linear algebraic equations; stability in nonlinear equations; bifurcations; mesh refinement strategies; convection dominated transport; hyperbolic equations, particle simulation methods.

CHEE 672 PROCESS DYNAMICS AND CONTROL. (4) (Prerequisite: CHEE 455) Process representation and identification and simulation; sensor stability; sensitivity of feedback control systems; feedforward control; discrete representation of continuous systems; controller tuning; adaptive control.

CHEE 673 BIOSYSTEMS ENGINEERING. (3) (Intensive course.)

CHEE 681 POLYMER CHEMICAL ENGINEERING. (3)

CHEE 682 ENGINEERING PROPERTIES OF POLYMERIC MATERIALS. (3) Mechanical and transport properties of non-crystallizing and crystallizing thermoplastics, rigid thermosets, fibers, films, elastomers and composites with particle and fiber reinforcement. Elasticity, visco-elasticity, ultimate properties, diffusion of liquids and gases, thermal and electrical properties.

CHEE 683 POLYMER RHEOLOGY. (3)

CHEE 684 POLYMER PROCESSING. (3) Survey of engineering properties of polymers and processing operations, degradation of polymers, extrusion, injection molding, fiber spinning, film blowing, blow molding, thermoforming, miscellaneous other processes. Lectures, plant visits, problem assignments.

CHEE 685 POLYMER PRODUCT AND PROCESS DESIGN PROJECT. (3) Principles of product design, optimization and processing conditions for the production of plastics articles. Selection of resins, process and equipment and tool design, considering cost, safety and environmental aspects of production. Students undertake projects to define specifications for the manufacture of selected plastics articles.

CHEE 686 POLYMER ENGINEERING LABORATORY. (3) Study of experimental aspects of polymer characterization. Areas of study are selected from molecular weight determination, polymer morphology, mechanical and rheological behaviour. Polymer processing areas available for study include extrusion, mixing and injection and compression molding.

CHEE 690 RESEARCH TECHNIQUES. (3) This course introduces techniques and develops skills necessary for commencing a particular thesis research project. A written report is required.

CHEE 692 SELECTED TOPICS IN CHEMICAL ENGINEERING. (2)

CHEE 693 SELECTED TOPICS IN CHEMICAL ENGINEERING. (3)

CHEE 694 SELECTED TOPICS IN CHEMICAL ENGINEERING. (4)

CHEE 695 PROJECT IN CHEMICAL ENGINEERING. (6) Independent work under the general direction of a full-time staff member, on a problem of industrially-oriented design or research leading to a comprehensive report.

CHEE 696 EXTENDED PROJECT. (6) Extended independent work on a problem of industrially-oriented design or research, leading to a comprehensive project report.

CHEE 697 THESIS PROPOSAL. (6) Independent work under the supervision of the thesis advisor(s) leading to a thesis proposal.

CHEE 698 THESIS RESEARCH 1. (12) (Prerequisite: CHEE 697) Ongoing research pertaining to thesis.

CHEE 698N1 THESIS RESEARCH 1. (6) (Students must also register for CHEE 698N2) (No credit will be given for this course unless both CHEE 698N1 and CHEE 698N2 are successfully completed in a twelve month period) (CHEE 698N1 and CHEE 698N2 together are equivalent to CHEE 698)

CHEE 698N2 THESIS RESEARCH 1. (6) (Prerequisite: CHEE 698N1) (No credit will be given for this course unless both CHEE 698N1 and CHEE 698N2 are successfully completed in a twelve month period) (CHEE 698N1 and CHEE 698N2 together are equivalent to CHEE 698)

CHEE 699 THESIS RESEARCH 2. (15) (Prerequisite: CHEE 698) Ongoing research pertaining to thesis.

CHEE 795 PH.D. THESIS PROPOSAL. (0) Independent work under the supervision of the thesis advisor(s) leading to a thesis proposal.

CHEE 796 PH.D. PROPOSAL DEFENCE. (0) Presentation and defence of thesis proposal at an oral examination.

CHEE 797 PH.D. SEMINAR. (0) (Prerequisite: CHEE 796) Required for all Ph.D. candidates. Presentation of a seminar on an aspect of their thesis work.

14 Chemistry

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Chair — R.B. Lennox

Director of Graduate Studies — B.A. Arndtsen

14.1 Staff

Emeritus Professors

B.C. Eu; B.Sc.(Seoul), Ph.D.(Brown)
J.F. Harrod; B.Sc., Ph.D.(Birm.)
A.S. Hay; B.Sc.(Alta.), Ph.D.(Ill.), F.R.S.
M. Onyszchuk; B.Sc.(McG.), M.Sc.(W.Ont.), Ph.D.(Cantab),
Ph.D.(McG.), F.C.I.C.
D. Patterson; M.Sc.(McG.)
A.S. Perlin; M.Sc., Ph.D.(McG.), F.C.I.C., F.R.S.C.
W.C. Purdy; B.A.(Amh.), Ph.D.(M.I.T.), F.C.I.C.
L.E. St-Pierre; B.Sc.(Alta.), Ph.D.(Notre Dame), F.C.I.C.
M.A. Whitehead; B.Sc., Ph.D., D.Sc.(Lond.), F.C.I.C.

Professors

D.S. Bohle; B.A.(Reed College), M.Phil., Ph.D.(Auck.)
I.S. Butler; B.Sc., Ph.D.(Brist.), F.C.I.C.
T.H. Chan; B.Sc.(Tor.), M.A., Ph.D.(Prin.), F.C.I.C., F.R.S.C.
M. Damha; B.Sc., Ph.D.(McG.)
A. Eisenberg; B.S.(Wor. Poly.), M.A., Ph.D.(Prin.), F.C.I.C.
P.G. Farrell; B.Sc., Ph.D., D.Sc.(Ex.)
D.F.R. Gilson; B.Sc.(Lond.), M.Sc., Ph.D.(Br.Col.), F.C.I.C.
D.N. Harpp; A.B.(Middlebury), M.A.(Wesleyan), Ph.D.
(N.Carolina), F.C.I.C.
G.E. Just; Ing.Chem.(E.T.H. Zürich), Ph.D.(W.Ont.), F.C.I.C.
R.B. Lennox; B.Sc., M.Sc., Ph.D.(Tor.)
C.J. Li; B.Sc.(Zhengzhou), M.S.(Chinese Academy of Sciences),
Ph.D.(McG.)
R.H. Marchessault; B.Sc.(Montr.), Ph.D.(McG.), F.C.I.C., F.R.S.C.
D.M. Ronis; B.Sc.(McG.), Ph.D.(M.I.T.)
E.D. Salin; B.Sc.(Calif.), Ph.D.(Oregon), F.C.I.C.
B.C. Sanctuary; B.Sc., Ph.D.(Br.Col.)
A.G. Shaver; B.Sc.(Carl.), Ph.D.(M.I.T.)

Associate Professors

M.P. Andrews; B.Sc., M.Sc., Ph.D.(Tor.)
B.A. Arndtsen; B.A.(Carl.), Ph.D.(Stan.)
D.H. Burns; B.Sc.(Puget Sound), Ph.D.(Wash.)
W.C. Galley; B.Sc.(McG.), Ph.D.(Calif.)
J.L. Gleason; B.Sc.(McG.), Ph.D.(Va.)
A. Kakkar; B.Sc., M.Sc.(Chan. U., India), Ph.D.(Wat.)
J.F. Power; B.Sc., Ph.D.(C'dia)
L. Reven; B.A.(Carl.), Ph.D.(Ill.)

Assistant Professors

P. Ariya; B.Sc., Ph.D.(York)
K. Auclair; B.Sc.(U.Q.A.C.), Ph.D.(Alta)
C.J. Barrett; B.Sc., M.Sc., Ph.D.(Qu.)
P. Kambhampati; B.A. (Carleton College), Ph.D. (Texas)
N. Moitessier; B.A., Ph.D.(Nancy)
H. Sleiman; B.Sc.(A.U.B.), Ph.D.(Stan.)
P. Wiseman; B.Sc.(St.F.X.), Ph.D.(W.Ont.)

Lecturers

J. Finkenbine, G. Wilczek

Associate Members

J.A. Finch (Mining, Metals and Materials Engineering),
O.A.Mamer(University Clinic, RVH), B.I.Posner (Medicine),
K.Gehring (Biochemistry)

Paprican Adjunct Professors

D.G. Gray, R. St. John Manley, T.G.M.VandeVen

Adjunct Professors

D. Argyropoulos, Y. Guindon, R.J. Kazlauskas, Y. Tsantrizos,
I.Wharf, R. Zamboni

14.2 Programs Offered

M.Sc., Ph.D. and the M.Sc. (Applied).

The Department also offers the Chemical Biology Interdisciplinary Graduate Option, together with the Departments of Biochemistry, and Pharmacology and Therapeutics. Students interested in training in this option must first be accepted for graduate studies by one of the participating departments. Information on this option can be found at the following web address: www.mcgill.ca/biochemistry/chemicalbiology.

Research in Chemistry

Members of the Department are active in directing research in the following fields:

Analytical – Atomic and molecular spectroscopy; laboratory automation; artificial intelligence; instrument design; optimization of data processing techniques; application of modern analytical techniques to biochemical and medical systems; detectors for liquid chromatography; photothermal analytical methods; thermal wave imaging; development of analytical techniques for studies of diffusion and photodegradation in thin films. Technique development for quantitative spectroscopy in scattering media. Micronano-sensors; Chemoinformatics. Analytical spectroscopy of bioenergetics.

Bio-organic – Enzyme chemistry; protein and nucleic acid structure and function; drug design and modification; active site stereochemistry; molecular basis of regulation and pharmacological action; lipid and lipid analogue chemistry.

Biophysical – Excited electronic states of proteins and nucleic acids; spectroscopic probes of biopolymer conformation; sensitized photochemistry in biopolymers; dynamics of protein and nucleic acid conformations. Spectroscopic analysis of oxygen transport in aerobic metabolism.

Colloid and Polymer – Monomolecular layers; solution properties of high polymers; molecular morphology; rheology and stability of dispersions; phase transitions in polymers and polymer blends; polymer reinforcement; radiation effects and solid-state polymerization; mechanisms of polymerization reactions; wetting and spreading; the glass transition; molecular dynamics and polymer properties; ionic polymers; cellulose and paper; carbohydrate biopolymers; pollution abatement; polymer melt rheology; synthetic latex; rheo- and electro-optical phenomena; polymers at interfaces.

Inorganic – Synthesis of new classes of organometallic complexes and inorganic polymers; homogeneous catalysis; cationated polysulfur and polysulfoxide complexes; organosilicon chemistry; spectroscopic studies (e.g., FT-IR, laser Raman, multinuclear NMR, and mass) of complexes; kinetics and mechanisms of inorganic and organometallic reactions; bioinorganic chemistry; inorganic materials chemistry; asymmetric catalysis; surface chemistry.

Organic – Synthesis and structure of heterocyclic compounds; natural products; carbohydrates; cellulose; plant-growth regulators; organic sulphur, chemistry; stereochemistry; reaction mechanisms; charge transfer complexes; new synthetic methods; conformational analysis; solvation effects; substituent effects; polymer supports; nucleic acids, anti-sense and anti-gene oligonucleotides.

Physical – Laser excited luminescence and novel optical materials. Order-disorder phenomena in molecular crystals and liquid

crystals. Vibrational spectroscopy at high pressures. Nuclear quadrupole resonance spectroscopy.

Pulp and Paper – Research in areas of chemistry of interest to the Canadian pulp and paper industry is also performed at the Pulp and Paper Research Centre, adjacent to the Chemistry Department. Current research topics include cellulose and lignin chemistry, the chemistry of pulping and bleaching, colloidal aspects of papermaking, physical chemistry of cellulosic materials, and de-inking and recycling of paper.

Theoretical – Non-equilibrium statistical mechanics, kinetic theory of fluids and plasmas, non-equilibrium thermodynamics of non-linear transport processes for systems far from equilibrium and fluid dynamics. Theories of nuclear magnetic resonance and multi-quantum NMR spectra are developed with emphasis on the determination of the structures of proteins from NMR. Molecular structure, chemical bonding, intermolecular forces in solids and isolated molecules in dimers and metastable polymers are studied quantum mechanically.

14.3 Admission Requirements

The minimum academic standard for admission to research thesis M.Sc., Ph.D. and the M.Sc. (Applied) degree programs is a minimum standing equivalent to a Cumulative Grade Point Average (CGPA) of 3.0 out of a possible 4.0 or a CGPA of 3.2/4.0 for the last two full-time academic years. Applicants from other institutions should have an academic background equivalent to that of a McGill graduate in the Chemistry Honours/Major programs. If possible, candidates should specify the field of research in which they are interested.

Admissions Requirements - Chemical Biology Option

As for the regular graduate programs of the participating departments, acceptance into the Chemical Biology Option consists of two steps:

1. Preliminary approval by the Department's Graduate Committee based on the student's transcript, references and other documents submitted with the application. The criteria for assessment at this level are the same as for the regular graduate programs of the participating departments.
2. Acceptance by an individual research director. For students wishing to participate in the Chemical Biology Option, the director must propose a research project for the student that provides training in the methods and philosophy of chemical biology. Project proposals are assessed by the Chemical Biology Program Committee.

14.4 Application Procedures

All inquiries concerning graduate work in the Department should be addressed to the Director of Graduate Studies, Department of Chemistry.

FINANCIAL ASSISTANCE

M.Sc. and Ph.D. Degrees

Financial assistance for accepted graduate students who do not hold fellowships or scholarships is normally available in the form of laboratory demonstratorships/assistantships, and occasionally by payment from research funds. Graduate students devote 12 hours per week (contact hours, plus grading of reports, etc.) during the academic session to their teaching duties. Financial assistance during the remainder of the year is provided from research funds. Most students receive partial fee waivers. Scholarship holders, such as NSERC or awards of similar value, receive a tuition fee waiver.

M.Sc. (Applied) Degree

Financial assistance for candidates in the M.Sc. (Applied) program is not available during the two academic sessions when courses are taken, unless candidates are recipients of scholarships. During the four-month project, candidates are paid at rates established by participating companies.

14.5 Program Requirements

M.Sc.* and Ph.D. Degrees

1. Students must take such examinations as may be required in (a) assigned courses given in the Department of Chemistry, (b) assigned cognate courses given in other departments. Courses are assigned after taking into consideration the student's previous training and research interest.
2. Students must successfully complete a research project and submit an acceptable thesis.
3. Students must satisfy the examiners in an oral examination on the thesis and related subjects (required only of candidates for the Ph.D. degree).
4. All the usual requirements of the Graduate and Postdoctoral Studies Office must be satisfied.

* This program requires 45-50 credits.

A minimum of 6 credits of course work is required; the balance of credits will be made up from either a combination of course work (graduate and upper undergraduate) and thesis credits, or from thesis research credits only. There will be a minimum of 24 credits in the thesis research component.

M.Sc. (Applied) Degree

This program requires a minimum of 45 credits, 30 credits of course work (graduate and upper undergraduate) plus a 15-credit project in some aspect of chemical industry, normally completed during a four-month project.

Examinations in Chemistry

1. Examinations in assigned courses are normally taken by the candidates in December and May. In special circumstances, and with the permission of the Department and the Graduate and Postdoctoral Studies Office, they may be taken in September.
2. A candidate for the Ph.D. degree shall pass all such examinations, other than those in certain special courses, before the final year, except in special circumstances and then only with the approval of the Department.

Program Requirements - Chemical Biology Option

The curriculum of the Chemical Biology Option is structured so that in completing the option, students also complete the course requirements for the regular graduate programs in their home departments. For this reason, program requirements are listed separately for each department, even though the 'core' content in Chemical Biology (9 lecture credits plus 2 or 4 seminar credits for each program) is the same for each. The course requirements for the Chemical Biology Option taken through the Chemistry Department are available at www.mcgill.ca/biochemistry/chemicalbiology.

14.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

Advanced Undergraduate Courses

Undergraduate courses may be required of a student who is admitted to a graduate program if deficiencies are perceived in the student's previous training. Descriptions of undergraduate courses may be found in the Faculty of Science section of the *Undergraduate Programs Calendar*.

Denotes courses not offered in 2004-05.

CHEM 502 ADVANCED BIO-ORGANIC CHEMISTRY. (3) (Prerequisite: CHEM 302) (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, PHAR 300 or PHAR 301 or PHAR 303 or permission of instructor) (U3 and graduate students. Students can register only with permission of coordinators. Priority: students registered in the Minor in Pharmacology) (Not open to students who are taking or have taken PHAR 503) Interdisciplinary course in drug design and development covering chemistry, mechanisms of action and steps in drug development, principles and problems in drug design.

CHEM 504 DRUG DESIGN AND DEVELOPMENT 2. (3) (Winter) (Prerequisite: CHEM 503 and permission of instructor) (U3 and graduate students. Students can register only with permission of coordinators) (Not open to students who are taking or have taken PHAR 504) Groups of 2-4 students with different backgrounds will form a team. Each team will select a lead compound, design the analogues, propose the preclinical and clinical studies, present possible untoward effects, and reasons for drug (dis)approval.

CHEM 531 CHEMISTRY OF INORGANIC MATERIALS. (3) (Winter) (3 lectures) (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 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) (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) (2 lectures plus a reading/research project.) (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) (Two 1.5 hour lectures, lab) (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) (3 lectures) (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) (3 lectures) (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) (2 lectures and 3 hours of laboratory) (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.

CHEM 571 POLYMER SYNTHESIS. (3) (Winter) (3 lectures) (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) (3 lectures) (Prerequisite: CHEM 382) Synthetic methods in organic chemistry and their application to the synthesis of complex molecules.

CHEM 575 CHEMICAL KINETICS. (3) (Winter) (3 lectures) (Prerequisites: CHEM 273 and CHEM 213) Kinetic laws, measurement of reaction rates, transition state and collision theory. Elementary reactions in gas, solution and solid phases and on surfaces. Reaction mechanisms, laser techniques, molecular beams, chemiluminescence, explosions. Extensive use of computers to simulate the kinetic behaviour of chemical systems.

CHEM 576 QUANTUM CHEMISTRY. (3) (Lecture and/or reading course) (Prerequisite: CHEM 345)

CHEM 577 ELECTROANALYTICAL CHEMISTRY. (3) (Prerequisites: CHEM 367 and CHEM 377)

CHEM 581 INORGANIC TOPICS 1. (3) (Winter) (Prerequisite: CHEM 381)

CHEM 582 SUPRAMOLECULAR CHEMISTRY. (3) (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 273 and CHEM 345, MATH 223 and MATH 315, PHYS 241 and PHYS 242 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) (Fall) (Prerequisites: CHEM 367 and CHEM 377)

CHEM 591 BIOINORGANIC CHEMISTRY. (3) (Winter) (3 hours) (Prerequisite: CHEM 381) (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) (2 lectures) (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) (2 lectures; 3 hours lab) (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.

CHEM 603 INFRARED AND RAMAN SPECTROSCOPY. (5)

CHEM 611 INORGANIC TOPICS 2. (4) This advanced level course surveys recent trends in inorganic chemistry. Students select a topic from the current literature, research the topic, present periodic oral reports and a final summary paper. The instructor participates as a tutor and gives occasional oral presentations on topics of his choice.

CHEM 612 ORGANOMETALLIC CHEMISTRY. (5) A first course at the graduate level in organometallic chemistry. The theory and practice of the field is treated starting from basic principles of inorganic and organic chemistry.

CHEM 619 ADVANCED ATMOSPHERIC CHEMISTRY. (4)

CHEM 621 RECENT ADVANCES IN ORGANIC CHEMISTRY. (5) A systematic survey of the mechanisms of the most common organic reactions from studies of reactions in the current literature.

CHEM 623 STEREOCHEMISTRY. (5)

CHEM 626D1 (2), CHEM 626D2 (2) FUNDAMENTALS OF MEDICINAL CHEMISTRY. (Students must register for both CHEM 626D1 and CHEM 626D2) (No credit will be given for this course unless both CHEM 626D1 and CHEM 626D2 are successfully completed in consecutive terms)

CHEM 627 SPECIAL TOPICS 2. (5)

CHEM 629 ORGANIC SYNTHESIS. (5) An advanced course in the synthesis of organic molecules with an emphasis on stereoselective transformations. Topics will include multiple bond formation, functional group interconversions, carbon-carbon bond formation and stereoselective oxidations and reductions.

CHEM 631D1 (2), CHEM 631D2 (2) SELECTED TOPICS IN ANALYTICAL CHEMISTRY. (Students must register for both CHEM 631D1 and CHEM 631D2) (No credit will be given for this course unless both CHEM 631D1 and CHEM 631D2 are successfully completed in consecutive terms) A directed reading course with individual student-professor conferences, and intended mainly for students specializing in analytical chemistry. Topics are chosen to meet the individual needs of each student.

CHEM 634 SEMINAR IN ADVANCED MATERIALS. (3)

CHEM 636 LABORATORY AUTOMATION 2. (5) (Prerequisite: CHEM 547) Students will undertake a chemical laboratory automation project. Design and implementation problems will be discussed by the students in seminars and advanced topics in automated chemical instrumentation will be presented. Several experiments will be required.

CHEM 643 ORGANIC CHEMISTRY / WOOD COMPONENTS. (4)

CHEM 645 QUANTUM MECHANICS. (5)

CHEM 645D1 (2.5), CHEM 645D2 (2.5) QUANTUM MECHANICS. (Students must register for both CHEM 645D1 and CHEM 645D2) (No credit will be given for this course unless both CHEM 645D1 and CHEM 645D2 are successfully completed in consecutive terms) (CHEM 645D1 and CHEM 645D2 together are equivalent to CHEM 645)

CHEM 646 ADVANCED STATISTICAL MECHANICS. (4) Intermediate and advanced topics in statistical mechanics. Material to be covered will include: graphical methods, modern theories of dense gases and liquids, static and dynamic critical phenomena, time-correlation functions, light-scattering and nonequilibrium phenomena.

CHEM 647 PHYSICAL CHEMISTRY: SPECIAL TOPIC 1. (4)

CHEM 648 PHYSICAL CHEMISTRY: SPECIAL TOPIC 2. (4)

CHEM 650 SEMINARS IN CHEMISTRY 1. (1) (1 seminar) (Required of first year graduate students in Chemistry.) A seminar course designed for graduate students in chemistry which in conjunction with McGill Chemical Society will provide exposure to a broad range of special topics within the discipline.

CHEM 651 SEMINARS IN CHEMISTRY 2. (1) (1 seminar) (Required of first year graduate students in Chemistry.) A seminar course designed for graduate students in chemistry which in conjunction with McGill Chemical Society will provide exposure to a broad range of special topics within the discipline.

CHEM 655 ADVANCED NMR SPECTROSCOPY. (4) (1 lecture) (Prerequisite: CHEM 555 or equivalent.) Advanced techniques of nuclear magnetic resonance spectroscopy, Fourier transform methods, multiple pulsing, two-dimensional pulse sequencing.

CHEM 661 LITERATURE REVIEW AND PROPOSAL. (3) (Restricted to graduate students in Chemistry.)

CHEM 662 RESEARCH REPORT 1. (3) (Restricted to graduate students in Chemistry.)

CHEM 666D1 (3), CHEM 666D2 (3) SPECIAL TOPICS 2. (Students must register for both CHEM 666D1 and CHEM 666D2) (No credit will be given for this course unless both CHEM 666D1 and CHEM 666D2 are successfully completed in consecutive terms) Critical and original essays are required on various subjects of current interest in chemistry.

CHEM 667 SPECIAL TOPICS. (4) Critical and original essays are required on various subjects of current interest in chemistry.

CHEM 672 THE POLYMER SOLID STATE. (4)

CHEM 673 POLYMERS IN SOLUTIONS. (4) Thermodynamics of regular and of polymer solutions; osmotic pressure; phase separations; polymer configurations; light scattering; ultracentrifugation; viscometry; gel permeation chromatography; polyelectrolytes.

CHEM 674 INTRODUCTORY PHYSICAL CHEMISTRY - POLYMERS. (4) A survey course on the structure of polymers; kinetics and mechanisms of polymer synthesis; molecular weight distributions; polymer configurations and the thermodynamics of polymer solutions; rubber, elasticity, osmometry and viscosity.

CHEM 675 MECHANICAL PROPERTIES AND RHEOLOGY - POLYMERS. (4) Mechanical properties of polymers; glass transition, visco-elasticity, rubber elasticity, failure. Relation to molecular properties, mechanical spectroscopy, dielectric properties, birefringence.

CHEM 686 WET-END PAPERMAKING CHEMISTRY. (3) (Restricted to graduate students in Chemistry or Chemical Engineering or permission of instructor.) (Prerequisites: CHEM 543 and CHEM 585) Review of the chemistry of various additives used in papermaking, such as wet and dry strength agents, sizing agents, fillers, filler retention aids, antifoam agents, biocides, dyes, dewatering agents, drainage and formation aids. The course also addresses the chemistry of deinking of waste papers and the treatment of effluents.

CHEM 688 ASSESSMENT. (3) (Restriction: Restricted to graduate students in Chemistry.) An evaluation that is completed before the end of the second year of registration.

CHEM 689 SEMINARS IN CHEMICAL BIOLOGY 2. (1) (Restrictions: Open only to students registered for the M.Sc. or Ph.D. Graduate Option in Chemical Biology.)

CHEM 690 SEMINARS IN CHEMICAL BIOLOGY 4. (1) (Restrictions: Open only to students registered for the M.Sc. or Ph.D. Graduate Option in Chemical Biology.)

CHEM 691 M.Sc. THESIS RESEARCH. (3) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 692 M.Sc. THESIS RESEARCH. (6) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 693 M.Sc. THESIS RESEARCH. (9) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 694 M.Sc. THESIS RESEARCH. (12) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 695 M.Sc. THESIS RESEARCH. (15) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 696 M.Sc. THESIS RESEARCH. (6) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 697 M.Sc. THESIS RESEARCH. (9) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 698 M.Sc. THESIS RESEARCH. (12) Independent research work leading to writing of M.Sc. thesis for final submission to the Graduate and Postdoctoral Studies Office.

CHEM 699 PROJECT. (15)

CHEM 699D1 (7.5), CHEM 699D2 (7.5) PROJECT. (Students must register for both CHEM 699D1 and CHEM 699D2) (No credit will be given for this course unless both CHEM 699D1 and CHEM 699D2 are successfully completed in consecutive terms) (CHEM 699D1 and CHEM 699D2 together are equivalent to CHEM 699)

CHEM 701 COMPREHENSIVE EXAMINATION 1. (0) (Restriction : Restricted to Ph.D. students in Chemistry.) An evaluation that is completed before the end of the third year of registration.

CHEM 702 COMPREHENSIVE EXAMINATION 2. (0) (Restriction : Restricted to Ph.D. students in Chemistry.) An evaluation that is completed before the end of the fourth year of registration.

CHEM 721 ORGANIC CHEMISTRY RESEARCH SEMINAR. (3) Upon completion of the organic cumulative examinations, students will present a seminar on their research work (including background and future plans).

CHEM 763 RESEARCH REPORT 2. (3) (Restricted to graduate students in Chemistry.) Students will present a seminar on a complete or nearly complete research project and discuss these results.

15 Civil Engineering and Applied Mechanics

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Chair — D. Mitchell

Chair of Graduate Program — G. McClure (Acting)

15.1 Staff

Emeritus Professors

P.J. Harris; B.Sc.(Man.), M.Eng., Ph.D.(McG.), F.E.I.C.,
F.C.S.C.E., Eng.
R.G. Redwood; B.Sc.(Bristol), M.A.Sc.(Tor.), Ph.D.(Bristol),
F.C.S.C.E., FI Struct. Eng., Eng.
S.B. Savage; B.Eng.(McG.), M.S.Eng.(Cal.Tech.), Ph.D.(McG.),
F.R.S.C.

Professors

V.H. Chu; B.S.Eng.(Taiwan), M.A.Sc.(Tor.), Ph.D.(M.I.T.), Eng.
M.S. Mirza; M.S., B.Eng.(Karachi), M.Eng., Ph.D.(McG.), F.E.I.C.,
F.C.S.C.E., F.A.C.I., Hon.F.I.E.P., Eng.
D. Mitchell; B.A.Sc., M.A.Sc., Ph.D.(Tor.), F.A.C.I., Eng.
V.T.V. Nguyen; B.M.E.(Vietnam), M.C.E.(A.I.T.), D.A.Sc.(Montr.),
Eng.
J. Nicell; B.A.Sc., M.A.Sc., Ph.D.(Windsor), P.Eng.
A.P.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.
S.C. Shrivastava; B.Sc.(Eng.)(Vikram), M.C.E.(Del.), Sc.D.(Col.),
Eng.

Associate Professors

L. Chouinard; B.Eng., M.Eng.(Montr.), B.C.L.(McG.), Sc.D.(M.I.T.),
Eng.
S.J. Gaskin; B.Sc.(Eng.) (Qu.), Ph.D.(Cant.), Eng.
R. Gehr; B.Sc.(Eng.) (Witw.), M.A.Sc., Ph.D.(Tor.), P.Eng.
S. Ghoshal; B.C.E.(India), M.S.(Missouri), Ph.D.(Carnegie Mellon)
G. McClure; B.Eng.(Mont.), S.M.C.E.(M.I.T.), Ph.D.(Mont.), Eng.
Y. Shao; B.Sc., M.S.(Tongji), Ph.D.(Northwestern)

Assistant Professors

M. Haider; B.Sc.(Peshwar), M.A.Sc., Ph.D.(Tor.),
C. Rogers; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Sydney), P.Eng.

Adjunct Professors

S. Babarutsi, J.P. Desmarais, S.Guiot, J. Hadjinicolaou,
J.Hawari, P. Henshaw, G. Holder, E. Lecolletier, Z. Lounis,
K.MacKenzie, C. Manatakos, T.S. Nguyen, P. Rodrigue, S.Scola,
W. Taylor, J. Vrana, A. Zaki, R. Zaloum

15.2 Programs Offered

Advanced courses of instruction and laboratory facilities are available for engineering graduate students desiring to proceed to the degrees of M.Eng., M.Sc. and Ph.D.

Graduate studies and research are at present being conducted in the fields of structures and structural mechanics, rehabilitation, fluid mechanics and hydraulics, materials engineering, soil behaviour, soil mechanics and foundations, water resources engineering, environmental engineering and transportation engineering.

M.Eng. (Project) in Civil Engineering – Option in Rehabilitation of Urban Infrastructure

This program is offered to students with a university undergraduate degree in engineering who want to specialize in the field of maintenance and rehabilitation of urban infrastructures. It is offered jointly by McGill University and École de Technologie Supérieure, École Polytechnique de Montréal, and Institut National de la Recherche Scientifique - Urbanisation. A student registered at McGill is required to take courses at the other three institutions.

M. Eng. (Environmental Engineering Option)

This program is offered to students with a university undergraduate degree in engineering who desire graduate education in the environmental engineering field. This option is within the context of the existing M.Eng. (Project Option) programs currently offered in the Departments of Bioresource, Chemical, Civil, and Mining, Metals and Materials Engineering. This program emphasizes interdisciplinary fundamental knowledge courses, practical applications in diverse environmental contexts, and functional skills needed for solving environmental problems. Candidates must possess a Bachelor's degree in engineering with superior academic achievement (a minimum of CGPA of 3.0 out of a possible 4.0).

M.Sc.

Candidates with a Bachelor's degree in a discipline other than Engineering, such as Science or Arts, may be accepted into a M.Sc. program in the Department. Such students would typically study in the fluid mechanics, water resources, or environmental engineering areas, and would follow the Thesis Option program, as outlined in section 15.5 "Program Requirements".

15.3 Admission Requirements

The general rules of the Graduate and Postdoctoral Studies Office apply and are detailed in the General Information section. The minimum academic standard for admission is a Cumulative Grade Point Average (CGPA) of 3.0/4.0 or better.

Applicants whose native language is not English or French, and who have not completed an undergraduate degree in Canada, are expected to achieve a grade of 580 or better on the paper-based (237 on the computer-based) Test of English as a Foreign Language (TOEFL) for entry to the Ph.D. program, and

550 on the paper-based (213 on the computer-based) TOEFL for other programs. The test is administered by the Educational Testing Service and is easily available throughout the world. The results reach McGill approximately eight weeks after the test is taken. It is the student's responsibility to make the necessary arrangements with the examining board to write the test in the country of residence. Full information about the Test and a registration form may be obtained by writing to: Test of English as a Foreign Language, Box 6191, Princeton, New Jersey 08540-6151, U.S.A.

15.4 Application Procedures

Applications will be considered upon receipt of:

1. Application form
2. Two official transcripts
3. Two confidential letters of reference
4. \$60 application fee
5. Test results (TOEFL)

Applicants for entry into a graduate program are requested to address their completed forms for admission to the Chair of the Graduate Studies Admissions Committee, Department of Civil Engineering and Applied Mechanics.

Applications for September admission should be submitted by March 1, and those for January admission by August 1 (international students) and October 1 (Canadian students).

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

15.5 Program Requirements

M.Eng.

Candidates may satisfy the requirements for the M.Eng. degree by following one of two options:

Thesis Option program (45 credits) requires a research thesis (27 credits), a compulsory Masters Research Seminar CIVE 662 (1 credit), and a minimum of five courses at the 500 or 600 level (17 credits). The thesis describing the candidate's research is to be submitted in accordance with the regulations of the Graduate and Postdoctoral Studies Office.

Project Option program requires a minimum of 30 credits of course work plus a project, the total amounting to 45 credits. The credits assigned to the project can vary between 5 and 15 depending on the amount of work involved.

Both programs normally require that course work credits be earned at the 500 and 600 levels. However, at least two courses must be taken at the 600 level. The above minimum course requirements for both options pertain to well prepared students; others may be required to take additional courses as a condition of acceptance or as determined in consultation with their director of studies or research. Only one 400-level Civil Engineering course may be counted towards program requirements.

Three terms of resident study at McGill are required for the degree. This is a minimum requirement and usually a longer period will be necessary. This residence requirement can also be satisfied by Project Option students through part-time (evening) studies over a period of three or more years.

Master of Engineering (Environmental Engineering Option)

The program consists of a minimum of 45 credits, of which, depending on the student's home department, a minimum of 5 and a maximum of 15 may be allotted to the project. The balance is earned by coursework, of which one to three approved undergraduate (below 500-level) courses are allowed.

To complete the option, students must:

- complete four (4) required core courses (see section A below);
- complete a minimum of two (2) engineering courses (see section B below);

- complete a minimum of two (2) non-engineering courses (each course should be chosen from a different department) (see section C below)
- complete a design or research project of 5 to 15 credits
- complete all the remaining courses (to a total of at least 45 credits) as required in the student's departmental program (these courses must be approved by the student's Academic Advisor); and
- obtain a grade of B- (or 65%) or better in all required and approved courses

Prerequisite

(Not credited to the Master Environmental Engineering Option Program) CIVE225 Environmental Engineering or equivalent environmental engineering courses.

A. Required Core Courses

CHEE591 Environmental Bioremediation
CIVE555 Environmental Data Analysis
or AEMA611 Experimental Designs
CIVE615 Environmental Engineering
OCCH612 Principles of Toxicology
or FDSC505 Health Risks of Toxicants

B. Elective Engineering Courses

These are to be chosen from a list of specific courses offered by the following Engineering Departments:

Bioresource Engineering
Chemical Engineering
Civil Engineering and Applied Mechanics
Mechanical Engineering
Mining, Metals and Materials Engineering

C. Elective Non-engineering Courses

These are to be chosen from a list of specific courses offered by the following units:

Faculty of Agricultural and Environmental Sciences
Department of Atmospheric and Ocean Sciences
Department of Biology
Department of Chemistry
Department of Earth and Planetary Sciences
Department of Economics
McGill School of Environment
Department of Epidemiology and Biostatistics
Department of Geography
Faculty of Law
Faculty of Management
Department of Occupational Health
Department of Political Science
Faculty of Religious Studies
Department of Sociology
School of Urban Planning

The Environmental Engineering Option Program is administered by the Faculty of Engineering. Further information may be obtained from the Program Coordinator, Department of Civil Engineering and Applied Mechanics.

M.Eng. (Project) in Civil Engineering – Option in Rehabilitation of Urban Infrastructure

This program is offered jointly by McGill University, École de Technologie Supérieure, École Polytechnique de Montréal, and Institut National de la Recherche Scientifique - Urbanisation. A student registered at McGill is required to take courses at the other three institutions.

The program leads to a professional non-thesis (Project Option) degree with a minimum of 45 credits divided in three modules described below. Depending on their background and interests, students would specialize in one or two out of three possible areas: (1) underground water supply and drainage systems; (2) road infrastructure; (3) bridges, overpasses and tunnels. Students registered at McGill can specialize in area 3 or jointly in areas 2 and 3: students interested in other program scenarios are encouraged to register at one of the other three participating institutions.

Module 1 Required courses (15 credits)

CIV(1) 6313 Méthodologie de réhabilitation des infrastructures urbaines
 MGC(2) 810 Gestion des projets de construction et de réhabilitation
 CIVE512(3) Advanced Civil Engineering Materials (required for McGill students)
 RIU(5) 9500 Analyse du processus de décision et choix technologiques
 RIU 9501 Financement des infrastructures et finances publiques locales

Module 2 Specialized courses (15 credits)

Elective courses in rehabilitation (6 to 12 credits)

Area 1 Underground water supply and drainage systems

CIV 6314 Évaluation des systèmes d'alimentation en eau et d'assainissement

GCI 745 Réhabilitation des systèmes d'alimentation en eau et d'assainissement

Area 2 Road Infrastructure

MGC 835 Évaluation des chaussées

MGC 840 Conception et réhabilitation des chaussées

Area 3 Bridges, overpasses and tunnels

CIVE527 Renovation and Preservation: Infrastructure

CIVE617 Design and Rating of Highway and Railway Bridges (required for McGill students)

or CIV 6511 Conception et évaluation des ponts

Other graduate electives (3 to 9 credits) to be approved by the inter-university program coordination committee. McGill students specializing in area 3 are required to take at least 6 credits at McGill, while those specializing in areas 2 and 3 must take 3 credits at McGill.

Module 3 Integration (15 credits)

Research project (15 credits)

- (1) Course offered by École Polytechnique de Montréal
- (2) Course offered by École de Technologie Supérieure
- (3) Course offered by McGill University
- (4) Course offered by Institut National de la Recherche Scientifique - Urbanisation

Documentation outlining the program and giving additional information is available on request.

M.Sc.

Candidates with a Bachelor's degree in a discipline other than Engineering, such as Science or Arts, may be accepted into a M.Sc. program in the Department. Such students would typically study in the fluid mechanics, water resources, or environmental engineering areas, and would follow the Thesis Option program requirements.

Ph.D.

Candidates normally register for the M.Eng. degree, Thesis Option, or M.Sc. degree in the first instance. Those who have a Master's degree acceptable to the Department may, however, be considered for direct registration for the Ph.D. degree (Ph.D.II).

The Ph.D. program consists of a research project and courses as required to develop the candidate's background. Candidates are expected to take a comprehensive preliminary oral examination (course CIVE701) within the first year of their Ph.D. registration. They must fulfill the requirements outlined in the General Information section of the *Graduate and Postdoctoral Studies Calendar*. There is no foreign language requirement.

Direct transfer into the Ph.D. program (fast-tracking) may be available for students who have demonstrated a superior record in the undergraduate program.

15.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to

press. **Class Schedule lists courses by term and includes days, times, locations, and names of instructors.**

Denotes courses not offered in 2004-05.

CIVE 512 ADVANCED CIVIL ENGINEERING MATERIALS. (3) (3-3-3) (Prerequisite: CIVE 202)

CIVE 514 STRUCTURAL MECHANICS. (3) (3-1-5) Stress, strain, and basic equations of linear elasticity. General and particular solutions of plane and axisymmetric problems. Stress concentration and failure criteria. Unsymmetrical bending of beams; shear centres; torsion of thin-walled structural members. Curved beams. Formulation and applications of energy principles, and their connection to finite-element method.

CIVE 519 SUSTAINABLE DEVELOPMENT PLANS. (6) (Corequisites: Enrolment in full "Barbados Field Study Semester"; AGRI 413, AGRI 452 or CIVE 452, URBP 507) (Restrictions: Not open to students who have taken AGRI 519 or URBP 519. Permission of the Coordinator of the Field Semester required.) 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 526 SOLID WASTE MANAGEMENT. (3) (3-2-4) (Prerequisite: CIVE 225)

CIVE 527 RENOVATION AND PRESERVATION: INFRASTRUCTURE. (3) (3-2-4) (Undergraduate Prerequisites: 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) (Undergraduate Prerequisite: Permission of instructor)

CIVE 550 WATER RESOURCES MANAGEMENT. (3) (3-0-6) (Undergraduate Prerequisite: CIVE 323 or equivalent)

CIVE 553 STREAM POLLUTION AND CONTROL. (3) (3-2-4) (Undergraduate Prerequisite: CIVE 225)

CIVE 555 ENVIRONMENTAL DATA ANALYSIS. (3) (3-0-6) (Undergraduate Prerequisite: 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)

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) (Prerequisite: CIVE 327 or equivalent.)

CIVE 577 RIVER ENGINEERING. (3) (3-0-6) (Undergraduate Prerequisite: CIVE 428 or permission of the instructor.) (Graduate Corequisite: CIVE 428)

CIVE 602 FINITE ELEMENT ANALYSIS. (4) (Prerequisite: CIVE 514) Development of displacement based simple and high order, one, two and three dimensional elements for linear elastic stress analysis. Variational and other methods for element formulation. Plate

bending and shell elements. Finite element programming. Use of package programs in static analysis of structures.

CIVE 603 STRUCTURAL DYNAMICS. (4)

CIVE 604 THEORY OF PLATES AND SHELLS. (4)

CIVE 605 STABILITY OF STRUCTURES. (4) Buckling of elastic columns by equilibrium analysis. Buckling of inelastic columns. Energy analysis and approximate methods. Stability of frames. Torsional buckling of columns and flexural-torsional buckling of beams. Buckling of plates and axially compressed circular cylindrical shells. Stability analysis using the finite element method.

CIVE 607 ADVANCED DESIGN IN STEEL. (4) Design and behaviour of cold formed and hot rolled structural steel members and systems. Lateral load resistance design of steel roof diaphragms, flexural design of composite slabs, bracing requirements and design procedures for steel structures, floor vibration, member torsion, slender members and design procedures for low rise steel frame buildings.

CIVE 609 RISK ENGINEERING. (4)

CIVE 610 SPECIAL TOPICS IN STRUCTURAL MECHANICS. (4) Special problems in the theory and design of structures. These may include topics in the theories of elasticity and plasticity and advanced theories of shell structures.

CIVE 612 EARTHQUAKE-RESISTANT DESIGN. (4) Static and dynamic analyses, design codes, effects of local ground conditions, ductility demands on structural components. Inelastic behaviour of beams, columns, joints, shear walls and bracing under cyclic loading of steel concrete and masonry structures. Design applications.

CIVE 614 COMPOSITES FOR CONSTRUCTION. (4)

CIVE 615 ENVIRONMENTAL ENGR. SEMINAR (3) The course will expose the students to various environmental engineering issues. Lectures will be given by faculty and invited speakers from industry. Each student is required to prepare a written technical paper and make oral presentation.

CIVE 617 DESIGN AND RATING OF HIGHWAY AND RAILWAY BRIDGES. (4)

CIVE 618 DESIGN IN CONCRETE 1. (4) Concrete physical properties, creep, shrinkage; review of ultimate strength design; combined loadings; design of frames and flat plates; limit design, yield line theory; prestressed concrete, partial prestressing and load balancing. The course will include group projects.

CIVE 622 PRESTRESSED CONCRETE. (4)

CIVE 623 DURABILITY OF MATERIALS. (4)

CIVE 624 DURABILITY OF STRUCTURES. (4) Basic concepts, safety, durability, repair and strengthening; reliability analysis; deterioration mechanisms, preventive and corrective measures; design for durability; parking structures; bridges; steel, timber and masonry structures; municipal infrastructure; strengthening and retrofitting; management systems; case studies. This course will involve field trips and group design exercises.

CIVE 628 DESIGN OF WOOD STRUCTURES. (4)

CIVE 630 THESIS RESEARCH 1. (3)

CIVE 631 THESIS RESEARCH 2. (3)

CIVE 632 THESIS RESEARCH 3. (3)

CIVE 633 THESIS RESEARCH 4. (6)

CIVE 634 THESIS RESEARCH 5. (6)

CIVE 635 THESIS RESEARCH 6. (6)

CIVE 648 SPECIAL TOPICS IN CIVIL ENGINEERING. (4)

CIVE 651 THEORY: WATER / WASTEWATER TREATMENT. (4) Theoretical aspects of the chemistry of water and wastewater treatment. This will include acid-base and solubility equilibria; redox reactions; reaction kinetics; reactor design; surface and colloid chemistry; gas transfer; mass transfer; stabilization and softening; disinfection; corrosion.

CIVE 652 BIOLOGICAL TREATMENT: WASTEWATERS. (4) Process kinetics and reactors. Population kinetics of microorganisms and

their role in the various waste treatment processes. Unit processes for wastewater treatment, such as suspended-growth, attached-growth processes, sludge treatment, and nutrient removal. Biological treatment techniques for groundwater decontamination. Laboratory pilot plant exercises.

CIVE 660 CHEMICAL AND PHYSICAL TREATMENT OF WATERS. (4) Theory and design of specific processes used for the physical and/or chemical purification of waters and wastewaters, including mixing, flocculation, sedimentation, flotation, filtration, disinfection, adsorption, ion exchange, aeration, membrane processes, distillation, removal of specific inorganics and organics, taste and odour control, process control, sludge treatment. Laboratory exercises will complement theoretical aspects.

CIVE 662 MASTERS RESEARCH SEMINAR. (1) (Restriction: For civil engineering students in the final semester of the thesis masters program.)

CIVE 678 GRAVITY CURRENTS. (4) Internal hydraulics of one-layer and two-layers systems. Boussinesq's approximation, concepts of specific energy and specific force, upstream and downstream influences. Waves, instabilities and turbulence in continuous stratified flows; the flux, gradient and local Richardson numbers. Turbulent mixing and entrainment across gravity and turbulent interfaces. Turbulent thermals, turbulent plumes and related mixing phenomena.

CIVE 684 GROUNDWATER POLLUTION AND TRANSPORT PROCESSES. (4)

CIVE 686 SITE REMEDIATION. (4) Field investigations; geotechnical and geophysical techniques; hydrogeological conditions; risk assessment; contaminant transport; remedial action plan; containment systems (gas, surface water, and ground water); on-site and off-site treatment techniques (solidification, stabilization, landfilling, and soil washing); In-situtreatment techniques (physical, biological, and chemical).

CIVE 691 PROJECT 1. (1)

CIVE 692 RESEARCH PROJECT. (2)

CIVE 693 RESEARCH PROJECT. (3)

CIVE 694 PROJECT 4. (4)

CIVE 695 PROJECT 5. (5)

CIVE 696 RESEARCH PROJECT. (6)

CIVE 697 RESEARCH PROJECT. (7)

CIVE 701 PH.D. COMPREHENSIVE PRELIMINARY ORAL EXAM. (0)

16 Classics

Graduate Program in Classics
Department of History
Stephen Leacock Building, Room 625
855 Sherbrooke Street West
Montreal, QC H3A 2T7
Canada
Telephone: (514) 398-3977
Fax: (514) 398-8365
E-mail: graduate.history@mcgill.ca
Web site: www.arts.mcgill.ca/programs/history

16.1 Staff

Emeritus Professors

P. F. McCullagh; B.A.(Tor.), M.A.(McG.), Ph.D.(Chic.)

P. Vivante; B.A.(Oxon), Dott.Lett.(Florence) (*John MacNaughton*
Emeritus Professor of Classics)

Professor

T. Wade Richardson; B.A.(McG.), A.M., Ph.D.(Harv.)

16.2 Programs Offered

M.A. with Thesis (48 credits over 4 terms, in 18 or 24 months)

M.A. non-Thesis option (48 credits over 3 or 4 terms, in 18 months)

Ph.D.

16.3 Admission Requirements

M.A. Program

Candidates are required to have a B.A. Honours in Classics or equivalent.

Ph.D. Program

Candidates are required to have a McGill M.A. in Classics or equivalent.

16.4 Application Procedures

No applications will be accepted for 2004-05 as the program has been temporarily suspended. Further information may be obtained from the Department of History.

16.5 Program Requirements

Please consult the Department for detailed regulations.

M.A. with thesis

- 1) Course work: 18 credits
- 2) Special subjects: 6 credits (CLAS695D1/CLAS695D2)
- 3) Thesis: 24 credits:
 - CLAS696 – Methods (3)
 - CLAS697 – Proposal (3)
 - CLAS698 – Preparation (6)
 - CLAS699 – Completion (12)

M.A. non-thesis option

- 1) Course work: 24 credits.
- 2) Special subjects: 12 credits (CLAS685D1/CLAS685D2, CLAS686D1/CLAS686D2).
- 3) Research papers: 12 credits
 - CLAS681 – Research Paper 1 (3)
 - CLAS682 – Research Paper 2 (3)
 - CLAS683 – Research Paper 3 (3)
 - CLAS684 – Research Paper 4 (3)

Ph.D.

- 1) Course work: 24 credits;
- 2) Reading list;
- 3) Thesis and Oral Defence.

16.6 Courses Offered

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on **Class Schedule**) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. **Class Schedule** lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

CLAS 515D1 (3), CLAS 515D2 (3) LATIN AUTHORS. (Undergraduate Prerequisite: 9 credits in Intermediate Latin or equivalent) (Restricted to 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. (Undergraduate Prerequisite: 9 credits in Intermediate Greek or equivalent) (Restricted to 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.

17 Communication Sciences and Disorders

School of Communication Sciences and Disorders
Beatty Hall
1266 Pine Avenue West
Montreal, QC H3G 1A8
Canada

Telephone: (514) 398-4137
Fax: (514) 398-8123
E-mail: scsd@mcgill.ca
Web site: www.mcgill.ca/scsd

Director — Shari Baum

Research Director — Elin Thordardottir

17.1 Staff

Emeritus Professor

Donald Doehring; B.A.(Buff.), M.A.(N.M.), Ph.D.(Ind.)

Professors

Shari Baum; B.A.(C'nell), M.S.(Vt.), M.A., Ph.D.(Brown)
Martha Crago; B.A., M.Sc.A., Ph.D.(McG.)
Athanasios Katsarkas; M.D.(Thess.), M.Sc.(McG.), F.R.C.P.(C)

Associate Professors

Vincent Gracco; B.A., M.A.(San Diego), Ph.D.(Wis.-Madison)
Rachel Mayberry; B.A.(Drake), M.S.(Wash.), Ph.D.(McG.)
Marc Pell; B.A.(Ott.), M.Sc., Ph.D.(McG.)
Linda Polka; B.A.(Slippery Rock), M.A.(Minn.), Ph.D.(S.Flor.)

Assistant Professors

Karsten Steinhauer; M.Sc., Ph.D. (Dr.rer.nat) F.U.Berlin
Elin Thordardottir; B.A., M.Sc., Ph.D.(Wis.-Madison)

Assistant Professor (Special Category)

Susan Rvachew; B.Sc.(Alta.), M.Sc., Ph.D.(Calg.)

Assistant Professors (Part-Time)

Gabriel Leonard; B.A.(Dublin), D.A.P., M.Sc., Ph.D.(McG.)
Sybil Schwartz; B.Sc.(McG.), M.Sc.A.(Iowa St.), Ph.D.(McG.)
Rosalee Shenker; B.Sc.(Syr.), M.A.(Calif. St.), Ph.D.(McG.)

Faculty Lecturer

Jeanne Claessen; M.A.(Reading), Dip. Clinical Communication Studies(City University, London)

Faculty Lecturers (Part-Time)

Areej Allasseri; B.Sc. (King Saud U.), M.A. (San Jose St.U.)
Joane Déziel; B.Sc, M.Sc.(Montr.)
Caroline Erdos; B.A. (C'dia), M.Sc.A.(McG.)
Ruth Gesser; B.A.(C'dia), M.Sc.A.(McG.)
Jill Harrison; B.A., M.Sc.(McG.)
Helena Kisilevsky; B.A.(McG.), M.A.(UCLA), M.O.A.(Montr.)
Cathy Mhun; B.A., M.Sc.A.(McG.)
Darla Orchard; B.A., M.Sc.(McG.)
Judith Robillard-Shultz; B.A., M.Sc.A.(McG.)
Phaedra Royle; B.A.(C'dia), M.A.(McG.), Ph.D.(Montr.)
Ameesh Shah; B.Sc. ASR, M.A. Ling. (Bom.), M.A.-SLP, M.Phil., Ph.D. C.U.N.Y.)
Megha Sundara; B.Sc., M.Sc.(All India Inst. of Speech & Hearing)
Colleen Timm; B.A.(C'dia), M.Sc.A.(McG.)
Patricia Viens; ASLTA Certificate(Rochester I.T.), ASL Workshop Certificate(Vista U.)

Associate Members

Eva Kehayia (Physical and Occupational Therapy)
Yuriko Oshima-Takane (Psychology)

Adjunct Members

Howard Chertkow (*Jewish Gen.*), David McFarland (*Montr.*)

17.2 Programs Offered

The School offers a professional degree in Communication Sciences and Disorders at the M.Sc. (Applied) level with specialization in Speech-Language Pathology and two research degrees, an M.Sc. (Research) and a Ph.D. in Communication Sciences and Disorders.

M.Sc.(Applied) Degree in Communication Sciences and Disorders

The professional degree leads to a Master of Science (Applied) with a specialization in Speech-Language Pathology. The program involves two academic years of full-time study and related practical work followed by a summer internship. To prepare students as creative professionals, the program emphasizes the understanding of principles and theories, and their present or potential clinical applications, in addition to the teaching of specific techniques for assessment and intervention. Active participation in the learning process is encouraged.

The profession of Speech-Language Pathology concerns assessment and intervention in speech and language disorders. In particular, the Speech-Language Pathologist is concerned with two major parameters of communication sciences and disorders: language and speech. At present, most speech-language pathologists in Canada work in hospitals, public school systems, rehabilitation centres, and in special education facilities.

Requirements for Licensure – The majority of provinces in Canada and certain states in the U.S.A. require that those intending to practice as Speech-Language Pathologists within their borders comply with special provincial or state licensing regulations. Graduates wishing to practice in the province of Quebec must be members of l'Ordre des Orthophonistes et Audiologistes du Québec (OOAQ) in order to call themselves Speech-Language Pathologists. Further information is available from the OOAQ, 235, boulevard René Levesque est, bureau 601, Montréal (Québec) H2X 1N8. Telephone: (514) 282-9123. Web site: www.ooaq.qc.ca

Quebec law requires that candidates seeking licensure in provincially recognized professions demonstrate a verbal and written working knowledge of the French language. See the Language Requirements for Professions in the General Information and Regulations section of the *Health Sciences Calendar*.

Research Degrees – M.Sc. and Ph.D.

Selected candidates may be accepted for the M.Sc. and Ph.D. research degrees. Each student's Thesis supervisor and Thesis Committee design an individualized program of study in collaboration with the student. The program can include graduate courses offered by the School and by other departments at McGill.

Ph.D. Option in Language Acquisition (LAP)

Information about this option is available from the School and on the Web at <http://psych.mcgill.ca>

Funding

The IODE Provincial Chapter of Quebec funds two \$1,000. "Silence to Sound" awards for studies in hearing impairment. These in-course awards are based on academic merit, financial need, and potential for excellence are awarded by the School.

Montreal League for the Hard of Hearing Award.

Candidates must be enrolled at the graduate level in the School and working in the area of hearing impairment. Awarded by the School. Value – up to \$1,000.

17.3 Admissions Requirements

M.Sc.(Applied)

An applicant must hold an undergraduate degree with a minimum B average (3.0 on a 4.0 point scale) or better in areas relevant to the selected field of specialization. Specific requirements are six credits in statistics, a total of 18 credits across the disciplines of

psychology and linguistics (with a minimum of six credits in each discipline). Knowledge of physiology is also desirable.

M.Sc. in Communication Sciences and Disorders

The M.Sc. provides research training for:

1. students who are also taking courses for professional qualification;
2. students who have a non-thesis professional degree in Communication Sciences and Disorders; and
3. students with degrees in related fields who wish to do research but not obtain professional qualification in Communication Sciences and Disorders.

Ph.D. in Communication Sciences and Disorders

Applicants should normally have a Master's degree with thesis or its equivalent in Communication Sciences and Disorders or a related field (e.g., psychology, linguistics).

Students who possess an appropriate Bachelor's degree or Master's degree without thesis will also be considered for the Ph.D. program, but, if admitted, must first complete a qualifying year of coursework and a research project in the School ("fast-track" option).

17.4 Application Procedures

Please see the School of Communication Sciences and Disorders website at: www.mcgill.ca/scsd/application for required application materials.

School of Communication Sciences and Disorders will only consider applications upon receipt of the following documentation prior to the February 1st deadline.

- On-line application
- Information Form
- Prerequisite Form
- Personal Statement
- Two letters of Recommendation
- Two official copies of Transcripts from all Universities attended

Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree from a recognized institution where English is the language of instruction are required to submit documented proof of competency in oral and written English **prior to admission**: the Test of English as a Foreign Language (TOEFL) with a minimum score of 550 (paper-based) or 213 (computer-based), or the International English Language Testing System (IELTS) with a minimum overall band score of 6.5.

M.Sc. (thesis) and Ph.D. programs

Application for Fall admission are processed shortly after the deadline of February 22. All applications received by that date are automatically considered for any internal funding or awards made available to the department for recruitment purposes. Applications for Winter or Summer admission are processed when they are received, but must be received no later than August 1 (Winter admission) or December 15 (Summer admission). Students who apply for Fall admission generally have the most options with respect to applying for external funding as well as for being considered for internal support.

Applications will be considered upon receipt of supporting documents as outlined above. All applicants strongly encouraged to submit reports of their performance on the Graduate Record Examination (GRE).

17.5 Program Requirements

M.Sc.(Applied) Degree in Communication Sciences and Disorders (68 credits)

The professional degree program leads to a Master of Science, Applied degree in Communication Sciences and Disorders with a

specialization in Speech-Language Pathology. The program involves two academic years of full-time study and related practical work followed by a summer internship.

Year 1 Required Courses (31 credits)

Fall

SCSD616 (3) Audiology
SCSD617 (3) Anatomy and Physiology of Speech and Hearing

SCSD619 (3) Phonological Development
SCSD624 (3) Language Processes
SCSD633 (3) Language Development
SCSD681 (1) Practicum and Seminar 1

Winter

SCSD631 (3) Speech Science
SCSD632 (3) Phonological Disorders: Children
SCSD637 (3) Developmental Language Disorders 1
SCSD638 (3) Neurolinguistics
SCSD682 (1) Practicum and Seminar 2

Summer

SCSD646 (2) Introductory Clinical Practicum

Year 1 Complementary Course (3 credits)

One three-credit seminar option must be taken.

Year 2 Required Courses (31 credits)

Fall

SCSD618 (3) Research and Measurement Methodologies
SCSD636 (3) Fluency Disorders
SCSD639 (3) Voice Disorders
SCSD643 (3) Developmental Language Disorders 2
SCSD644 (3) Applied Neurolinguistics
SCSD683 (1) Practicum and Seminar 3

Winter

SCSD609 (3) Neuromotor Disorders
SCSD642 (3) Aural Rehabilitation
SCSD669 (3) Special Developmental Speech/Language Problems

SCSD680 (3) Deglutition and Dysphagia
SCSD684 (1) Practicum and Seminar 4

Summer

SCSD679 (2) Advanced Clinical Practicum

Year 2 Complementary Course (3 credits)

One three-credit seminar option must be taken.

M.Sc.(Applied) Complementary Course List

SCSD634 (3) Research and Measurement Methodologies 2
SCSD664 (3) Communication Sciences and Disorders 1
SCSD666 (3) Communication Sciences and Disorders 3
SCSD667 (3) Communication Sciences and Disorders 4
SCSD670 (3) Communication Sciences and Disorders 2

A seminar may also be taken outside of the School upon approval of a faculty advisor.

M.Sc. in Communication Sciences and Disorders (45credits)

M.Sc. candidates must complete at least 45credits, including a minimum of 24 and a maximum of 39credits for thesis research (courses SCSD671, SCSD672, SCSD673 and SCSD674), and a minimum of 6 credits in other courses. The non-thesis credits can be special topic courses in the School and/or courses in other departments, as arranged with the student's thesis supervisor.

Thesis Component – Required (24 credits)

SCSD671 (12) M.Sc. Thesis 1
SCSD672 (12) M.Sc. Thesis 2

Complementary Courses (21 credits)

a maximum of 15 credits may be chosen from:

SCSD673 (12) M.Sc. Thesis 3
SCSD674 (3) M.Sc. Thesis 4

a minimum of 6 credits must be chosen from:

SCSD675 (12) Special Topics 1

SCSD676 (9) Special Topics 2

SCSD677 (6) Special Topics 3

SCSD678 (3) Special Topics 4

or courses in other departments, as arranged with the student's thesis supervisor

Ph.D. in Communication Sciences and Disorders

Ph.D. students must complete a full graduate course in statistics and both advanced research seminars as well as the other course requirements in their individual program of study, and pass a comprehensive examination. Students entering the Ph.D. program through the fast-track option must additionally demonstrate the ability to complete a research project and related coursework during the initial year. An examination in a foreign language is not required.

Required Courses

SCSD652 (3) Advanced Research Seminar 1

SCSD653 (3) Advanced Research Seminar 2

SCSD685 (3) Research Project 1

SCSD686 (3) Research Project 2

SCSD701 Doctoral Comprehensives

17.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

SCSD 609 NEUROMOTOR DISORDERS. (3) The focus of this course will be on the assessment and management of motor speech disorders, associated with both acquired and developmental neuromotor disorders, and swallowing disorders (of both neuromotor and structural origin).

SCSD 616 AUDIOLOGY. (3) Basic diagnostic and rehabilitative procedures, goals and procedures used in clinical audiology, and the psychoacoustic theories on which they are based will be presented.

SCSD 617 ANATOMY AND PHYSIOLOGY: SPEECH AND HEARING. (3) The anatomy and physiology of speech and hearing mechanisms will be covered. Topics will include neuroanatomy, the anatomy and physiology of the head, neck and upper torso, and the external, middle, and inner ear.

SCSD 618 RESEARCH AND MEASUREMENT METHODOLOGIES 1. (3) Methodologies used in research and measurement in the field of communication sciences and disorders will be introduced. Topics covered include: the nature and interpretation of test norms; validity; interpretation of test score differences; and questionnaire development (scaling). Tests currently used in speech-language pathology and audiology are examined.

SCSD 619 PHONOLOGICAL DEVELOPMENT. (3) Theories and research related to normal and abnormal phonological development in children will be studied.

SCSD 624 LANGUAGE PROCESSES. (3) The structure and nature of on-line processing of the language code, and the interaction of structure and function of language will be studied. Theories about the nature of representation and research concerning its processing, and the role of sociocultural factors in linguistic performance also will be covered.

SCSD 631 SPEECH SCIENCE. (3) The acoustic analysis and perception of speech and related pathologies will be presented. Theories and models of speech production, speech motor control, and speech perception will be considered.

SCSD 632 PHONOLOGICAL DISORDERS: CHILDREN. (3) The nature of phonological disorders and clinical approaches for their remediation in children will be presented.

SCSD 633 LANGUAGE DEVELOPMENT. (3) Theories of language acquisition, prerequisites to language development, and current issues in research will be studied. Topics include the role of input, individual differences in acquisition, and language socialization.

SCSD 634 RESEARCH AND MEASUREMENT METHODS 2. (3) This course addresses the strengths and weaknesses of various research designs. Issues concerning the analysis and interpretation of research results also will be discussed.

SCSD 636 FLUENCY DISORDERS. (3) The nature of stuttering, various causal theories, and techniques for evaluation and treatment of children and adults will be presented.

SCSD 637 DEVELOPMENTAL LANGUAGE DISORDERS 1. (3) The nature of developmental language disorders and the assessment of language competence and performance in both speaking and non-speaking children will be studied.

SCSD 638 NEUROLINGUISTICS. (3) Current theories of language-brain relationships and speech and language deficits subsequent to brain damage will be studied. A review of current research on phonetic, lexical, and syntactic processing in brain-damaged individuals is included.

SCSD 639 VOICE DISORDERS. (3) Information about the vocal mechanism, its pathologies, and methods of evaluation and treatment will be studied.

SCSD 642 AURAL REHABILITATION. (3) This course addresses the effects of hearing impairment in adults as well as in the developing child with attention to problems in speech, language, and cognitive function as well as social-emotional adjustment. Various intervention approaches are examined.

SCSD 643 DEVELOPMENTAL LANGUAGE DISORDERS 2. (3) Major theories of language disorders are translated into intervention principles used in language treatment programs. Adaptations of intervention techniques to suit specific disorders (including augmentative communication) will be explored.

SCSD 644 APPLIED NEUROLINGUISTICS. (3) Various classificatory systems and appropriate assessment and remediation principles for brain-damaged individuals will be covered. Theoretical and clinical issues relevant to treatment of aphasic, neuromotor, and memory disorders will be considered.

SCSD 646 INTRODUCTORY CLINICAL PRACTICUM. (2) This course provides an introduction to professional practice through intensive exposure to a variety of clinical populations.

SCSD 652 ADVANCED RESEARCH SEMINAR 1. (3) (This course may be taken as an advanced course for M.Sc. students.) Pro seminar in which current research topics in communication disorders will be discussed.

SCSD 653 ADVANCED RESEARCH SEMINAR 2. (3) (This course may be taken as an advanced course for M.Sc. students.) Pro seminar in which current research topics in communication disorders will be discussed.

SCSD 664 COMMUNICATION SCIENCES AND DISORDERS 1. (3) Current research and professional issues in communication sciences and disorders will be discussed. Specific topics to be selected yearly.

SCSD 666 COMMUNICATION SCIENCES AND DISORDERS 3. (3) Current research and professional issues in communication sciences and disorders will be discussed. Specific topics to be selected yearly.

SCSD 667 COMMUNICATION SCIENCES AND DISORDERS 4. (3) Current research and professional issues in communication sciences and disorders will be discussed. Specific topics to be selected yearly.

SCSD 669 SPECIAL DEVELOPMENTAL SPEECH/LANGUAGE PROBLEMS. (3) Information pertinent to cerebral palsy, cleft palate, autism, mental retardation, multiple handicaps and syndromes involving speech and language disorders will be presented. Gen-

eral descriptions of the disorders and specific assessment and remedial procedures will be addressed.

SCSD 670 COMMUNICATION SCIENCES AND DISORDERS 2. (3) Current research and professional issues in communication sciences and disorders will be discussed. Specific topics to be selected yearly.

SCSD 671 M.Sc. THESIS 1. (12)

SCSD 671D1 (6), SCSD 671D2 (6) M.Sc. THESIS 1. (Students must register for both SCSD 671D1 and SCSD 671D2) (No credit will be given for this course unless both SCSD 671D1 and SCSD 671D2 are successfully completed in consecutive terms) (SCSD 671D1 and SCSD 671D2 together are equivalent to SCSD 671)

SCSD 671N1 M.Sc. THESIS 1. (6) (Students must also register for SCSD 671N2) (No credit will be given for this course unless both SCSD 671N1 and SCSD 671N2 are successfully completed in a twelve month period) (SCSD 671N1 and SCSD 671N2 together are equivalent to SCSD 671)

SCSD 671N2 M.Sc. THESIS 1. (6) (Prerequisite: SCSD 671N1) (No credit will be given for this course unless both SCSD 671N1 and SCSD 671N2 are successfully completed in a twelve month period) (SCSD 671N1 and SCSD 671N2 together are equivalent to SCSD 671) See SCSD 671N1 for course description.

SCSD 672 M.Sc. THESIS 2. (12)

SCSD 672D1 (6), SCSD 672D2 (6) M.Sc. THESIS 2. (Students must register for both SCSD 672D1 and SCSD 672D2) (No credit will be given for this course unless both SCSD 672D1 and SCSD 672D2 are successfully completed in consecutive terms) (SCSD 672D1 and SCSD 672D2 together are equivalent to SCSD 672)

SCSD 672N1 M.Sc. THESIS 2. (6) (Students must also register for SCSD 672N2) (No credit will be given for this course unless both SCSD 672N1 and SCSD 672N2 are successfully completed in a twelve month period) (SCSD 672N1 and SCSD 672N2 together are equivalent to SCSD 672)

SCSD 672N2 M.Sc. THESIS 2. (6) (Prerequisite: SCSD 672N1) (No credit will be given for this course unless both SCSD 672N1 and SCSD 672N2 are successfully completed in a twelve month period) (SCSD 672N1 and SCSD 672N2 together are equivalent to SCSD 672) See SCSD 672N1 for course description.

SCSD 673 M.Sc. THESIS 3. (12)

SCSD 673D1 (6), SCSD 673D2 (6) M.Sc. THESIS 3. (Students must register for both SCSD 673D1 and SCSD 673D2) (No credit will be given for this course unless both SCSD 673D1 and SCSD 673D2 are successfully completed in consecutive terms) (SCSD 673D1 and SCSD 673D2 together are equivalent to SCSD 673)

SCSD 673N1 M.Sc. THESIS 3. (6) (Students must also register for SCSD 673N2) (No credit will be given for this course unless both SCSD 673N1 and SCSD 673N2 are successfully completed in a twelve month period) (SCSD 673N1 and SCSD 673N2 together are equivalent to SCSD 673)

SCSD 673N2 M.Sc. THESIS 3. (6) (Prerequisite: SCSD 673N1) (No credit will be given for this course unless both SCSD 673N1 and SCSD 673N2 are successfully completed in a twelve month period) (SCSD 673N1 and SCSD 673N2 together are equivalent to SCSD 673) See SCSD 673N1 for course description.

SCSD 674 M.Sc. THESIS 4. (3)

SCSD 678 SPECIAL TOPICS 4. (3)

SCSD 679 ADVANCED CLINICAL PRACTICUM. (2) This course enhances professional practice independence through intensive exposure to a variety of clinical populations.

SCSD 680 DEGLUTITION AND DYSPHAGIA. (3) Advanced physiology and neurophysiology of mastication and deglutition, including normal function and diagnosis and treatment of swallowing disorders.

SCSD 681 PRACTICUM AND SEMINAR 1. (1) Course provides initial practicum experiences including a combination of the following: speech/language and hearing screenings, facility tours, short term placements and laboratory assignments.

SCSD 682 PRACTICUM AND SEMINAR 2. (1) This course provides clinical experience through short-term placements and screenings, as well as discussions of current practicum issues.

SCSD 683 PRACTICUM AND SEMINAR 3. (1) Professional practice experiences focusing on a variety of clinical populations are provided. Discussion of advanced issues in clinical practice is included.

SCSD 684 PRACTICUM AND SEMINAR 4. (1) This course provides clinical practicum experiences in a range of settings. Professional practice issues are considered.

SCSD 685 RESEARCH PROJECT 1. (3) Supervised research project.

SCSD 686 RESEARCH PROJECT 2. (3) Supervised research project.

SCSD 701 DOCTORAL COMPREHENSIVE. (0)

SCSD 701D1 (0), SCSD 701D2 (0) DOCTORAL COMPREHENSIVE. (Students must register for both SCSD 701D1 and SCSD 701D2) (No credit will be given for this course unless both SCSD 701D1 and SCSD 701D2 are successfully completed in consecutive terms) (SCSD 701D1 and SCSD 701D2 together are equivalent to SCSD 701)

SCSD 712 LANGUAGE ACQUISITION ISSUES 4. (2)

18 Communication Studies

Department of Art History and Communication Studies
Arts Building, W-225 (West Wing, top floor)
853 Sherbrooke Street West
Montreal, QC H3A 2T6
Canada

Telephone: (514) 398-6541

Fax: (514) 398-7247

E-mail: ahcs@mcgill.ca

Web site: www.arts.mcgill.ca/programs/AHCS

Chair; Director, Graduate Programs in Communication Studies — TBA

Director, Graduate Programs in Art History — Christine Ross

18.1 Staff

Emeritus Professors

John M. Fossey; B.A.(Birm.), D.U.(Lyon II), F.S.A., R.P.A.
George Szanto; B.A.(Dart.), Ph.D.(Harv.)

Professor

Hans J. Böker; Ph.D.(Saarbrücken), Dr. Ing.-habil(Hannover)

Associate Professors

David Crowley; B.A.(Johns H.), M.Sc.(Penn.), Ph.D.(McG.)
Christine Ross; M.A.(C' dia.), Ph.D.(Paris I)
Will Straw; B.A.(Carl.), M.A., Ph.D.(McG.) (*on leave Sept. 2004 - Aug. 2005*)

Assistant Professors

Jenny Burman; B.A.(C' dia), M.A., Ph.D.(York)
Ting Chang; B.A.(McG.), M.A.(Tor.), Ph.D.(Sussex)
Charmaine Nelson; B.F.A., M.A.(C' dia), Ph.D.(Man.)
Bronwen Wilson; B.A., M.A.(U.B.C.), Ph.D.(Northwestern)
Angela Vanhaelen; B.A.(W.Ont.), M.A., Ph.D.(U.B.C.)

Assistant Professor (Special Category)

Francesca Dal Lago; B.A.(Univ. of Venice), M.A., Ph.D.(NYU)

Adjunct Professors

David W. Booth, Louis De Moura Sobral, Johanne Lamoureux,
Charles Levin, Constance Naubert-Riser

18.2 Programs Offered

The Communication Studies Program offers courses and directs project research in preparation for the M.A. (Thesis and Non-thesis options) and Ph.D. in Communications.

The Program is concerned with the study of communications phenomena through interdisciplinary activity that includes both theoretical and practical considerations of the various modes and media of communication. The Program does not provide the purely technical training which can be more appropriately carried out by institutions of technology and communication arts, rather the focus is on broadening the understanding of the interplay between practical needs and theoretical perspectives. The special theoretical interest of the Program centres on the nature and scope of human communications as they emphasize the relationship of cognitive, social and aesthetic problems.

For more information on the Program, please visit our Web site www.arts.mcgill.ca/programs/AHCS.

To obtain financial aid information please consult the Graduate and Postdoctoral Studies Office, McGill University, James Administration Building, Room 400, 845 Sherbrooke Street W., Montreal, Quebec, H3A 2T5. Telephone: (514) 398-3990. Web site: www.mcgill.ca/gps.

For programs in Art History refer to section 6

18.3 Admission Requirements

M.A.

An Honours Bachelor's degree or equivalent is required of applicants for the M.A. program with a minimum CGPA of 3.3 out of 4.0 or the equivalent, i.e., B+ (75%), is required. In any case, the transcript must show breadth or depth in related areas of study.

Ph.D.

Applicants for the Ph.D. program are expected to have completed the equivalent of an M.A. degree. Admission will be based on academic achievement and evidence of talent and strong motivation in communication studies.

18.4 Application Procedures

Applications will be considered upon receipt of:

1. Completed and signed application form.
2. A non-refundable application fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:
 - a. Credit card (by completing the appropriate section of the application form).
 - b. Certified cheque in Cdn. currency drawn on a Canadian bank.
 - c. Certified cheque in U.S. currency drawn on a U.S. bank.
 - d. Canadian Money Order in Cdn. currency.
 - e. U.S. Money Order in U.S. currency.
 - f. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.
3. Two official copies of all transcripts are required for admission. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent. Documents submitted will not be returned. It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only.
4. Two letters of recommendation on letterhead or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferable in the applicant's area of specialization, are required. It is the applicant's responsibility to arrange for these letters to be sent.

5. Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by completing the TOEFL exams (minimum score 550 on the paper-based test or 213 on the computer-based test). Results must be submitted as part of the application.
6. Statement of interest of at least 500 words addressing the student's interest in Communication and the proposed area of research.
7. Two examples of written work.
8. Proof of Citizenship (certified photocopy of passport, birth certificate or equivalent).

Deadline for application is January 15.

Inquiries regarding the Program should be addressed to the Graduate Administrative Coordinator, Department of Art History and Communication Studies.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

18.5 Program Requirements

M.A. Degree (48 credits)

The Master's Program consists of a three-term program of courses. Successful completion of the M.A. requires either:

- a) **Thesis option:** a total of 8 courses (24 credits) and a thesis (24 credits), or
- b) **Non-Thesis option:** a total of 12 courses (36 credits) and two research projects (12 credits);

and the fulfilment of a language requirement.

Ph.D. Degree

Candidates with an M.A. degree will be admitted at the Ph.D. 2 level, thereby gaining credit for one year of resident study. When admitted at Ph.D.1 level, three years of residence are required for the Doctoral degree. The program of study is comprised of 4 courses, the Pro-Seminar, a comprehensive examination, a project, the fulfilment of a language requirement and a written dissertation with its defence.

18.6 Courses Offered

Students preparing to register should consult the Web at www.mcgill.ca/minerva-students (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Students may also consult the Department Web site (www.arts.mcgill.ca/programs/AHCS) for information.

For course inquiries, please contact the Department.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ENG 521 COMMUNICATIONS IN HISTORY. (3)

ENG 541 CULTURAL INDUSTRIES. (3)

ENG 560 COMMUNICATIONS AND DEVELOPMENT. (3)

ENG 611 HISTORY/THEORY/TECHNOLOGY. (3) A critical appraisal of current issues in the field of communications notably through an examination of how new theorists have dealt with the effects and consequences of developments in the technologies of communication. The contributions of Canadian media theorists figure significantly in the seminar's concerns.

ENG 613 GENDER AND TECHNOLOGY. (3)

ENG 616 STAFF-STUDENT COLLOQUIUM. (3)

ENG 617 STAFF-STUDENT COLLOQUIUM. (3) A required course for all new M.A. and Ph.D. students. The Pro-Seminar is designed

to explore theoretical and methodological issues in Communications through a series of presentations by the faculty and other McGill associates.

ENG 619 CULTURAL COMMODITIES. (3)

ENG 621 INTERPERSONAL COMMUNICATION. (3)

ENG 623 INFORMATION DESIGN. (3)

ENG 625 NEW MEDIA POLICY. (3)

ENG 629 CANADIAN CULTURAL COMMUNICATIONS POLICY. (3)

ENG 630 READINGS IN COMMUNICATIONS RESEARCH. (3)

ENG 631 DISCOURSE ANALYSIS. (3)

ENG 633 GENDER AND REPRESENTATION. (3)

ENG 637 CULTURAL ANALYSIS IN HISTORY. (3) Further analysis of cultural products, policy, history and the role of cultural institutions in the development of media practices.

ENG 639 INTERPRETIVE METHODS IN MEDIA. (3)

ENG 643 NARROWCAST MEDIA. (3)

ENG 646 POPULAR MEDIA. (3)

ENG 649 AUDIENCE ANALYSIS. (3)

ENG 655 INTERP METH/MEDIA/COMMS.1. (3)

ENG 692 M.A. THESIS PREPARATION 1. (6)

ENG 692D1 (3), ENG 692D2 (3) M.A. THESIS PREPARATION 1. (Students must register for both ENG 692D1 and ENG 692D2) (No credit will be given for this course unless both ENG 692D1 and ENG 692D2 are successfully completed in consecutive terms) (ENG 692D1 and ENG 692D2 together are equivalent to ENG 692)

ENG 692N1 M.A. THESIS PREPARATION 1. (3) (Students must also register for ENG 692N2) (No credit will be given for this course unless both ENG 692N1 and ENG 692N2 are successfully completed in a twelve month period) (ENG 692N1 and ENG 692N2 together are equivalent to ENG 692)

ENG 692N2 M.A. THESIS PREPARATION 1. (3) (Prerequisite: ENG 692N1) (No credit will be given for this course unless both ENG 692N1 and ENG 692N2 are successfully completed in a twelve month period) (ENG 692N1 and ENG 692N2 together are equivalent to ENG 692)

ENG 693 M.A. THESIS PREPARATION 2. (6)

ENG 693D1 (3), ENG 693D2 (3) M.A. THESIS PREPARATION 2. (Students must register for both ENG 693D1 and ENG 693D2) (No credit will be given for this course unless both ENG 693D1 and ENG 693D2 are successfully completed in consecutive terms) (ENG 693D1 and ENG 693D2 together are equivalent to ENG 693)

ENG 693N1 M.A. THESIS PREPARATION 2. (3) (Students must also register for ENG 693N2) (No credit will be given for this course unless both ENG 693N1 and ENG 693N2 are successfully completed in a twelve month period) (ENG 693N1 and ENG 693N2 together are equivalent to ENG 693)

ENG 693N2 M.A. THESIS PREPARATION 2. (3) (Prerequisite: ENG 693N1) (No credit will be given for this course unless both ENG 693N1 and ENG 693N2 are successfully completed in a twelve month period) (ENG 693N1 and ENG 693N2 together are equivalent to ENG 693)

ENG 694 M.A. THESIS PREPARATION 3. (6)

ENG 694D1 (3), ENG 694D2 (3) M.A. THESIS PREPARATION 3. (Students must register for both ENG 694D1 and ENG 694D2) (No credit will be given for this course unless both ENG 694D1 and ENG 694D2 are successfully completed in consecutive terms) (ENG 694D1 and ENG 694D2 together are equivalent to ENG 694)

ENG 694N1 M.A. THESIS PREPARATION 3. (3) (Students must also register for ENG 694N2) (No credit will be given for this course unless both ENG 694N1 and ENG 694N2 are successfully completed in a twelve month period) (ENG 694N1 and ENG 694N2 together are equivalent to ENG 694)

ENG 694N2 M.A. THESIS PREPARATION 3. (3) (Prerequisite: ENG 694N1) (No credit will be given for this course unless both

ENGC 694N1 and ENGC 694N2 are successfully completed in a twelve month period) (ENGC 694N1 and ENGC 694N2 together are equivalent to ENGC 694)

ENGC 695 M.A. THESIS PREPARATION 4. (6)

ENGC 695D1 (3), ENGC 695D2 (3) M.A. THESIS PREPARATION 4. (Students must register for both ENGC 695D1 and ENGC 695D2) (No credit will be given for this course unless both ENGC 695D1 and ENGC 695D2 are successfully completed in consecutive terms) (ENGC 695D1 and ENGC 695D2 together are equivalent to ENGC 695)

ENGC 695N1 M.A. THESIS PREPARATION 4. (3) (Students must also register for ENGC 695N2) (No credit will be given for this course unless both ENGC 695N1 and ENGC 695N2 are successfully completed in a twelve month period) (ENGC 695N1 and ENGC 695N2 together are equivalent to ENGC 695)

ENGC 695N2 M.A. THESIS PREPARATION 4. (3) (Prerequisite: ENGC 695N1) (No credit will be given for this course unless both ENGC 695N1 and ENGC 695N2 are successfully completed in a twelve month period) (ENGC 695N1 and ENGC 695N2 together are equivalent to ENGC 695)

ENGC 696 RESEARCH PROJECT 1. (6)

ENGC 697 RESEARCH PROJECT 2. (6)

ENGC 702 COMPREHENSIVE EXAMINATION PART 1. (6)

ENGC 702D1 (3), ENGC 702D2 (3) C OMPREHENSIVE EXAMINATION PART 1. (Students must register for both ENGC 702D1 and ENGC 702D2) (No credit will be given for this course unless both ENGC 702D1 and ENGC 702D2 are successfully completed in consecutive terms) (ENGC 702D1 and ENGC 702D2 together are equivalent to ENGC 702) A required course for all new Ph.D. students. The Pro-Seminar is designed to explore theoretical & methodological issues in Communications through a series of presentations by the faculty and other McGill associates.

ENGC 702N1 COMPREHENSIVE EXAMINATION PART 1. (3) (Students must also register for ENGC 702N2) (No credit will be given for this course unless both ENGC 702N1 and ENGC 702N2 are successfully completed in a twelve month period) (ENGC 702N1 and ENGC 702N2 together are equivalent to ENGC 702) A required course for all new Ph.D. students. The Pro-Seminar is designed to explore theoretical & methodological issues in Communications through a series of presentations by the faculty and other McGill associates.

ENGC 702N2 COMPREHENSIVE EXAMINATION PART 1. (3) (Prerequisite: ENGC 702N1) (No credit will be given for this course unless both ENGC 702N1 and ENGC 702N2 are successfully completed in a twelve month period) (ENGC 702N1 and ENGC 702N2 together are equivalent to ENGC 702) See ENGC 702N1 for course description.

ENGC 703 COMPREHENSIVE EXAMINATION PART 2. (6)

ENGC 703D1 (3), ENGC 703D2 (3) C OMPREHENSIVE EXAMINATION PART 2. (Students must register for both ENGC 703D1 and ENGC 703D2) (No credit will be given for this course unless both ENGC 703D1 and ENGC 703D2 are successfully completed in consecutive terms) (ENGC 703D1 and ENGC 703D2 together are equivalent to ENGC 703)

ENGC 704 COMPREHENSIVE EXAMINATION PART 3. (6)

ENGC 704D1 (3), ENGC 704D2 (3) C OMPREHENSIVE EXAMINATION PART 3. (Students must register for both ENGC 704D1 and ENGC 704D2) (No credit will be given for this course unless both ENGC 704D1 and ENGC 704D2 are successfully completed in consecutive terms) (ENGC 704D1 and ENGC 704D2 together are equivalent to ENGC 704)

ENGC 705 COMPREHENSIVE EXAMINATION PART 4. (6)

ENGC 705D1 (3), ENGC 705D2 (3) C OMPREHENSIVE EXAMINATION PART 4. (Students must register for both ENGC 705D1 and ENGC 705D2) (No credit will be given for this course unless both ENGC 705D1 and ENGC 705D2 are successfully completed in consecutive terms) (ENGC 705D1 and ENGC 705D2 together are equivalent to ENGC 705)

ENGC 730 READINGS IN COMMUNICATIONS RESEARCH. (3)

19 Computer Science

School of Computer Science
McConnell Engineering, Room 318
3480 University Street
Montreal, QC H3A 2A7
Canada

Telephone: (514) 398-7071 ext. 00074

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E-mail: grad.cs@mcgill.ca

Web site: www.cs.mcgill.ca

Director — D. Thérien

Chairs of Graduate Programs:

M.Sc. — T. Merrett, X-W. Chang

Ph.D. — K. Siddiqi

19.1 Staff

Emeritus Professor

C. Paige; B.Sc., B. Eng.(Syd.), Ph.D.(Lond.)

Professors

D. Avis; B.Sc.(Wat.), Ph.D.(Stan.)(*on leave Jan. 2005-June 2005*)

L. Devroye; M.S.(Louvain), Ph.D.(Texas)(*on leave 2004-05*)

L. Hendren; B.Sc., M.Sc.(Queen's), Ph.D.(C'neil)

T.H. Merrett; B.Sc.(Queen's), D.Phil.(Oxon)

M.M. Newborn; B.E.E.(R.P.I.), Ph.D.(Ohio St.), F.A.C.M.

P. Panangaden; M.Sc.(I.I.T. Kanpur), Ph.D.(Wis.)

G.F.G. Ratzer; B.Sc.(Glas.), M.Sc.(McG.)

B. Reed; B.Sc., Ph.D.(McG.) (*CRC Professor*)

D. Thérien; B.Sc.(Mont.), Ph.D.(Wat.) (*James McGill Professor*)

G.T. Toussaint; B.Sc.(Tulsa), Ph.D.(Br.Col.)

S. Whitesides; M.S.E.E.(Stan.), Ph.D.(Wis.)

Associate Professors

C. Crépeau; B.Sc., M.Sc.(Montr.), Ph.D.(M.I.T.)

G. Dudek; B.Sc.(Queen's), M.Sc., Ph.D.(Tor.)

N. Friedman; B.A.(W.Ont.), Ph.D.(Tor.)

K. Siddiqi; B.Sc.(Lafayette), M.Sc., Ph.D.(Brown)

C. Tropper; B.Sc.(McG.), Ph.D.(Brooklyn Poly.)

Assistant Professors

M. Blanchette; B.Sc., M.Sc.(Montr.), Ph.D.(Wash.)

D. Bryant; B.Sc., Ph.D.(Canterbury)

X-W. Chang; B.Sc., M.Sc.(Nanjing), Ph.D.(McG.)

M.T. Hallett; B.Sc.(Queen's), Ph.D.(Vic. B.C.)

B. Kemme; B.Sc., M.Sc.(U. of Erlangen-Nuremberg), Ph.D.(ETH, Zurich)

J. Kienzle; Eng.Dip., Ph.D.(Swiss Fed. I.T.)

A. Klein; B.A.(Stan.) M.A., Ph.D.(Prin.)

M. Langer; B.Sc.(McG.), M.Sc.(Tor.), Ph.D.(McG.)

M. Maheswaran; B.Sc.(Peradeniya), M.Sc., Ph.D.(Perdue)

B. Pientka; B.Sc., M.Sc.(Tech.U.of Darmstadt, Germany), Ph.D.(Carnegie Mellon)

D. Precup; B.Sc.(Tech. U. of Cluj-Napoca), M.Sc., Ph.D.(Mass, Amherst)

H. Vangheluwe; B.Sc., M.Sc., D.Sc.(Ghent)

C. Verbrugge; B.A.(Queen's), Ph.D.(McG.)

Faculty Lecturer

J. Vybihal; M.Sc.(McG.)

Associate Member

T.R. Shult

Adjunct Professors

S. Brands, R. De Mori, K. El Emam, S. Hyder, K. Paton,

J-M.Robert

19.2 Programs Offered

Master's in Computer Science (Thesis Option), including the Computational Science and Engineering (CSE) option.

Master's in Computer Science (Project Option)

Ph.D. in Computer Science

19.3 Admission Requirements

Master's (M.Sc.)

The minimum requirement for admission is a bachelor's degree (CGPA 3.2 or better, or equivalent) with the course work in Computer Science indicated in the brochure "Information for Applicants to Graduate Programs".

The brochure supplements information in this Calendar and should be consulted by all graduate students.

Ph.D.

Candidates who do not hold a Master's degree from a recognized department of Computer Science will normally first register for the M.Sc.

Candidates with excellent standing in the M.Sc. program may be allowed to proceed to the Ph.D. degree without first submitting a Master's thesis; however, in other cases, permission to proceed to the Ph.D. may depend on the standing obtained in the M.Sc. Exceptional candidates who do not hold a Master's degree in Computer Science are, on rare occasions, admitted directly to the Ph.D. program.

19.4 Application Procedures

Applications will be considered upon receipt of:

1. application form
2. original or certified copies of transcripts
3. two letters of reference
4. \$60 application fee
5. test results (GRE, TOEFL)

All information is to be submitted directly to the Graduate Secretary.

Deadline(s): February 1st (if applicant wishes to be considered for scholarship awards); April 1st. Application documents are also available at our Web site: www.cs.mcgill.ca/acadpages/grad/applying.html.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

19.5 Program Requirements

MASTER'S

The M.Sc. program has two options, a thesis and a project option. All students are required to take a reading course during their first year. In addition, the M.Sc. Thesis option (49 credits) requires six courses and a thesis, and the M.Sc. Project (non-thesis) option (46credits) requires nine courses and a project. Courses will be chosen with guidance from an academic adviser, subject to approval by the School.

Available under the M.Sc. Thesis option is the following multi-disciplinary Computational Science and Engineering (CSE) option.

M.Sc. Thesis - CSE Option (50 credits)

Required Courses (29 credits)

COMP601	(4)	Special Topics in Computer Science
COMP669D1	(.5)	CSE Seminar
COMP669D2	(.5)	CSE Seminar
COMP698	(9)	Thesis Research 1
COMP699	(15)	Thesis Research 2

Complementary Courses (minimum 21 credits)

Two courses from List A, two courses from List B, and the remaining credits to be chosen from graduate (500, 600 or 700-level) courses in the School of Computer Science. Two complementary courses must be taken outside the School of Computer Science.

List A - Scientific Computing Courses:

CIVE602	(4)	Finite Element Analysis
COMP522	(4)	Modelling and Simulation
COMP540	(3)	Matrix Computations
COMP566	(3)	Discrete Optimization 1
MATH578	(4)	Numerical Analysis 1
MATH579	(4)	Numerical Differential Equations

List B - Applications and Specialized methods Courses:

ATOC512	(3)	Atmospheric and Oceanic Dynamics
ATOC513	(3)	Waves and Stability
ATOC515	(3)	Turbulence in Atmosphere and Oceans
CIVE514	(3)	Structural Mechanics
CIVE572	(3)	Computational Hydraulics
CIVE603	(4)	Structural Dynamics
CIVE613	(4)	Numerical Methods: Structural Engineering
COMP505	(3)	Advanced Computer Architecture
COMP557	(3)	Fundamentals of Computer Graphics
COMP558	(3)	Fundamentals of Computer Vision
COMP567	(3)	Discrete Optimization 2
COMP621	(4)	Optimizing Compilers
COMP642	(4)	Numerical Estimation
COMP767	(3)	Advanced Topics: Applications 2
ECSE507	(3)	Optimization and Optimal Control
ECSE532	(3)	Computer Graphics
ECSE547	(3)	Finite Elements in Electrical Engineering
ECSE549	(3)	Expert Systems in Electrical Design
MATH555	(4)	Fluid Dynamics
MATH560	(4)	Optimization
MATH651	(4)	Asymptotic Expansion and Perturbation Methods
MATH761	(4)	Topics in Applied Math 1
MECH533	(3)	Subsonic Aerodynamics
MECH537	(3)	High-Speed Aerodynamics
MECH538	(3)	Unsteady Aerodynamics
MECH539	(3)	Computational Aerodynamics
MECH541	(3)	Kinematic Synthesis
MECH545	(3)	Advanced Stress Analysis
MECH572	(3)	Introduction to Robotics
MECH573	(3)	Mechanics of Robotic Systems
MECH576	(3)	Computer Graphics and Geometrical Modelling
MECH577	(3)	Optimum Design
MECH610	(4)	Fundamentals of Fluid Dynamics
MECH620	(4)	Advanced Computational Aerodynamics
MECH632	(4)	Theory of Elasticity
MECH642	(4)	Advanced Dynamics
MECH650	(4)	Heat Transfer
MECH654	(4)	Compt. Fluid Flow and Heat Transfer

PH.D.

All students must consult the graduate program web page www.cs.mcgill.ca/acadpages/grad, where up-to-date information about the graduate program is posted. Any questions concerning the program should be addressed to the Graduate Secretary.

In accordance with the University regulations, the successful completion of the Ph.D. program includes the following:

1. Six terms of residence as a full-time student. Four terms of residence as a full-time student if admitted with a completed M.Sc. in Computer Science.
2. Required coursework: A minimum course requirement of two courses in computer science at the 500 level or above. The student's Progress Committee may also require the student to take additional courses, e.g., in cases where the student's background in computer science and related areas is not con-

- sidered to be sufficiently strong. All these courses must be passed with a grade of B- or higher.
3. A comprehensive examination, COMP700, taken by the end of the Ph.D. 2 year. This examination is described in further detail below.
 4. A written Progress Report along with an oral presentation at the end of each year of residence beyond the Ph.D. 2 year, reviewed by the student's Progress Committee.
 5. A written research proposal and an oral examination, COMP701, of it by the thesis proposal examination committee. This is termed the Ph.D. proposal and area examination and is described in further detail below.
 6. A written thesis displaying original scholarship and written in good literary style. The thesis must be a distinct contribution to knowledge in the chosen field.
 7. A thesis oral defense.

Progress Committee and Progress Report

Upon arrival at McGill a new Ph.D. student must, in consultation with his or her supervisor or supervisors, form a Progress Committee. This Committee will consist of three professors who will monitor the student's progress in the course of the Ph.D. program. At least two of these professors must be from the School of Computer Science, one of which will be the student's thesis supervisor.

The student will be expected to complete a Progress Report once for every year of the program, following the Ph.D. 2 year. This will comprise a written document of no more than 10 pages, single-spaced in 12 point font, to be distributed to the Progress Committee members at least two weeks prior to the evaluation. The evaluation will consist of a 30-minute presentation of the Progress Report by the student followed by questions from the Progress Committee. The presentation will be open only to Progress Committee members. Following the evaluation the Progress Committee will assign a grade of either satisfactory or unsatisfactory, and will give feedback to the student in a written Progress Form. If the mark is unsatisfactory the Committee will offer specific comments to guide the student towards improving his or her performance. The student will also be invited to submit written comments to be included in this form. Once all comments have been included, the form must be signed by the student and his or her supervisor.

Ph.D. Comprehensive Examination - COMP700 (0 credits)

The student must register for this course the term in which the exam will take place. The Ph.D. comprehensive examination is an oral examination taken by the end of the Ph.D. 2 year. The exam has course number COMP700. The syllabus for this examination will be decided upon the examination committee which will be comprised of the Progress Committee members and one additional member selected from the Ph.D. committee. This last member will chair the examination. The syllabus will be given to the student by the examination committee at least four months prior to the examination. It will normally consist of a selection of articles, chapters from textbooks, or notes, which are considered important background material for the student to master. A typical syllabus should be of the same complexity as that of a graduate-level course in the School of Computer Science. The examination will consist of oral questions to the student on the material in the syllabus and will be open only to examination committee members. Following the examination the committee will assign a mark of either Pass or Fail. This mark will be based on a discussion between the committee members and will be arrived at by a majority vote. If a student fails the examination, he or she will be allowed to take it one more time. If the comprehensive examination is failed a second time, the student will be required to withdraw from the program, as required by University regulations.

Ph.D. Thesis Proposal and Area Examination - COMP701 (3credits)

Before the end of Ph.D. 3, students must take and pass the Ph.D. Proposal and Area Exam. This exam has course number COMP701. The student must register for this course the term in which the exam will take place. This exam is a public, oral exam

designed to test the research ability of the student in the area of the thesis as well as depth of knowledge in those areas of computer science closely related to the thesis topic. The exam consists of a 20-page (maximum) written report, single-spaced in 12 point font, to be submitted to the Graduate Secretary at least two weeks before the exam, and an oral presentation by the candidate lasting no more than 20 minutes. The outcome of this exam is either a Pass or a Fail. In the event of a Fail, the student may be given a single chance to retake the examination. If it is a second fail in the program, the student will be asked to withdraw. COMP701 may not be treated like COMP700, which falls under the Comprehensive Policy.

19.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

COMP 505 ADVANCED COMPUTER ARCHITECTURE. (3) (Fall) (3 hours) (Prerequisites: COMP 302 and COMP 273 or equivalent) Basic principles and techniques in the design of high-performance computer architecture. Topics include memory architecture: cache structure and design, virtual memory structures; pipelined processor architecture: pipeline control and hazard resolution, pipelined memory structures, interrupt, evaluation techniques; vector processing; RISC vs. CISC architectures; general vs. special purpose architectures; VLSI architecture issues.

COMP 506 ADVANCED ANALYSIS OF ALGORITHMS. (3) (Winter) (3 hours) (Prerequisite: COMP 330 or COMP 360 or COMP 405 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) (Fall) (3 hours) (Prerequisite: COMP 360 or COMP 405 or equivalent 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 neighbor 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 520 COMPILER DESIGN. (4) (Fall) (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 522 MODELLING AND SIMULATION. (4) (Fall) (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) (Fall) (3 hours) (Prerequisite: COMP 302, and MATH 340 or MATH 235) 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) (Winter) (3 hours) (Prerequisites: COMP 251, COMP 310, COMP 330 and MATH 340) 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) (Winter) (3 hours) (Prerequisites: COMP 206, COMP 360, COMP 424 and MATH 323) Belief networks, Utility theory, Markov Decision Processes and Learning Algorithms.

COMP 531 THEORY OF COMPUTATION. (3) (Winter) (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) (Fall) (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 534 TEAM SOFTWARE ENGINEERING. (3) (Fall) (3 hours) (Prerequisite: COMP 433 or equivalent) Team-work and team-processes for evolving software systems. Guided by defined processes, project teams will elicit new requirements, design code and test an enhanced software system. Team members will play various technical and managerial roles in carrying out their software project.

COMP 535 COMPUTER NETWORKS 1. (3) (Fall) (3 hours) (Prerequisite: COMP 310) (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) (Winter) (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 Protocol (HTTP), Internet resource database and search engines. Remote File Systems. Distributed objects, Common Object Request Broker Architecture (CORBA).

COMP 538 PERSON-MACHINE COMMUNICATION. (3) (Winter) (3 hours) (Prerequisites: COMP 251, COMP 302) Introduction to programming techniques and hardware design concepts that facilitate interaction between humans and computers. Theories and models for person-machine communication, object oriented design and software engineering of interfaces. Natural language facilities.

COMP 540 MATRIX COMPUTATIONS. (3) (Winter) (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. (3) (Fall) (3 hours) (Prerequisite: COMP 360) (Restriction: Not open to students who have taken 308-647) This course presents an in-depth study of modern cryptography and data security. The basic infor-

mation 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 557 FUNDAMENTALS OF COMPUTER GRAPHICS. (3) (Fall) (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.

COMP 558 FUNDAMENTALS OF COMPUTER VISION. (3) (Winter) (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) (Fall) (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 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) (Fall) (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) (Winter) (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 573 MICROCOMPUTERS. (3) (Fall or Winter) (3 hours) (Prerequisite: COMP 273) Characteristics and internal structure of microcomputers and workstations. Architectures of current CISC and RISC micro processors. Assembler and machine languages for microcomputers. System software. Applications for single and networked microcomputers. Students will be assigned hands-on projects.

COMP 575 FUNDAMENTALS OF DISTRIBUTED ALGORITHMS. (3) (Winter) (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) (Fall) (3 hours) (Prerequisites: COMP 421 and COMP 310) High-level communi-

cation 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 601 SPECIAL TOPICS IN COMPUTER SCIENCE. (4)

COMP 601D1 (2), COMP 601D2 (2) SPECIAL TOPICS IN COMPUTER SCIENCE. (2 per term) (Restricted to Computer Science students) (Students must register for both COMP 601D1 and COMP 601D2) (No credit will be given for this course unless both COMP 601D1 and COMP 601D2 are successfully completed in consecutive terms) (COMP 601D1 and COMP 601D2 together are equal to COMP 601.)

COMP 601N1 SPECIAL TOPICS IN COMPUTER SCIENCE. (2) (Students must also register for COMP 601N2) (No credit will be given for this course unless both COMP 601N1 and COMP 601N2 are successfully completed in a twelve month period) (COMP 601N1 and COMP 601N2 together are equal to COMP 601.)

COMP 601N2 SPECIAL TOPICS IN COMPUTER SCIENCE. (2) (Prerequisite: COMP 601N1) (No credit will be given for this course unless both COMP 601N1 and COMP 601N2 are successfully completed in a twelve month period) (COMP 601N1 and COMP 601N2 together are equal to COMP 601.) See COMP 601N1 for course description.

COMP 605 PARALLEL COMPUTER ARCHITECTURE. (4) (3 hours) Basic principles and techniques in parallel computer architecture. Topics include: characteristics of parallel computation models; instruction-level parallelism and architectures; vector architecture; shared memory vs. message-passing architectures; memory models and cache coherence; interconnection techniques and high-speed networks, parallel programming issues; multithreaded architecture; future trends.

COMP 610 INFORMATION STRUCTURES 1. (4) (3 hours) Study of elementary data structures: lists, stacks, queues, trees, hash tables, binary search trees, red-black trees, heaps. Augmenting data structures. Sorting and selection, Recursive algorithms. Advanced data structures including binomial heaps, Fibonacci heaps, disjoint set structures, and splay trees. Amortizing. String algorithms. Huffman trees and suffix trees. Graph algorithms.

COMP 612 DATABASE SYSTEMS. (4) (3 hours) Database programming using the relational algebra. Introduces the relational model of databases and high level programming techniques with applications to data processing, text and picture processing, knowledge bases and logic programming on secondary storage.

COMP 617 INFORMATION SYSTEMS. (4) (3 hours) (Prerequisite: COMP 612) Seminar course. A major area of application of the techniques covered in 308-612 is discussed. No prior expertise in the application area is required, since the emphasis of the course is on methods of computation. Storage structures and algorithms for efficient retrieval and processing of data for the application will be discussed.

COMP 621 OPTIMIZING COMPILERS. (4) (3 hours) (Prerequisite: COMP 251 or equivalent, COMP 302 or equivalent, COMP 520 is useful but not strictly necessary) This course examines the components of optimizing compiler, tree-like and graph-like intermediate representations, flow analysis, abstract interpretation, program transformation, register allocation, an introduction to instruction scheduling and parallelization techniques. Students complete assignments and a course project.

COMP 623 CONCURRENT PROGRAMMING LANGUAGES. (4) (3 hours) (Prerequisite: COMP 302 or equivalent.) The course will include the following topics: deadlock, fairness, liveness and safety properties, distributed protocols, standard concurrent programming problems, a comparative study of concurrent programming paradigms. Additional topics: dataflow programming, concurrent constraint programming, concurrent logic programming, process algebra, fault tolerant distributed systems, parallel object-oriented languages.

COMP 627 THEORETICAL PROGRAMMING LANGUAGES. (4) (3 hours) (Prerequisites: COMP 524 and COMP 530) Programming

language semantics. Lambda calculus, the Church Rosser theorem, typed lambda calculus, the strong normalization theorem, polymorphism, type inference, elements of domain theory, models of the lambda calculus, relating operational and denotational semantics, full abstraction. Reasoning about programs. Soundness and relative completeness of program logics.

COMP 631 SOFTWARE PROCESS ENGINEERING. (4) (3 hours) (Prerequisite: COMP 434) Software is critical; the record is poor, and improvement action is needed. The quality of a software system is governed by the quality of the process used to develop and maintain it. The course aims to describe the technical and managerial topics critical in the design, engineering and management of software processes.

COMP 642 NUMERICAL ESTIMATION. (4) (4 hours) (Prerequisites: MATH 323, MATH 324 and COMP 350) (Corequisite: COMP 540) Efficient and reliable numerical algorithms in estimation and their applications. Linear models and least squares estimation. Maximum-likelihood estimation. Kalman filtering. Adaptive estimation, GPS measurements and mathematical models for positioning. Position estimation. Fault detection and exclusion.

COMP 644 PATTERN RECOGNITION. (4) (3 hours) Techniques for smoothing, approximating and enhancing spatial and temporal data. Feature extraction and shape measurement using spatial moments and medial axis transforms. Detecting structure using Hough transforms and proximity graphs. Discriminant functions. Neural networks. Bayesian decision theory. Feature selection. Estimation of misclassification. Nearest neighbor decision rules. Applications.

COMP 646 COMPUTATIONAL PERCEPTION. (4) (3 hours) Seminar course on perception problems from a computer science perspective. Vision problems such as stereo, shading, motion, color, object recognition. Audition problems such as sonar, source localization, source recognition.

COMP 647 ADVANCED CRYPTOGRAPHY. (4) (3 hours) (Prerequisite: COMP 547) Information theoretic definitions of security, zero-knowledge protocols, secure function evaluation protocols, cryptographic primitives, privacy amplification, error correction, quantum cryptography, quantum cryptanalysis.

COMP 648 MOTION PLANNING AND ROBOTICS. (4) (3 hours) (Given in alternate years.) Topics in motion planning, including: algorithms and complexity results for collision avoidance; the configuration space approach; the algebraic cell decomposition approach; motion planning using Voronoi diagrams; object representation schemes.

COMP 652 MACHINE LEARNING. (4) (Prerequisites: COMP 424, COMP 526 or ECSE 526, COMP 360, MATH 323 or ECSE 305.) An overview of state-of-the-art algorithms used in machine learning, including theoretical properties and practical applications of these algorithms.

COMP 656 RUN-TIME LANGUAGE SUPPORT. (4) Hardware and software support for late binding, polymorphic calls and garbage collection in object-oriented languages.

COMP 667 SOFTWARE FAULT TOLERANCE. (4) (Prerequisite: COMP 409 or permission of instructor) Software fault tolerance, concepts and implementation. Failure classification; information and time redundancy; forward and backward error recovery; error confinement; idealized fault-tolerant component; sequential and concurrent systems; exception handling; transactions and atomic actions; voting; design diversity. Case studies.

COMP 675 PARALLEL SEARCH PROBLEMS. (4) (3 hours) A study of recent work in parallel search techniques. Algorithms to be considered are: parallel branch and bound, parallel minimax and parallel resolution techniques for theorem proving. Students will be expected to write programs implementing algorithms for parallel search on the School's 32-processor BBN parallel computer.

COMP 690 PROBABILISTIC ANALYSIS OF ALGORITHMS. (4) (3 hours) Probabilistic analysis of algorithms and data structures under random input. Expected behavior of search trees, tries, heaps, bucket structures and multidimensional data structures.

Random sampling, divide-and-conquer, grid methods. Applications in computational geometry and in game tree searching. Combinatorial search problems. Algorithms on random graphs.

COMP 694 RESEARCH PROJECT 1. (6) (Restricted to Computer Science students) Ongoing research pertaining to project.

COMP 695 RESEARCH PROJECT 2. (6) (Restricted to Computer Science students) Ongoing research pertaining to project.

COMP 698 THESIS RESEARCH 1. (9) (Restricted to Computer Science students) Ongoing research pertaining to thesis.

COMP 699 THESIS RESEARCH 2. (15) (Restricted to Computer Science students) Ongoing research pertaining to thesis.

COMP 700 P.H.D. COMPREHENSIVE EXAMINATION. (0)

COMP 700D1 (0), COMP 700D2 (0) P.H.D. COMPREHENSIVE EXAMINATION. (Students must register for both COMP 700D1 and COMP 700D2) (No credit will be given for this course unless both COMP 700D1 and COMP 700D2 are successfully completed in consecutive terms) (COMP 700D1 and COMP 700D2 together are equivalent to COMP 700)

COMP 701 THESIS PROPOSAL AND AREA EXAMINATION. (3)

COMP 760 ADVANCED TOPICS THEORY 1. (4) (Topics for Winter 2004: Section 001 - Theory of Molecular Evolution. Section 003 - Combinatorial Optimisation and Approximation Algorithms.)

COMP 761 ADVANCED TOPICS THEORY 2. (4)

COMP 762 ADVANCED TOPICS PROGRAMMING 1. (4)

COMP 763 ADVANCED TOPICS PROGRAMMING 2. (4)

COMP 764 ADVANCED TOPICS SYSTEMS 1. (4)

COMP 765 ADVANCED TOPICS SYSTEMS 2. (4)

COMP 766 ADVANCED TOPICS APPLICATIONS 1. (4)

COMP 767 ADVANCED TOPICS: APPLICATIONS 2. (4)

20 Dentistry

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Dean, Faculty of Dentistry — J.P. Lund

Associate Dean, Research — M.D. McKee

Director, Graduate Studies — J.S. Feine

Director, Graduate Program in Oral and Maxillofacial Surgery — T.W. Head

20.1 Staff

Professors

M.C. Bushnell; B.A.(Maryland), M.A., Ph.D.(American U.)

F. Cervero; M.B., Ch.B., Ph.D.(Madrid), D.Sc.(Edin.)

J.S. Feine; D.D.S., M.Sc.(Texas), H.D.R.

J.P. Lund; B.D.S.(Adel.), Ph.D.(W.Ont.)

C.E. Smith; D.D.S., Ph.D.(McG.)

Associate Professors

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

J. Barralet; Ph.D., IRC (Lond.)

G. Bennett; B.A.(Rutgers), M.A., Ph.D.(Va.)

P.J. Chauvin; B.Sc., D.D.S.(McG.), M.Sc.(W.Ont.), F.A.A.O.P., F.R.C.D.(C)

M. Dagenais; D.M.D.(Montr.), Dip. Oral Radiology(Tor.)

T.W. Head; B.Sc.(Sir G. Wms.), D.D.S., M.Sc.(McG.), F.R.C.D.(C), Dipl. A.B.O.M.S.

M.D. McKee; Ph.D.(McG.)

S. Schwartz; D.M.D.(Montr.), M.Sc. Cert. Pedo.(Boston), F.I.C.D., F.A.C.D.

E.D. Shields; B.Sc.(Ball State), D.D.S., Ph.D.(Ind.)

Assistant Professors

C. Bedos; D.D.S.(Paris), M.Sc., Ph.D.(Montr.)

J.R. Emery; D.D.S., M.Sc.(McG.), F.R.C.D.(C), Dipl. A.B.O.M.S.

M.T. Kaartinen; M.Sc.(Jyväskylä), Ph.D.(Kuopio, Finland)

H. LeMoual; D.E.A., M.Sc.(Paris), Ph.D.(Montr.)

J.-M. Retrouvey; D.M.D.(Montr.), M.Sc.(Boston)

M. Tabrizian; D.E.A., Ph.D.(Paris)

S. Tran; D.M.D., Cert.Perio, Ph.D.(Minn.)

Adjunct Professors

A. Charbonneau, S. Marchand, J. Morais, D.J. Ostry

Associate Members

E.L. Franco, E.G. Gisel, J. Penrod, H. Warshawsky

20.2 Programs Offered

M.Sc. in Dental Sciences

The goal of this program is to train students in research in the dental sciences which comprise a number of disciplines relating to the functioning of the oro-facial complex.

Please consult the Graduate Secretary, Faculty of Dentistry, for further details.

M.Sc. in Dental Sciences, option in Oral and Maxillofacial Surgery

A residency training program in Oral and Maxillofacial Surgery provides a candidate with a comprehensive background for the practice of Oral and Maxillofacial Surgery as a specialty.

During the four years of the program the candidate serves as a resident principally at the Montreal General Hospital. During this time the resident is given increasing responsibility for the care of in-patients and out-patients, as well as being required to fulfill certain basic science courses and other assignments. A research project must be undertaken, followed by a Master's thesis.

The program is open to one candidate per year.

20.3 Admission Requirements

M.Sc. in Dental Sciences

Students who have successfully completed the D.D.S./D.M.D. degree or a B.Sc. degree with a CGPA of 3.0 on 4.0 in any of the disciplines in the Health Sciences (Anatomy, Biochemistry, Microbiology and Immunology, Physiology) or related disciplines (Biology, Chemistry, Physics, Psychology) are eligible to apply for admission to a graduate program in the Faculty of Dentistry leading to the M.Sc. degree in Dental Sciences. In addition to submitting GRE scores, TOEFL tests must be passed in the case of non-Canadians whose mother tongue is not English.

The number of candidates accepted each year will depend on the elective courses and research facilities available which are applicable to the candidate's area of expertise.

M.Sc. in Dental Sciences, option in Oral and Maxillofacial Surgery

Candidates for this program must possess a D.D.S. or D.M.D. degree or its equivalent, and be acceptable to l'Ordre des Dentistes du Québec as a training candidate in a hospital.

20.4 Application Procedures

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

M.Sc. in Dental Sciences

All applications must include an up-to-date official transcript of academic performance, two letters of recommendation and a brief resume indicating their particular field of interest for the M.Sc. degree. B.Sc. students who have not obtained eligible qualifications will be required to make up for deficiencies in their academic profile by taking a qualifying year.

Students must be accepted by a research director before the Faculty approves the application, prior to final acceptance by the Graduate and Postdoctoral Studies Office.

Applications may be obtained by writing to the Graduate Program in Dental Sciences, Faculty of Dentistry.

Deadlines for receipt of the application on-line are as follows:

- Fall Term – March 1
- Winter Term – September 1
- Summer Term – November 1

**M.Sc. in Dental Sciences,
option in Oral and Maxillofacial Surgery**

Applications must be submitted by September 15.

Information for financial support for this program may be obtained by writing to Dr. T.W. Head, Director of the program.

Further information may be obtained by writing to Graduate Program in Oral and Maxillofacial Surgery, Faculty of Dentistry.

20.5 Program Requirements

All students who are registered in Graduate Clinical Programs in the Faculty of Dentistry, McGill University, and who are not already registered with l'Ordre, must register with l'Ordre des Dentistes du Québec. Further information may be obtained from the Registrar of l'Ordre des Dentistes du Québec, 625 René-Lévesque Boulevard West, 15th Floor, Montreal, QC H3B1R2.

M.SC. IN DENTAL SCIENCES

The M.Sc. degree should normally be completed within two years of full-time study.

Required Courses (8 credits)

- EPIB607 (4) Inferential Statistics (or equivalent course)
- DENT671D1 (2) Advanced Research Seminar
- DENT671D2 (2) Advanced Research Seminar

Complementary Courses (8 – 14 credits)

chosen from the following:

- ANAT632D1 (3) Experimental Morphology
- ANAT632D2 (3) Experimental Morphology
- ANAT663D1 (4.5) Histology
- ANAT663D2 (4.5) Histology
- BIOC404 (3) Biophysical Chemistry
- BIOC450 (3) Protein Structure and Function
- BIOC454 (3) Nucleic Acids
- BIOC456 (3) Biochemistry of Membranes
- BIOL524 (3) Topics in Molecular Biology
- DENT562 (3) Calcified Tissues
- DENT654 (3) Mechanisms and Management of Pain
- EPIB606 (4) Introduction to Epidemiology
- EPIB611 (3) Study Design and Analysis 1
- EPIB621 (3) Data Analysis Health Sciences 1
- EPIB635 (3) Clinical Trials
- EPIB655 (3) Epidemiology in Public Health
- EPIB681 (3) Data Analysis Health Sciences 2
- EXMD610 (3) Biomedical Methods in Medical Research
- POTH630 (3) Measurement: Rehabilitation 2
- PSYC505 (3) The Psychology of Pain

Other complementary courses in the University may be taken with the approval of the supervisor or research director.

Thesis Research Courses (24 – 30 credits)

The required number of Master's thesis credits (minimum 24) will be made up from among the following:

- DENT650 (3) Thesis Research 1
- DENT651 (6) Thesis Research 2
- DENT652 (9) Thesis Research 3
- DENT653 (15) Thesis Research 4

M.SC. IN DENTAL SCIENCE, OPTION IN ORAL AND MAXILLOFACIAL SURGERY (46 credits)

Duration: Four calendar years commencing July 1.

Students will register in the four-year graduate-training program, which leads to a McGill Certificate of Residency Training. They will concurrently register with the Graduate and Postdoctoral Studies Office during the Third and Fourth years of the program and complete the requirements for the M.Sc. degree during these two years.

Required Courses (16 credits)

- DENT631 (3) OMFS 2 Seminar
- DENT632 (3) Clinical OMFS 2
- DENT641 (3) OMFS 3 Seminar
- DENT642 (3) Clinical OMFS 3
- EPIB607 (4) Inferential Statistics (or equivalent course)

Thesis Component – Required (30 credits)

- DENT651 (6) Thesis Research 2
- DENT652 (9) Thesis Research 3
- DENT653 (15) Thesis Research 4

20.6 Courses for the M.Sc. in Dental Sciences

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

DENT 504 BIOMATERIALS AND BIOPERFORMANCE. (3) (Restrictions: Graduate and final year undergraduates from physical, biological, medical and dental sciences, 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.

DENT 631 OMFS 2 SEMINAR. (3)

DENT 632 CLINICAL OMFS 2. (3)

DENT 632D1 (1.5), DENT 632D2 (1.5) CLINICAL OMFS 2. (Students must register for both DENT 632D1 and DENT 632D2) (No credit will be given for this course unless both DENT 632D1 and DENT 632D2 are successfully completed in consecutive terms) (DENT 632D1 and DENT 632D2 together are equivalent to DENT 632)

DENT 650 THESIS RESEARCH 1. (3)

DENT 651 THESIS RESEARCH 2. (6)

DENT 652 THESIS RESEARCH 3. (9)

DENT 652D1 (4.5), DENT 652D2 (4.5) THESIS RESEARCH 3. (Students must register for both DENT 652D1 and DENT 652D2) (No credit will be given for this course unless both DENT 652D1 and DENT 652D2 are successfully completed in consecutive terms) (DENT 652D1 and DENT 652D2 together are equivalent to DENT 652) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

DENT 653 THESIS RESEARCH 4. (15)

DENT 653D1 (7.5), DENT 653D2 (7.5) THESIS RESEARCH 4. (Students must register for both DENT 653D1 and DENT 653D2) (No credit will be given for this course unless both DENT 653D1 and DENT 653D2 are successfully completed in consecutive terms) (DENT 653D1 and DENT 653D2 together are equivalent to DENT 653)

DENT 653J1 THESIS RESEARCH 4. (5) (Students must also register for DENT 653J2 and DENT 653J3.) (No credit will be given for

this course unless DENT 653J1, DENT 653J2, and DENT 653J3 are all successfully completed in consecutive terms.) (DENT 653J1, DENT 653J2 and DENT 653J3 together are equivalent to DENT 653 or DENT 653D1 and DENT 653D2 together.)

DENT 653J2 THESIS RESEARCH 4. (5) (Prerequisite: DENT 653J1) (Students must also register for DENT 653J3) (No credit will be given for this course unless DENT 653J1, DENT 653J2, and DENT 653J3 are all successfully completed in consecutive terms.) (DENT 653J1, DENT 653J2 and DENT 653J3 together are equivalent to DENT 653 or DENT 653D1 and DENT 653D2 together.)

DENT 653J3 THESIS RESEARCH 4. (5) (Prerequisite: DENT 653J2) (No credit will be given for this course unless DENT 653J1, DENT 653J2, and DENT 653J3 are all successfully completed in consecutive terms.) (DENT 653J1, DENT 653J2 and DENT 653J3 together are equivalent to DENT 653 or DENT 653D1 and DENT 653D2 together.)

DENT 654 MECHANISMS AND MANAGEMENT OF PAIN. (3) (Open to all health professionals)

DENT 671 ADVANCED RESEARCH SEMINAR. (4)

DENT 671D1 (2), DENT 671D2 (2) ADVANCED RESEARCH SEMINAR. (Students must register for both DENT 671D1 and DENT 671D2) (No credit will be given for this course unless both DENT 671D1 and DENT 671D2 are successfully completed in consecutive terms) (DENT 671D1 and DENT 671D2 together are equivalent to DENT 671)

DENT 671N1 ADVANCED RESEARCH SEMINAR. (2) (Students must also register for DENT 671N2) (No credit will be given for this course unless both DENT 671N1 and DENT 671N2 are successfully completed in a twelve month period) (DENT 671N1 and DENT 671N2 together are equivalent to DENT 671)

DENT 671N2 ADVANCED RESEARCH SEMINAR. (2) (Prerequisite: DENT 671N1) (No credit will be given for this course unless both DENT 671N1 and DENT 671N2 are successfully completed in consecutive terms.) (DENT 671N1 and DENT 671N2 together are equivalent to DENT 671)

21 Developing-Area Studies

Centre for Developing-Area Studies (CDAS)
3715 Peel Street
Montreal, QC H3A 1X1
Canada

Telephone: (514) 398-3507
Fax: (514) 398-8432
E-mail: adm.cdas@mcgill.ca
Web site: www.mcgill.ca/cdas

Director — Rosalind E. Boyd, Ph.D.

Documentalist — Iain Blair
E-mail: doc.cdas@mcgill.ca

Adjunct Professor — Izzud-Din Pal, Ph.D.

Senior Research Associate — Myriam Gervais, Ph.D.

The CDAS conducts research on social, political, and economic problems within countries in Africa, Asia, the Caribbean, Latin America and the Middle East, from an interdisciplinary perspective. It organizes seminars and conferences on development issues and globalization, primarily in the social sciences.

The CDAS has a specialized library (the Gutkind Library), open to the public. In addition, it maintains an active publications program centred around the internationally respected journal *Labour, Capital and Society* and has research fellows and research groups in residence.

The CDAS works with an international community of scholars, development groups and the public, and is currently involved in a series of research and development projects focusing on gender, environment, the labouring poor, human security, and globalization.

Graduate students with research interests in international development can apply to become fellows.

22 Dietetics and Human Nutrition

School of Dietetics and Human Nutrition
Room MS2-039, Macdonald-Stewart Building
Macdonald Campus, McGill University
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7762
Fax: (514) 398-7739
E-mail: lise.grant@mcgill.ca
Web site: www.mcgill.ca/dietetics

Director — Kristine G. Koski

22.1 Staff

Emeritus Professor
Helen Neilson; B.H.S., M.Sc.(McG.)

Professors
Tim A. Johns; B.Sc.(McM.), M.Sc.(Br.Col.), Ph.D.(Mich.) (*joint appoint. with Plant Science*)

Peter J.H. Jones; B.Sc., M.Sc.(Br.Col.), Ph.D.(Tor.)
Harriet V. Kühnlein; B.S.(Penn. St.), M.S.(Oregon St.),
Ph.D.(Calif.) (*joint appoint. with Faculty of Medicine*)

Associate Professors
Laurie H.M. Chan; B.Sc., M.Sc.(Hong Kong), Ph.D.(Lond.) (*joint appoint. with Natural Resource Sciences, and Food Science and Agricultural Chemistry*) (NSERC Northern Chair)

Grace Egeland; B.A.(Luther College), Ph.D.(Pitts.) (*Canada Research Chair*)

Katherine Gray-Donald; B.Sc., Ph.D.(McG.) (*joint appoint. with Epidemiology and Biostatistics, Faculty of Medicine*)
Kristine G. Koski; B.S., M.S.(Wash.), Ph.D.(Calif.) (*joint appoint. with the Division of Experimental Medicine, Faculty of Medicine*)

Stan Kubow; B.Sc.(McG.), M.Sc.(Tor.), Ph.D.(Guelph)

Louise Thibault; B.Sc., M.Sc., Ph.D.(Laval)

Linda J. Wykes; B.Sc., M.Sc., Ph.D.(Tor.) (*William Dawson Scholar*)

Faculty Lecturers

Linda Jacobs Starkey; B.Sc.(Mt. St. Vincent), M.Sc., Ph.D.(McG.)
(*University Coordinator, Professional Practice (Stage) in Dietetics*)

Hughes Plourde; B.Sc.(McG.), M.Sc.(U.Mt.)
Maureen Rose; B.Sc., M.Ed., Ph.D.(McG.)

Associate Members

Anaesthesia: Franco Carli
Food Science & Agricultural Chemistry: Selim Kermasha
Parasitology: Marilyn E.Scott
Psychiatry: Simon N.Young
Medicine: Louis Beaumier, Katherine Cianflone,
RejeanneGougeon, L.JohnHoffer, Errol B. Marliss,
Jean-FrançoisYale, Thomas Schricker

Adjunct Professors

Kevin A. Cockell (Health Canada), Jeffrey S. Cohn (Clinical Research Inst. of Canada), Mary L'Abbé (Health Canada)

22.2 Programs Offered

M.Sc., M.Sc. Applied and Ph.D. in Human Nutrition.

The M.Sc. and Ph.D. programs are research degrees wherein students conduct research with one of the faculty members. Most areas of research in Human Nutrition are covered including nutritional biochemistry, clinical nutrition, community or international nutrition. Prospective students are encouraged to contact faculty

members to discuss potential research areas since final acceptance requires identification of a research supervisor.

The M.Sc. Applied is intended to provide advanced learning in Nutrition with substantial course work and either a *practicum in the field of Dietetics* or a *project in the area of Human Nutrition*. Students need not define their research area prior to enrolment.

Research Facilities: Students may conduct research at the School of Dietetics and Human Nutrition, including the Mary Emily Clinical Nutrition Research Unit, the Centre for Indigenous Peoples' Nutrition and Environment (CINE), or at the McGill University Health Centre.

In addition to their research, eligible candidates may complete the equivalent of a Dietetics Internship for membership in the professional association for registration as Dietitians and Nutritionists in Canada. However, completion of specific undergraduate dietetics course work and practica will increase the duration and cost of the program.

22.3 Admission Requirements

M.Sc.

Applicants must be graduates of a university of recognized reputation and hold a B.Sc. degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. Applicants must have at least a cumulative grade point average (CGPA) in McGill University's credit equivalency of 3.2/4.0 (second class-upper division) during the last four full-time terms of a completed Bachelor's degree program in nutrition or a closely related field. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

M.Sc. (Applied)

Applicants to the M.Sc. Applied project or practicum options must have a B.Sc.(Nutritional Sciences) or equivalent with a GPA of 3.2 or higher. The program is available to students who do not have a working knowledge of French, however, not all project or practicum opportunities will be open to them.

All eligible candidates may select the project option. Applicants who have completed a dietetics internship and six months' work experience are eligible for the practicum option.

Ph.D.

Admission for Ph.D. studies normally requires a M.Sc. degree in an area related to the chosen field of specialization.

22.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

School of Dietetics and Human Nutrition
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7162
Fax: (514) 398-7339
E-mail: lise.grant@mcgill.ca

Applications will be considered upon receipt of a completed application form, \$60 application fee, current resumé, statement describing reasons for interest in the program and career goals, and the following supporting documents:

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only.

Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of the originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 560 on the paper-based test, 220 on the computer-based) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. The School reserves the right to request TOEFL results. Please contact the School for details. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31(Graduate Schools), Biological Sciences - Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is required for all applicants to the School of Dietetics and Human Nutrition who are submitting non-Canadian and non-U.S. transcripts.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines – Applications, including all supporting documents must reach the School no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Graduate Record Exam (GRE) – The GRE is required for all applicants to the School of Dietetics and Human Nutrition who are submitting non-Canadian and non-U.S. transcripts.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students - Some applicants whose academic degrees and standing entitle them to serious consideration for

admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a Qualifying Program if they have met the School's minimum CGPA of 3.2 out of 4.0. The course(s) to be taken in a Qualifying Program will be prescribed by the academic unit. Qualifying students are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year (two terms) is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

22.5 Program Requirements

M.Sc.

Program requirements for the M.Sc. include a minimum of 45 credits. This is comprised of 31 credits for the thesis (NUTR680, NUTR681, NUTR682, NUTR683), two credits of required seminars (NUTR 695, NUTR696), and four three-credit graduate courses. The student may be advised to take more than four courses.

M.Sc. Applied

Program requirements for the M.Sc. Applied include a minimum of 45 credits. This is comprised of 29 course credits (nine three-credit courses and two credits of required seminars (NUTR 695, NUTR696), and 16 credits of project or practicum courses.

Ph.D.

Requirements for the Ph.D. include a course of study recommended by the committee including a comprehensive examination (NUTR 701), a research dissertation, and two credits of required seminars (NUTR 797, NUTR 798). Course work at the Ph.D. level normally comprises a smaller portion than for the M.Sc. degree. The research program must clearly show originality and be a contribution to knowledge. At least three years are required to meet the Ph.D. requirements. Outstanding students may be permitted to transfer to the Ph.D. program following the first year of M.Sc. study.

22.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses offered only in alternate years.

Denotes courses not offered in 2004-05. (Some courses are given every second year.)

Students may also take courses in other faculties such as Medicine or Education.

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 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: Not open to students who have taken NUTR 410) (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)

NUTR 512 HERBS, FOODS AND PHYTOCHEMICALS. (3) (3 lectures and a project) (Undergraduate prerequisite: FDSC 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 600 ADVANCED CLINICAL NUTRITION 1. (3) (3 lectures) (Prerequisites: Courses in human nutrition, biochemistry and physiology and permission of instructor.)

NUTR 601 ADVANCED CLINICAL NUTRITION 2. (3) (3 lectures) (Prerequisites: NUTR 377, NUTR 344, NUTR 445 or equivalent and permission of instructor.)

NUTR 602 NUTRITIONAL - STATUS ASSESSMENT. (3) (1 lecture and 1 lab) (Prerequisites: courses in human nutrition, biochemistry and physiology.) The understanding and evaluation of dietary and anthropometric indices used in the nutritional assessment of individuals and groups.

NUTR 603 NUTRITIONAL TOXICOLOGY. (3) (Prerequisites: courses in human nutrition, biochemistry and physiology.)

NUTR 604 INTEGRATED METABOLIC RESEARCH. (3) (2 seminars and 1 lab visit) (Prerequisites: at least one 500 or 600-level course in nutritional biochemistry, e.g. ANSC 551, ANSC 552, ANSC 634, and permission of instructor.) An in-depth analysis of concepts and investigative approaches to in vivo metabolic nutrition research. Seminars will emphasize stable isotope kinetic studies. Visiting scientists and tours of other laboratories will expose students to different approaches to research.

NUTR 606 HUMAN NUTRITION RESEARCH METHODS. (3) (3 lectures) (Prerequisites: A graduate course in statistics or permission of the instructor.)

NUTR 608 SPECIAL TOPICS 1. (3) (Prerequisite: permission of instructor and Director of School. Restricted to graduate students in Nutrition.) Prescribed reading, conference, lectures, assignments and/or practical work on selected topics in student's area of specialization. An approved course outline must be on file in the School's office prior to registration.

NUTR 609 SPECIAL TOPICS 2. (3) (Prerequisite: permission of instructor and Director of School. Restricted to graduate students in Nutrition.) An individualized course to allow students to undertake projects in library, laboratory, or field study. An approved course outline must be on file in the School's office prior to registration.

NUTR 610 MATERNAL AND CHILD NUTRITION. (3)

NUTR 620 NUTRITION OF INDIGENOUS PEOPLES. (3) (Prerequisite: One course in nutritional sciences.)

NUTR 623 FUNCTIONAL FOODS. (3) (Prerequisite: NUTR 207, NUTR 307 or equivalent) The science and application of functional foods and nutraceuticals in the context of maintenance of optimal health and disease risk reduction. Legislative and regulatory frameworks which control the use of the functional foods and nutraceuticals sector.

NUTR 651 M.Sc. (APPLIED) NUTRITION 1. (3) (Corequisites: NUTR 606, NUTR 695) Review of literature and problem definition for both the project option or for placement preparation for practicum option. This course relates to the Human Nutrition M.Sc. (Applied) degree and is required for both project and practicum options.

NUTR 652 M.Sc. (APPLIED) PROJECT 1. (3) (Prerequisite: NUTR 651) Project design and planning.

NUTR 653 M.Sc. (APPLIED) PROJECT 2. (3) (Prerequisite: NUTR 652) Project execution. This project relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 654 M.Sc. (APPLIED) PROJECT 3. (3) (Prerequisite: NUTR 653) Continuation of project execution and data collection; preliminary analysis. This project relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 655 M.Sc. (APPLIED) PROJECT 4. (3) (Prerequisite: NUTR 654) Data analysis. Submission of project report. This project relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 656 M.Sc. (APPLIED) PRACTICUM 1. (3) (Prerequisite: NUTR 651) Clinical or community placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 657 M.Sc. (APPLIED) PRACTICUM 2. (3) (Prerequisite: NUTR 656) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 658 M.Sc. (APPLIED) PRACTICUM 3. (3) (Prerequisite: NUTR 657) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 659 M.Sc. (APPLIED) PRACTICUM 4. (3) (Prerequisite: NUTR 658) Continuation of placement (4 weeks). Submission of placement report. This practicum relates to the Human Nutrition M.Sc. (Applied) degree.

NUTR 660 M.Sc. (APPLIED) NUTRITION 2. (1) (Prerequisites: NUTR 653; NUTR 659 or NUTR 655) Oral presentation. This presentation relates to the Human Nutrition M.Sc. (Applied) degree, project and practicum options.

NUTR 680 HUMAN NUTRITION M.Sc. THESIS 1. (6) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis.

NUTR 680D1 (3), NUTR 680D2 (3) HUMAN NUTRITION M.Sc. THESIS 1. (Students must register for both NUTR 680D1 and NUTR 680D2) (No credit will be given for this course unless both NUTR 680D1 and NUTR 680D2 are successfully completed in consecutive terms) (NUTR 680D1 and NUTR 680D2 together are equivalent to NUTR 680)

NUTR 680N1 HUMAN NUTRITION M.Sc. THESIS 1. (3) (Students must also register for NUTR 680N2) (No credit will be given for this course unless both NUTR 680N1 and NUTR 680N2 are successfully completed in a twelve month period) (NUTR 680N1 and NUTR 680N2 together are equivalent to NUTR 680)

NUTR 680N2 HUMAN NUTRITION M.Sc. THESIS 1. (3) (Prerequisite: NUTR 680N1) (No credit will be given for this course unless both NUTR 680N1 and NUTR 680N2 are successfully completed in a twelve month period) (NUTR 680N1 and NUTR 680N2 together are equivalent to NUTR 680)

NUTR 681 HUMAN NUTRITION M.Sc. THESIS 2. (6) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis. Presentation of a thesis proposal.

NUTR 681D1 (3), NUTR 681D2 (3) HUMAN NUTRITION M.Sc. THESIS 2. (Students must register for both NUTR 681D1 and NUTR 681D2) (No credit will be given for this course unless both NUTR 681D1 and NUTR 681D2 are successfully completed in consecutive terms) (NUTR 681D1 and NUTR 681D2 together are equivalent to NUTR 681) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis. Presentation of a thesis proposal.

NUTR 681N1 HUMAN NUTRITION M.Sc. THESIS 2. (3) (Students must also register for NUTR 681N2) (No credit will be given for this course unless both NUTR 681N1 and NUTR 681N2 are successfully completed in a twelve month period) (NUTR 681N1 and NUTR 681N2 together are equivalent to NUTR 681)

NUTR 681N2 HUMAN NUTRITION M.Sc. THESIS 2. (3) (Prerequisite: NUTR 681N1) (No credit will be given for this course unless both NUTR 681N1 and NUTR 681N2 are successfully completed

in a twelve month period) (NUTR 681N1 and NUTR 681N2 together are equivalent to NUTR 681)

NUTR 682 HUMAN NUTRITION M.Sc. THESIS 3. (9) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis.

NUTR 682D1 (4.5), NUTR 682D2 (4.5) HUMAN NUTRITION M.Sc. THESIS 3. (Students must register for both NUTR 682D1 and NUTR 682D2) (No credit will be given for this course unless both NUTR 682D1 and NUTR 682D2 are successfully completed in consecutive terms) (NUTR 682D1 and NUTR 682D2 together are equivalent to NUTR 682) Independent research under the direction of a supervisor toward completion of the M.Sc. thesis.

NUTR 682N1 HUMAN NUTRITION M.Sc. THESIS 3. (4.5) (Students must also register for NUTR 682N2) (No credit will be given for this course unless both NUTR 682N1 and NUTR 682N2 are successfully completed in a twelve month period) (NUTR 682N1 and NUTR 682N2 together are equivalent to NUTR 682)

NUTR 682N2 HUMAN NUTRITION M.Sc. THESIS 3. (4.5) (Prerequisite: NUTR 682N1) (No credit will be given for this course unless both NUTR 682N1 and NUTR 682N2 are successfully completed in a twelve month period) (NUTR 682N1 and NUTR 682N2 together are equivalent to NUTR 682)

NUTR 683 HUMAN NUTRITION M.Sc. THESIS 4. (10) Final submission, thesis defense seminar and approval of the M.Sc. thesis.

NUTR 683D1 (5), NUTR 683D2 (5) HUMAN NUTRITION M.Sc. THESIS 4. (Students must register for both NUTR 683D1 and NUTR 683D2) (No credit will be given for this course unless both NUTR 683D1 and NUTR 683D2 are successfully completed in consecutive terms) (NUTR 683D1 and NUTR 683D2 together are equivalent to NUTR 683)

NUTR 683N1 HUMAN NUTRITION M.Sc. THESIS 4. (5) (Students must also register for NUTR 683N2) (No credit will be given for this course unless both NUTR 683N1 and NUTR 683N2 are successfully completed in a twelve month period) (NUTR 683N1 and NUTR 683N2 together are equivalent to NUTR 683)

NUTR 683N2 HUMAN NUTRITION M.Sc. THESIS 4. (5) (Prerequisite: NUTR 683N1) (No credit will be given for this course unless both NUTR 683N1 and NUTR 683N2 are successfully completed in a twelve month period) (NUTR 683N1 and NUTR 683N2 together are equivalent to NUTR 683)

NUTR 695 HUMAN NUTRITION SEMINAR 1. (1) Students will present a recent original research article in which the methods and data presentation will be critically analyzed. The article must be approved by the instructor.

NUTR 696 HUMAN NUTRITION SEMINAR 2. (1) Students will present a recent original research article in which the methods and data presentation will be critically analyzed. The article must be approved by the instructor.

NUTR 701 DOCTORAL COMPREHENSIVE EXAMINATION. (0) (See Faculty Regulations)

NUTR 797 HUMAN NUTRITION SEMINAR 3. (1) Doctoral candidates will present a recent original research article in which the methods and data presentation will be critically analyzed. The article must be approved by the instructor.

NUTR 798 HUMAN NUTRITION SEMINAR 4. (1) Doctoral candidates will present a group of recent research articles in which the methods and data presentation will be critically analyzed. The articles must be approved by the instructor.

23 Earth and Planetary Sciences

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Chair — A. Mucci

23.1 Staff

Emeritus Professors

E.W. Mountjoy; B.A.Sc.(Br.Col.), Ph.D.(Tor.)
W.H. MacLean; B.Geol.Eng.(Colo. Sch. of Mines), M.Sc.(A),
Ph.D.(McG.)
C.W. Stearn; B.Sc.(McM.), M.S., Ph.D.(Yale), F.R.S.C.

Professors

J. Arkani-Hamed; B.Eng.(Tehran), Ph.D.(M.I.T.)
D. Francis; B.Sc.(McG.), M.Sc.(Br.Col.), Ph.D.(M.I.T.)
A.J. Hynes; B.Sc.(Tor.), Ph.D.(Cantab.)
O.G. Jensen; B.Sc., M.Sc., Ph.D.(Br.Col.)
R.F. Martin; B.Sc.(Ott.), M.S.(Penn. St.), Ph.D.(Stan.)
A. Mucci; B.Sc., M.Sc.(Montr.), Ph.D.(Miami)
A.E. Williams-Jones; B.Sc., M.Sc.(Natal), Ph.D.(Queen's)

Associate Professors

D. Baker; B.A.(Chic.), Ph.D.(Penn. St.)
B. Hart; B.A.(McM.), M.Sc.(Que.), Ph.D.(W.Ont.)
J. Paquette; B.Sc., M.Sc.(McG.), Ph.D.(Stonybrook)
J. Stix; A.B.(Dart.), M.Sc., Ph.D.(Tor.)
H. Vali; B.Sc., M.Sc., Ph.D.(Munich) (*Director, Electron
Microscopy Centre*)

Assistant Professors

M. Best; B.Sc.(Laur.), Ph.D.(Chic.)

Lecturer

S.T. Ahmedali

Associate Members

M. Bilodeau (Mining Engineering)
B. Volesky (Chemical Engineering)

Adjunct Professors

H. Hofmann, B. Minarik, B. Sundby

Research Associate

P. Lorrain

23.2 Programs Offered

Opportunities for advanced study and research in geology, geochemistry, geophysics, planetary sciences and oceanography are available to qualified students. Graduate programs leading to the M.Sc., and Ph.D. degrees are offered.

Financial assistance is available in the form of demonstratorships, research assistantships and scholarships.

AREAS OF RESEARCH

Economic Geology

Application of geochemistry in understanding the genesis of hydrothermal mineral deposits (Cu, Mo, W, Sn, Au, Ag, and REE), in particular those associated with felsic intrusives and carbonatites. Experimental simulations of fluid-rock interaction and investigation of metal solubility and speciation at elevated temperatures and pressures.

Environmental Geology and Low Temperature Geochemistry

Low-temperature geochemistry and chemical oceanography; chemical thermodynamics and kinetics of solid solution reactions

in natural environments; early diagenesis of marine, coastal, and estuarine sediments; crystal growth mechanisms in low-temperature aqueous solutions and their influence on element partitioning in minerals.

High-Temperature Geochemistry

Experimental and theoretical studies of melting and crystallization in oxide, silicate and sulfide systems at temperatures and pressures up to 2200°C and 5.5 Gpa. Spectroscopic studies of the structure of silicate melts and their transport properties, diffusion and viscosity. Effects of volatiles on the melting and crystallization of igneous systems.

Igneous Petrology

Orogenic and non-orogenic magmatism, alkali feldspars as indicators of magmatic and post-magmatic processes; high-temperature geochemistry, experimental investigation of petrogenetic processes, structure and properties of silicate melts and glasses, physical and chemical controls on volcanic eruptions.

Mineralogy/Crystal Chemistry

Studies of crystal growth mechanism of minerals, with emphasis on carbonate minerals, natural and synthetic, of sedimentary and hydrothermal origin. X-ray diffraction, electron probe microanalysis, atomic force microscopy and cathodoluminescence are used to study the influence of conditions of growth on the incorporation of trace elements, surface topography and crystal morphology.

Petroleum Geoscience

Integrated studies of hydrocarbon reservoirs using 3-D seismic data, borehole logs, core and outcrop analogues; reservoir compartmentalization by stratigraphic and structural features; attribute-based prediction of physical properties; naturally fractured tight-gas reservoirs.

Planetary Sciences

Geophysical potential fields, dynamics of planetary interiors; global geodynamics and physics of Earth's interior; seismology – tectonophysics, geophysical systems analysis. Origin and evolution of basic magmas in the mantles of the terrestrial planets.

Sedimentary Geology

Sedimentology and stratigraphy of modern and ancient clastic and carbonate systems from outcrop, marine sampling, and subsurface data; sequence stratigraphy; diagenesis.

Tectonics

Tectonics and structural geology, transpression in the Canadian Cordillera, origin of the Hudson Bay Arc, gravity features of sutures in the Canadian Shield, uplift of the Laurentides, paleomagnetism and plate motions.

Volcanology

Physical and chemical approaches to the study of active volcanoes and magmatic-hydrothermal systems; caldera systems, including the chemistry of silicic volcanic rocks, field and experimental studies of collapse mechanisms, and comparisons of recent and ancient caldera systems; magmatic volatiles and volcanic gas studies; arc volcanism, including eruption monitoring; and subaqueous volcanism, including experimental studies of subaqueous pyroclastic flows, and fragmentation of magma.

23.3 Admission Requirements

Applicants should have an academic background equivalent to that of a McGill graduate in the Honours or Major program in geology, geophysics, chemistry, or physics (3.0 out of 4.0). The admissions committee may modify the requirements in keeping with the field of graduate study proposed. In some cases a qualifying year may be required.

23.4 Application Procedures

Applications and all supporting documents should be received in the Department before May 1st for admission the following September. Applicants who want to be considered for entrance awards, or requiring financial assistance, should apply as early as

January 1st. There are no special forms required to apply for financial aid from the Department, as all applicants will be considered for the awards for which they are eligible.

Candidates should indicate their field(s) of interest when making formal application for admission. Specific inquiries concerning the Department should be addressed to Graduate Admissions, Department of Earth and Planetary Sciences.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

23.5 Program Requirements

M.Sc. Degree (45 credits)

The M.Sc. degree program includes:

- 12 credits from formal graduate courses to be chosen with the approval of the research director and Director of Graduate Studies and
- a thesis (33 credits) to be submitted according to the regulations of the Graduate and Postdoctoral Studies Office and the Department.

Ph.D. Degree

The Ph.D. degree program comprises:

- an approved program of courses selected in consultation with the student's academic adviser, and approved by the Academic Standing Committee,
- a Comprehensive oral examination at the end of the Ph.D.II, and
- research leading to a Ph.D. thesis followed by an oral defense.

Highly qualified B.Sc. graduates may be admitted directly to the Ph.D.I year. Students with the M.Sc. degree may be admitted to either the Ph.D.I or Ph.D.II year, depending on their background. Students are required to take 18 credits of graduate course study in the Ph.D.I year, and 6 credits plus a comprehensive oral examination in the Ph.D.II year. There is no language requirement for the Ph.D. degree.

23.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

EPSC 501 CRYSTAL CHEMISTRY. (3) (Fall) (2 hours lectures, 1 hour seminar) (Undergraduate Prerequisite: CHEM 203 or CHEM 213)

EPSC 510 GEODYNAMICS AND GEOMAGNETISM. (3) (Winter) (3 lecture) (Prerequisites: EPSC 320, MATH 319 or permission of the instructor. Corequisite: EPSC 350)

EPSC 519 ISOTOPE GEOLOGY. (3) (Fall) (3 lectures) (Prerequisites: U2 core program)

EPSC 525 SUBSURFACE MAPPING. (3) (Winter) (Prerequisites: EPSC 455 or permission of instructor)

EPSC 530 VOLCANOLOGY. (3) (Fall) (2 hours lecture, 3 hours laboratory) (Prerequisites: EPSC 212 and EPSC 312, or permission of instructor)

EPSC 542 CHEMICAL OCEANOGRAPHY. (3) (Fall) (Prerequisites: CHEM 213, CHEM 257 or equivalents, or registration in 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. CO₂ and the carbonate system. Chemical speciation. Physical chemistry of seawater. Organic matter and the carbon cycle in the marine environment. Sediment geochemistry.

EPSC 547 HIGH-TEMPERATURE GEOCHEMISTRY. (3) (Fall) (2 hours lectures, 3 hours laboratory) (Prerequisites: CHEM 203, CHEM 204 or CHEM 213, or permission of instructor)

EPSC 548 PROCESSES OF IGNEOUS PETROLOGY. (3) (Winter) (2 hours lecture, 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 lecture, 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) (Prerequisite: One course in ore petrology (EPSC 451 or EPSC 452) or permission of the instructor)

EPSC 562 ORE-FORMING PROCESSES 2. (3) (Winter) (Prerequisite: One course in mineral deposits (EPSC 451 or EPSC 452) or permission of the instructor)

EPSC 570 COSMOCHEMISTRY. (3) (Fall) (3 hours lecture) (Prerequisites: EPSC 220, EPSC 210 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) (Winter) (3 hours lecture) (Prerequisites: EPSC 210, EPSC 212 or permission of instructor)

EPSC 590 APPLIED GEOCHEMISTRY SEMINAR. (3) (Winter) (3 hours seminar) (Prerequisite: permission of instructor)

EPSC 601 FELSIC IGNEOUS PETROLOGY. (3) (Prerequisite: EPSC 423 or equivalent)

EPSC 603 MAFIC IGNEOUS ROCKS. (3) (Prerequisite: EPSC 423 or equivalent)

EPSC 613 REGIONAL STRUCTURAL ANALYSIS. (3) (2 hours lectures, 2 hours lab) Interpretation of structural measurements in complexly-deformed rocks. Regional geometric, kinematic and tectonic analysis.

EPSC 631 FIELD STUDIES - OROGENIC BELTS. (3) Traverse of a major orogenic belt (usually the Acadian and Taconic of New Brunswick, Nova Scotia and Quebec). The principal tectonic units and the major igneous, depositional, metamorphic and tectonic events and processes. Interpretation of orogenic belts in terms of continental-margin evolution, the opening and closure of ocean basins, collision of island arcs and continents and the arrival of "rafted terrains".

EPSC 631D1 (1.5), EPSC 631D2 (1.5) FIELD STUDIES - OROGENIC BELTS. (2-week field course in May, plus assigned papers) (Students must register for both EPSC 631D1 and EPSC 631D2) (No credit will be given for this course unless both EPSC 631D1 and EPSC 631D2 are successfully completed in consecutive terms)

EPSC 644 TOPICS - ADVANCED EARTH SCIENCES 1. (3) (3 hours lectures or seminars) A survey of a research topic of particular current interest.

EPSC 645 TOPICS - ADVANCED EARTH SCIENCES 2. (3) (3 hours lectures or seminars) A survey of a research topic of particular current interest.

EPSC 655 ALTERATION LITHOGEOCHEMISTRY. (3) (2 hours lecture, 3 hours lab)

EPSC 697 THESIS PREPARATION 1. (9) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 697D1 (4.5), EPSC 697D2 (4.5) THESIS PREPARATION 1. (Students must register for both EPSC 697D1 and EPSC 697D2) (No credit will be given for this course unless both EPSC 697D1 and EPSC 697D2 are successfully completed in consecutive terms) (EPSC 697D1 and EPSC 697D2 together are equivalent to EPSC 697) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 697N1 THESIS PREPARATION 1. (4.5) (Students must also register for EPSC 697N2) (No credit will be given for this course unless both EPSC 697N1 and EPSC 697N2 are successfully completed in the a twelve month period) (EPSC 697N1 and EPSC 697N2 together are equivalent to EPSC 697) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 697N2 THESIS PREPARATION 1. (4.5) (Prerequisite: EPSC 697N1) (No credit will be given for this course unless both EPSC 697N1 and EPSC 697N2 are successfully completed in the a twelve month period) (EPSC 697N1 and EPSC 697N2 together are equivalent to EPSC 697)

EPSC 698 THESIS PREPARATION 2. (12) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 698D1 (6), EPSC 698D2 (6) THESIS PREPARATION 2. (Students must register for both EPSC 698D1 and EPSC 698D2) (No credit will be given for this course unless both EPSC 698D1 and EPSC 698D2 are successfully completed in consecutive terms) (EPSC 698D1 and EPSC 698D2 together are equivalent to EPSC 698)

EPSC 698N1 THESIS PREPARATION 2. (6) (Students must also register for EPSC 698N2) (No credit will be given for this course unless both EPSC 698N1 and EPSC 698N2 are successfully completed in a twelve month period) (EPSC 698N1 and EPSC 698N2 together are equivalent to EPSC 698) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 698N2 THESIS PREPARATION 2. (6) (Prerequisite: EPSC 698N1) (No credit will be given for this course unless both EPSC 698N1 and EPSC 698N2 are successfully completed in a twelve month period) (EPSC 698N1 and EPSC 698N2 together are equivalent to EPSC 698)

EPSC 699 THESIS PREPARATION 3. (12) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presen-

tation of an adequate progress report to the supervisory committee.

EPSC 699D1 (6), EPSC 699D2 (6) THESIS PREPARATION 3. (Students must register for both EPSC 699D1 and EPSC 699D2) (No credit will be given for this course unless both EPSC 699D1 and EPSC 699D2 are successfully completed in consecutive terms) (EPSC 699D1 and EPSC 699D2 together are equivalent to EPSC 699) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 699N1 THESIS PREPARATION 3. (6) (Students must also register for EPSC 699N2) (No credit will be given for this course unless both EPSC 699N1 and EPSC 699N2 are successfully completed in a twelve month period) (EPSC 699N1 and EPSC 699N2 together are equivalent to EPSC 699) Independent study, theoretical and/or laboratory work in connection with the development of an M.Sc. thesis. Success in the course is dependent on presentation of an adequate progress report to the supervisory committee.

EPSC 699N2 THESIS PREPARATION 3. (6) (Prerequisite: EPSC 699N1) (No credit will be given for this course unless both EPSC 699N1 and EPSC 699N2 are successfully completed in a twelve month period) (EPSC 699N1 and EPSC 699N2 together are equivalent to EPSC 699)

EPSC 700 PRELIMINARY DOCTORAL EXAMINATION. (0)

EPSC 700D1 (0), EPSC 700D2 (0) PRELIMINARY DOCTORAL EXAMINATION. (Students must register for both EPSC 700D1 and EPSC 700D2) (No credit will be given for this course unless both EPSC 700D1 and EPSC 700D2 are successfully completed in consecutive terms) (EPSC 700D1 and EPSC 700D2 together are equivalent to EPSC 700)

EPSC 706 ADVANCED SEDIMENTOLOGY. (6) (2 hours lectures or seminar and 3 hours lab)

EPSC 706D1 (3), EPSC 706D2 (3) ADVANCED SEDIMENTOLOGY. (Students must register for both EPSC 706D1 and EPSC 706D2) (No credit will be given for this course unless both EPSC 706D1 and EPSC 706D2 are successfully completed in consecutive terms) (EPSC 706D1 and EPSC 706D2 together are equivalent to EPSC 706)

EPSC 710 GEOTECTONICS. (3) (Fall) (2 hours lectures or seminars) Plate tectonics and orogenesis. Plate tectonics in the geologic past. Problems of tectonic evolution in Precambrian time.

EPSC 715 INSTRUMENTAL ANALYSIS. (3) (3 hours lectures, 3 hours lab) Application of analytical instrumental techniques to obtaining reliable chemical data from complex (geological and environmental) materials, and evaluation of the data in problem solving. Electron Microprobe Analysis (WDS and EDS), Scanning Electron Microscopy, X-ray Fluorescence Spectrometry, X-ray Diffraction, Atomic Spectroscopy (Atomic Absorption, ICP and ICP-MS). Neutron Activation Analysis.

EPSC 725 INDEPENDENT STUDIES 1. (3) (Not available to students who have taken EPSC 720. Ineligible for credit in M.Sc. Thesis program) Research and/or reading project. Independent study under the guidance of qualified staff in areas of special interest to the student.

EPSC 726 INDEPENDENT STUDIES 2. (3) (Not available to students who have taken EPSC 720. Ineligible for credit in M.Sc. Thesis program) Research and/or reading project. Independent study under the guidance of qualified staff in areas of special interest to the student.

24 East Asian Studies

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Chair — G. Fong

Director of Graduate Program — T. Looser

24.1 Staff

Professors

K. Dean; B.A.(Brown), M.A., Ph.D.(Stan.)
R.D.S. Yates; B.A., M.A.(Oxon), M.A.(Calif.), Ph.D.(Harv.)

Associate Professors

G. Fong; B.A., M.A.(Tor.), Ph.D.(Br. Col.)
T. Lamarre; B.A.(Georgetown), M.A., Ph.D.(Chic.),
D.Sc.(Aix-Marseille II)
T. Looser; B.A.(UC Santa Cruz), M.A., Ph.D.(Chic.)

Assistant Professors

P. Button; B.A.(Col.), M.A., Ph.D.(C'nell)
A. McKnight; B.A.(Wellesley), M.A., Ph.D.(UC Berkley)
H. Nakatani; B.A.(Tokyo), M.A.(Lond.), Ph.D.(Chic.)

Faculty Lecturers

J. Chang; B.A.(Taiwan), M.A.(Harv.)
S. Hasegawa; M.A.(Montr.)
M. Kim; B.A., M.A.(Montr.)
M. Uesaka; B.Sc.(Kyoto), M.A.(McG.)
B. Wang; B.A.(Heilongjiang), M.A.(Calg.)

24.2 Programs Offered

M.A. in East Asian Studies (*Ad Hoc*).

Ph.D. in East Asian Studies (*Ad Hoc*).

24.3 Admission Requirements

General

TOEFL and GRE (if applicable).

Applicants who have an undergraduate degree from outside Canada will need to take the Graduate Record Examination. A minimum TOEFL score of 577 on the paper-based test (or 233 on the computer-based test) is required for all applicants whose native language is not English.

M.A.

Applicants must hold, or expect to hold by September of the year of entry, a bachelor's degree for entry into the M.A. program. Applicants should have a Bachelor of Arts degree with a specialization in East Asia; applicants without this specialization who possess a strong disciplinary background are also invited to apply. Those who have experience with an Asian language, but no formal course work, will be required to take a placement test on admission. Those without knowledge of an Asian language will be required to take three qualifying terms (Fall, Winter, Summer) in which they will complete the second year of language; a minimum of a B+ average must be maintained.

Ph.D.

Applicants must hold, or expect to hold by September of the year of entry, a master's degree in East Asian Studies for entry into the Ph.D. program.

24.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two copies of official transcripts sent by the university;
3. two letters of reference;
4. \$60 application fee;

5. current curriculum vitae (resumé) and a statement of purpose (approximately 500 words for Master's and 10 pages for Ph.D.) indicating the field in which the applicant wishes to study and the reasons for applying to the program.

All of the above should be submitted directly to the Graduate Director, Department of East Asian Studies.

Deadline: January 7th for September admissions.

We encourage applications via McGill's on-line application form for graduate program students available at www.mcgill.ca/applying/graduate.

24.5 Program Requirements

Program Requirements for the M.A. Degree (*Ad Hoc*) (45 credits)

The Department only offers a thesis option. The M.A. program with thesis includes:

- a) four 3-credit graduate courses (12 credits),
- b) one graduate 3-credit seminar in theory/methodology (3 credits),
- c) one graduate 6-credit seminar or two graduate 3-credit seminars (6 credits), and
- d) thesis (24 credits).

Language Courses:

1. A maximum of 6 credits of language courses at the 500-level or in a classical Asian language may be counted towards course requirements.
2. Students must have fourth-level language equivalency by the completion of their M.A. program.

Program Requirements for the Ph.D. Degree (*Ad Hoc*)

After successfully completing the M.A. degree or its equivalent (45 credits minimum), a student will be admitted to the second year of the Ph.D. program. The Graduate Studies Committee will assign an advisory committee to advise the student and specify the student's course program.

Exceptional students with appropriate background at the undergraduate level may be admitted directly into the Ph.D. program.

Students must complete at least 24 course credits, with a grade point average of 3.5 or better: this course work must be chosen to identify three distinct fields for the Comprehensive Evaluation. Students may take up to two 3-credit courses or one 6-credit course in another department with the approval of the Graduate Studies Committee.

There are four requirements for obtaining the Doctoral degree:

1. Course work – 24 credits at the 600 or 700 level.
2. Language – Candidates will be required to demonstrate reading knowledge of a second Asian language, which may include either modern or literary (classical) language, in addition to the primary Asian language of their research. Candidates will also be expected to demonstrate reading knowledge of both French and English. They may also be required to take a third European language, classical (literary) Chinese, or Japanese, if the Graduate Studies Committee decides those languages are essential for the candidate's research.
3. Ph.D. Comprehensive Evaluation – After the session in which the course work is completed, and no more than one year later except in exceptional circumstances and approved by the Graduate Studies Committee, a candidate will be required to pass the Comprehensive evaluation.
4. Doctoral Dissertation – Within six months after successful completion of the Ph.D. Comprehensive Evaluation, doctoral students should submit to the Graduate Studies Committee, after consultation with the Graduate Program Director and their potential thesis supervisor, a thesis proposal not exceeding five pages. Before submission of the dissertation, candidates are normally required to spend time in Asia researching

their project. Research leading to original scholarship is a prerequisite for the acceptance of a Ph.D. thesis.

24.6 Courses for Graduate Students (M.A. and Ph.D.)

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

EAST 501 A DVANCED TOPICS IN JAPANESE STUDIES 1. (3) (Fall) (Undergraduate Prerequisite: permission of instructor) (Departmental approval required) Consideration of selected topics and aspects of Japanese culture and society.

EAST 502 A DVANCED TOPICS IN JAPANESE STUDIES 2. (3) (Winter) (Undergraduate Prerequisite: permission of instructor) (Departmental approval required) Consideration of selected topics and aspects of Japanese culture and society.

EAST 503 A DVANCED TOPICS IN CHINESE STUDIES 1. (3) (Fall) (Undergraduate Prerequisite: permission of instructor) Consideration of selected topics and aspects of Chinese culture and society.

EAST 504 A DVANCED TOPICS IN CHINESE STUDIES 2. (3) (Winter) (Undergraduate Prerequisite: permission of instructor) (Departmental approval required) Consideration of selected topics and aspects of Chinese culture and society.

EAST 515 SEMINAR: BEYOND ORIENTALISM. (3) (Undergraduate Prerequisite: 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 529 CONTEMPORARY CHINA: ANALYSIS OF CHANGE. (3) (Not open to students who have taken ANTH 329)

EAST 530 FOURTH LEVEL CHINESE. (6) (Summer) (Undergraduate Prerequisite: EAST 430 or equivalent)

EAST 530D1 (3), EAST 530D2 (3) FOURTH LEVEL CHINESE. (Undergraduate Prerequisite: 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 535 CHINESE FOR BUSINESS 1. (3) (Prerequisite: EAST 330 or equivalent or permission of instructor)

EAST 536 CHINESE FOR BUSINESS 2. (3) (Prerequisite: EAST 535 or equivalent or permission of instructor)

EAST 537D1 (3), EAST 537D2 (3) CHINA TODAY THROUGH TRANSLATION. (Undergraduate Prerequisite: students with native or near native proficiency may register directly, other students require per-

mission of instructor) (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. (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: EAST 543 or permission of instructor)

EAST 547 A DVANCED READING AND TRANSLATION IN JAPANESE. (3) (Undergraduate Prerequisite: EAST 440 or permission of the instructor) This course is designed to improve students' skills in reading and translating Japanese. Readings will be taken from various novels, short stories and articles. Translation from Japanese to English or French.

EAST 550 CLASSICAL CHINESE POETRY THEMES AND GENRES. (3) (Undergraduate Prerequisite: EAST 433 or permission of instructor)

EAST 551 TECHNOLOGIES OF SELF IN EARLY CHINA. (3) (Undergraduate Prerequisite: One advanced course in EAS or permission of the instructor)

EAST 559 A DVANCED TOPICS: CHINESE LITERATURE. (3) (Undergraduate Prerequisite: one advanced course in EAST or permission of instructor) (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) (Undergraduate Prerequisite: Any course in EAS above the 200-level and at least a year of an East Asian Language, or permission of instructor)

EAST 563 IMAGES, IDEOGRAMS, AESTHETICS. (3) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: 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.

EAST 569 A DVANCED TOPICS: JAPANESE LITERATURE. (3) (Prerequisite: one advanced course in EAS or permission of instructor) (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 582 JAPANESE CULTURE AND SOCIETY. (3)

EAST 590 MULTIPLE NARRATIVES OF "ORIENT". (3) (Undergraduate Prerequisite: A literature course above the introductory level in EAS or permission of instructor)

- EAST 600 EAST ASIAN STUDIES 1.** (3)
EAST 601 EAST ASIAN STUDIES 2. (3)
EAST 619 TOPICS IN LITERARY THEORY. (3)
EAST 651 SEMINAR IN TAOIST STUDIES 1. (3)
EAST 652 SEMINAR IN TAOIST STUDIES 2. (3)
EAST 653 CHINESE POPULAR CULTURE 1. (3)
EAST 654 CHINESE POPULAR CULTURE 2. (3)
EAST 655 PREMODERN CHINESE POETRY. (3)
EAST 656 PREMODERN CHINESE NARRATIVE. (3)
EAST 657 WOMEN'S WRITINGS IN TRADITIONAL CHINA. (3)
EAST 660 SEMINAR: JAPANESE FICTION. (3)
EAST 661 PREMODERN JAPANESE POETRY AND NARRATIVE. (3)
EAST 662 POPULAR CULTURE IN JAPAN. (3)
EAST 663 JAPANESE CULTURE AND THOUGHT. (3)
EAST 680 SEMINAR: SOCIAL CHANGE IN JAPAN. (3)
EAST 690 THESIS RESEARCH 1. (3)
EAST 691 THESIS RESEARCH 2. (3)
EAST 692 THESIS RESEARCH 3. (3)
EAST 693 THESIS RESEARCH 4. (3)
EAST 694 THESIS RESEARCH 5. (3)
EAST 695 THESIS RESEARCH 6. (3)
EAST 696 THESIS RESEARCH 7. (6)
EAST 696D1 (3), EAST 696D2 (3) THESIS RESEARCH 7. (Students must register for both EAST 696D1 and EAST 696D2) (No credit will be given for this course unless both EAST 696D1 and EAST 696D2 are successfully completed in consecutive terms) (EAST 696D1 and EAST 696D2 together are equivalent to EAST 696)
- EAST 700D1 (3), EAST 700D2 (3) EAST ASIAN STUDIES 3.** (Students must register for both EAST 700D1 and EAST 700D2) (No credit will be given for this course unless both EAST 700D1 and EAST 700D2 are successfully completed in consecutive terms)
- EAST 701D1 (3), EAST 701D2 (3) EAST ASIAN STUDIES 4.** (Students must register for both EAST 701D1 and EAST 701D2) (No credit will be given for this course unless both EAST 701D1 and EAST 701D2 are successfully completed in consecutive terms)
- EAST 750 CHINESE LITERARY THEORY AND CRITICISM.** (3)

25 Economics

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Chair — Christopher Green

25.1 Staff

Emeritus Professors

Irving Brecher; B.A.(McG.), M.S., Ph.D.(Harv.)
 Kari Polanyi-Levitt; B.Sc.(Lond.), M.A.(Tor.)

Professors

Robert D. Cairns; B.Sc.(Tor.), Ph.D.(M.I.T.)
 Russell Davidson; B.Sc., Ph.D.(Glasgow), Ph.D.(U.B.C.)(Canada)
Research Chair
 Antal Deutsch; B.Com.(Sir G. Wms.), Ph.D.(McG.)

John Galbraith; B.A.(Queen's), M.Phil., D.Phil.(Oxon)
(James McGill Professor)
 Christopher Green; M.A.(Conn.), Ph.D.(Wis.)
 Joseph Greenberg; B.A., M.A., Ph.D.(Heb. U. of Jer.)
 Jagdish Handa; B.Sc.(Lond.), Ph.D.(Johns H.)
 Ngo van Long; B.Ec.(LaT.), Ph.D.(A.N.U.) *(James McGill Professor)*
 Robin Thomas Naylor; B.A.(Tor.), M.Sc.(Lond.), Ph.D.(Cantab.)
(on leave 2003-04)
 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
 Myron Frankman; B.Mgt.E.(Renss.), Ph.D.(Texas)
 George Grantham; B.A.(Antioch), M.A., Ph.D.(Yale)
 Franque Grimard; B.A.(York), Ph.D.(Prin.)
 John Iton; B.A.(McG.), Ph.D.(Johns H.)
 C. John Kurien; B.A.(Kerala), M.A., Ph.D.(Vanderbilt)
 Mary MacKinnon; B.A.(Queen's), M.Phil., D.Phil.(Oxon)
 Christopher T.S. Ragan; B.A.(Vic. B.C.), M.A.(Queen's),
 Ph.D.(M.I.T.)
 Lee Soderstrom; B.A., Ph.D.(Calif.)
 Thomas Velk; M.S., Ph.D.(Wis.)
 Alexander Vicas; B.Com.(McG.), M.A., Ph.D.(Prin.)
 William Watson; B.A.(McG.), Ph.D.(Yale)
Assistant Professors
 Jim Engle-Warnick; B.S.(Akron), M.B.A.(Carnegie-Mellon),
 Ph.D.(Pitt.)
 Hassan Bencheekroun; Diplôme d'ingénieur d'état(École
 Mohamedia des ingénieurs, Morocco), Ph.D.(Laval)
 Sonia Laszlo; B.A.(Ott.), M.A.(W.Ont.), Ph.D.(Tor.)
 Daniel Parent; B.A., M.A.(Laval), Ph.D.(Montr.) *(William Dawson Scholar)*
 Nurlan Turdaliev; B.Sc.(Moscow), M.A.(Ark.), Ph.D.(Minn.)
 Licun Xue; B.Eng., M.Eng.(Tianjin), M.A., Ph.D.(McG.)

25.2 Programs Offered

M.A. in Economics, thesis and non-thesis options.
 Ph.D.

Because this Calendar is prepared early in the year, changes may take place after it has been printed. Students are advised to contact the Department Office for supplementary information which may be important to their choice of program.

25.3 Admission Requirements

An Honours B.A. in Economics is the normal requirement, although students holding an ordinary B.A., whether in economics or another discipline, may also be eligible for admission. Students judged by the admissions committee to have deficiencies in their preparation in economics may be admitted to a qualifying year in which they undertake advanced undergraduate work.

Students who have not previously passed a suitable course in statistics must take the undergraduate honours statistics course, ECON257D1/ECON257D2. A course in the history of economic thought is also a prerequisite for a graduate degree in economics, and students who have not taken such a course will be required to take ECON460 and ECON461 or ECON660 (the M.A. course in History of Economic Thought). Students are also expected to have completed or to complete three terms of introductory calculus and at least one term of linear algebra.

25.4 Application Procedures

Applications will be considered upon receipt of:

1. application form
2. two copies of official transcripts sent by the university
3. two letters of reference
4. \$60 application fee
5. original TOEFL and/or GRE results, if applicable.

Information and application form can be downloaded from the Economics Department Web site at www.mcgill.ca/economics.

Deadline: February 1st for financial consideration.

25.5 Program Requirements

Lectures and examinations in the graduate program (M.A. and Ph.D.) in Economics are given in Macroeconomics, Microeconomics and several fields: Econometrics; Economic Development; Economic History; Industrial Organization; International Economics; Labour Economics; Monetary Economics; Public Finance; Mathematical Economics; Advanced Theory. Courses at the 600 level are usually taught in the first-term. Seminars/courses at the 700 level are offered in many of the fields listed above. They are generally given in the second term and normally have as a prerequisite the corresponding 600-level course.

Requirements for the M.A. Degree (48 credits)

I. M.A. with Thesis:

The requirements for the Master's degree are:

1. Successful completion of the following courses with a grade in each of at least B- (65%);
 - ECON610 (3 credits) Microeconomic Theory 1
 - ECON620 (3 credits) Macroeconomic Theory 1
 Twelve complementary credits which must include either ECON665 Quantitative Methods (3 credits) or ECON662D1/ECON662D2 Econometrics (6 credits)
 - A minimum of 6 credits must be taken in the same field.
2. Completion of a Master's thesis, the subject of which must be approved by a thesis committee.

The total thesis program requirement is 48 credits (18 credits of course work and 30 credits for the thesis). An average grade of B (70%) in approved courses is needed for graduation.

Econometrics ECON662D1/ECON662D2 or equivalent is strongly recommended but will not meet the 6-credit field requirement for the M.A.

II. M.A. with Research Paper:

1. Successful completion of the following courses with a grade in each of at least B- (65%):
 - Six required credits:
 - ECON610 (3 credits) Microeconomic Theory 1
 - ECON620 (3 credits) Macroeconomic Theory 1
 Eighteen complementary credits which must include either ECON665 Quantitative Methods (3 credits) or ECON662D1/ECON662D2 Econometrics (6 credits)
 - A minimum of 6 credits must be taken in the same field.
2. A research paper of about 50 pages in length.
 - The total non-thesis program requirement is 48 credits (24 credits for course work and 24 credits for the research report). An average grade of B (70%) in approved courses is needed for graduation.

Econometrics ECON662D1/ECON662D2 or equivalent is strongly recommended but will not meet the six credit field requirement for the M.A.

Residency requirement for the M.A. degree: Three full-time terms for the M.A. degree one of which can be an approved Summer Term. Many students are able to complete the M.A. requirements in one calendar year.

III. M.A. Degree Program Non-thesis Option in Social Statistics:

The program complements disciplinary training with research experience applying statistical methods to Statistics Canada data (or equivalent). Students will normally complete normal program course requirements, supplemented by further statistical courses, as advised by the Option advisor, and subject to approval by the home department. Students will complete a statistics-based M.A.

research paper (Economics, Political Science, Sociology) or thesis (Geography) in conjunction with an interdisciplinary capstone seminar.

Acceptance into the program is by application to the Social Statistics Option Committee and is contingent on acceptance into the M.A. program in one of the participating departments (Economics, Geography, Political Science, Sociology), which in turn requires meeting the Graduate and Postdoctoral Studies Office admission requirements.

REQUIREMENTS FOR THE Ph.D. DEGREE

The requirements for the doctoral degree are:

1. 18 credits in Economics beyond the M.A. requirements, including successful completion of the Econometrics course (ECON662D1/ECON662D2) or its equivalent. Apart from ECON662D1/ECON662D2 or equivalent, at least two of these courses must be in a single field.
2. Successful completion of the Ph.D. Written Comprehensive Examination.
3. A dissertation.
4. Three years of residence (credit for one year may be granted for master's work at McGill or for graduate study at another university).

Ph.D. Comprehensive Examination. This examination consists of written examinations in Macroeconomics, Microeconomics and two fields. A third field is also required, although this requirement is satisfied by successful completion of two courses in that field.

Doctoral Dissertations. Doctoral dissertations make original contributions to the literature. The topic must be approved by a two-person supervisory committee whose Chair is the student's Director of Research. The completed thesis must be approved by an external examiner as well as by two internal examiners before the student may defend the work at a formal oral examination.

25.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ECON 525 PROJECT ANALYSIS. (3) (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 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) (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.

ECON 578 MATHEMATICAL ECONOMICS 2. (3) (Prerequisite: ECON 577)

ECON 602 ECONOMIC HISTORY. (3)

ECON 604 MACROECONOMICS FOR POLICY 1. (3)

ECON 605 MICROECONOMICS FOR POLICY 1. (3)

ECON 606 MACROECONOMICS FOR POLICY 2. (3)

ECON 607 MICROECONOMICS FOR POLICY 2. (3)

ECON 610 MICROECONOMIC THEORY 1. (3) This is the first in a two-course sequence in microeconomics. The core microeconomics sequence (ECON 610, ECON 611) provides a rigorous coverage of the economic foundation upon which economic fields are built. Most of the sequence is devoted to building up this foundation of consumer and firm optimisation (including choice under uncertainty), partial and general equilibrium, and welfare economics. The remainder of 154-611 covers special topics that vary from year to year. These are likely to be drawn from the following: social choice; externalities and public goods; models of asymmetric information; the principal-agent framework; search; basic game theory.

ECON 611 MICROECONOMIC THEORY 2. (3) This is the second in a two-course sequence in microeconomics.

ECON 611D1 (1.5), ECON 611D2 (1.5) MICROECONOMIC THEORY 2. (Students must register for both ECON 611D1 and ECON 611D2) (No credit will be given for this course unless both ECON 611D1 and ECON 611D2 are successfully completed in consecutive terms) (ECON 611D1 and ECON 611D2 together are equivalent to ECON 611)

ECON 620 MACROECONOMIC THEORY 1. (3) This course is the first in a two-course sequence in macroeconomics. The course offers a thorough treatment of the fundamentals of macroeconomic theory. Emphasis is placed on the construction of economic models with microeconomic foundations. Topics include market-clearing and non-market-clearing models, capital accumulation, business cycles, monetary policy and fiscal policy.

ECON 621 MACROECONOMIC THEORY 2. (3) This is the second in a two-course sequence in macroeconomics. The course provides an in-depth analysis of selected issues in macroeconomic theory, extending and complementing the coverage provided in ECON 620.

ECON 622 PUBLIC FINANCE. (3)

ECON 622D1 (1.5), ECON 622D2 (1.5) PUBLIC FINANCE. (Students must register for both ECON 622D1 and ECON 622D2) (No credit will be given for this course unless both ECON 622D1 and ECON 622D2 are successfully completed in consecutive terms) (ECON 622D1 and ECON 622D2 together are equivalent to ECON 622)

ECON 623 MONEY AND BANKING. (3) A rigorous analysis of the demand and supply of money and the role that it plays in the economy. Study of the ideas of the major schools of thought in monetary economics.

ECON 624 INTERNATIONAL ECONOMICS. (3) A detailed examination of theories and policies in international trade and finance.

ECON 624D1 (1.5), ECON 624D2 (1.5) INTERNATIONAL ECONOMICS. (Students must register for both ECON 624D1 and ECON 624D2) (No credit will be given for this course unless both ECON 624D1 and ECON 624D2 are successfully completed in consecutive terms) (ECON 624D1 and ECON 624D2 together are equivalent to ECON 624)

ECON 634 ECONOMIC DEVELOPMENT. (3) A systematic treatment of the characteristics and problems of economic development in underdeveloped countries.

ECON 637 INDUSTRIAL ORGANIZATION AND REGULATION. (3) An analysis of the nature of the firm, industrial structure and the effect of structure on firm and industry behaviour and performance.

ECON 641 LABOUR ECONOMICS. (3) A synthesis of theoretical developments in the area of labour economics with stress upon problems of empirical testing.

ECON 650 RESEARCH 1. (3) Preparation for work on M.A. thesis and M.A. research report.

ECON 651 RESEARCH 2. (3) Preparation for work on M.A. thesis and M.A. research report.

ECON 652 RESEARCH 3. (3) Preparation for work on M.A. thesis and M.A. research report.

ECON 653 RESEARCH 4. (3) Preparation for work on M.A. thesis and M.A. research report.

ECON 660 HISTORY OF ECONOMIC THOUGHT. (3) Selected topics in the history of economic thought.

ECON 662 ECONOMETRICS. (6)

ECON 662D1 (3), ECON 662D2 (3) ECONOMETRICS. (Students must register for both ECON 662D1 and ECON 662D2) (No credit will be given for this course unless both ECON 662D1 and ECON 662D2 are successfully completed in consecutive terms) (ECON 662D1 and ECON 662D2 together are equivalent to ECON 662) A broad treatment of econometric methods, with particular reference to time series processes. Estimation of linear and non-linear models, GLS, IV, Maximum Likelihood, parametric specification testing for linear and non-linear hypotheses, diagnostic testing (autocorrelation, heteroskedasticity, normality, parameter constancy, etc.), modelling technique, non-stationary data processes.

ECON 665 QUANTITATIVE METHODS. (3) A survey of quantitative methods frequently used in economic research. Special emphasis will be placed upon the formulation and evaluation of econometric models. Illustrations will be drawn from the existing empirical literature in economics. Required for all Ph.D. students who have not taken Econometrics as a field.

ECON 670 THESIS 1. (6)

ECON 671 THESIS 2. (6)

ECON 672 THESIS 3. (6)

ECON 680 M.A. REPORT 1. (3) The M.A. Report must demonstrate the candidate's ability to do independent work at the graduate level in a particular field of economics. While length will vary with the subject matter, it is expected that on average reports will be about 50 pages long. The Report will be graded jointly by two members of the Department. The supervisor will normally be one of the examiners.

ECON 681 M.A. REPORT 2. (3) The M.A. Report must demonstrate the candidate's ability to do independent work at the graduate level in a particular field of economics. While length will vary with the subject matter, it is expected that on average reports will be about 50 pages long. The Report will be graded jointly by two members of the Department. The supervisor will normally be one of the examiners.

ECON 681D1 (1.5), ECON 681D2 (1.5) M.A. REPORT 2. (Students must register for both ECON 681D1 and ECON 681D2) (No credit will be given for this course unless both ECON 681D1 and ECON 681D2 are successfully completed in consecutive terms) (ECON 681D1 and ECON 681D2 together are equivalent to ECON 681)

ECON 682 M.A. REPORT 3. (3) The M.A. Report must demonstrate the candidate's ability to do independent work at the graduate level in a particular field of economics. While length will vary with the subject matter, it is expected that on average reports will be about 50 pages long. The Report will be graded jointly by two members of the Department. The supervisor will normally be one of the examiners.

ECON 682D1 (1.5), ECON 682D2 (1.5) M.A. REPORT 3. (Students must register for both ECON 682D1 and ECON 682D2) (No credit will be given for this course unless both ECON 682D1 and ECON 682D2 are successfully completed in consecutive terms) (ECON 682D1 and ECON 682D2 together are equivalent to ECON 682)

ECON 683 M.A. REPORT 4. (3) The M.A. Report must demonstrate the candidate's ability to do independent work at the graduate level in a particular field of economics. While length will vary with the subject matter, it is expected that on average reports will be about 50 pages long. The Report will be graded jointly by two members of the Department. The supervisor will normally be one of the examiners.

ECON 705 READING COURSE: SELECTED TOPICS ECONOMICS. (3) Reading course in Economics.

ECON 706 SELECTED TOPICS. (3) (Prerequisites: ECON 610, ECON 620 and 6 additional credits at the 600 level) Reading course in Economics.

ECON 710 SELECTED TOPICS IN ECONOMICS. (3) Selected topics in specialized areas of Economic.

ECON 720 ADVANCED GAME THEORY. (3)

ECON 721 ADVANCED MONETARY THEORY. (3) Selected topics in monetary theory, the theory of monetary policy, and the history of monetary institutions.

ECON 724 INTERNATIONAL ECONOMICS. (3) Selected problems in international trade, foreign exchange and international movements of capital.

ECON 734 ECONOMIC DEVELOPMENT. (3) Problems of economic growth and planning in selected underdeveloped countries. Topics covered vary from year to year in response to student interests; growth, poverty and income distribution, LDC labour markets and institutions, trade and development, international debt problems, issues in trade policy.

ECON 737 INDUSTRIAL ORGANIZATION AND REGULATION SEMINAR. (3) Builds on material covered in ECON 637. Problems are examined in greater depth with specific topics varying from year to year.

ECON 741 ADVANCED LABOUR ECONOMICS. (3)

ECON 742 EMPIRICAL MICROECONOMICS. (3) (Prerequisite: First term of ECON 662 and either ECON 634 or ECON 641, or consent of the instructor) Surveys the empirical techniques used in applied microeconomic fields, particularly development and labour economics. Focus is on the formulation of empirical models derived from economic theory, and on various estimation methodologies, including panel data econometrics, limited dependent variable models, and duration analysis. A "hands on" approach is emphasized.

ECON 744 HEALTH ECONOMICS. (3)

ECON 750 SELECTED TOPICS: MICROECONOMICS. (3)

ECON 752 TOPICS IN FINANCIAL ECONOMICS. (3)

ECON 761 ECONOMETRICS: TIME SERIES ANALYSIS. (3) (Not open to students who have taken ECON 762) (Offered only in some years)

ECON 762 ECONOMETRICS - ASYMPTOTIC AND FINITE - SAMPLE. (3) Exact and asymptotic distribution theory in econometrics: basic results for estimation and inference in regression models, extensions and other selected topics including nonparametric and distribution-free methods for econometric models.

ECON 762D1 (1.5), ECON 762D2 (1.5) ECONOMETRICS - ASYMPTOTIC AND FINITE-SAMPLE. (Students must register for both ECON 762D1 and ECON 762D2) (No credit will be given for this course unless both ECON 762D1 and ECON 762D2 are successfully completed in consecutive terms) (ECON 762D1 and ECON 762D2 together are equivalent to ECON 762)

ECON 763 FINANCIAL ECONOMETRICS. (3) This course covers advanced time series methods used in the analysis of financial data and other potentially non-stationary time series. Topics: integrated time series, co-integration, unit root testing, conditional heteroscedasticity, long memory, non-parametric and neural network models. Applications include market efficiency, stochastic volatility and predictability of asset returns.

ECON 799 PH.D.COMPREHENSIVE EXAMINATION. (0)

ECON 799D1 (0), ECON 799D2 (0) PH.D. COMPREHENSIVE EXAMINATION. (Students must register for both ECON 799D1 and ECON 799D2) (No credit will be given for this course unless both ECON 799D1 and ECON 799D2 are successfully completed in consecutive terms) (ECON 799D1 and ECON 799D2 together are equivalent to ECON 799)

26 Educational and Counselling Psychology

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Chair — Susanne P. Lajoie

Program Directors:

Professional Psychology Program Grouping
Counselling Psychology — Theodore J. Maroun
School/Applied Child Psychology — Ingrid Sladeczek
Associate Program Director — Jacob A. Burack (Applied Developmental Psychology)

Professional Education Program Grouping
Family Life Education — Theodore J. Maroun
General Educational Psychology — F. Gillian Bramwell
Inclusive and Gifted Education — Nancy Heath

Cognition and Instruction Program Grouping —
Alenoush Saroyan

Associate Program Director — Lynn McAlpine (Adult Education)

26.1 Staff

Emeritus Professors

Eigil Pedersen; B.A.(Sir G. Wms.), M.A.(McG.), Ed.D.(Harv.)
Howard A. Stutt; B.A.(Queen's), B.Ed., M.Ed.(Montr.), F.C.C.T.

Professors

Mark W. Aulls; B.S.(Ball St.), M.Ed.(Ind.), Ed.D.(Georgia)
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.

Jeffrey L. Derevensky; B.A.(C. W. Post), M.A., Ph.D.(McG.)
Janet G. Donald; B.A., M.A.(W. Ont.), Ph.D.(Tor.) (*joint appoint.*
with the Centre for University Teaching and Learning)

Florent R. Dumont; A.B.(Col.), M.S.(S. Conn. St.), Ed.D.(Mass.)
Carl H. Frederiksen; B.A.(Harv.), M.A., Ph.D.(Ill.)
Susanne P. Lajoie; B.A., M.A.(McG.), Ph.D.(Stan.) (*James McGill*
Chair)

Lynn McAlpine; B.A.(McG.), M.A.(C'dia), Ph.D.(Tor.) (*joint*
appoint. with the Centre for University Teaching and Learning)
Bruce M. Shore; B.Sc., M.A.(McG.), Ph.D.(Calg.)
Cynthia B. Weston; B.A. (Georgetown), M.L.S.(S.U.N.Y.),
D.Ed.(Wash.) (*joint appoint. with the Centre for University*
Teaching and Learning)

Associate Professors

Antonio Bernardelli; B.Sc.(Loy. Coll. Montr.), M.Ed., Ed.D. (McG.)
(PT)

Robert J. Bracewell; B.Sc., M.A.(McM.), Ph.D.(Tor.)

F. Gillian Bramwell; B.A., M.A.(Sask.), Ph.D.(C'dia)

Alain Breuleux; B.Sc., M.Sc., Ph.D.(Montr.)

Jack de Stefano; B.A.(Loy. Coll. Montr.), M.A., Ed.D.(McG.) (PT)

Kim Cornish; B.Sc.(Lancaster), Ph.D.(Lond.)

Janet Donin; B.A.(Tor.), M.A.(Ill.), Ph.D.(Cal.) (*joint appoint. with*
Integrated Studies in Education)

James P. Hanrahan; B.A., B.Ed.(St. F. X.), M.A.(McG.),
Ph.D.(Lond.)

Nancy L. Heath; B.A.(McG.), M.Ed.(Ott.), Ph.D.(Tor.) (Frank
Dawson Fellow)

Michael L. Hoover; B.S.(Tulane), M.A., M.Phil., Ph.D.(Col.)
 Robert A. Lavers; B.A.(Bishop's), M.Sc., Ph.D.(McG.)
 Evelyn Lusthaus; B.S., M.S., Ph.D.(S.U.N.Y. Buffalo)
 Theodore J. Maroun; B.S.(S.U.N.Y. Potsdam), M.S.(Canisius),
 M.Ed.(S.U.N.Y. Buffalo), Ed.D.(Ind.)
 Alenoush Saroyan; B.A.(Pahlavi), M.Ed.(Loy. U. Chic.),
 Ph.D.(McG.) (*joint appoint. with the Centre for University
 Teaching and Learning*)
 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.(Maryland)
 Renée Stevens; B.A.(U.C.L.A.), M.A., Ph.D.(McG.) (PT)

Assistant Professors

Marilyn Fitzpatrick; B.A.(Tor.), M.Ed., Ph.D.(McG.)
 Robert Savage; B.A.(Oxf.), M.Sc.(Camb.), M.Sc., Ph.D.(Lond.)
 Ronald Stringer; B.Sc., M.A., Ph.D.(Tor.)
 Victoria Talwar; M.A.(St. Andrews), M.A., Ph.D.(Queens)

Adjunct Professors

Annie Alaku (Kativik School Board), H. Don Allen,
 Joyce F. Benenson, Susan Butler, Franco Carnevale,
 Bertha Dawang, Valentina De Krom (Nunavut Arctic College),
 Marcia A. B. Delcourt (Western Connecticut University),
 Michael J. Dixon (Douglas Hospital), Peter J. Doehring (Douglas
 Hospital), Mary Eljassiapik (Kativik School Board),
 Micki Lane (MVM Communications), Elsa Lo, Henry Markovits,
 Judith A. MacArthur (Kativik School Board), Leonard Shenker,
 Anastassios Stalikas, Michael Thomas

Associate Members

Terry Gandell, Mary H. Maguire, Joseph Rochford, Lalit K.
 Srivastava, Claire-Dominique Walker, Laura Winer, Vicki Zack

Part-time Instructors

Diane Bateman, Andrew Chiarella, Scott Conrod, Dawn Cruchet,
 Adam Finkelstein, Cindy Finn, Karen Gazith-Cohen,
 Pheleshia Hudson, Andrew Hum, Denise Maroun, Judy McBride,
 Sharon Miller, Stephanie Mitelman, Judith Norton,
 Margaret O'Byrne, Rosemary Reilly, Lisa Reisinger,
 Andre Renaud, Kieron Rogan, Tina Roth, Christina Rudd,
 Joan Stafford, Diana Tabatabai, Gerry Weintraub

26.2 Programs Offered

The Department offers M.A. (Non-thesis), M.A. (Thesis), and Ph.D. programs in Counselling Psychology and in Educational Psychology, as well as an M.Ed. in Educational Psychology.

Also offered is a Graduate Diploma in School/Applied Child Psychology (Ph.D. Respecialization); see section 26.5.3 "Professional Psychology Program Grouping – M.A. (Non-thesis), M.A., Ph.D."

For information about graduate programs, please contact the appropriate Program Coordinator (Secretary):

Cognition and Instruction and Professional Education, including Adult Education, Applied Cognitive Science, Computer Applications in Education, Education of the Gifted, Family Life Education, General Educational Psychology, Higher Education, Inclusive (formerly "Special") Education, Instructional Psychology, Psychology of Gender — Mrs. Geri Norton, (514) 398-4244.

Professional Psychology, including Counselling Psychology, School/Applied Child Psychology, and Applied Developmental Psychology — Ms. Diane Bernier, (514) 398-4245.

Graduate programs are organized under two degree designations, Counselling Psychology and Educational Psychology. Within Educational Psychology, degrees are offered in three program groupings, each covering different specializations. Please refer to the detailed subsections following for each to verify which degrees are available and specific requirements.

Educational Psychology Ph.D. programs are organized around a Major and Minor; students may freely select the combination of Major and Minor across program groupings, according to availability. Some of the specializations listed below are available only as Minors, and School/Applied Child Psychology is available only as a Major.

Cognition and Instruction

- Adult Education (admission to this specialization has been suspended)
- Applied Cognitive Science
- Computer Applications in Education (admission to this specialization has been suspended)
- Higher Education
- Instructional Psychology

Professional Education

- Education of the Gifted
- Family Life Education
- General Educational Psychology
- Inclusive Education
- Psychology of Gender

Professional Psychology

- Applied Developmental Psychology
- Counselling Psychology
- School/Applied Child Psychology

Professional Accreditation

The Major in School/Applied Child Psychology of the Ph.D. in Educational Psychology is accredited by the American Psychological Association (APA).

The Ph.D. in Counselling Psychology is jointly accredited by the Canadian Psychological Association and the American Psychological Association.

The Ordre des psychologues du Québec (OPQ) has endorsed accreditation of both the Ph.D. in Counselling Psychology and the Ph.D. in Educational Psychology Major in School/Applied Child Psychology. Both applications have been forwarded to the Office des professions du Québec. Once accredited, graduates of these two programs who are also graduates of recognized undergraduate programs in Psychology (a list is available from the OPQ or the Department) will qualify for automatic admission to the professional practice of Psychology in Quebec. They presently receive "fast track" consideration under the admission procedures for the evaluation of "equivalence". Ph.D. graduates with any other undergraduate preparation, and all graduates until the accreditation process is complete, are eligible to apply for OPQ membership by review of equivalence of their training.

The M.A. (Non-thesis) in Counselling Psychology is accredited by the Ordre professionnel des conseillers et conseillères d'orientation du Québec (OPCCOQ). Graduates of this program meet the professional requirements for licensing as a Counsellor in Quebec. This program does not qualify graduates to meet the requirements for certification as a Psychologist.

The M.Ed. Educational Psychology Concentration in Family Life Education is approved by the Association of Family Life Educators of Quebec (AFLEQ). AFLEQ has established reciprocal recognition of qualifications with the Canadian Association of Family Life Educators.

Graduate degrees in Educational or Counselling Psychology, and elsewhere in Education, do not lead to teaching certification — see the Undergraduate Education Calendar for B.Ed. programs. Holders of other undergraduate degrees may apply to enter the B.Ed. with advanced standing.

Research Facilities

The Department maintains working relationships with specialized centers and research groups offering opportunities for training and research to selected students. This includes the Centre for University Teaching and Learning, concerned with educational improvement and evaluation in higher education; the Centre for Medical Education whose activities focus on training in the health sciences; the Psychoeducational and Counselling Clinic which assists children, adolescents, and adults with learning and other problems; the Neuropsychology Department of Rivière des Prairies Hospital; the Taylor Adolescent Program conducted in association with the Learning Associates of Montreal; the Laboratory of Applied Cognitive Science which conducts research on human learning and performance; the Apple Research Partnership Program (APR) which assists in developing Macintosh software; the Computer-Based Instructional Research Laboratory; the Office

for Student Disabilities (McGill University Student Services); and the High Ability and Inquiry Research Group concerned with giftedness, creativity, and the role of inquiry in teaching and learning. Students considering participation in the activities of any Centre or research group should contact the researchers responsible, their own program director or advisor about eligibility, types of available involvement, and any registration requirements.

Professional Conduct

Several programs (Counselling Psychology, School/Applied Child Psychology, Inclusive Education, and others) have professional components and field placements. In all aspects of any program, on campus and off, students are expected to conduct themselves in accord with the professional standards of all relevant professional associations, in accord with the law (e.g., Youth Protection), and the expectations of organizations receiving 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.

26.3 Admission Requirements

Specific admission requirements vary across degrees and program options. Please see additional details with each detailed description below.

26.4 Application Procedure

McGill's on-line application form is available to all graduate program candidates at www.mcgill.ca/applying/graduate.

All applicants must supply:

1. A completed application form.
2. Official transcripts of post-secondary studies.
3. Letters of reference.
4. Application fee (\$60 Canadian – credit card, cheque or money order, payable in Canadian \$ to "McGill University").
5. TOEFL score (where applicable).

Additional specific requirements apply to particular degrees and program options. Please see additional details with each detailed description below.

Applications including the fee should be addressed to the Program Coordinator (Secretary) at the above address, clearly stating the Degree (M.Ed., M.A. with or without thesis, Ph.D., or Post-Ph.D. Graduate Diploma) and specialization of interest.

The deadline for applications is February 1 for Summer and September admission. Some programs will consider other admission dates — please consult the Program Coordinator (Secretary) beforehand if applying after February 1. Late applications in some programs may be considered if places have not been filled. The September starting date is normally firm in accredited professional programs.

26.5 Program Requirements

26.5.1 Graduate Degrees in Counselling Psychology – M.A.(Non-thesis), M.A., Ph.D.

(see also section 26.5.2 "Graduate Degrees in Educational Psychology – M.Ed., M.A. (Non-thesis), M.A., Ph.D.")

M.A.(NON-THESIS) COUNSELLING PSYCHOLOGY

The aim of the M.A.(Non-thesis) in Counselling Psychology is to produce graduates who (a) are trained in the major academic and applied areas of Counselling Psychology; (b) will be qualified to be counsellors in a variety of settings that require educational, vocational, personal, and developmental counselling; (c) have a knowledge of counselling in both the academic and applied

aspects, and (d) who have an extensive supervised internship in either a clinical or educational setting. This program also qualifies graduates to apply to the Ph.D. program in Counselling Psychology and membership in the OPCCOQ.

Admission Requirements

Admission to this program is limited.

1. Applicants must hold **either**
 - a. an Honours or Major degree (minimum 54 credits) in psychology, with a CGPA of 3.0 out of 4.0 or better; or
 - b. a Baccalaureate degree in a field other than psychology, with a CGPA of 3.0 out of 4.0 or better, and sufficient academic preparation to meet the following requirements:
 - i. a minimum of 36 credits (substantive as distinguished from experiential content) in psychology which includes courses in theories of personality, history and systems of psychology, abnormal psychology, social psychology, inferential statistics, and developmental psychology, and
 - ii. a minimum number of credits in related disciplines in the social sciences sufficient to bring the total of (b.i) and (b.ii) to 54 credits.
 - c. A CGPA of 3.0 out of 4.0 or better in those courses which constitute the 54-credit requirement referred to in a. and b.
2. Normally preference will be given to applicants having related work experience in public mental health or educational settings.
3. Three (3) letters of recommendation.
4. Additional forms must be filed for admission to the program and may be obtained from the Program Coordinator (Secretary) (514) 398-4245. Applicants must provide an unofficial academic transcript before application to the program.
5. An interview with the Program Director or other faculty members may be required.

Program Requirements

This degree requires two years (four semesters) and one summer term of full-time study. All students must also attend weekly case conferences.

M.A.(Non-thesis) Counselling Psychology (60 credits)

Required Courses (30 credits)

EDPC606	(3)	Theories of Counselling 1
EDPC607	(3)	Theories of Counselling 2
EDPC608	(3)	Group Counselling: Theory
EDPC609	(3)	Psychological Testing 1
EDPC615	(3)	Assessment and Diagnosis in Counselling
EDPC618	(3)	Professional Ethics and the Law
EDPC624	(3)	Group Counselling: Practice
EDPC662	(3)	Career Psychology
EDPC665D1	(3)	Practicum
EDPC665D2	(3)	Practicum

Internship – Required (24 credits)

Four 6-credit components reflect various dimensions of the profession. Completion of the internship is essential to becoming a member of the OPCCOQ.

EDPC679	(6)	Internship: General 1
EDPC680D1	(3)	Internship Research Seminar
EDPC680D2	(3)	Internship Research Seminar
EDPC682D1	(3)	Practicum: Psychological Test
EDPC682D2	(3)	Practicum: Psychological Test
EDPC685	(6)	Internship: Vocational and Rehabilitation Counselling

Elective Courses (6 credits)

The following courses may be offered periodically and taken to complete or exceed the academic requirements. Electives may also be chosen from other courses offered by the Department or other departments of the University. Choice of electives requires approval of the student's faculty advisor.

EDPC616	(3)	Individual Reading Course
EDPC630	(3)	Feminism, Women and Psychology
EDPC635	(3)	Counselling for Sexual Adjustment
EDPC636	(3)	Theories of Sex Therapy
EDPC660	(3)	Selected Topics in Counselling
EDPC670	(3)	Current Trends in Counselling
EDPE617	(3)	Adolescent Development

M.A. (THESIS) COUNSELLING PSYCHOLOGY

The aim of the M.A. is to produce graduates who (a) are trained in the major academic areas of Counselling Psychology; (b) have sufficient research ability to evaluate research in counselling; (c) are able to design, conduct and interpret empirical research, and (d) can apply research methods in counselling to common problems and concerns in educational and clinical settings. This program is designed to prepare graduates for research and teaching in the field of counselling psychology and to give them the foundation for doctoral studies that have an emphasis on research. This degree does not fulfil the requirements for membership in either the Quebec Professional Order of Guidance Counsellors (OPCCOQ) or Quebec Order of Psychologists (OPQ) or for acceptance into the McGill Ph.D. in Counselling Psychology.

Graduates of the M.A. program will also need a supplementary internship experience if they wish to fulfil the requirements for membership in the Professional Order of Guidance Counsellors of Quebec (OPCCOQ). This will require an additional year of fieldwork experience. M.A. students are admitted to an internship/fieldwork only with approval of the program staff and if supervisory staff is available.

Admission Requirements

Same as for the M.A. (Non-thesis) Counselling Psychology. Admission to this program is limited.

Program Requirements

Credit for the thesis will be awarded upon satisfactory completion of the thesis components listed below. This degree requires a minimum of four semesters and one summer session of full-time study.

M.A. Counselling Psychology (48 credits)

Required Courses (21 credits)

EDPC606	(3)	Theories of Counselling 1
EDPC607	(3)	Theories of Counselling 2
EDPC608	(3)	Group Counselling: Theory
EDPC609	(3)	Psychological Testing 1
EDPC662	(3)	Career Psychology
EDPC665D1	(3)	Practicum
EDPC665D2	(3)	Practicum

Thesis Component – Required (24 credits)

EDPC697	(6)	Thesis Preparation 1
EDPC698	(6)	Thesis Preparation 2
EDPC699D1	(6)	Thesis Preparation 3
EDPC699D2	(6)	Thesis Preparation 3

Elective Course (3 credits)

Ph.D. IN COUNSELLING PSYCHOLOGY

This program is built on the scientist-practitioner model and is accredited by the Canadian and American Psychological Associations. Its aims are:

- To develop professionals who are able to contribute to the advancement of knowledge in the field of counselling psychology through research that studies social phenomena that may impinge upon the practice of psychology. This research may be a study of the practice of counselling psychology or it may be broader in that it has indirect implications for practice.
- To develop professionals who are able to evaluate the merits and weaknesses of current research in the field and its implications for the practice of counselling psychology.

- To develop professionals who are able to integrate a broad theoretical and practical knowledge base into the practice and supervision of counselling psychology, that is, to train professionals capable of addressing complex issues and applying that understanding to practice and supervision.
- To develop professionals who are able to take a leadership role in the profession at a variety of levels including community, university and professional organizational levels.

Graduates of the program will be prepared to assume careers in education and community settings, including faculty positions, counselling and psychological positions on the staff of university and college mental health centers, and professional positions in psychological agencies offering preventative mental health services.

Admission Requirements

- All Ph.D. applicants must have secured in writing a research supervision commitment from one of the counselling psychology staff members prior to candidacy.
- Each applicant, in addition to having a Master's degree in counselling psychology or its equivalent, must present evidence of research capability such as a Master's thesis, an Honours thesis or, at the minimum, a well-developed proposal for a doctoral thesis.
- All applicants who have not completed a Master's level internship will have their applications evaluated on a case-by-case basis.
- Each applicant is required to take the Graduate Record Examination (General and Psychology Tests).
- Three (3) letters of reference.

Ph.D. in Counselling Psychology

Applicants are advised that in accordance with the Canadian Psychological Association and American Psychological Association criteria for doctoral program accreditation, all doctoral candidates must have a solid grounding in the history of psychology, developmental psychology, abnormal psychology, and the social aspects and determinants of behavior. If applicants to this program do not have such courses in their undergraduate or Master's level education, they will be required to take supplemental courses in these domains after entering the doctoral program.

Required Courses, Comprehensive Examination, and Internship (84 credits)

Required Courses (54 credits)

EDEM692	(3)	Qualitative Research Methods
EDPC709	(3)	Advanced Theories and Models
EDPC714	(3)	Theory / Models: Family Therapy
EDPC719	(3)	Advanced Small Group Counselling
EDPC720D1	(3)	Seminar Vocational Psychology and Career Development Theory
EDPC720D2	(3)	Seminar Vocational Psychology and Career Development Theory
EDPC780	(6)	Professional Development
EDPC782	(6)	Doctoral Field Experience
EDPC786	(6)	Seminar: Research Problems in Counselling
EDPE622	(3)	Multiculturalism and Gender
EDPE627	(3)	Professional Practice of Psychology
EDPE676	(3)	Intermediate Statistics 2
EDPE682	(3)	Univariate/Multivariate Analysis
EDPE684	(3)	Applied Multivariate Statistics
EDPE712	(3)	Neurological Bases of Behavior
EDPC701		Comprehensive Examination

Complementary Courses (6 credits)

EDPE616	(3)	Cognitive Development (or an equivalent course)
EDPE617	(3)	Adolescent Development
or EDPE623	(3)	Social-Emotional Development

Internship – Required (24 credits)

EDPC795	(24)	Supervised Fieldwork: Counselling
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Other Requirements

Most applicants to the Ph.D. program enter with previous supervised fieldwork and with considerable educational and clinical counselling experience. Candidates must coordinate with their academic supervisors an appropriate setting for their fieldwork (pre-doctoral practicum and internship) before entering the formal studies of the program. All students attend weekly case conferences.

A minimum of two years full-time study is required following the Master's degree; three or four are commonly required.

26.5.2 Graduate Degrees in Educational Psychology – M.Ed., M.A. (Non-thesis), M.A., Ph.D.

(see also section 26.5.1 "Graduate Degrees in Counselling Psychology – M.A. (Non-thesis), M.A., Ph.D.")

M.Ed. EDUCATIONAL PSYCHOLOGY

The aim of the M.Ed. is to offer educators advanced professional training in areas where educational psychology can make a practical contribution to teaching, such as (a) the application of the results of educational research, (b) evaluation of student learning, teaching, programs, and educational experimentation and innovation, (c) a greater understanding of human development, individual differences, and the learning process, and (d) a greater understanding of classroom processes and strategies for teaching diverse learners. Courses will be offered at times that enable part-time study. The program is directed toward the innovative teacher at any level. Applicants may choose the general program or one of several concentrations.

The program offers six M.Ed. areas of concentration of studies:

- (a) Adult Education
(admission to this concentration has been suspended),
- (b) Computer Applications
(admission to this concentration has been suspended),
- (c) Education of the Gifted,
- (d) Family Life Education,
- (e) General Educational Psychology,
- (f) Inclusive Education.

Students may design their studies around the Major/Minor areas outlined under the Ph.D. listings. This is especially recommended for students contemplating an application to the Ph.D. (Educational Psychology) following the M.Ed.

Admission Requirements

1. An undergraduate degree in education, psychology, or another field relevant to the proposed studies in Educational Psychology.
2. CGPA of 3.0 out of 4.0 or higher in undergraduate studies.
3. Statements of academic and research experience, relevant professional training and experience.
4. Letters of reference from at least two professional colleagues, or from at least two former university instructors, and any others the applicant wishes should be submitted.

Program Requirements

The program contains three main parts: (a) 3 required courses (9 credits), (b) two required courses (12 credits) constituting a Special Activity, the student's major project intended to demonstrate by performance that the student has succeeded in the program – the Special Activity may be one large project or two smaller ones, and (c) optional courses, totalling 27 credits that allow the student to design an individualized program or specialize in one or more areas of concentration.

Some courses are offered in alternating years. Students should take EDPE602 early in their program. Pre- or corequisite to EDPE602: EDPE575 Educational Measurement or its equivalent; this course may be included as an elective within the 48 credits of the M.Ed. and should be taken first. The program director or advisor for the M.Ed. area of concentration should be consulted about the specific sequence to be followed

Required Courses (21 credits)

EDPE602 (3) Uses of Research Findings in Education

EDPE603 (3) Educational Research and Development for Practitioners

EDPE635* (3) Theories of Learning and Instruction

EDPE697 (6) Special Activity 1

EDPE698** (6) Special Activity 2

* Inclusive Education and Family Life Education students may replace EDPE635 with EDPE636 or take both

** Inclusive Education students may replace EDPE698 with EDPE656

Elective Courses (27 credits)

Optional courses may be selected in consultation with the Program Director for the M.Ed. area of concentration from among the Department's graduate courses and from other courses offered at the graduate level in the University. Optional courses are selected so as to provide students with a coherent program of study in their area of interest and tailored to their needs.

M.Ed. Concentrations

Students may select these as part of their 27 credits of elective courses. Some courses also have prerequisites or corequisites that should be heeded in program planning. Students are welcome to propose to their faculty advisors or the Associate Program Director adaptations of these M.Ed. Concentrations. Completion of the Family Life Education Concentration as described is essential for recognition by the accrediting body.

(a) Adult Education

(Admission to this concentration has been suspended)

The M.Ed. Concentration in Adult Education is offered in collaboration with the Department of Integrated Studies in Education. The program especially addresses professional education and its links with studies in higher education, instructional psychology, and applied cognitive science.

EDPA610 (3) Foundations of Adult Education

EDPA612 (3) The Adult Learner

EDPA614 (3) Teaching the Adult

(b) Computer Applications in Education

(Admission to this concentration has been suspended)

15 credits from among the following:

EDPE640 (3) Research in Computer Applications

EDPE641 (6) Use of the Computer in Educational Instruction

EDPE643 (3) Evaluation - Computer Software and Hardware

EDPE650 (3) Consciousness and Virtual Reality

EDPE660 (3) Artificial Intelligence and Education

(c) Education of the Gifted

EDPI526 (3) Talented and Gifted Students

EDPI536 (3) Practicum Gifted Education 1

plus 3 credits from the following:

EDPI527 (3) Creativity and its Cultivation

EDPI537 (3) Practicum Gifted Education 2

EDPI628 (3) Gifted Students: Special Needs

(d) Family Life Education

EDPC502 (3) Group Processes and Individuals

EDPC507 (3) Practicum: Group Leadership Skills

EDPC540 (3) Foundation of Family Life Education

plus 9 credits from the following:

EDPC501 (3) Helping Relationships

EDPC503 (3) Human Sexuality: Professionals

EDPC504 (3) Practicum: Interviewing Skills

EDPC505 (3) Crisis Intervention Processes

EDPC508 (3) Seminar in Special Topics

EDPC509 (3) Individual Reading Course

EDPC510 (3) Family Life Education and Marriage

EDPE560 (3) Human Development

EDPE564 (3) Family Communication

EDPE565 (3) Psychosocial Aspects of Cancer

EDPE595 (3) Seminar in Special Topics

(e) General Educational Psychology

The program is designed individually by the student in consultation with the student's faculty advisor or Associate Program Director.

(f) Inclusive Education

The following pattern is recommended for students without previous background in inclusive education. With the advice of the student's faculty advisor, the program will be adapted to address students' academic and professional interests and needs.

EDPI642	(3)	Educational of Learners/Special Needs 1
EDPI643	(3)	Education of Learners/Special Needs 2
EDPI645	(3)	Diagnosis and Assessment in Special Education
EDPI654	(3)	Instruction/Curriculum Adaption
EDPI665	(3)	Research and Theory in Learning Disabilities
EDPI667	(3)	Behavioral and Emotional Problems
EDPI680	(3)	Selected Topics in Special Education 1
EDPI526	(3)	Talented and Gifted Students

Since 1997 the Quebec Ministry of Education no longer issues specialist certificates except in initial teacher education. Specialized certificates are not required to seek employment, but school boards will still seek suitably qualified applicants for teaching and consulting positions.

PRE-DOCTORAL STUDIES

M.Ed. students and graduates are eligible to apply to the Ph.D. in Educational Psychology if they have completed the following program elements. These may have been included within the M.Ed. program. Upon completion of the M.Ed., if the uncompleted requirements can be accomplished in one year of study or less, they may be taken in the Ph.D.1 year. Any excess must be completed before Ph.D. studies can begin. The required elements are:

- studies within a Major area to be pursued within the Ph.D. (there is no required number of courses since Major sequences are calculated across Master's and Ph.D. studies),
- the following general courses: (a) EDPE602, (b) EDPE603 (research methods) or EDEM692, EDSL630 or the equivalent (qualitative research methods), and (c) EDPE676 (intermediate statistics).
- a research project in the manner of an M.A. thesis (though less extensive) within at least one of the Special Activities (EDPE697 or EDPE698).

In the Ph.D.1 year for M.Ed. (Educational Psychology) graduates, students will normally complete any remaining Ph.D. required courses listed below, continue study in their Major and Minor sequences, and actively begin their doctoral research. The courses referred to are:

EDPE600	(3)	Current Topics: Educational Psychology
EDPE682	(3)	Univariate/Multivariate Analysis
and, optionally,		
EDPE684	(3)	Applied Multivariate Statistics

All three courses may be taken as options within the M.Ed.

M.Ed. students who contemplate continuing to a Ph.D. (Educational Psychology) Major in the Cognition and Instruction Program Grouping should take EDPE666 and, in addition, take EDPE555 which may supplement or replace EDPE600.

M.A. EDUCATIONAL PSYCHOLOGY (48 credits – or 78 credits for School/Applied Child Psychology)

The aim of the M.A. (with thesis) is to produce graduates who (a) are broadly trained in educational psychology, (b) have sufficient research competence to critically evaluate research in educational psychology, and to design, conduct and report empirical research, and (c) have experience in applying research methods and findings to the solution of practical problems in varied educational settings.

Admission and Program Requirements vary among program areas that correspond to Ph.D. Majors described in "Major Sequences in the Ph.D.(Educational Psychology)" on page 178.

Admission Requirements

1. An undergraduate degree in education, psychology, or another field relevant to the proposed studies in Educational Psychology. It is recommended that some prior study of a relevant branch of psychology form part of the undergraduate training.
2. CGPA of 3.0 out of 4.0 or higher in undergraduate studies.
3. Statements of academic and research experience, relevant professional training and experience.

Program Requirements

Candidates are required to follow an approved course of study, to select a topic for research, and to present the results of such research in the form of an acceptable thesis. Required courses ensure that each graduate will emerge with substantive knowledge of the content and methods used in educational psychology. Optional courses provide an opportunity for qualified candidates to study advanced topics related to their research and to diversify their knowledge of the discipline.

Required Courses (9 credits)

EDPE605	(3)	Research Methods
EDPE676	(3)	Intermediate Statistics 2
EDPE682	(3)	Univariate/Multivariate Analysis

Thesis Component – Required (24 credits)

EDPE604	(3)	Thesis 1
EDPE607	(3)	Thesis 2
EDPE693	(3)	Thesis 3
EDPE694	(3)	Thesis 4
EDPE695	(6)	Thesis 5
EDPE696	(6)	Thesis 6

Complementary Courses (15 credits)

one of:

EDPE600	(3)	Current Topics: Educational Psychology
or EDPE555	(3)	Applied Cognitive Science

and 12 credits to be chosen by students with the approval of their supervisors and the program director. The courses must come from at least two different Major or Minor Ph.D. sequences or other courses in those areas. Courses may be applied toward Ph.D. (Educational Psychology) Major and Minor requirements. It is generally recommended that students make their choices from among the courses required for the Ph.D. Major or Minor sequences or the M.Ed. Concentration in their areas of primary interest. These are enumerated below.

Students intending to proceed to the Ph.D. Majors in Applied Cognitive Science or Instructional Psychology take courses for which EDPE555 Applied Cognitive Science or the equivalent is a prerequisite. Students may take both EDPE555 and EDPE600 among their complementary courses.

26.5.3 Professional Psychology Program Grouping – M.A. (Non-thesis), M.A., Ph.D.

M.A. (NON-THESIS) EDUCATIONAL PSYCHOLOGY

The M.A. (Non-thesis) in Educational Psychology is available only to students admitted to the study sequence leading to the Ph.D. in Educational Psychology (Major in School/Applied Child Psychology). The M.A. is normally awarded after completion of the first two years of the five-year Ph.D., including the School Psychology Research Project.

Admission Requirements

1. Major or Honours B.A. or B.Sc. in Psychology or a B.Ps. including courses in developmental, abnormal, and cognitive psychology, history and systems of psychology, statistics; and results of the Graduate Record Examination (Verbal, Quantitative, and Psychology).
2. GREs should be taken no later than December.
3. A three-page research proposal is required of students applying for entrance with advanced standing.

Program Requirements

Detailed program requirements for the full five-year program are listed below under the Ph.D. Major in School/Applied Child Psychology.

M.A. EDUCATIONAL PSYCHOLOGY

The M.A. in Educational Psychology with thesis in this program grouping is available in two specializations, Applied Developmental Psychology (48 credits) and School/Applied Child Psychology (78 credits). In the latter case, students must begin in the M.A. (Non-thesis) and may request to transfer at the end of the first semester or thereafter.

Admission Requirements

Same as for the M.A. (Non-thesis) specialization in School/Applied Child Psychology.

Program Requirements

Candidates are required to follow an approved course of study, to select a topic for research, and to present the results of such research in the form of an acceptable thesis. Required courses ensure that each graduate will emerge with substantive knowledge of the content and methods used in educational psychology. Optional courses provide an opportunity for qualified candidates to study advanced topics related to their research and to diversify their knowledge of the discipline.

Required Courses (12 credits)

Applied Developmental Psychology and School/Applied Child Psychology:

EDPE600	(3)	Current Topics: Educational Psychology
EDPE605	(3)	Research Methods
EDPE676	(3)	Intermediate Statistics 2
EDPE682	(3)	Univariate/Multivariate Analysis

Thesis Component – Required (24 credits)

Applied Developmental Psychology:

EDPE604	(3)	Thesis 1
EDPE607	(3)	Thesis 2
EDPE693	(3)	Thesis 3
EDPE694	(3)	Thesis 4
EDPE695	(6)	Thesis 5
EDPE696	(6)	Thesis 6

Students in School/Applied Child Psychology who may wish to do an M.A. (with thesis) should consult the Program Director regarding additional requirements.

Complementary Courses (12 credits)

To be chosen by students with the approval of their supervisors and the Program Director. The courses must come from at least two different Major and Minor sequences or other courses in those areas. Courses may be applied toward Ph.D. (Educational Psychology) Major and Minor requirements.

For students in School/Applied Child Psychology there are no complementary courses. All courses taken at the M.A. level are prescribed within the M.A./Ph.D. sequence described below and the total at the M.A. level, including thesis, is 78 credits.

Ph.D. EDUCATIONAL PSYCHOLOGY

Areas including Major sequences:

- Applied Cognitive Science
- Applied Developmental Psychology
- Instructional Psychology
- School/Applied Child Psychology
- Special Populations of Learners (Special Needs Option)
- (Gifted Education Option)

The aim of the Ph.D. is to produce graduates who are competent in planning and implementing basic and applied research on problems of cognition; teaching and learning, and development, applying research methods to the solution of educational problems and the improvement of educational practices. It prepares graduates to work as psychologists, consultants, and program directors in schools or related educational institutions, and for teaching educational psychology at the university level. Opportu-

nities are provided for advanced study, research, clinical practice, practica and internships experience in the application of research.

Admission Requirements

All doctoral students must have a research advisor upon entry to the program. Interested candidates should contact the program coordinator (secretary) for a faculty list or consult the Department Web page. An advisor may be selected from among professors in the Department. It is essential to clearly state the Major. It is helpful to identify the Minor as well.

Students in School/Applied Child Psychology are automatically considered to elect Applied Developmental Psychology as their Minor, but may also add another Minor in some circumstances.

There are two entry levels and patterns:

- + starting at Ph.D.2
- starting at Ph.D.1

The specific requirements to be admitted at each level are as follows:

Ph.D.2 level

- (a) Applicants should hold an M.A. in Educational Psychology from McGill or a recognized equivalent degree, reflecting high overall standing, study within the area of proposed doctoral specialization, and evidence of research competence.
- or
- (b) Applicants should have completed the first year in the Department's M.A. program, with high academic standing in coursework, including study within the area of proposed doctoral specialization, and the completion of a research project supervised by a faculty member.

Ph.D.1 level

- (a) Applicants should hold an M.Ed. in Educational Psychology or a Master's degree in a related discipline (e.g., sociology, social work) lacking only the content in educational psychology that can be acquired within one year of full-time study. The applicant's academic record must reflect high overall standing and evidence of research competence.
- or
- (b) Applicants should hold a Bachelor's degree in psychology, reflecting high academic standing in an Honours or Major program, and have completed an undergraduate thesis or the equivalent. (This option is rarely exercised.)

All applicants will also be expected to provide:

1. at least two letters of recommendation,
2. a 3-5-page summary proposal of the intended thesis research,
3. a statement of experience, career plans, and program appropriateness, and
4. a copy of a Master's thesis, Honours thesis, or research project (which will be returned after examination).

Additional Entrance Notes:**School/Applied Child Psychology**

Applicants are required to supply results of the Graduate Record Examinations (Verbal, Quantitative, and Psychology) at the time of initial application. An undergraduate Major or Honours degree in Psychology is required including courses in developmental, abnormal and cognitive psychology, history and systems in psychology, and statistics. McGill Psychology graduates completing the 36-credit B.A. Major Concentration must complete at least 18 additional credits of senior undergraduate study in psychology or related subjects.

Students will enrol for two years in the M.A. (Non-thesis) in Educational Psychology, and will follow the course sequence noted below. At the end of the first semester or thereafter students may request to change to the M.A. with thesis if supervision is available. Students will receive the M.A. following the second year having completed all the requirements and to proceed directly to Ph.D. 2 in their third year of study unless advised after the third M.A. semester that they are not maintaining a sufficiently high standard to continue to the Ph.D. Such students may elect to complete the M.A. or withdraw.

Applied Developmental Psychology

Applications to the Ph.D. are normally only accepted from the thesis M.A. to Ph.D. route (see the M.A. in Educational Psychology). Other entrance requirements are the same as for School/Applied Child Psychology.

Applicants with exceptional strength in academic studies who do not meet the above requirements may apply for admission to the doctoral program. Such students may be required to complete a qualifying year or term prior to applying for Ph.D. admission.

Program Requirements

All students are required to elect and follow a Major and a Minor sequence. Students who are making satisfactory progress in their studies may be permitted to fulfil the requirements of a second Minor within the programs. Courses from Major and Minor sequences taken during M.A. and M.Ed. studies are counted toward the total. A Major consists of five courses (15 credits), except in School/Applied Child Psychology, and a Minor consists of three courses (9 credits). Each Major and Minor is specified below and the degree of choice of courses within each is indicated separately.

Candidates admitted into Ph.D.2 are required to complete a minimum of two full years of study. Candidates admitted into Ph.D.1 are required to complete a minimum of three full years of study.

A dissertation must be submitted displaying original scholarship expressed in satisfactory literary form and constituting a distinct contribution to knowledge on a problem in educational psychology. Work on the thesis normally begins in the Ph.D.2 year and becomes the major concern in the Ph.D.3 year of a student's program of study.

Each student will be supervised by an advisor who will chair the student's doctoral committee. This committee will have a minimum of three members. It will assist the student and advisor in planning the student's program. It will also be consulted in the nomination of external examiners for the thesis.

Ph.D. Educational Psychology Core Courses

These requirements apply to all Majors and except for EDPE708 (Comprehensive Examination) they may partly or wholly be completed in the M.A. or M.Ed.

Students may replace any course for which they have equivalent background, subject to approval by the Program Director.

Required Courses and Comprehensive Examination

EDPE605 (3) Research Methods
EDPE676 (3) Intermediate Statistics 2
EDPE682 (3) Univariate/Multivariate Analysis
EDPE708 Comprehensive Examination

Complementary Courses (6 credits)

3 credits chosen from:

EDPE684 (3) Applied Multivariate Statistics
EDEM692 (3) Qualitative Research Methods
EDSL630 (3) Qualitative/Ethnographic Methods
or the equivalent

plus 3 credits, as follows:

Students in the Ph.D. Major in Applied Cognitive Sciences choose one of:

EDPE600 (3) Current Topics: Educational Psychology.
EDPE555 (3) Applied Cognitive Psychology

Students in other Ph.D. Majors choose one of:

EDPH689 (3) Teaching and Learning in Higher Education
EDPC780 (6) Professional Development

Language Requirement

Students are not required to demonstrate knowledge of a second language within this program, but anyone wishing to be licensed as a psychologist in Quebec must at that point demonstrate a working knowledge of French. Appropriate courses are available at McGill.

Major Sequences in the Ph.D.(Educational Psychology)

The following sequences are in addition to the Ph.D. Educational Psychology Core courses.

(a) Applied Cognitive Science

Research on the cognitive processes and knowledge structures that underlie learning, competence and performance in educationally significant domains and populations of learners; applied research employing the theories, methods and findings of the cognitive sciences to the analysis of cognitive processes underlying performance in instructional tasks including: reading comprehension, written composition and other literacy skills; computation, mathematical problem solving and other mathematical skills; learning and the acquisition of knowledge and skill in other content domains of school learning and cognitive processes, including differences between novices and experts, and comparative studies of different populations of learners; applications of cognitive analyses of school learning and performance to the improvement of learning and instruction and the diagnosis and remediation of learning difficulties.

Students in the Applied Cognitive Science Major are required to take a total of 30 credits plus the comprehensive examination (12 credits of core requirements for Educational Psychology, 3 credits for Cognition and Instruction, and 15 credits for the Applied Cognitive Science major).

Required Courses (6 credits)

EDPE656 (3) Applied Cognitive Theory/Methods
EDPE666 (3) Cognition and Instruction (to be taken first)

Complementary Courses (9 credits)

9 credits to be chosen from:

EDPE655 (3) Cognitive Science and Education
EDPE661 (3) Discourse Processes and Education
EDPE662 (3) Psycholinguistics and Learning
EDPE663 (3) Learning in Complex Situations
EDPE664 (3) Nature/Development of Expertise
EDPE665 (3) Reasoning and Problem Solving
EDPE668 (3) Advanced Seminar Cognitive

(b) Applied Developmental Psychology

Child and adolescent development including cognitive, language, social issues, and personality development, and gender issues in relation to processes of learning, problems and practices of education, child rearing and family influences, and social interaction in varied educational settings; developmental theories, developmental psychopathology and social policy issues.

Required Courses (9 credits)

EDPE615 (3) Theory/Issues: Child Development
EDPE616 (3) Cognitive Development
EDPE623 (3) Social Emotional Development

Complementary Courses (6 credits)

6 credits from the following, which may be offered in rotation:

EDPE515 (3) Gender Identity Development
EDPE610 (3) History of Developmental Psychology
EDPE620 (3) Developmental Psychopathology
EDPE622 (3) Multiculturalism and Gender
EDPE628 (3) Advanced Seminar - Developmental

(c) Instructional Psychology

Research on cognitive processes applied to instruction and learning in classrooms and other instructional situations at all levels of education including higher education, adult and professional education; applied research on the design of effective instructional environments including educational applications of computers; application of research methods, models and results in evaluating and improving the capacity of classrooms and other instructional environments to support high levels of educational accomplishment in learners with varied backgrounds of knowledge, ability and experience.

Students in the Instructional Psychology Major are required to take a total of 30 credits plus the comprehensive examination

(12 credits of core requirements for Educational Psychology, 3 credits for Cognition and Instruction, and 15 credits for the Instructional Psychology major).

Required Courses (9 credits)

EDPE666 (3) Cognition and Instruction (to be taken first)
 EDPE645 (3) Research on Instructional Processes
 EDPE648 (3) Instructional Psychology Seminar
 (to be taken near the end)

Complementary Courses (6 credits)

to be chosen from:

EDPE535 (3) Instructional Design
 EDPE635 (3) Theories of Learning and Instruction
 EDPE670 (3) Educational Evaluation
 EDPE687 (3) Advanced Qualitative Methods

(d) School/Applied Child Psychology

This program is constructed according to the scientist-practitioner model. Child and adolescent problems faced by practicing school and child psychologists. Research on the educational impact of intellectual deficits, emotional disorders, pervasive developmental disorders, abuse, social-effective and cognitive development, high risk indices, and psychological assessment in school and educationally related settings. Development psychopathology and therapeutic interventions and techniques, coordination of psychological and pedagogical services in educational settings. This is a minimum 96-credit, five-year fixed major that includes the M.A.

Required Courses (60 credits)

EDPC609 (3) Psychological Testing 1
 EDPC610 (3) Psychological Testing 2
 EDPC618 (3) Professional Ethics and the Law
 EDPC682D1 (3) Practicum: Psychological Testing
 EDPC682D2 (3) Practicum: Psychological Testing
 EDPC714 (3) Theory/Models: Family Therapy
 EDPE611 (3) School Psychology Seminar
 EDPE616 (3) Cognitive Development
 EDPE619 (3) Child and Adolescent Therapy
 EDPE620 (3) Developmental Psychopathology
 EDPE622 (3) Multiculturalism and Gender
 EDPE623 (3) Social-Emotional Development
 EDPE625 (3) Practicum 1: School Psychology
 EDPE626 (3) Practicum 2: School Psychology
 EDPE627 (3) Professional Practice of Psychology
 EDPE629 (6) School Psychology Research Project
 EDPE710 (3) Consultation in School Psychology
 EDPE712 (3) Neurological Bases of Behavior
 EDPI654 (3) Instruction/Curriculum Adaptation

Students who transfer from the M.A.-level Non-thesis to the Thesis option will replace EDPE629 (6 credits) with EDPE604, EDPE607, and EDPE693 to EDPE696 (total 24 credits). Electing the M.A.-level Thesis option will, therefore, add 18 credits to the 60 required in the Non-thesis option, for a total of 78 credits.

Complementary Courses (12 credits)

Students must select 2 of these 3 practicum settings:

EDPE721 (6) School Psychology: Elementary
 EDPE722 (6) School Psychology: Secondary
 EDPE723 (6) School Psychology: Community
 Placement in a school covering all grades may be applied to either EDPE721 or EDPE722.

Internship (24 credits)

EDPE725 (12) Internship 1 - School Psychology
 EDPE726 (12) Internship 2 - School Psychology

(e) Special Populations of Learners

Focus on research and teaching of special groups of students, including gifted and creative students, and special needs children and adolescents. In the area of special needs students, the focus is on inclusive settings. Theoretical models, intervention strategies, and systems change are explored.

Students will normally follow the M.Ed. (rather than the M.A.) prior to the Ph.D. They should therefore make the following course substitutions and additions:

- EDPE603 instead of EDPE605,
- EDSL630 or equivalent, instead of the alternative EDPE684,
- and EDPE676, if not already taken.

M.A. students will require EDPE635 as an additional course.

Special Populations of Learners/Special Needs Option

EDPI643 (3) Education of Learners/Special Needs 2
 EDPI743 (3) Seminar on Special Needs
 EDPI756 (3) Internship/Special Needs Education
 and 6 credits from the courses offered in the M.Ed. Inclusive Education Concentration with the approval of the student's thesis supervisor and the Program Director.

Special Populations of Learners/Gifted Education Option

EDPI526 (3) Talented and Gifted Students
 EDPE535 (3) Instructional Design
 EDPI636 (3) Curriculum in Gifted Education
 EDPE670 (3) Educational Evaluation
 or EDPE671D1 (3) Educational Evaluation: Theory and Practice
 EDPE671D2 (3) Educational Evaluation: Theory and Practice

and one of the following, which may be offered in rotation:

EDPI527 (3) Creativity and its Cultivation
 EDPI628 (3) Gifted Students: Special Needs
 EDPE636 (3) Classroom Processes - Social

In addition, one of the Special Activities (EDPE697 or EDPE698) (6 credits each) must consist of the content of EDPI536 and EDPI537, Practicum Gifted Education 1 and 2 (3 credits each). Students may register either for the Practica or Special Activity.

Minor Sequences in the Ph.D.(Educational Psychology)

(a) Adult Education

(Admission to this minor sequence has been suspended.)

The Ph.D. Minor sequence in Adult Education is offered in collaboration with the Department of Integrated Studies in Education. The program especially addresses professional education and its links with studies in higher education, instructional psychology, and applied cognitive science.

Required Courses (9 credits)

EDPA610 (3) Foundations of Adult Education
 EDPA612 (3) The Adult Learner
 EDPA614 (3) Teaching the Adult

(b) Applied Cognitive Science

Complementary Courses (9 credits)

6 credits chosen from:

EDPE555 (3) Applied Cognitive Science
 EDPE655 (3) Cognitive Science and Education
 EDPE656 (3) Applied Cognitive Theory/Methods
 EDPE666 (3) Cognition and Instruction

3 credits chosen from:

EDPE661 (3) Discourse Processes and Education
 EDPE662 (3) Psycholinguistics and Learning
 EDPE663 (3) Learning in Complex Situations
 EDPE664 (3) Nature/Development of Expertise
 EDPE665 (3) Reasoning and Problem Solving
 EDPE668 (3) Advanced Seminar Cognitive

(c) Applied Developmental Psychology

EDPE615 (3) Theory/Issues: Child Development
 EDPE616 (3) Cognitive Development
 EDPE623 (3) Social-Emotional Development

(d) Computer Applications in Education

(Admission to this concentration has been suspended.)

Complementary Courses (9 credits)

9 credits chosen from:

- EDPE640 (3) Research in Computer Applications
- EDPE641 (6) Use of the Computer in Educational Instruction
- EDPE643 (3) Evaluation - Computer Software and Hardware
- EDPE650 (3) Consciousness and Virtual Reality
- EDPE660 (3) Artificial Intelligence and Education

(e) Family Life Education

- EDPC505 (3) Crisis Intervention Processes
- EDPC540 (3) Foundation of Family Life Education
- EDPE564 (3) Family Communication

(f) Higher Education**Required Courses** (9 credits)

- EDPH582 (3) Higher Education Theory/Policy
- EDPH588 (3) The Higher Education Environment
- EDPH681 (3) Higher Education Development

(g) Instructional Psychology**Required Courses** (6 credits)

- EDPE666 (3) Cognition and Instruction (to be taken first)
- EDPE648 (3) Instructional Psychology Seminar (to be taken near the end)

Complementary Courses (3 credits)

to be chosen from one of the following:

- EDPE535 (3) Instructional Design
- EDPE635 (3) Theories of Learning and Instruction
- EDPE645 (3) Research on Instructional Processes

(h) Psychology of Gender

- EDPE515 (3) Gender Identity Development (must be completed at the Master's or Ph.D.1 level).
 - EDPE624 (3) Educational Psychology and Gender
 - EDPC630 (3) Feminism, Women and Psychology
- Students selecting the Psychology of Gender Minor are encouraged to take EDEM692 or EDL301 or the equivalent (qualitative research methods).

(i) Special Populations of Learners/Special Needs

- EDPI643 (3) Education of Learners/Special Needs 2
 - EDPI743 (3) Seminar on Special Needs
- and 3 credits from the courses offered in the M.Ed. Inclusive Education Concentration with the approval of the student's thesis supervisor and the Program Director.

(j) Special Populations of Learners/Gifted Education

- EDPI526 (3) Talented and Gifted Students
 - EDPI536 (3) Practicum Gifted Education 1
- and one of:
- EDPI527 (3) Creativity and its Cultivation
 - EDPI537 (3) Practicum Gifted Education 2
 - EDPI628 (3) Gifted Students: Special Needs

26.5.4 Post-Ph.D. Graduate Diploma in School/Applied Child Psychology

This Post-Ph.D. Graduate Diploma enables holders of a doctorate in Psychology to respecialize in School/Applied Child Psychology. The course of study is adapted to the background of each student. The program includes exceptionally one, or typically two, years of courses and practica, plus a year of internship. Students register on a per-credit basis (including Internship).

Professional Accreditation

All elements of this Post-Ph.D. Graduate Diploma are selected from the professional components of the Ph.D. Educational Psychology Major in School/Applied Child Psychology, which is accredited in the School Psychology category by the American Psychological Association (APA). Graduates of a respecialization program are normally accorded the same recognition as graduates of the accredited program.

The Ph.D. Major has also been approved by the Ordre des psychologues du Québec (OPQ) which has recommended the final stage of professional recognition to the Office des professions of the Government of Quebec. Once this accreditation is confirmed, however, graduates of the Post-Ph.D. Graduate Diploma will *not* be automatically eligible for membership in the OPQ and the right to practice professional psychology in Quebec. If it is their ultimate wish to do so, they will be required to apply to the OPQ for the recognition of equivalent qualifications.

Accreditation status may be confirmed by contacting the accrediting bodies:

APA – Committee on Accreditation, 750 First Street NE, Washington, DC, USA 20002-4242
tel. 1-800-374-2721-option 5-local 5974

CPA – 151 Slater Street, Suite 205, Ottawa, ON, Canada K1P 5H3
tel. 1-888-472-0657

OPCCOQ – 1100 Beaumont, Ste. 520, Mt-Royal, QC, Canada H3P3H5; tel. 514-737-6431

OPQ – 1100 Beaumont, Ste. 510, Mt-Royal, QC, Canada H3P3H5; tel. 514-738-1881

Admission Requirements

1. An earned doctorate in Educational Psychology, another area of Psychology, or a closely related discipline (to be recognized at the Program Director's discretion).
2. Graduate Record Examination Verbal, Quantitative, and Psychology results taken within 5 years preceding this application.
3. Full transcripts of the student's complete university (and, if applicable, college) education showing all courses in psychology, education, and related disciplines.
4. At least two letters of recommendation addressing both academic record and potential for professional practice in psychology.
5. A statement of experience, career plans, and program appropriateness.
6. A curriculum vitae including all theses or dissertations, publications, and conference presentations, with copies of the title pages and abstracts of any theses or dissertations appended.
7. TOEFL minimum score of 577 on the paper-based test (233 on the computer-based test) for non-Canadian students from countries where English is not the first language and who have not completed a recognized university degree taught in English.

Students may be asked to provide further details in support of any request for a course exemption, e.g., course outlines, examples of work done in the course, or a letter from the instructor or department where the material is claimed to have been covered.

Program Requirements

The program will be individually tailored to each accepted student in respect of previous studies and experience. Students will not be asked to repeat a course on a topic in which they can demonstrate a high level of competence. The following are expected to be most often required of students.

Required Courses and Clinic-based Practica (30 credits)

- EDPC609 (3) Psychological Testing 1
- EDPC610 (3) Psychological Testing 2
- EDPC618 (3) Professional Ethics and the Law
- EDPC682D1 (3) Practicum: Psychological Testing
- EDPC682D2 (3) Practicum: Psychological Testing
- EDPE619 (3) Child and Adolescent Therapy
- EDPE625 (3) Practicum 1: School Psychology
- EDPE626 (3) Practicum 2: School Psychology
- EDPE710 (3) Consultation in School Psychology
- EDPE714 (3) Models of Family Therapy

Complementary Courses – Field Placements (12 credits)

(2 days per week, one semester each; students select 2 of these

3 field experiences; placement in a school covering all grades may be applied to either EDPE721 or EDPE722):

- EDPE721 (6) School Psychology: Elementary
 EDPE722 (6) School Psychology: Secondary
 EDPE723 (6) School Psychology: Community

Internship (24 credits)

(1 year full-time or 2 years half-time)

- EDPE725 (12) Internship 1 - School Psychology
 EDPE726 (12) Internship 2 - School Psychology

Please see the description of the Ph.D. Educational Psychology Major in School Applied Child Psychology for the full list of requirements from which each student's Graduate Diploma program will be constructed.

Language Requirement

Students are not required to demonstrate knowledge of a second language within this program, but any student wishing to be licensed as a professional psychologist in Quebec must at that point have a working knowledge of French.

26.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Single term and Multi-term Courses (D1/D2, N1/N2, J1/J2/J3)

The same course may be available as a single term offering and also as a multi-term offering. The course content and credit weight is equivalent in all modes; the only difference being the scheduling.

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 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 2004 and Winter 2005.

Note: Some courses are open only to students in specific programs or concentrations. For specific program applicability consult the program profiles above. Some courses, particularly in psychological assessment, have supplementary lab fees. Details are available from the Program Coordinator (Secretary).

Some courses are offered in alternate years and others only when numbers warrant. Annual lists are available. Please consult the Department before attempting to register.

For more information on Multi-term Courses, Course Terminology, Class Schedule and Course Catalog, see the *General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05*.

Descriptions of courses not scheduled in 2004-05 can usually be found in the preceding Calendar.

The course credit weight is given in parentheses after the title.

26.6.1 EDPA – Ed Psych & Couns (Adult Education)

Courses:

- EDPA 610 Foundations of Adult Education. (3)
 EDPA 612 The Adult Learner. (3)
 EDPA 614 Teaching the Adult. (3)

26.6.2 EDPC – Ed Psych & Couns (Counselling)

Courses currently scheduled for 2004-05:

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) (Offered through Continuing Education.)

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) (Permission must be obtained from the Department before registration) (Offered through Summer Studies.)

EDPC 509 INDIVIDUAL READING COURSE. (3) (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 540 FOUNDATION OF FAMILY LIFE EDUCATION. (3) (Not open to students who have taken EDPC 640) (Offered through Summer Studies.) 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.

EDPC 606 THEORIES OF COUNSELLING 1. (3) An introduction to counselling theories especially as they are related to theories of personality, human development and learning.

EDPC 607 THEORIES OF COUNSELLING 2. (3) (Prerequisite: EDPC 606) A detailed study of phenomenological, developmental and behavioral theories of counselling among others.

EDPC 608 GROUP COUNSELLING: THEORY. (3)

EDPC 609 PSYCHOLOGICAL TESTING 1. (3) (Prerequisite: a basic statistics course.) For Counselling Psychology and School/Applied Child Psychology students. History of psychological testing, theoretical aspects of individual and group testing, basic theories of intelligence, and ethical and legal issues in testing. An introduction to tests of intelligence (particularly the WISC-R), aptitude, personality, and interests, including issues of validity, reliability, and construction.

EDPC 610 PSYCHOLOGICAL TESTING 2. (3) (Prerequisite: EDPC 609) (Required in School/Applied Psychology. Optional in Counselling Psychology, but recommended for students specializing in school or child counselling.) Theory and interpretation of intelligence tests, particularly the Wechsler and Binet scales. Practice in writing test reports, particularly as a part of a case study. The use of intelligence test results in conjunction with other types of tests.

EDPC 615 ASSESSMENT AND DIAGNOSIS IN COUNSELLING. (3) An introduction to differential assessment and diagnosis for counsellors in educational and mental health settings. The clinical interview, the assessment process, the DSM-IV, relevant test instruments, diagnostic procedures, and development of treatment plans will be subjects of study. Models of record keeping and referral procedures will be reviewed.

EDPC 616 INDIVIDUAL READING COURSE. (3)

EDPC 616D1 (1.5), EDPC 616D2 (1.5) INDIVIDUAL READING COURSE. (Students must register for both EDPC 616D1 and EDPC 616D2) (No credit will be given for this course unless both EDPC 616D1 and EDPC 616D2 are successfully completed in consecutive terms) (EDPC 616D1 and EDPC 616D2 together are equivalent to EDPC 616)

EDPC 618 PROFESSIONAL ETHICS AND THE LAW. (3) (For Counselling Psychology and School/Applied Child Psychology students.) Ethics in the helping professions and some of the philosophical bases for making ethics decisions. Quebec and Canadian law relative to human rights of clients; responsibilities of counselling and school psychologists toward clients and society in general.

EDPC 624 GROUP COUNSELLING: PRACTICE. (3) (Prerequisite: EDPC 608)

EDPC 630 FEMINISM, WOMEN AND PSYCHOLOGY. (3)

EDPC 660 SELECTED TOPICS IN COUNSELLING. (3)

EDPC 662 CAREER PSYCHOLOGY. (3) Contemporary perspectives on career development, career planning and work values are reviewed. Current issues related to career development through the life stages such as personal values and aptitudes, the family and the societal content will be explored within the existing and emerging theories of vocational, developmental, and transitional psychology.

EDPC 665D1 (3), EDPC 665D2 (3) PRACTICUM. (Students must register for both EDPC 665D1 and EDPC 665D2) (No credit will be given for this course unless both EDPC 665D1 and EDPC 665D2 are successfully completed in consecutive terms) Practice in counselling interactions in preparation for internship. Developing expertise and confidence in a full range of skills to help clients make and implement self-directed choices. Emphasis on the counsellor as an educational and therapeutic agent dealing with vocational, educational, and personal counselling using various intervention modes.

EDPC 670 CURRENT TRENDS IN COUNSELLING. (3)

EDPC 670D1 (1.5), EDPC 670D2 (1.5) CURRENT TRENDS IN COUNSELLING. (Students must register for both EDPC 670D1 and EDPC 670D2) (No credit will be given for this course unless both EDPC 670D1 and EDPC 670D2 are successfully completed in consecutive terms) (EDPC 670D1 and EDPC 670D2 together are equivalent to EDPC 670)

EDPC 679 INTERNSHIP: GENERAL 1. (6)

EDPC 679D1 (3), EDPC 679D2 (3) INTERNSHIP: GENERAL 1. (Students must register for both EDPC 679D1 and EDPC 679D2) (No credit will be given for this course unless both EDPC 679D1 and EDPC 679D2 are successfully completed in consecutive

terms) (EDPC 679D1 and EDPC 679D2 together are equivalent to EDPC 679)

EDPC 680D1 (3), EDPC 680D2 (3) INTERNSHIP RESEARCH SEMINAR. (Students must register for both EDPC 680D1 and EDPC 680D2) (No credit will be given for this course unless both EDPC 680D1 and EDPC 680D2 are successfully completed in consecutive terms) Students become acquainted with current research designs in both quantitative and qualitative traditions and develop skills in both analyzing research projects and critiquing journal articles. Special emphasis is given to the application of research findings to field settings and clinical process. Lecture, discussion, workshops, and student research presentations are used.

EDPC 682 PRACTICUM: PSYCHOLOGICAL TEST. (6)

EDPC 682D1 (3), EDPC 682D2 (3) PRACTICUM: PSYCHOLOGICAL TESTING. (Prerequisite: EDPC 609. Open only to students in Counselling Psychology or School/Applied Child Psychology) (Students must register for both EDPC 682D1 and EDPC 682D2) (No credit will be given for this course unless both EDPC 682D1 and EDPC 682D2 are successfully completed in consecutive terms) (EDPC 682D1 and EDPC 682D2 together are equivalent to EDPC 682) Seminar and field practice in the administration and interpretation of educational and psychological tests including personality, within clinical and educational settings. Selection and evaluation of test instruments will be covered. Supervision of report writing and the ethical use of test information.

EDPC 685 INTERNSHIP: VOCATIONAL AND REHABILITATION COUNSELLING. (6)

EDPC 685D1 (3), EDPC 685D2 (3) INTERNSHIP: VOCATIONAL AND REHABILITATION COUNSELLING. (Students must register for both EDPC 685D1 and EDPC 685D2) (No credit will be given for this course unless both EDPC 685D1 and EDPC 685D2 are successfully completed in consecutive terms) (EDPC 685D1 and EDPC 685D2 together are equivalent to EDPC 685) Study, observation, and practice of specialized aspects of counselling through Faculty supervision and direction by personnel in the internship setting.

EDPC 697 THESIS PREPARATION 1. (6)

EDPC 697D1 (3), EDPC 697D2 (3) THESIS PREPARATION 1. (Students must register for both EDPC 697D1 and EDPC 697D2) (No credit will be given for this course unless both EDPC 697D1 and EDPC 697D2 are successfully completed in consecutive terms) (EDPC 697D1 and EDPC 697D2 together are equivalent to EDPC 697)

EDPC 698 THESIS PREPARATION 2. (6)

EDPC 698D1 (3), EDPC 698D2 (3) THESIS PREPARATION 2. (Students must register for both EDPC 698D1 and EDPC 698D2) (No credit will be given for this course unless both EDPC 698D1 and EDPC 698D2 are successfully completed in consecutive terms) (EDPC 698D1 and EDPC 698D2 together are equivalent to EDPC 698)

EDPC 699D1 (6), EDPC 699D2 (6) THESIS PREPARATION 3. (Students must register for both EDPC 699D1 and EDPC 699D2) (No credit will be given for this course unless both EDPC 699D1 and EDPC 699D2 are successfully completed in consecutive terms)

EDPC 701 COMPREHENSIVE EXAMINATION. (0)

EDPC 701D1 (0), EDPC 701D2 (0) COMPREHENSIVE EXAMINATION. (Students must register for both EDPC 701D1 and EDPC 701D2) (No credit will be given for this course unless both EDPC 701D1 and EDPC 701D2 are successfully completed in consecutive terms) (EDPC 701D1 and EDPC 701D2 together are equivalent to EDPC 701)

EDPC 709 ADVANCED THEORIES AND MODELS. (3) (Prerequisite: EDPC 624)

EDPC 714 THEORY / MODELS: FAMILY THERAPY. (3) For doctoral students in Counselling and School Psychology. Theoretical and therapeutic models in family therapy, core concepts and their relevance for application, intervention strategies, the child in family context, impact on school performance.

EDPC 719 ADVANCED SMALL GROUP COUNSELLING. (3) (Prerequisite: EDPC 709)

EDPC 720D1 (3), EDPC 720D2 (3) SEMINAR VOCATIONAL PSYCHOLOGY AND CAREER DEVELOPMENT THEORY. (Students must register for both EDPC 720D1 and EDPC 720D2) (No credit will be given for this course unless both EDPC 720D1 and EDPC 720D2 are successfully completed in consecutive terms) Review and critique of vocational psychology theories and contributions of contemporary career development theories to the understanding of the processes and the determinants of career choice, life stages, adjustment, and career patterns in personal and vocational development. Study of selected problems, designs and outcomes of research in vocational psychology and career development.

EDPC 770 INDIVIDUAL READING COURSE. (6)

EDPC 770D1 (3), EDPC 770D2 (3) INDIVIDUAL READING COURSE. (Students must register for both EDPC 770D1 and EDPC 770D2) (No credit will be given for this course unless both EDPC 770D1 and EDPC 770D2 are successfully completed in consecutive terms) (EDPC 770D1 and EDPC 770D2 together are equivalent to EDPC 770)

EDPC 780 PROFESSIONAL DEVELOPMENT. (6) (For Ph.D. students in Counselling Psychology and, with permission, in School/Applied Child Psychology.)

EDPC 780D1 (3), EDPC 780D2 (3) PROFESSIONAL DEVELOPMENT. (Students must register for both EDPC 780D1 and EDPC 780D2) (No credit will be given for this course unless both EDPC 780D1 and EDPC 780D2 are successfully completed in consecutive terms) (EDPC 780D1 and EDPC 780D2 together are equivalent to EDPC 780) Individually planned and developed (1) supervision of Master's practicum or internship students, (2) co-teaching with a McGill staff member, and (3) diversified research experiences utilizing different techniques and instrumentation.

EDPC 782 DOCTORAL FIELD EXPERIENCE. (6) (Corequisite: EDPC 780)

EDPC 782D1 (3), EDPC 782D2 (3) DOCTORAL FIELD EXPERIENCE. (Corequisite: EDPC 780D1) (Students must register for both EDPC 782D1 and EDPC 782D2) (No credit will be given for this course unless both EDPC 782D1 and EDPC 782D2 are successfully completed in consecutive terms) (EDPC 782D1 and EDPC 782D2 together are equivalent to EDPC 782) A 2-day/week, 2-term (minimum 500 hours) doctoral practicum integrating research, theory, and supervised practica to provide a perspective for clinical work within the field of counselling psychology. Skill development in counselling intervention, assessment, treatment plans, etc. Clientele will be individuals, families, and groups with a variety of concerns.

EDPC 786 SEMINAR: RESEARCH PROBLEMS IN COUNSELLING. (6)

EDPC 786D1 (3), EDPC 786D2 (3) SEMINAR: RESEARCH PROBLEMS IN COUNSELLING. (Students must register for both EDPC 786D1 and EDPC 786D2) (No credit will be given for this course unless both EDPC 786D1 and EDPC 786D2 are successfully completed in consecutive terms) (EDPC 786D1 and EDPC 786D2 together are equivalent to EDPC 786)

EDPC 795 SUPERVISED FIELDWORK: COUNSELLING. (24) (Prerequisites: EDPC 679, EDPC 680, EDPC 682, EDPC 685)

EDPC 795D1 (12), EDPC 795D2 (12) SUPERVISED FIELDWORK: COUNSELLING. (Students must register for both EDPC 795D1 and EDPC 795D2) (No credit will be given for this course unless both EDPC 795D1 and EDPC 795D2 are successfully completed in consecutive terms) (EDPC 795D1 and EDPC 795D2 together are equivalent to EDPC 795) A 5-day, 10 to 11-month supervised internship (minimum 1200 hours). Study, observation, assessment and diagnosis, and practice in Counselling Psychology settings. Group seminar and individual conferences. May be accumulated over two years.

EDPC 799 THESIS. (0)

EDPC 799D1 (0), EDPC 799D2 (0) THESIS. (Students must register for both EDPC 799D1 and EDPC 799D2) (No credit will be given for this course unless both EDPC 799D1 and EDPC 799D2

are successfully completed in consecutive terms) (EDPC 799D1 and EDPC 799D2 together are equivalent to EDPC 799)

26.6.3 EDPE – Ed Psych & Couns (Psychology)

Courses currently scheduled for 2004-05:

EDPE 510 LEARNING AND TECHNOLOGY. (3) (Offered through Continuing Education.) Impact of virtual learning communities on learners/teachers in formal schooling and beyond. Information technologies as a resource to enhance learning experiences, creative/critical thinking. Principles of internet design, authoring, management. Evaluation of computer-based information quality and strategies for efficient and effective use of the technology in education and society.

EDPE 515 GENDER IDENTITY DEVELOPMENT. (3) (Offered through Continuing Education.) (Prerequisites: EDPE 208, EDPE 300 or a course in developmental psychology) 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)

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) 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 564 FAMILY COMMUNICATION. (3) (Offered through Summer Studies.)

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) (Permission must be obtained from the Department before registration.)

EDPE 596 SEMINAR IN SPECIAL TOPICS. (3)

EDPE 600 CURRENT TOPICS: EDUCATIONAL PSYCHOLOGY. (3) Current issues and developments and reviews of major areas in educational psychology in the context of research in the Department and the evolution of the discipline at large.

EDPE 600D1 (1.5), EDPE 600D2 (1.5) CURRENT TOPICS: EDUCATIONAL PSYCHOLOGY. (Open to School/Applied Psychology students only.) (Students must register for both EDPE 600D1 and EDPE 600D2) (No credit will be given for this course unless both EDPE 600D1 and EDPE 600D2 are successfully completed in consecutive terms) (EDPE 600D1 and EDPE 600D2 together are equivalent to EDPE 600)

EDPE 602 USES OF RESEARCH FINDINGS IN EDUCATION. (3) (Pre-/Co-requisite: EDPE 575 or equivalent.) Basic concepts of educational research for the student who is likely to be a regular consumer of research but only an occasional generator of research. Mechanics of research: e.g., funding sources, proposal and report preparation, information bases (e.g., the ERIC system), and ethics in research.

EDPE 603 EDUCATIONAL RESEARCH AND DEVELOPMENT FOR PRACTITIONERS. (3) (Prerequisite: EDPE 602) Development of research projects and proposals, design and methodology. Emphasis on applied research in school settings. Evaluation of research.

EDPE 604 THESIS 1. (3) (Corequisite: EDPE 600) Literature survey and thesis planning.

EDPE 605 RESEARCH METHODS. (3) (Corequisite: EDPE 676) Research methods and designs, planning and evaluating research, relations between research and statistical designs, inter-

disciplinary and nonquantitative approaches, meta-analysis, and the use of computers beyond computation. Ethics, scholarly writing.

EDPE 607 THESIS 2. (3) (Corequisite: EDPE 604) Preparation of a thesis proposal.

EDPE 609 SELECTED TOPICS IN EDUCATIONAL PSYCHOLOGY. (3)

EDPE 611 SCHOOL PSYCHOLOGY SEMINAR. (3) (Open to School/Applied Psychology students only.) Focus on the profession and practice of school psychology. Four major areas of information within the discipline of school psychology will be addressed: history and organizational systems, psychological service delivery in educational settings, ethical and legal issues, and new trends and future developments in school psychology and training.

EDPE 616 COGNITIVE DEVELOPMENT. (3) Assessment of theories of cognitive development including Piagetian, neo-Piagetian, and information-processing approaches. Theoretical models and empirical findings, and their application to educational and other settings.

EDPE 619 CHILD AND ADOLESCENT THERAPY. (3) (For School/ Applied Child Psychology students only.) Therapeutic models for individual and group interventions for children and adolescents; case histories; gender and cultural minority issues; emphasis on classical and innovative strategic sand methods for school and counselling psychologists.

EDPE 620 DEVELOPMENTAL PSYCHOPATHOLOGY. (3) (Prerequisite: EDPE 615) Theory, research, and practice in developmental processes in the study of psychopathology, including aberrant behavior in childhood, at-risk and resilient children, and mental illness.

EDPE 622 MULTICULTURALISM AND GENDER. (3) (Open to School/ Applied Child and Counselling Psychology students only.)

EDPE 623 SOCIAL-EMOTIONAL DEVELOPMENT. (3) (Prerequisites: EDPE 615, EDPE 616 or EDPE 620) Social-emotional development including temperament, attachment, gender identity, and peer relations. Biological and environmental influences, continuity and change, and qualitative versus quantitative variables.

EDPE 625 PRACTICUM 1: SCHOOL PSYCHOLOGY. (3) (Prerequisites: EDPC 609, EDPC 610, EDPC 618, EDPI 654, EDPE 611, EDPE 616. Corequisites: EDPC 682, EDPE 620.) Clinic experiences (normally 8-10 hours/week) (a) conducting assessment batteries, (b) interpreting assessment findings and developing intervention plans, (c) providing remedial services for specific learning domains and practical recommendations, (d) acquiring skills in group intervention techniques. Weekly case review and student progress meetings.

EDPE 626 PRACTICUM 2: SCHOOL PSYCHOLOGY. (3) (Prerequisites: EDPE 620, EDPE 625. Corequisite: EDPC 682) Clinic experiences (normally 8-10 hours/week) building upon EDPE 625: (a) conducting assessment batteries, (b) interpreting assessment findings and developing intervention plans, (c) providing remedial services for specific learning domains and practical recommendations, (d) acquiring skills in group intervention techniques. Weekly case review and student progress meetings. May continue to the end of the public school year.

EDPE 627 PROFESSIONAL PRACTICE OF PSYCHOLOGY. (3) (Open only to students in Counselling Psychology or School/Applied Child Psychology.)

EDPE 629 SCHOOL PSYCHOLOGY RESEARCH PROJECT. (6) (Prerequisites: EDPC 618, EDPE 605. Corequisite: EDPE 682)

EDPE 629D1 (3), EDPE 629D2 (3) SCHOOL PSYCHOLOGY RESEARCH PROJECT. (Students must register for both EDPE 629D1 and EDPE 629D2) (Prerequisites: EDPC 618, EDPE 605. Corequisite: EDPE 682) (No credit will be given for this course unless both EDPE 629D1 and EDPE 629D2 are successfully completed in consecutive terms) (EDPE 629D1 and EDPE 629D2 together are equivalent to EDPE 629) Open to School/Applied Child Psychology students. An individually supervised research project in school/applied child psychology.

EDPE 635 THEORIES OF LEARNING AND INSTRUCTION. (3) An analysis of the relationship between theory and research about learning and teaching from a historical perspective.

EDPE 636 CLASSROOM PROCESSES - SOCIAL. (3) Instructional or environmental effects on learning and their implications for educational practice, with particular emphasis on such topics as the social psychology of learning, family background and effects, classroom interaction, teacher impact, and ethnographic and survey approaches to their study.

EDPE 640 RESEARCH IN COMPUTER APPLICATIONS. (3)

EDPE 641 USE OF COMPUTER IN EDUCATIONAL INSTRUCTION. (6)

EDPE 641D1 (3), EDPE 641D2 (3) USE OF COMPUTER IN EDUCATIONAL INSTRUCTION. (Students must register for both EDPE 641D1 and EDPE 641D2) (No credit will be given for this course unless both EDPE 641D1 and EDPE 641D2 are successfully completed in consecutive terms) (EDPE 641D1 and EDPE 641D2 together are equivalent to EDPE 641)

EDPE 643 EVALUATION - COMPUTER SOFTWARE AND HARDWARE. (3)

EDPE 645 RESEARCH ON INSTRUCTIONAL PROCESSES. (3) (Corequisite: EDPE 635) This course builds critical skills in the analysis of categories of research and methodologies specific to instructional processes.

EDPE 648 INSTRUCTIONAL PSYCHOLOGY SEMINAR. (3) (Prerequisite: EDPE 635)

EDPE 650 CONSCIOUSNESS AND VIRTUAL REALITY. (3)

EDPE 655 COGNITIVE SCIENCE AND EDUCATION. (3) (Prerequisite: EDPE 555 or permission of instructor.)

EDPE 656 APPLIED COGNITIVE THEORY/METHODS. (3) (Prerequisite: EDPE 555 or permission of instructor.) Models of knowledge representation, cognitive architectures, and cognitive processes for complex domains of performance and instruction. Methods of data collection that allow testing of models of performance and learning in such domains.

EDPE 660 ARTIFICIAL INTELLIGENCE IN EDUCATION. (3) 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 661 DISCOURSE PROCESSES AND EDUCATION. (3) (Prerequisites: EDPE 655, EDPE 656 or permission of the instructor.)

EDPE 662 PSYCHOLINGUISTICS AND LEARNING. (3) (Prerequisites: EDPE 655, EDPE 656 or permission of the instructor.) Theory and research on syntactic and semantic processing, and acquisition of language, including second languages. Implications for learning and instruction.

EDPE 664 NATURE/DEVELOPMENT OF EXPERTISE. (3) (Prerequisites: EDPE 655, EDPE 656 or permission of the instructor.) Theories of expert performance in complex and realistic situations, including the development of such expertise.

EDPE 665 REASONING AND PROBLEM SOLVING. (3) (Prerequisites: EDPE 655, EDPE 656 or permission of the instructor.)

EDPE 666 COGNITION AND INSTRUCTION. (3) (Corequisite: a graduate course in cognitive or instructional psychology.) Relationships between instructional design and cognitive models. Analysis of instruction and instructional environments from a cognitive perspective.

EDPE 668 ADVANCED SEMINAR COGNITIVE. (3) (Prerequisite: EDPE 655 or permission of the instructor)

EDPE 670 EDUCATIONAL EVALUATION. (3) (Prerequisite: EDPE 635) Theories and models of evaluation as applied to educational programs and instructional systems.

EDPE 675 INTERMEDIATE STATISTICS 1. (3) (Prerequisite: EDPE 575 or equivalent.)

EDPE 676 INTERMEDIATE STATISTICS 2. (3) (Prerequisite: EDPE 675 or equivalent.) Analysis of variance and covariance, fixed, random and mixed effects, crossed and nested designs; regression models. Computer data processing using existing packages.

EDPE 682 UNIVARIATE/MULTIVARIATE ANALYSIS. (3) (Prerequisite: EDPE 676) General linear model as a unified data analytic system for estimation and hypothesis testing that subsumes regression, analysis of variance, and analysis of covariance for single dependent variables. Introduction to generalizations involving multiple dependent (criterion) variables. Applications oriented toward education, educational psychology and counselling psychology. Experience with data-analysis tools.

EDPE 684 APPLIED MULTIVARIATE STATISTICS. (3) (Prerequisite: EDPE 682 or equivalent.) Principal methods, models, and hypothesis-testing procedures for the prediction and analysis of patterns, structure, and relationships in multivariate data, e.g., discriminant, principal components, canonical correlation, profile analyses, measurement models, factor and path analysis, repeated measures. Applications oriented toward education and educational and counselling psychology. Experience with data-analysis tools.

EDPE 687 ADVANCED QUALITATIVE METHODS. (3) (Prerequisite: EDEM 692 or the equivalent.) Origins of qualitative methodologies in sociology, psychology, and education in relation to ideology, epistemology, and methodology. Focus on data reduction and field methods.

EDPE 691 READING COURSE. (3)

EDPE 691D1 (1.5), EDPE 691D2 (1.5) READING COURSE. (Students must register for both EDPE 691D1 and EDPE 691D2) (No credit will be given for this course unless both EDPE 691D1 and EDPE 691D2 are successfully completed in consecutive terms) (EDPE 691D1 and EDPE 691D2 together are equivalent to EDPE 691)

EDPE 692 READING COURSE. (6)

EDPE 692D1 (3), EDPE 692D2 (3) READING COURSE. (Students must register for both EDPE 692D1 and EDPE 692D2) (No credit will be given for this course unless both EDPE 692D1 and EDPE 692D2 are successfully completed in consecutive terms) (EDPE 692D1 and EDPE 692D2 together are equivalent to EDPE 692)

EDPE 693 THESIS 3. (3) Thesis research under supervision of a research director.

EDPE 694 THESIS 4. (3) Thesis research under supervision of a research director.

EDPE 695 THESIS 5. (6) Thesis research under supervision of a research director.

EDPE 695D1 (3), EDPE 695D2 (3) THESIS 5. (Students must register for both EDPE 695D1 and EDPE 695D2) (No credit will be given for this course unless both EDPE 695D1 and EDPE 695D2 are successfully completed in consecutive terms) (EDPE 695D1 and EDPE 695D2 together are equivalent to EDPE 695) Thesis research under supervision of a research director.

EDPE 696 THESIS 6. (6) Thesis research under supervision of a research director.

EDPE 696D1 (3), EDPE 696D2 (3) THESIS 6. (Students must register for both EDPE 696D1 and EDPE 696D2) (No credit will be given for this course unless both EDPE 696D1 and EDPE 696D2 are successfully completed in consecutive terms) (EDPE 696D1 and EDPE 696D2 together are equivalent to EDPE 696) Thesis research under supervision of a research director.

EDPE 697 SPECIAL ACTIVITY 1. (6)

EDPE 697D1 (3), EDPE 697D2 (3) SPECIAL ACTIVITY 1. (Students must register for both EDPE 697D1 and EDPE 697D2) (No credit will be given for this course unless both EDPE 697D1 and EDPE 697D2 are successfully completed in consecutive terms) (EDPE 697D1 and EDPE 697D2 together are equivalent to EDPE 697)

EDPE 698 SPECIAL ACTIVITY 2. (6)

EDPE 698D1 (3), EDPE 698D2 (3) SPECIAL ACTIVITY 2. (Students must register for both EDPE 698D1 and EDPE 698D2) (No credit will be given for this course unless both EDPE 698D1 and EDPE 698D2 are successfully completed in consecutive terms) (EDPE 698D1 and EDPE 698D2 together are equivalent to EDPE 698) A project relevant to improving educational practice. It may be an internship, a research project, or an innovation in teaching supervised by the student's advisor and with the approval of the department. It is completed by the submission of a project report, monograph, or production. For M.Ed. students only.

EDPE 708 COMPREHENSIVE EXAMINATION. (6) A four-part evaluation which is normally taken at the end of the Ph.D. 2 year. A detailed description of the examination is provided to all students.

EDPE 708D1 (3), EDPE 708D2 (3) COMPREHENSIVE EXAMINATION. (Students must register for both EDPE 708D1 and EDPE 708D2) (No credit will be given for this course unless both EDPE 708D1 and EDPE 708D2 are successfully completed in consecutive terms) (EDPE 708D1 and EDPE 708D2 together are equivalent to EDPE 708) A four-part evaluation which is normally taken at the end of the Ph.D. 2 year. A detailed description of the examination is provided to all students.

EDPE 710 CONSULTATION IN SCHOOL PSYCHOLOGY. (3) (Corequisites: EDPE 625, EDPE 626 or equivalent.) Open only to students in School/Applied Child Psychology and with permission, Counselling Psychology and Special Populations Major. A clinical course on the use of consultation in educational and school-related settings. Topics include: consultation theory, the process of evaluations of the consultation process and outcomes, critical study of relevant research and practice. Includes problem identification, problem analysis, treatment implementation, and treatment evaluation of one case.

EDPE 712 NEUROLOGICAL BASES OF BEHAVIOR. (3) Development of human brain structure and function related to sensory, motor, emotional, perceptual, cognitive, and linguistics skills. Neuroanatomy and neurophysiology relevant to neuropsychological function, dysfunction, rehabilitation. Psychopharmacological influences.

EDPE 721 SCHOOL PSYCHOLOGY: ELEMENTARY. (6) (Prerequisite: EDPE 626)

EDPE 721D1 (3), EDPE 721D2 (3) SCHOOL PSYCHOLOGY: ELEMENTARY. (Prerequisite: EDPE 626) (Students must register for both EDPE 721D1 and EDPE 721D2) (No credit will be given for this course unless both EDPE 721D1 and EDPE 721D2 are successfully completed in consecutive terms) (EDPE 721D1 and EDPE 721D2 together are equivalent to EDPE 721) Open only to Ph.D. students in School/Applied Child Psychology. Field experience. Two days or 16 hours per week supervised by faculty members and a field supervisor in a school providing elementary education. Weekly class meetings. Students must also register for either EDPE 722 or EDPE 723 in the same academic year.

EDPE 722 SCHOOL PSYCHOLOGY: SECONDARY. (6) (Prerequisite: EDPE 626)

EDPE 722D1 (3), EDPE 722D2 (3) SCHOOL PSYCHOLOGY: SECONDARY. (Prerequisite: EDPE 626) (Students must register for both EDPE 722D1 and EDPE 722D2) (No credit will be given for this course unless both EDPE 722D1 and EDPE 722D2 are successfully completed in consecutive terms) (EDPE 722D1 and EDPE 722D2 together are equivalent to EDPE 722) Open only to Ph.D. students in School/Applied Child Psychology. Field experience. Two days or 16 hours per week supervised by faculty members and a field supervisor in a school providing secondary education. Weekly class meetings. Students must also register for either EDPE 721 or EDPE 723 in the same academic year.

EDPE 723 SCHOOL PSYCHOLOGY: COMMUNITY. (6) (Prerequisite: EDPE 626)

EDPE 723D1 (3), EDPE 723D2 (3) SCHOOL PSYCHOLOGY: COMMUNITY. (Prerequisite: EDPE 626) (Students must register for both EDPE 723D1 and EDPE 723D2) (No credit will be given for this course unless both EDPE 723D1 and EDPE 723D2 are successfully completed in consecutive terms) (EDPE 723D1 and EDPE 723D2 together are equivalent to EDPE 723) Open only to Ph.D.

students in School/Applied Child Psychology. Field experience. Two days or 16 hours per week supervised by faculty members and a field supervisor in a school providing secondary education. Weekly class meetings. Students must also register for either EDPE 721 or EDPE 723 in the same academic year.

EDPE 725 INTERNSHIP 1 - SCHOOL PSYCHOLOGY. (12) (Prerequisites: EDPE 708 and two of EDPE 721, EDPE 722 or EDPE 723)

EDPE 725D1 (6), EDPE 725D2 (6) INTERNSHIP 1 - SCHOOL PSYCHOLOGY. (Prerequisites: EDPE 708 and two of EDPE 721, EDPE 722 or EDPE 723) (Students must register for both EDPE 725D1 and EDPE 725D2) (No credit will be given for this course unless both EDPE 725D1 and EDPE 725D2 are successfully completed in consecutive terms) (EDPE 725D1 and EDPE 725D2 together are equivalent to EDPE 725) Open only to Ph.D. students in School/Applied Child Psychology. A 2 1/2 day, 10 to 12-month supervised internship (minimum 600 hours) including assessment and diagnosis normally in a school-based setting. This also includes group supervision to discuss cases that arise in internship settings. May be combined with EDPE 726 in a single full-time year long internship; this full-time pattern is typical in accredited sites.

EDPE 726 INTERNSHIP 2 - SCHOOL PSYCHOLOGY. (12) (Prerequisites: EDPE 708 and two of EDPE 721, EDPE 722 or EDPE 723)

EDPE 726D1 (6), EDPE 726D2 (6) INTERNSHIP 2 - SCHOOL PSYCHOLOGY. (Prerequisites: EDPE 708 and two of EDPE 721, EDPE 722 or EDPE 723) (Students must register for both EDPE 726D1 and EDPE 726D2) (No credit will be given for this course unless both EDPE 726D1 and EDPE 726D2 are successfully completed in consecutive terms) (EDPE 726D1 and EDPE 726D2 together are equivalent to EDPE 726) Open only to Ph.D. students in School/Applied Child Psychology. A 2 1/2 day, 10 to 12-month supervised internship (minimum 600 hours) including assessment and diagnosis normally in an educationally relevant community-based center (e.g., hospital, clinic), group supervision, case discussions. May be combined with EDPE 725 in a single full-time year long internship; this full-time pattern is typical in accredited sites.

26.6.4 EDPH – Ed Psych & Couns (Collegial)

Courses currently scheduled for 2004-05:

EDPH 681 HIGHER EDUCATION DEVELOPMENT. (3) (Corequisite: EDPH 582 or permission of instructor) Analysis of program and curriculum development across disciplines and multidisciplinary areas of study at the postsecondary level. Program organization and planning in particular disciplinary areas and in relation to that of other disciplines.

EDPH 689 TEACHING AND LEARNING IN HIGHER EDUCATION. (3) Students will develop an understanding of teaching and learning as a process in which instruction is based on the learning to be accomplished. Students will design, develop, and evaluate a university course of their choice, and will develop facility and confidence in using teaching methods appropriate to their domains.

26.6.5 EDPI – Ed Psych & Couns (Inclusive)

Courses currently scheduled for 2004-05:

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 536 PRACTICUM GIFTED EDUCATION 1. (3) (Prerequisite: EDPI 526) (Normally available in July only during the Explorations Gifted Summer School) (Permission to register is required from Explorations)

EDPI 537 PRACTICUM GIFTED EDUCATION 2. (3) (Prerequisite: EDPI 526) (Normally taken with EDPI 536. Permission is required to register)

EDPI 539 FIELD WORK 1: EXCEPTIONAL STUDENTS. (3) (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) (Permission of Program Director required.) Supervised experience with exceptional students in an approved educational setting.

EDPI 543 FAMILY, SCHOOL AND COMMUNITY. (3) (Formerly 414-443) (Offered through Summer Studies.)

EDPI 642 EDUCATIONAL OF LEARNERS/SPECIAL NEEDS 1. (3) Introduction to learners with different types of special needs. Emphasis on current research and practice of educating students with special needs.

EDPI 643 EDUCATION OF LEARNERS/SPECIAL NEEDS 2. (3) Contemporary issues in the education of students with special needs: assessment and identification; service delivery models; instructional methods; parent/professional relationships; research priorities; legislative policies; adult education; employment training.

EDPI 645 DIAGNOSIS AND ASSESSMENT IN SPECIAL EDUCATION. (3) Purposes of diagnosis and assessment; formal and informal assessment procedures; issues in traditional testing procedures; emerging trends in assessment.

EDPI 654 INSTRUCTION/CURRICULUM ADAPTION. (3)

EDPI 656 CLINIC PRACTICUM IN SPECIAL EDUCATION. (6)

EDPI 656D1 (3), EDPI 656D2 (3) CLINIC PRACTICUM IN SPECIAL EDUCATION. (Students must register for both EDPI 656D1 and EDPI 656D2) (No credit will be given for this course unless both EDPI 656D1 and EDPI 656D2 are successfully completed in consecutive terms) (EDPI 656D1 and EDPI 656D2 together are equivalent to EDPI 656) Participation as a special education professional in a field setting. Opportunity to plan, implement and evaluate curriculum for students with special needs, and participate as a team member.

EDPI 657 PRACTICUM: LEARNING DISABILITIES. (3) (Prerequisite: a course in learning difficulties or permission of the instructor.)

EDPI 658 INTERNSHIP: LEARNING DISABILITIES. (3) (Prerequisite: EDPE 657)

EDPI 663 INSTRUCTION: INTEGRATED SETTINGS. (3)

EDPI 664 LEADERSHIP AND CHANGE IN SPECIAL EDUCATION. (3)

EDPI 665 RESEARCH AND THEORY IN LEARNING DISABILITIES. (3) Review of recent research and literature in the field of learning disabilities; examination of research and theory as it relates to current practices.

EDPI 667 BEHAVIORAL AND EMOTIONAL PROBLEMS. (3) (Prerequisite: EDPE 615 or EDPI 643)

EDPI 680 SELECTED TOPICS IN SPECIAL EDUCATION 1. (3)

EDPI 681 SELECTED TOPICS IN SPECIAL EDUCATION 2. (3)

EDPI 743 SEMINAR ON SPECIAL NEEDS. (3) (Prerequisite: EDPI 643) Contemporary issues in the education of students with special needs. Professional and research issues.

EDPI 756 INTERNSHIP/SPECIAL NEEDS EDUCATION. (3) (Prerequisite: EDPI 656)

EDPI 756D1 (1.5), EDPI 756D2 (1.5) INTERNSHIP/SPECIAL NEEDS EDUCATION. (Students must register for both EDPI 756D1 and EDPI 756D2) (No credit will be given for this course unless both EDPI 756D1 and EDPI 756D2 are successfully completed in consecutive terms) (EDPI 756D1 and EDPI 756D2 together are equivalent to EDPI 756) Supervised internship in special needs education in a field setting tailored to the needs and interests of individual students.

COURSES IN OTHER DEPARTMENTS

Students are encouraged to broaden their perspectives with elective courses from elsewhere in the Faculty of Education and the

University as a whole. Eligibility to enrol in a specific course should always be ascertained in advance.

Students interested in statistical models and techniques in test theory are welcome to enrol in PSYC 510 offered by the Department of Psychology.

PSYC 510 STATISTICAL ANALYSIS OF TESTS.(3) (3 lectures) (Undergraduate Prerequisites: PSYC 305 or PSYC 536, PSYC 406 or permission of instructor.) This course aims to introduce students interested in developing or appraising tests to the important statistical problems and modern techniques associated with testing data. Testing situations discussed will range from one-shot classroom tests through special purpose scales to the highly refined large scale tests such as the SAT.

Qualitative research methods are offered primarily through EDPE687 and EDEM692 or EDSL630 offered by the Department of Integrated Studies in Education.

EDEM 692 QUALITATIVE RESEARCH METHODS. (3) Theoretical and practical exploration of the foundations of qualitative methods, with emphasis on underlying principles.

EDSL 630 QUALITATIVE/ETHNOGRAPHIC METHODS. (3) An examination of theoretical and applied issues in qualitative and ethnographic studies in second language education.

EDEC 635 ADVANCED WRITTEN COMMUNICATION. (3) Rhetorical practices and principles that remain constant across disciplines: generating and organizing ideas; setting goals; planning; considering readers; editing and revising. Students will analyze and produce texts that use the formats, rhetorical strategies, styles, genres, and other conventions of their disciplines.

27 Electrical and Computer Engineering

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Graduate Program Director — Benoit Champagne

27.1 Staff

Emeritus Professors

Eric L. Adler; B.Sc.(Lond.), M.A.Sc.(Tor.), Ph.D.(McG.), F.I.E.E.E., Eng.

Gerry W. Farnell; B.A.Sc.(Tor.), S.M.(M.I.T.), Ph.D.(McG.), F.I.E.E.E., Eng.

Tomas J.F. Pavlasek; B.Eng., M.Eng., Ph.D.(McG.), Eng.

Maier L. Blostein; B.Eng., M.Eng.(McG.), Ph.D.(Ill.), F.I.E.E.E., Eng.

Nicholas C. Rumin; B.Eng., M.Sc., Ph.D.(McG.), Eng.

Pierre R. Bélanger; B.Eng.(McG.), S.M., Ph.D.(M.I.T.), F.I.E.E.E., Eng.

Post-Retirement

Clifford H. Champness; M.Sc.(Lond.), Ph.D.(McG.)

Professors

Peter E. Caines; B.A.(Oxon), D.I.C. Ph.D.(Lond.), F.R.S.C., F.I.E.E.E., F.C.I.A.R. (*James McGill Professor and Macdonald Professor*)

Frank D. Galiana; B.Eng.(McG.), S.M., Ph.D.(M.I.T.), F.I.E.E.E., Eng.

Geza Joos; B.Sc.(C'dia), M.Eng. Ph.D.(McG.)

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. Boon-Teck Ooi; B.E.(Adel.), S.M.(M.I.T.), Ph.D.(McG.), Eng.

Gordon Roberts; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.), Eng.

(*James McGill Professor*) F.I.E.E.E.

Jonathan P. Webb; B.A., Ph.D.(Cantab.)

Associate Professors

Benoit Champagne; B.Eng., M.Eng.(Montr.), Ph.D.(Tor.)

James Clark; B.Sc., Ph.D.(Br.Col.)

Jeremy R. Cooperstock; A.Sc.(U.B.C.), M.Sc., Ph.D.(Tor.),

Frank Ferrie; B.Eng., Ph.D.(McG.)

Vincent Hayward; Dip.d'Ing.(ENSM, Nantes), Doc.Ing.(Orsay), Eng.

Steve McFee; B.Eng., Ph.D.(McG.)

Hanna Michalska; B.Sc., M.Sc.(Warsaw), Ph.D.(Lond.)

David V. Plant; M.S., Ph.D.(Brown) (*James McGill Professor*)

Richard Rose; B.Sc., M.S.(Ill.), Ph.D.(GIT)

Ishiang Shih; M.Eng., Ph.D.(McG.)

Assistant Professors

Ramesh Abhari; M.A.Sc.,(Tehran), Ph.D.(Tor.)

Tal Arbel; M.Eng., Ph.D.(McG.)

Jan Bajcsy; B.Sc.(Harv.), M.Eng., Ph.D.(Prin.)

Benoit Boulet; B.Sc.(Laval), M.Eng.(McG.) Ph.D.(Tor.) (*William Dawson Scholar*),

Lawrence Chen, B.Eng.(McG.), M.A.Sc., Ph.D.(Tor.)

Mark Coates; B.Eng.(Australia), Ph.D.(Camb.)

Mourad El-Gamal; B.Sc.(Cairo), M.Sc.(Vanderbilt Univ., Nashville), Ph.D.(McG.) (*William Dawson Scholar*)

Dennis Giannacopoulos; M.Eng., Ph.D.(McG.)

Warren Gross; M.A.Sc., Ph.D.(Tor.)

Anas Hamoui; M.Eng.(McG.), Ph.D.(Tor.)

Roni Khazaka; M.Eng., Ph.D.(Carl.)

Andrew Kirk; B.Sc.(Brist.), Ph.D.(Lond.) (*William Dawson Scholar*)

Fabrice Labeau, M.S., Ph.D.(Louvain)

Shie Mannor; B.A., B.Sc., Ph.D.(Haifa)

Milica Popovich; B.Sc.(Colo.), M.Sc., Ph.D.(Northwestern)

Ioannis Psaromiligkos; B.Sc.(Patras), M.Sc., Ph.D.(Buffalo)

Zilic Zeljko; B.Eng.(Zagreb), M.Sc., Ph.D.(Tor.)

Visiting Professor

Lorne Mason; B.Eng, Ph.D.(Sask.)

Lecturers

Kenneth L. Fraser; B.Eng., M.Eng.(McG.), Eng.

Danny Grant; M.Eng., Ph.D.(McG.)

Donglin Ma; M.Eng.,(Beijing)

Richard Vickers; B.Sc.(Wales)

Associate Members

Martin Buehler, Philippe Depalle, Gregory Dudek, Alan C. Evans,

William R. Funnell, Henrietta L. Galiana, Jean Gotman,

Robert E. Kearney, Bernard Segal

Adjunct Professors

Ray Bartnikas, Eduard Cerny, Charalambos Charalambous,

Philippe Depalle, Robert DiRaddo, Cedric Guss,

Maurice Huneault, Cheng K. Jen, Alexandre Jouan,

Michael Kaplan, Karim Khordoc, Irene Leszkowicz, Miguel Marin,

Donald McGillis, Radu Negulescu, Douglas O'Shaughnessy,

Norbert Puetz, Farouk Rizk, Robert Sabourin, Ian Sinclair,

Lucjan Wegrowicz

27.2 Programs Offered

The Department offers programs of graduate studies leading to a degree of Master of Engineering or Doctor of Philosophy.

An equivalent of one (1) calendar year of full time study is required to obtain a Master's in Engineering.

The Ph.D. program maintains a requirement of the equivalent of two (2) calendar years of full time study besides the requirements for the Master's degree.

The research interests and facilities of the Department are very extensive, involving more than 30 faculty members and 200 post-graduate students. The major activities are divided into the following groups: Biomedical Engineering, Communications Systems, Computer Vision and Robotics, Computational Analysis for Engineering Design, Software Systems for Intelligent Design, Electronic Devices and Materials, High Frequency Electromagnetics and Optics, Power Engineering, Systems and Control, Microelectronics and Computer Systems, and Photonics.

Research Facilities

The Department has extensive laboratory facilities for all its main research areas. In addition, McGill University often collaborates with other Institutions for teaching and research.

- The laboratories for research in Robotics, Control and Vision are in the Centre for Intelligent Machines (CIM).
- Telecommunications laboratories focus their work on signal compression and wireless communications. These laboratories form part of the Canadian Institute for Telecommunications Research (CITR). This is a federally funded network of Centers of Excellence.
- The Microelectronics and Computer System (MACS) Laboratory supports research in VLSI, mixed signal circuits, design for testability, formal methods telecommunications, computing and optical systems.
- Antenna and microwave research, and optical fiber and integrated optics research are carried out in a fully equipped facility.
- The Photonics Systems laboratory includes continuous wave and femtosecond Ti:Sapphire lasers, diode lasers, extensive optics and optomechanics, and sophisticated electronic and imaging equipment.
- Solid state facilities include measurement equipment for magnetic and electric properties of materials, vacuum deposition and RF sputtering systems.
- The Computational Analysis and Design Laboratory provides tools for numerical analysis, visualization, interface design and knowledge-based system development.
- There is also a well-equipped laboratory for power electronics and power systems research.

The Department has extensive computer facilities. Most research machines are networked providing access to a vast array of hardware. In addition, McGill University is linked to the Centre de Recherche Informatique de Montréal (CRIM) and the University Computing Centre.

There are three other universities in Montreal: Concordia University is the other English-language university; l'Université de Montréal, and its affiliated school of engineering, l'École Polytechnique, is the largest Francophone university; l'Université du Québec has a campus in Montreal and in major towns throughout the province.

The proximity of these schools to McGill University ensures a rich array of courses is available to suit individual needs. McGill also collaborates on research projects with many organizations such as l'Institut Nationale de la Recherche de l'Hydro-Québec (IREQ) and l'Institut Nationale de la Recherche Scientifique (INRS).

Financial Support

Graduate Assistantships: The Department awards a number of graduate assistantships that carry an annual stipend of approximately Can\$15,000 per year to qualified full-time graduate students. These are normally funded from research grants or contracts awarded to individual faculty members. In return, the graduate assistant is expected to perform research-related tasks assigned by the professor from whose grant the assistantship is paid. A good part, but not necessarily all, of this work can be used for preparing a thesis. There is no special application form for graduate assistantships; all applicants who indicate a need for support on their application forms will be considered. A large fraction of research funding comes from Canadian Government agencies, with the stipulation that only graduate students who are

either Canadian citizens or Permanent Residents may be supported. Consequently, graduate assistantships can be offered to a very small number of international students. They should also note that Canadian authorities will not grant an Immigrant Visa to a foreign national who wishes to enter Canada to study.

Teaching Assistantships: Graduate students, with the approval of their supervisors, may also undertake teaching assistantship for an additional remuneration of between Can\$400 to Can\$3,000 per year. These are awarded at the beginning of the term. The Department can make no prior commitments.

Differential Fee Waivers: All eligible visa students accepted or registered in a full-time term of residency will be considered for a limited number of waivers that reduce international tuition fees to the equivalent of Canadian tuition fees. McGill bases awards entirely on academic merit.

Graduate students can also receive financial aid through fellowships, loans or bursaries. For more information, please refer to the Fellowships and Awards Web site at www.mcgill.ca/gps, or contact the Graduate and Postdoctoral Studies Office, McGill University, James Administration Building, Room 400, 845 Sherbrooke Street West, Montreal, QC H3A2T5.

27.3 Admission Requirements

TOEFL Requirement: Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language, must submit documented proof of competency in English by a Test of English as a Foreign Language (TOEFL) with a score not below 600 on the paper-based test (250 on the computer-based test) or IELTS with a minimum overall band of 7.0. Permanent Residents may also be required to submit TOEFL results. Official results must be received before February 1st.

GRE Requirement: A GRE score on the General Aptitude Test is required by all students who have completed their undergraduate degrees outside Canada. Starting October 2002, there have been some changes in the GRE test. For students who registered for the GRE after that date, a minimum total score of 1100 for the verbal and quantitative sections is required. There is no minimum for the new analytical writing section for students applying for the 2004-05 academic year. Students who took the GRE prior to October 2003 are required to have a minimum total score of 1800. Official results must be received before February 1st.

M.Eng. Degree (Admission Requirements)

The applicant must be the graduate of a recognized university and hold a Bachelor's degree equivalent to a McGill degree in Electrical or Computer Engineering or a closely allied field. An applicant holding a degree in another field of engineering or science will be considered but a qualifying year may be given to make up any deficiencies. The applicant must have a high academic achievement: a standing equivalent to a Cumulative Grade Point Average (CGPA) of 3.0 out of 4 (75%) or a GPA of 3.2 out of 4.0 for the last two full-time academic years. Satisfaction of these general requirements does not guarantee admission. Admission to graduate studies is limited and acceptance is on a very competitive basis.

Ph.D. Degree (Admission Requirements)

Candidates who fulfill the general requirements of the Graduate and Postdoctoral Studies Office and who possess a Master's degree may be accepted for a course of study leading to the Ph.D. degree in Electrical Engineering.

27.4 Application Procedures

Applications will be considered upon receipt of:

1. completed application form;
2. application fee (Can\$60);
3. two official copies of all previous transcripts;
4. two reference letters (sent directly by the referees);
5. TOEFL and GRE scores (if applicable).

The Department accepts most of its graduate students for September; the chance of acceptance for January is significantly lower.

Application deadlines:

September admission:

February 1 - all applicants.

January admission:

July 15 - International applicants

October 15 - Canadian citizens and Permanent Residents.

All documents must be received by the Department's Admissions Committee by the above deadlines.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

27.5 Program Requirements

A student may satisfy the M.Eng. degree requirements by completing one of the following options:

M.Eng. Thesis Option (46 credits)

The Thesis option requires satisfactory completion of six graduate level courses (with a grade of B or better) of which four courses must be chosen from the Department (ECSE5xx or ECSE6xx), plus research leading to a Master's thesis (28 credits), the total amounting to at least 46 credits. Students who are required to take more than two non-departmental courses must bring a letter of recommendation from their supervisors outlining the reason for such an action. There are no circumstances under which the maximum number of non-departmental courses will be raised above three.

The following are the thesis component courses:

ECSE691 Thesis Research 1	4 credits
ECSE692 Thesis Research 2	4 credits
ECSE693 Thesis Research 3	4 credits
ECSE694 Thesis Research 4	4 credits
ECSE695 Thesis Research 5	4 credits
ECSE696 Thesis Research 6	4 credits
ECSE697 Thesis Research 7	4 credits
Total credit weight of thesis:	28 credits

Students who choose the thesis option must register for all 28 credits during the course of study. Students in the thesis option must carry a full load (minimum of 12 credits) during the three terms of the residency requirement.

M.Eng. Thesis - Computational Science and Engineering (CSE) Option (47 credits)

Required Courses (29 credits)

ECSE670D1 (.5) CSE Seminar	
ECSE670D2 (.5) CSE Seminar	
ECSE691 (4) Thesis Research 1	
ECSE692 (4) Thesis Research 2	
ECSE693 (4) Thesis Research 3	
ECSE694 (4) Thesis Research 4	
ECSE695 (4) Thesis Research 5	
ECSE696 (4) Thesis Research 6	
ECSE697 (4) Thesis Research 7	

Complementary Courses (minimum 18 credits)

Six courses at the graduate level (500 or above) are required (minimum 18 credits), with a grade of B or better. Two courses (minimum 6 credits) from List A, and two courses (minimum 6 credits) from List B. At least two of the courses taken from Lists A and B must be from outside the Department of Electrical and Computer Engineering.

List A - Scientific Computing Courses:

CIVE602 (4) Finite Element Analysis	
COMP522 (4) Modelling and Simulation	
COMP540 (3) Matrix Computations	
COMP566 (3) Discrete Optimization 1	
MATH578 (4) Numerical Analysis 1	
MATH579 (4) Numerical Differential Equations	

List B - Applications and Specialized methods Courses:

ATOC512 (3) Atmospheric and Oceanic Dynamics	
ATOC513 (3) Waves and Stability	
ATOC515 (3) Turbulence in Atmosphere and Oceans	
CIVE514 (3) Structural Mechanics	
CIVE572 (3) Computational Hydraulics	
CIVE603 (4) Structural Dynamics	
CIVE613 (4) Numerical Methods: Structural Engineering	
COMP505 (3) Advanced Computer Architecture	
COMP557 (3) Fundamentals of Computer Graphics	
COMP558 (3) Fundamentals of Computer Vision	
COMP567 (3) Discrete Optimization 2	
COMP621 (4) Optimizing Compilers	
COMP642 (4) Numerical Estimation	
COMP767 (4) Advanced Topics: Applications 2	
ECSE507 (3) Optimization and Optimal Control	
ECSE532 (3) Computer Graphics	
ECSE547 (3) Finite Elements in Electrical Engineering	
ECSE549 (3) Expert Systems in Electrical Design	
MATH555 (4) Fluid Dynamics	
MATH560 (4) Optimization	
MATH651 (4) Asymptotic Expansion and Perturbation Methods	
MATH761 (4) Topics in Applied Mathematics 1	
MECH533 (3) Subsonic Aerodynamics	
MECH537 (3) High-Speed Aerodynamics	
MECH538 (3) Unsteady Aerodynamics	
MECH539 (3) Computational Aerodynamics	
MECH541 (3) Kinematic Synthesis	
MECH545 (3) Advanced Stress Analysis	
MECH572 (3) Introduction to Robotics	
MECH573 (3) Mechanics of Robotic Systems	
MECH576 (3) Computer Graphics and Geometrical Modelling	
MECH577 (3) Optimum Design	
MECH610 (4) Fundamentals of Fluid Dynamics	
MECH620 (4) Advanced Computational Aerodynamics	
MECH632 (4) Theory of Elasticity	
MECH642 (4) Advanced Dynamics	
MECH650 (4) Heat Transfer	
MECH654 (4) Compt. Fluid Flow and Heat Transfer	

Students who choose the thesis option must register for all 29 credits during the course of study. Students in the thesis option must carry a full load (minimum of 12 credits) during the three terms of the residency requirement.

M.Eng. Non-Thesis (Project) Option (47 credits)

The Project option requires satisfactory completion of at least nine graduate level courses (with a grade of B or better) of which six courses must be chosen from the Department (ECSE5xx or ECSE6xx), plus a project (up to 20 credits), the total amounting to 47 credits. Students who are required to take more than three non-departmental courses must bring a letter of recommendation from their supervisors outlining the reason for such an action. There are no circumstances under which the maximum number of non-departmental courses will be raised above four.

The following are the project component courses:

ECSE651 M. Eng. Project 1	1 credit
ECSE652 M. Eng. Project 2	2 credits
ECSE653 M. Eng. Project 3	3 credits
ECSE654 M. Eng. Project 4	4 credits
ECSE655 M. Eng. Project 5	5 credits
ECSE656 M. Eng. Project 6	5 credits
Total number of project credits:	20 credits

The credits assigned to the project can vary between 11 and 20 depending on the number of course credits taken. A part-time program is possible.

Non-thesis option students have an oral presentation and two examiners grade their project.

Ph.D. Program Requirements

To complete the doctoral program, the following requirements must be met.

- a) Successful completion of the courses prescribed by the student's Supervisory Committee.
- b) Completion of a minimum of two units (100 hours) of teaching work (tutoring or lab demonstration). A written confirmation of the type of teaching work done either inside or outside the Department must be submitted to the Department.
- c) Passing the Qualifying Examination (course ECSE701). Students must register for this course upon admission to the doctoral program. It is recommended that the exam take place within one year of admission to the doctoral program. The contents of the Qualifying Examination are set at the Preliminary Meeting. The examiners at the Qualifying Examination include the student's Supervisory Committee together with any other examiners chosen by the committee. Successful completion of this course will award the student a PASS grade in the course ECSE701.
- d) Approval of the thesis proposal submitted by the student (course ECSE702). Students must register for this course upon successful completion of the course ECSE701. It should be completed within one year of the Qualifying Examination. The student must present a brief written thesis proposal to the Supervisory Committee. The proposal should contain a statement of the proposed research, results already obtained, if any, and expected results. The proposal is to be received by members of the Committee in advance of its presentation. The format of the thesis proposal submission is an oral presentation of the written statement by the student and then a period in which he/she will be questioned on the proposal by the Supervisory Committee. When the proposal is accepted by the Supervisory committee, the student receives a PASS grade in the course ECSE702.
- e) Passing the final thesis defense conducted by the Graduate and Postdoctoral Studies Office.

27.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title, along with the number of weekly contact hours (lectures, lab/tutorials) and expected hours of study, e.g., (3) (3-0-6) indicates 3 credits (3 lecture hours - no other contact hours - 6hours of personal study).

Denotes courses not offered in 2004-05.

ECSE 501 LINEAR SYSTEMS. (3) (3-0-6) (Prerequisite: ECSE 304)

ECSE 502 CONTROL ENGINEERING. (3) (3-0-6) (Prerequisites: ECSE 303, ECSE 305) Modeling of engineering systems, simulation. Linear systems theory. Performance limitations. Stability of single-input-single-output closed-loop systems. Classical design in the frequency domain. Sampled-data implementation of continuous-time design.

ECSE 504 COMPUTER CONTROL. (3) (3-0-6) (Prerequisites: ECSE 305 and ECSE 404 or ECSE 502)

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 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 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 RANDOM PROCESSES. (3) (3-0-6) (Prerequisite: ECSE 509) Finite-dimensional distribution functions. Estimation, Orthogonal Projection Theorem. Linear stochastic systems; Kalman filtering. Stationary stochastic processes: spectral Representation Theorem, Wiener filtering, Wold decomposition; ARMA processes. Brownian Motion; Ito integral and stochastic differential equations; forward and backward equations for diffusions. Ergodic theorems. Stochastic dynamic programming. Applications to communication and control systems.

ECSE 511 INTRODUCTION TO DIGITAL COMMUNICATION. (3) (3-0-6) (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) (3-0-6) (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 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. Band-limited channels: intersymbol interference, spectral shaping, correlative coding, data estimation and channel equalization.

ECSE 522 ASYNCHRONOUS CIRCUITS AND SYSTEMS. (3) (3-3-3) (Prerequisite: ECSE 323)

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, vocoders using formant, linear predictive and cepstral techniques, overview of automatic speech recognition systems, speech synthesis systems and speaker verification systems.

ECSE 525 COMPUTER ARCHITECTURE. (3) (3-0-6) (Prerequisites: ECSE 322 and ECSE 323)

ECSE 526 ARTIFICIAL INTELLIGENCE. (3) (3-0-6) (Prerequisite: ECSE 322)

ECSE 527 OPTICAL ENGINEERING. (3) (3-0-6) (Prerequisites: ECSE 304 and 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 411 or ECSE 511. Corequisite: ECSE 509) Organization of large, highspeed, multiservice telecommunication networks. Connection hierarchies, protocol stacks, transmission formats. Local-area networking: Token Ring and Ethernet. Multiplexing for wide-area transport: performance modelling and analysis, traffic scheduling and shaping. Routing and flow control. Switch architecture: performance criteria, buffer management, routers versus switches and hybrids.

ECSE 529 IMAGE PROCESSING AND COMMUNICATION. (3) (3-0-6) (Prerequisite: ECSE 304) Introduction to vision in man and machine; computer vision systems; biological vision systems; biological signal processing; edge detection; spatial- and frequency-domain processing; color. Low-level visual processing in computer vision, psychophysics, and neurobiology, and their similarities and differences.

ECSE 530 LOGIC SYNTHESIS. (3) (3-2-4) (Prerequisite: ECSE 323)

ECSE 531 REAL TIME SYSTEMS. (3) (3-3-3) (Prerequisites: ECSE 322 and ECSE 323)

ECSE 532 COMPUTER GRAPHICS. (3) (3-3-3) (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)

ECSE 536 RF MICROELECTRONICS. (3) (3-3-3) (Prerequisite: ECSE 334.) 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. Capac-

itance, 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) (Limited Enrolment - 20) (Password card 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)

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)

ECSE 570 AUTOMATIC SPEECH RECOGNITION. (3) (3-0-6) (Prerequisites: ECSE 305 and ECSE 322.)

ECSE 571 OPTOELECTRONIC DEVICES. (3) (3-0-6) (Prerequisites: ECSE 304, ECSE 305, 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 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 578 CRYSTALS AND CONDUCTION. (3) (3-0-6) (Prerequisite: ECSE 432 or ECSE 533)

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 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 334, ECSE 352, MATH 270 or MATH 271.) Principles of circuit simulation. Formulation of network equations. Frequency domain analysis. Nonlinear networks. Transient analysis. Sensitivity analysis and optimization. Model order reduction. High-speed intercon-

nect analysis. Complex frequency hopping. Analysis of radio frequency circuits.

ECSE 610 WIRELESS TELECOMMUNICATIONS. (4) (3-0-9) (Prerequisite: ECSE 511) An introduction to the theory and technology of wireless networks, with the emphasis on networking. Topics include channel modelling, cellularity and frequency reuse, the multiple access problem, services integration, flow control, diversity, smart antennas and aspects of wireless network management. First and second generation systems are described in detail.

ECSE 615 DIGITAL SIGNAL PROCESSING 2. (4) (3-0-9) (Prerequisites: ECSE 509 and ECSE 512)

ECSE 617 ARRAY SIGNAL PROCESSING. (4) (3-0-9) (Prerequisite: ECSE 412 or ECSE 512, ECSE 509)

ECSE 618 HAPTICS. (4) (3-0-9) (Prerequisite: Permission of instructor.)

ECSE 620 INFORMATION THEORY AND CODING. (4) (3-0-9) (Prerequisites: ECSE 411 or ECSE 511, and ECSE 510) Point-to-point communications: source and channel models, lossless source coding (prefix codes, Ziv-Lempel algorithm), performance limits for channel codes, source coding subject to a fidelity criterion, end-to-end performance limits. Approaching the limits: convolutional codes, linear codes. The multi-access problem: achievable rate regions, TDMA, CDMA. Secure communications.

ECSE 621 STAT. DETECTION AND ESTIMATION. (4) (3-0-9) (Prerequisites: ECSE 411 or ECSE 511, ECSE 510)

ECSE 623 DIGITAL COMMUNICATION 2. (4) (3-0-9) (Prerequisite: ECSE 510, ECSE 521) Adaptive channel equalization: the LMS algorithm, recursive Least-Squares algorithms, blind equalization. Multipath fading channels: channel characterization and models, diversity techniques for slowly fading channels, detection techniques for frequency selective channels. Spread Spectrum Communications: direct sequence and frequency hopping, multiple access techniques, single and multi-user demodulation techniques. Multicarrier systems.

ECSE 625 TELECOMMUNICATION NETWORK DESIGN. (4) (3-0-9) (Prerequisites: ECSE 510, ECSE 528) Instruction in the design and use of algorithms for telecommunication network planning and control, with emphasis on computational efficiency. Applications include topological design, route selection, specification and configuration management of virtual networks. Relevant computational techniques include steepest descent, branch-and-bound, flow deviation.

ECSE 626 STATISTICAL COMPUTER VISION. (4) (3-0-9) (Prerequisite: ECSE 529 or equivalent, ECSE 305 or equivalent.)

ECSE 629 VISUAL MOTOR SYSTEMS. (4) (3-0-9) (Prerequisite: ECSE 529)

ECSE 634 ANALOG INTEGRATED CIRCUITS SIGNAL PROCESSING. (4) (3-0-9) (Prerequisites: ECSE 334, ECSE 303 or equivalent)

ECSE 648 VLSI DESIGN. (4) (1-5-3) (Prerequisite: ECSE 548) (Limited enrolment) A project course with the opportunity to apply the knowledge acquired in 304-548 to the design of a complete digital IC of medium complexity. Completed designs will be submitted for fabrication to the Implementation Centre of the Canadian Microelectronics Corporation. The course includes lectures on advanced topics in VLSI design.

ECSE 649 VLSI TESTING. (4) (3-0-9) (Prerequisite: B.Eng. or equivalent.)

ECSE 651 M. ENG. PROJECT 1. (1) (0-0-3)

ECSE 652 M.ENG. PROJECT 2. (2) (0-0-6)

ECSE 653 M.ENG. PROJECT 3. (3) (0-0-9)

ECSE 654 M.ENG. PROJECT 4. (4) (0-0-12)

ECSE 655 M.ENG. PROJECT 5. (5) (0-0-15)

ECSE 656 M.ENG. PROJECT 6. (5) (0-0-15)

ECSE 670D1 (0.5), ECSE 670D2 (0.5) COMPUTATIONAL SCIENCE Engineering Seminar. (Restriction: This seminar course is open only to students who were admitted to the CSE Program Option.) (Students must register for both ECSE 670D1 and ECSE

670D2.) (No credit will be given for this course unless both ECSE 670D1 and ECSE 670D2 are successfully completed in consecutive terms.)

ECSE 670N1 COMPUTATIONAL SCIENCE ENGINEERING SEMINAR. (0.5) (Restriction: This seminar course is open only to students who were admitted to the CSE Program Option.) (Students must also register for ECSE 670N2.) (No credit will be given for this course unless both ECSE 670N1 and ECSE 670N2 are successfully completed in a twelve month period.)

ECSE 670N2 COMPUTATIONAL SCIENCE ENGINEERING SEMINAR. (0.5) (Prerequisite: ECSE 670N1.) (No credit will be given for this course unless both ECSE 670N1 and ECSE 670N2 are successfully completed in a twelve month period.)

ECSE 675 SOLAR CELLS AND JUNCTIONS. (4) (3-0-9) (Prerequisite: ECSE 432)

ECSE 677 EXPERIMENTAL TECHNIQUES: SOLID STATE. (4) (0-6-6) (Prerequisite: ECSE 545) Experimental project in solid state involving the following: techniques of preparation, fabrication and orientation of samples and structures for experimental study; use of special laboratory apparatus; measurement of electronic, optical and structural properties of samples and structures; evaluation of electronic behaviour and performance; interpretation of relevant physical processes and phenomena.

ECSE 678 SPECIAL TOPICS IN SOLIDS 1. (4) (3-0-9) (Prerequisite: ECSE 432)

ECSE 680 TOPICS IN PHOTONICS. (4) (3-0-9)

ECSE 681 COLLOQUIUM IN ELECTRICAL ENGINEERING. (4)

ECSE 682 TOPICS IN COMPUTERS AND CIRCUITS. (4) (3-0-9)

ECSE 683 TOPICS IN VISION AND ROBOTICS. (4) (3-0-9)

ECSE 684 TOPICS: COMPUTER AIDED DESIGN. (4) (3-0-9)

ECSE 685 TOPICS IN POWER ENGINEERING. (4) (3-0-9)

ECSE 686 TOPICS: COMMUNICATIONS SYSTEMS. (4) (3-0-9)

ECSE 688 RECENT ADVANCES IN ELECTRICAL ENGINEERING 1. (4) (3-0-9)

ECSE 689 RECENT ADVANCES: ELECTRICAL ENGINEERING 2. (4) (3-0-9)

ECSE 690 TOPICS: BIOMEDICAL ENGINEERING. (4) (3-0-9)

ECSE 691 THESIS RESEARCH 1. (4) (3-0-9)

ECSE 692 THESIS RESEARCH 2. (4) (3-0-9)

ECSE 693 THESIS RESEARCH 3. (4) (3-0-9)

ECSE 694 THESIS RESEARCH 4. (4) (3-0-9)

ECSE 695 THESIS RESEARCH 5. (4) (3-0-9)

ECSE 696 THESIS RESEARCH 6. (4) (3-0-9)

ECSE 697 THESIS RESEARCH 7. (4) (3-0-9)

ECSE 701 PH.D. QUALIFYING EXAMINATION. (0) Oral Examination of Ph.D. student's background in defined areas.

ECSE 702 PH.D. RESEARCH PLAN PROPOSAL. (0) Definition of a plan for Ph.D. research.

28 English

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Chair — M. Kilgour

28.1 Staff

Emeritus Professors

M. Puhvel; B.A., M.A.(McG.), Ph.D.(Harv.)
 J. Ripley; B.A., M.A.(U.N.B), Ph.D.(Birm.)
 D. Suvin; B.A., M.Sc., Ph.D.(Zagreb), F.R.S.C.
 W.C. Wees; B.A.(Northwestern), M.A.(Roch.),
 Ph.D.(Northwestern)

Professors

M.D.Bristol; A.B.(Yale), Ph.D.(Prin.)
 K. Borris; B.A.(Vic., B.C.), Ph.D.(Edin.)
 M. Dorsinville; B.A., M.A.(Sher.), Ph.D.(C.U.N.Y.)
 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.)
 P.H. Ohlin; Fil. Mag.(Stockholm), M.A., Ph.D.(New Mexico)
 P. Sabor; B.A.(Camb.), M.A.(Queen's), Ph.D.(Lond.)
 M. Stenbaek; B.A.(Copenhagen), M.A., Ph.D.(Montr.)
 B. Trehearne; B.A., M.A., Ph.D.(McG.)
 L.E. Troide; B.A., M.Phil.(Yale), M.A.(Col.) Ph.D.(Yale)
 D. Williams; B.A.(Boston), M.A., Ph.D.(Tor.)
 P. Yachnin; B.A.(McG.), M.Litt.(Edin.), Ph.D.(Tor.)

Associate Professors

D.A. Bray; B.A.(McG.), Ph.D.(Edin.)
 M.N. Cooke; B.A.(Queen's), M.A.(C'nell), M.A., Ph.D.(Tor.)
 P. Gibian; B.A.(Yale), M.A.(N.Y.), Ph.D.(Stan.)
 D.C. Hensley; B.A., M.A.(Cantab.), Ph.D.(Yale)
 B. Kaite; B.A.(C'dia), M.A.(McM.), Ph.D.(Carl.)
 L. Lieblein; B.A.(C.C.N.Y.), A.M., Ph.D.(Roch.)
 P. Neilson; B.A.(Bishop's), M.F.A.(Calg.)
 T. Ponech; B.A.(McG.), Ph.D.(Northwestern)
 D. Salter; B.A.(Br.Col.), M.A., Ph.D.(Tor.)
 M.W. Selkirk; B.A.(Alta), M.F.A.(Ill.)

Assistant Professors

S. Carney; B.A.(Man.), M.A.(Alta.), Ph.D.(York)
 W. Folkerth; B.A.(Calif. St.), M.A., Ph.D.(McG.)
 A. Hepburn; B.A., M.A.(W.Ont.), Ph.D.(Prin.)
 M. Hickman; B.A.(Brown), M.A., Ph.D.(Mich.)
 M. Morgan; B.A.(Harv.), Ph.D.(Stan.)
 D. Nystrom; B.A.(Wis.), M.A., Ph.D.(Va.)
 N. Schantz; B.A.(Stan.), M.A., Ph.D.(U.S.C.)
 T. Sparks; B.A.(Bates College), M.A., Ph.D.(Wash)

28.2 Programs Offered

Master's and Ph.D.

All students who apply will be considered for support which normally takes the form of a Teaching or Research Assistantship.

28.3 Admission Requirements

A statement of proposed research, transcripts, writing sample and two letters of recommendation are required of all applicants.

M.A. Degree

Admission to the M.A. program requires an Honours degree in English or its equivalent. Outstanding applicants from related disciplines may be invited to take a qualifying year.

Ph.D. Degree

Admission to the doctoral program is highly competitive. Outstanding students with the Master's degree in hand are accepted into Ph.D.2. In rare circumstances, outstanding graduates of B.A. programs will be considered for "fast-tracking" into the doctoral program, entering at Ph.D.1. They follow the M.A. program (Thesis option) and if at the end of the first year their work is evaluated successfully they go on to complete the remaining requirements of the Ph.D. program.

28.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. two letters of reference;
4. \$60 application fee;
5. a writing sample;
6. statement of proposed research.

All information is to be submitted directly to the Graduate Coordinator.

Applications close January 15.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

28.5 Program Requirements

A detailed description of the program requirements, course offerings, and faculty can be found at www.arts.mcgill.ca/programs/english/english.html.

M.A. Degree (48 credits)

The Department offers two options towards the M.A. degree, one with a thesis and the other without thesis. Both options consist of 48 credits and are designed to be completed in four terms (of 12 credits each), but it is possible to complete the program in three terms, or one calendar year.

The two programs are similar; the non-thesis option substitutes two seminars and a research paper for the thesis. Both options require participation in a series of sessions on bibliography and research methods.

Ph.D. Degree

Doctoral students are expected to complete in their first year (Ph.D.2) the two halves of the compulsory proseminar and four other courses, but may substitute for the two second-term courses one extended supervised research project. This course work must be chosen in order to make possible the identification of a major and a minor area of concentration. In Ph.D.3, candidates complete a compulsory research project in the area of the dissertation and submit the dissertation proposal. The language requirement must be fulfilled before the dissertation proposal is approved.

It is the policy of the Department to urge candidates to complete the Ph.D. program within six years. A candidate intending to submit the thesis to meet the deadline for Spring Convocation must give notice of this intention before January 1. A candidate intending to meet the deadline for Fall Convocation must give such notice before May 1.

28.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

The following is a list of all courses in English approved for offering at the graduate level. Courses at the 500 level are also open to

advanced undergraduates. A maximum of two courses at the 500 level may be taken by Masters students.

ENGL 500 MIDDLE ENGLISH. (3)

ENGL 501 16TH CENTURY. (3)

ENGL 502 17TH CENTURY. (3)

ENGL 503 18TH CENTURY. (3) (Topic for 2004-05: The Villain-Hero.)

ENGL 504 19TH CENTURY. (3)

ENGL 505 20TH CENTURY. (3)

ENGL 516 SHAKESPEARE. (3)

ENGL 525 AMERICAN LITERATURE. (3)

ENGL 527 CANADIAN LITERATURE. (3) (Topic for 2004-05: The Canadian Long Poem.)

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)

ENGL 531 LITERARY FORMS. (3)

ENGL 533 LITERARY MOVEMENTS. (3)

ENGL 540 LITERARY THEORY 1. (3)

ENGL 545 TOPICS IN LITERATURE & SOCIETY. (3) (Topic for 2004-05: Genre Theory.)

ENGL 553 OLD ENGLISH LITERATURE. (3) (Undergraduate Prerequisite: ENGL 351)

ENGL 565 MEDIEVAL DRAMA WORKSHOP. (3)

ENGL 566 SPECIAL STUDIES IN DRAMA 1. (3)

ENGL 568 TOPICS IN THE DRAMATIC FORM. (3)

ENGL 569 THEORIES OF REPRESENTATION. (3) (Prerequisites: ENGL 458, ENGL 459 and/or permission of instructor)

ENGL 585 MODES OF COMMUNICATION 1. (3)

ENGL 586 MODES OF COMMUNICATION 2. (3)

ENGL 587 THEORETICAL ISSUES: STUDY COMMUNICATIONS AND CULTURE. (3)

ENGL 608 CHAUCER 1. (3)

ENGL 609 CHAUCER 2. (3)

ENGL 616 ELIZABETHAN AND JACOBEAN DRAMA. (3)

ENGL 640 THE AMERICAN NOVEL. (3)

ENGL 661 SEMINAR OF SPECIAL STUDIES. (3)

ENGL 662 SEMINAR OF SPECIAL STUDIES. (3)

ENGL 680 CANADIAN LITERATURE. (3)

ENGL 681 M.A. RESEARCH PAPER PREPARATION 1. (3)

ENGL 682 M.A. RESEARCH PAPER PREPARATION 2. (3)

ENGL 683 M.A. RESEARCH PAPER PREPARATION 3. (3)

ENGL 684 M.A. RESEARCH PAPER. (15)

ENGL 684D1 (7.5), ENGL 684D2 (7.5) M.A. RESEARCH PAPER. (Students must register for both ENGL 684D1 and ENGL 684D2) (No credit will be given for this course unless both ENGL 684D1 and ENGL 684D2 are successfully completed in consecutive terms) (ENGL 684D1 and ENGL 684D2 together are equivalent to ENGL 684)

ENGL 684J1 M.A. RESEARCH PAPER. (5) (Students must also register for ENGL 684J2 and ENGL 684J3) (No credit will be given for this course unless ENGL 684J1, ENGL 684J2 and ENGL 684J3 are all successfully completed in consecutive terms) (ENGL 684J1, ENGL 684J2 and ENGL 684J3 together are equivalent to ENGL 684)

ENGL 684J2 M.A. RESEARCH PAPER. (5) (Prerequisite: ENGL 684J1) (Students must also register for ENGL 684J3) (No credit will be given for this course unless ENGL 684J1, ENGL 684J2 and

ENGL 684J3 are all successfully completed in consecutive terms) (ENGL 684J1, ENGL 684J2 and ENGL 684J3 together are equivalent to ENGL 684)

ENGL 684J3 M.A. RESEARCH PAPER. (5) (Prerequisite: ENGL 684J2) (No credit will be given for this course unless ENGL 684J1, ENGL 684J2 and ENGL 684J3 are all successfully completed in consecutive terms) (ENGL 684J1, ENGL 684J2 and ENGL 684J3 together are equivalent to ENGL 684)

ENGL 684N1 M.A. RESEARCH PAPER. (7.5) (Students must also register for ENGL 684N2) (No credit will be given for this course unless both ENGL 684N1 and ENGL 684N2 are successfully completed in a twelve month period) (ENGL 684N1 and ENGL 684N2 together are equivalent to ENGL 684)

ENGL 684N2 M.A. RESEARCH PAPER. (7.5) (Prerequisite: ENGL 684N1) (No credit will be given for this course unless both ENGL 684N1 and ENGL 684N2 are successfully completed in a twelve month period) (ENGL 684N1 and ENGL 684N2 together are equivalent to ENGL 684)

ENGL 687 RESEARCH SEMINAR. (3)

ENGL 690 SEMINAR OF SPECIAL STUDIES. (3)

ENGL 694 BIBLIOGRAPHY SEMINAR. (3)

ENGL 695 M.A. THESIS PREPARATION 1. (3)

ENGL 696 M.A. THESIS PREPARATION 2. (3)

ENGL 699 M.A. THESIS. (24)

ENGL 699D1 (12), ENGL 699D2 (12) M.A. THESIS. (Students must register for both ENGL 699D1 and ENGL 699D2) (No credit will be given for this course unless both ENGL 699D1 and ENGL 699D2 are successfully completed in consecutive terms) (ENGL 699D1 and ENGL 699D2 together are equivalent to ENGL 699)

ENGL 699J1 M.A. THESIS. (8) (Students must also register for ENGL 699J2 and ENGL 699J3) (No credit will be given for this course unless ENGL 699J1, ENGL 699J2 and ENGL 699J3 are all successfully completed in consecutive terms) (ENGL 699J1, ENGL 699J2 and ENGL 699J3 together are equivalent to ENGL 699)

ENGL 699J2 M.A. THESIS. (8) (Prerequisite: ENGL 699J1) (Students must also register for ENGL 699J3) (No credit will be given for this course unless ENGL 699J1, ENGL 699J2 and ENGL 699J3 are all successfully completed in consecutive terms) (ENGL 699J1, ENGL 699J2 and ENGL 699J3 together are equivalent to ENGL 699)

ENGL 699J3 M.A. THESIS. (8) (Prerequisite: ENGL 699J2) (No credit will be given for this course unless ENGL 699J1, ENGL 699J2 and ENGL 699J3 are all successfully completed in consecutive terms) (ENGL 699J1, ENGL 699J2 and ENGL 699J3 together are equivalent to ENGL 699)

ENGL 699N1 M.A. THESIS. (12) (Students must also register for ENGL 699N2) (No credit will be given for this course unless both ENGL 699N1 and ENGL 699N2 are successfully completed in a twelve month period) (ENGL 699N1 and ENGL 699N2 together are equivalent to ENGL 699)

ENGL 699N2 M.A. THESIS. (12) (Prerequisite: ENGL 699N1) (No credit will be given for this course unless both ENGL 699N1 and ENGL 699N2 are successfully completed in a twelve month period) (ENGL 699N1 and ENGL 699N2 together are equivalent to ENGL 699)

ENGL 708 STUDIES IN A LITERARY FORM. (3)

ENGL 710 RENAISSANCE STUDIES. (3)

ENGL 714 RENAISSANCE POETRY. (3)

ENGL 716 SPECIAL STUDIES IN SHAKESPEARE. (3)

ENGL 722 MILTON. (3)

ENGL 726 NARRATIVE PROSE OF 18TH CENTURY. (3)

ENGL 730 ROMANTIC THEORY AND POETRY. (3)

ENGL 731 19TH CENTURY STUDIES. (3)

ENGL 733 VICTORIAN NOVEL. (3)

ENGL 734 STUDIES IN FICTION. (3)

ENGL 736 MODERN POETRY. (3)
ENGL 770 STUDIES IN AMERICAN LITERATURE. (3)
ENGL 775 RECENT AMERICAN AND CANADIAN LITERATURE. (3)
ENGL 776 FILM THEORY. (3)
ENGL 785 STUDIES IN LITERARY THEORY. (3)
ENGL 786 RESEARCH SEMINAR. (3)
ENGL 787 RESEARCH SEMINAR 1. (3)
ENGL 788 RESEARCH SEMINAR 2. (3)
ENGL 790 DOCTORAL LANGUAGE EXAMINATION. (0)
ENGL 790D1 (0), ENGL 790D2 (0) DOCTORAL LANGUAGE EXAMINATION. (Students must register for both ENGL 790D1 and ENGL 790D2) (No credit will be given for this course unless both ENGL 790D1 and ENGL 790D2 are successfully completed in consecutive terms) (ENGL 790D1 and ENGL 790D2 together are equivalent to ENGL 790)
ENGL 791 DOCTORAL COMPREHENSIVE EXAMINATION PART 1. (6)
ENGL 791D1 (3), ENGL 791D2 (3) DOCTORAL COMPREHENSIVE EXAMINATION PART 1. (Students must register for both ENGL 791D1 and ENGL 791D2) (No credit will be given for this course unless both ENGL 791D1 and ENGL 791D2 are successfully completed in consecutive terms) (ENGL 791D1 and ENGL 791D2 together are equivalent to ENGL 791)
ENGL 792 DOCTORAL COMPREHENSIVE EXAMINATION PART 2. (6)
ENGL 792D1 (3), ENGL 792D2 (3) DOCTORAL COMPREHENSIVE EXAMINATION PART 2. (Students must register for both ENGL 792D1 and ENGL 792D2) (No credit will be given for this course unless both ENGL 792D1 and ENGL 792D2 are successfully completed in consecutive terms) (ENGL 792D1 and ENGL 792D2 together are equivalent to ENGL 792)
ENGL 793 DOCTORAL COMPREHENSIVE EXAMINATION PART 3. (6)
ENGL 793D1 (3), ENGL 793D2 (3) DOCTORAL COMPREHENSIVE EXAMINATION PART 3. (Students must register for both ENGL 793D1 and ENGL 793D2) (No credit will be given for this course unless both ENGL 793D1 and ENGL 793D2 are successfully completed in consecutive terms) (ENGL 793D1 and ENGL 793D2 together are equivalent to ENGL 793)
ENGL 796 RESEARCH PROJECT. (6) (Restricted to Ph.D Candidates)
ENGL 797 COMPULSORY RESEARCH PROJECT. (6) (Restricted to Ph.D Candidates)
ENGL 798 DISSERTATION PROPOSAL. (3) (Restricted to Ph.D Candidates)

29 Epidemiology and Biostatistics

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Chair — R.Fuhrer

29.1 Staff

Emeritus Professors

M.R. Becklake; M.B.B.Ch., M.D.(Witw.), F.R.C.P.
 J.C. McDonald; M.B. B.S., M.D.(Lond.), M.Sc.(Harv.),
 M.R.C.P.(Lond.), F.R.C.P.(C)

W.O. Spitzer; M.D.(Tor.), M.H.A.(Mich.), M.P.H.(Yale),
 F.R.C.P.(C)

Professors

L. Abenheim; M.D.(Paris), M.Sc.(McG.) (*on leave*)
 J.F. Boivin; M.D.(Laval), S.M., Sc.D.(Harv.)
 J.P. Collet; M.D.(C.B., Lyon), Ph.D.(McG.)
 E.L.F. Franco; M.P.H., Dr.P.H.(Chapel Hill) (*James McGill Professor*)
 R. Fuhrer; M.Sc., Ph.D.(Calif.)
 J.A. Hanley; B.Sc., M.Sc.(N.U.I.), Ph.D.(Wat.) (*on leave*)
 T.Hutchinson; M.B., B.Ch., B.A.D.(Dub.) (*on leave*)
 M.S. Kramer; B.A.(Chic.), M.D.(Yale) (*James McGill Professor*)
 A. Lippman; B.A.(C'nell) Ph.D.(McG.)
 J. McCusker; M.D., C.M.(McG.), M.P.H., Ph.D.(Col.)
 O.S. Miettinen; M.D.(Helsinki), M.P.H., M.S., Ph.D.(Minn.)
 I.B. Pless; B.A., M.D.(W.Ont.)
 S.H. Shapiro B.S.(Bucknell), M.S., Ph.D.(Stan.)
 S. Suissa; M.Sc.(McG.), Ph.D.(Flor.)
 R. Tamblyn; M.Sc.(McM.), Ph.D.(McG.) (*William Dawson Scholar*)
 C. Wolfson; B.Sc., M.Sc., Ph.D.(McG.)
 S. Wood-Dauphinee; B.Sc.(Phys.Ther.), Dip. Ed., M.Sc.A.,
 Ph.D.(McG.)

Associate Professors

M. Abrahamowicz; Ph.D.(Cracow) (*James McGill Professor*)
 E. Beck; M.B.B.S., B.Med.Sci.(Monash); M.Sc., Ph.D.(Lond.)
 J. Carsley; B.A.(Yale), M.Sc., M.D.,C.M.(McG.)
 A. Ciampi; M.Sc., Ph.D.(Queen's), Ph.D.(Rome)
 G. Dougherty; M.D., M.Sc.(McG.) (joint appoint. with Pediatrics)
 T.W. Gyorkos; B.Sc.(McG.), M.Sc.(Bishop's), Ph.D.(McG.)
 L. Joseph; M.Sc., Ph.D.(McG.)
 C.P. Larson; M.D.,C.M., M.Sc.(McG.) (joint appoint. with
 Pediatrics) (*on leave*)
 J.D. MacLean; M.D.(Queen's) F.R.C.P.(C)
 R. Menzies; M.D.,C.M., M.Sc.(McG.) (joint appoint. with Medicine)
 J. O'Loughlin; B.Sc.(Queen's), M.Sc., Ph.D.(McG.) (*PT*)
 G. Paradis; M.D., M.Sc.(McG.) (*PT*)
 G.S. Pekeles; M.D.(Baylor), M.Sc.(McG.)
 J. Pickering; B.A.(Tor.), M.D., M.Sc.(McG.) (joint appoint. with
 Medicine)
 R.W. Platt; M.Sc.(Man.), Ph.D.(Wash.)
 M. Rossignol; B.Sc., M.D.(Sher.), M.Sc.(McG.)
 N. Steinmetz; B.Sc., M.D., C.M.(McG.), M.P.H.(Mich.),
 F.R.C.P.(C)
 P. Tousignant; B.A., M.D.(Laval), M.Sc.(McG.), F.R.C.P.(C) (*PT*)

Assistant Professors

A. Adrien; M.D., M.Sc.(McG.)
 J. Bourbeau; B.Sc., M.D.(Laval), M.Sc.(McG.) (joint appoint. with
 Medicine)
 N. Dendukuri; M.Sc.(Indian I.T.), Ph.D.(McG) (*PT*)
 Y. Robitaille B.Sc.(Montr.), Ph.D.(McG.) (*PT*)
 G. Tan; D.Phil.(Oxon) (*PT*)

Associate Members

Dentistry: P. Allison, J. Feine; *Family Medicine:* J. Cox,
 T. Tannenbaum; Dietetics and *Human Nutrition:* K.Gray-Donald;
Geography: N. Ross; *Medicine:* A. Barkun, M. Behr, P. Brassard,
 J. Brophy, A. Clarke, P. Dobkin, M. Eisenberg, P. Ernst, M.
 Goldberg, S. Grover, S. Kahn, E. Latimer, N. Mayo, L. Pilote, E.
 Rahme, K. Schwartzman, I. Shrier;
Psychiatry: N. Frasure-Smith, G. Galbaud du Fort; *Surgery:* J.
 Sampalis

Adjunct Professors

M. Baltzan; *Direction régionale de la santé publique:* R. Allard,
 R.Lessard, R. Massé, E. Robinson, E. Roy; *Hopital Hôtel-Dieu:*
 J.Leloirier; *Inst. Armand Frappier:* J. Siemiatycki;
StatisticsCanada: J. Berthelot; U. Liege: F-A. Allaert;
U.deMontréal: Y. Moride; Cree Council of Quebec: F. Richer

29.2 Programs Offered

The Department of Epidemiology and Biostatistics offers four programs of study: Diploma, M.Sc. (thesis), M.Sc. (non-thesis) and Ph.D.

Students in M.Sc. and Ph.D. degree programs may choose to follow a program of study in either of two streams: epidemiology or biostatistics. The differences between the streams are in the specific course requirements and the focus of the thesis research.

29.3 Admission Requirements

Candidates for the Diploma and the M.Sc. degree must hold a bachelor's degree or equivalent, and those for a Ph.D. must hold a Master's degree in epidemiology and biostatistics or its equivalent.

Epidemiology as it is practiced today is a highly quantitative field and requires a reasonable level of mathematical competency. Therefore, good knowledge of differential and integral calculus at the level of a first year undergraduate course is highly recommended. Students who would benefit from refreshing their calculus knowledge are encouraged to take a calculus course prior to admission in the department.

29.4 Application Procedures

When application is made to the Department at the M.Sc. level, students should clearly identify the M.Sc. degree program for which they wish to be considered.

Completed applications, with all supporting documents, must reach the Department by February 1st of the year to which candidate is applying.

Please download required documents from our Web site: www.mcgill.ca/epi-biostat, click: Graduate Studies to link to degree programs.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

29.5 Program Requirements

Diploma

Students must complete 30 credits, 21 of them in course work. Students must take (or be exempted from) EPIB606 and EPIB607. The remaining courses, to an overall total of 21 credits, should be chosen in consultation with the student's advisor. In addition, students must submit a Diploma dissertation (EPIB650: 9 credits) on an approved topic.

M.Sc. Degrees

The Department offers two programs of study towards an M.Sc. degree, the M.Sc. (thesis) and the M.Sc. (non-thesis). Both require completion of a minimum of 48 credits. The same courses are available to students in both programs, and only the breadth and depth of knowledge acquired differs between the thesis and non-thesis options.

Students in the non-thesis option must take (or be exempted from) EPIB606, EPIB607*, EPIB611, EPIB640, EPIB695 and EPIB621*. The remaining credits must include a project (EPIB630).

Students in the thesis option must take (or be exempted from) EPIB606, EPIB607*, EPIB611, EPIB640, EPIB695 and EPIB621*. The remaining credits must include a 24-credit thesis (EPIB690) on an approved subject of research.

NB: Both options: The remaining course work must be in graduate courses chosen in consultation with the student's academic advisor or supervisor.

* Students (either option) in the biostatistics stream will be required to take MATH 556 (4 credits) and MATH 557 (4 credits) in place of EPIB 607/621/681. EPIB 611 is not required of students in the biostatistics stream. A description of the MATH courses can be found in the Department of Mathematics and Statistics entry.

Ph.D. Degree

Students must complete EPIB 604D1/EPIB 604D2(Graduate Seminar)(Awaiting University Approval) and may choose other courses in consultation with their supervisors. Students must pass a Comprehensive Examination (EPIB701), usually taken in their second year of registration. Thereafter students must submit a thesis on an approved subject of research.

29.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Information is also available on the Departmental Web site: www.mcgill.ca/epi-biostat, click: graduate studies, click: timetable.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: Special students and students from other departments or universities require the permission of the course instructor.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

Courses EPIB606 and EPIB607 are prerequisites for most other courses.

EPIB 604 GRADUATE SEMINARS. (3)

EPIB 604D1 (1.5), EPIB 604D2 (1.5) GRADUATE SEMINARS. (Students must register for both EPIB 604D1 and EPIB 604D2) (No credit will be given for this course unless both EPIB 604D1 and EPIB 604D2 are successfully completed in consecutive terms) (EPIB 604D1 and EPIB 604D2 together are equivalent to EPIB 604) Planning, organization and delivery of a scientific presentation.

EPIB 606 INTRODUCTION TO EPIDEMIOLOGY. (3) This course aims to provide a comprehensive introduction to epidemiologic concepts and corresponding terms. After an introduction to the history, definition, and purposes of epidemiology, "core" concepts that are relevant in several areas of investigation (e.g. etiologic research, health care research, and community medicine practice) will be presented.

EPIB 607 INFERENCE IN STATISTICS. (4) (Undergraduate Prerequisite: A first year course in undergraduate differential and integral calculus.) Introduction to the basic principles of statistical inference used in clinical and epidemiologic research. Topics include variability; methods of processing and describing data; sampling and sampling distributions; inferences regarding means and proportions, non-parametric methods, regression and correlation.

EPIB 608 ADVANCED EPIDEMIOLOGY. (3) (Prerequisite: Ph.D. candidates or permission of instructor.) Discussion of methodologic issues in the recent literature, including causal inference, measures of disease frequency, measures of effect, epidemiologic study designs, biases, statistics in epidemiology, and special topics. Discussion of day to day practice of epidemiology. Offered in alternate years or yearly depending on demand.

EPIB 610 OCCURRENCE OF HEALTH EVENTS IN POPULATIONS. (2)

EPIB 611 STUDY DESIGN AND ANALYSIS 1. (3) Measurement principles in epidemiologic studies, including scale selection and questionnaire development. Principles of design and analysis of surveys and surveillance studies, and of intervention studies (experimental and non-experimental). Meta-analysis of intervention studies.

EPIB 621 DATA ANALYSIS IN HEALTH SCIENCES. (4) (Prerequisites: EPIB 606, and EPIB 607 or permission of instructor.) Univar-

iate and multivariate statistical techniques for continuous categorical and survival data. Topics include generalized linear models, multiple linear and logistic regression, introductory survival analysis, model selection. Maximum likelihood and Bayesian approaches will be presented.

EPIB 622 SEMINAR: APPLICATIONS OF STATISTICS IN HEALTH SCIENCES. (3) (Prerequisites: EPIB 607 and EPIB 621)

EPIB 623 RESEARCH DESIGN IN HEALTH SCIENCES. (3) (Prerequisite: EPIB 606. Restrictions: Diploma/Degree students in Epidemiology and Biostatistics) Lectures and discussions plus oral and written presentations by students, to provide guidance and experience in the development of objectives, for the formulation and constructive peer criticism of designs for research in the health sciences, including etiologic and evaluative, cross-sectional, case-reference and cohort studies.

EPIB 626 RISKS AND HAZARDS IN EPIDEMIOLOGY. (3) (Prerequisites: EPIB 621 and EPIB 681) Classical and modern methods of analysis for survival, cohort, and case-control studies. Emphasis on the similarity of models used in the analyses of these studies. Hazard functions. Relative-risk functions. Regression modelling. Likelihood function. Interpretation of statistical parameters.

EPIB 630 RESEARCH PROJECT IN EPIDEMIOLOGY. (6) (Restricted to non-thesis M.Sc. students who have completed requirements) Students will critically assess research and summarize the findings in a research paper on a health related topic from an epidemiologic perspective. Topic to be approved by faculty member who will direct student and evaluate the paper.

EPIB 630D1 (3), EPIB 630D2 (3) RESEARCH PROJECT IN EPIDEMIOLOGY. (Students must register for both EPIB 630D1 and EPIB 630D2) (No credit will be given for this course unless both EPIB 630D1 and EPIB 630D2 are successfully completed in consecutive terms) (EPIB 630D1 and EPIB 630D2 together are equivalent to EPIB 630) Students will critically assess research and summarize the findings in a research paper on a health related topic from an epidemiologic perspective. Topic to be approved by faculty member who will direct student and evaluate the paper.

EPIB 631 PHARMACOEPIDEMIOLoGY 2. (2) (Offered only in Summer term.) (Prerequisites: EPIB 633, or instructor's permission, and basic knowledge of epidemiology and biostatistics)

EPIB 631D1 (1), EPIB 631D2 (1) PHARMACOEPIDEMIOLoGY 2. (Students must register for both EPIB 631D1 and EPIB 631D2) (No credit will be given for this course unless both EPIB 631D1 and EPIB 631D2 are successfully completed in consecutive terms) (EPIB 631D1 and EPIB 631D2 together are equivalent to EPIB 631)

EPIB 633 PHARMACOEPIDEMIOLoGY 1. (2) (Offered only in Summer Term)

EPIB 635 CLINICAL TRIALS. (3) (Prerequisites: EPIB 606, EPIB 607) Lectures and discussions on issues, approaches and techniques of clinical trials including assessment of feasibility, ethics, randomization, strengths and weaknesses of alternative designs, sample size requirements, protocol development, trial management and analysis, reporting and interpretation of trial results.

EPIB 637 INFECTIOUS AND PARASITIC DISEASE EPIDEMIOLOGY. (3) (Offered only in Summer term.) (Prerequisite: EPIB 606 or equivalent)

EPIB 640 PRACTICUM. (1) This course gives students the opportunity to integrate knowledge from and apply principles covered in courses EPIB 606 and EPIB 607.

EPIB 641 SUBSTANTIVE EPIDEMIOLOGY 1. (1) Designed to give students an overview of a major disease or health problem. Students will develop their knowledge of a topic regarding 1) key definitions, concepts and indicators useful in study of the problem; 2) epidemiology of problem, 3) major studies of interventions designed to address the problem. Topics currently offered include cancer, injury prevention and heart disease but not all are offered in each semester.

EPIB 642 SUBSTANTIVE EPIDEMIOLOGY 2. (1) Designed to give students an overview of a major disease or health problem. Students

will develop their knowledge of a topic regarding 1) key definitions, concepts and indicators useful in study of the problem; 2) epidemiology of problem, 3) major studies of interventions designed to address the problem. Topics currently offered include cancer, injury prevention and heart disease but not all are offered in each semester.

EPIB 643 SUBSTANTIVE EPIDEMIOLOGY 3. (1) Designed to give students an overview of a major disease or health problem. Students will develop their knowledge of a topic regarding 1) key definitions, concepts and indicators useful in study of the problem; 2) epidemiology of problem, 3) major studies of interventions designed to address the problem. Topics currently offered include cancer, injury prevention and heart disease but not all are offered in each semester.

EPIB 644 SUBSTANTIVE EPIDEMIOLOGY 4. (1) Designed to give students an overview of a major disease or health problem. Students will develop their knowledge of a topic regarding 1) key definitions, concepts and indicators useful in study of the problem; 2) epidemiology of problem, 3) major studies of interventions designed to address the problem. Topics currently offered include cancer, injury prevention and heart disease but not all are offered in each semester.

EPIB 645 SUBSTANTIVE EPIDEMIOLOGY 5. (1) Designed to give students an overview of a major disease or health problem. Students will develop their knowledge of a topic regarding 1) key definitions, concepts and indicators useful in study of the problem; 2) epidemiology of problem, 3) major studies of interventions designed to address the problem. Topics currently offered include cancer, injury prevention and heart disease but not all are offered in each semester.

EPIB 646 EVALUATION OF HEALTH SERVICES. (3) (Course offered only in some years) (Prerequisites: EPIB 606, EPIB 607)

EPIB 650 DIPLOMA DISSERTATION. (9) A scholarly paper tailored to the student's interests and approved by the student's supervisor.

EPIB 650D1 (4.5), EPIB 650D2 (4.5) DIPLOMA DISSERTATION. (Students must register for both EPIB 650D1 and EPIB 650D2) (No credit will be given for this course unless both EPIB 650D1 and EPIB 650D2 are successfully completed in consecutive terms) (EPIB 650D1 and EPIB 650D2 together are equivalent to EPIB 650) A scholarly paper tailored to the student's interests and approved by the student's supervisor.

EPIB 651 SELECTED TOPICS IN BIostatISTICS 1. (1) The purpose of this 1-credit courses is to cover specific methodologic topics in more detail than is given in the main courses on statistical methods. The topics to be offered may vary from year to year. Topics currently offered include "Biometric Methods in Occupational Epidemiology" and "Practical Considerations of Statistical Power".

EPIB 652 SELECTED TOPICS IN BIostatISTICS 2. (1) The purpose of this 1-credit course is to cover specific methodologic topics in more detail than is given in the main courses on statistical methods. The topics to be offered may vary from year to year. Topics currently offered include "Biometric Methods in Occupational Epidemiology" and "Practical Considerations of Statistical Power".

EPIB 653 SELECTED TOPICS BIostatISTICS 3. (1) The purpose of this 1-credit courses is to cover specific methodologic topics in more detail than is given in the main courses on statistical methods. The topics to be offered may vary from year to year. Topics currently offered include "Biometric Methods in Occupational Epidemiology" and "Practical Considerations of Statistical Power".

EPIB 654 PHARMACOEPIDEMIOLoGY 4. (2) (Offered only in Summer term.) (Prerequisites: EPIB 606, EPIB 607 or permission of instructor)

EPIB 655 EPIDEMIOLOGY IN PUBLIC HEALTH. (3) (Prerequisites: EPIB 606, EPIB 607)

EPIB 656 HEALTH CARE TECHNOLOGY ASSESSMENT. (3)

EPIB 658 TOPICS IN BIostatISTICS 1. (1) The purpose of this 1-credit course is to cover specific methodologic topics in more detail

than is given in the main courses on statistical methods. The topics to be offered may vary from year to year.

EPIB 659 TOPICS IN BIostatISTICS 2. (1) The purpose of this 1-credit course is to cover specific methodologic topics in more detail than is given in the main courses on statistical methods. The topics to be offered may vary from year to year.

EPIB 660 PRACTICAL ASPECTS: PROTOCOL DEVELOPMENT. (3) (Offered only in Summer term.) (Prerequisites: EPIB 606, EPIB 607 or permission of instructor.) The course is designed to give students working in groups the opportunity to develop, under guidance and criticism from instructors and fellow students, a protocol addressing a research question in their field of interest.

EPIB 661 PHARMACOEPIDEMIOLOGY 3. (2) (Offered only in Summer term.) (Prerequisites: EPIB 631, EPIB 633 or permission of instructor)

EPIB 662 HEALTH IN DEVELOPING COUNTRIES. (3) (Offered only in Summer term.) (Prerequisites: EPIB 606 or equivalent.)

EPIB 663 SUBSTANTIVE EPIDEMIOLOGY 6. (1) Designed to give students an overview of major disease or health problem, disease or substantive area. The students will develop their knowledge of the topic regarding 1) The key definition, concepts and indicators useful in the study of the problem; 2) The epidemiology of the problem, and 3) Major studies of interventions designed to address the problems.

EPIB 664 SUBSTANTIVE EPIDEMIOLOGY 7. (1) Designed to give students an overview of major disease or health problem, disease or substantive area. The students will develop their knowledge of the topic regarding 1) The key definition, concepts and indicators useful in the study of the problem; 2) The epidemiology of the problem, and 3) Major studies of interventions designed to address the problems.

EPIB 665 SUBSTANTIVE EPIDEMIOLOGY 8. (1) Designed to give students an overview of major disease or health problem, disease or substantive area. The students will develop their knowledge of the topic regarding 1) The key definition, concepts and indicators useful in the study of the problem; 2) The epidemiology of the problem, and 3) Major studies of interventions designed to address the problems.

EPIB 666 SUBSTANTIVE EPIDEMIOLOGY 9. (1) Designed to give students an overview of major disease or health problem, disease or substantive area. The students will develop their knowledge of the topic regarding 1) The key definition, concepts and indicators useful in the study of the problem; 2) The epidemiology of the problem, and 3) Major studies of interventions designed to address the problems.

EPIB 667 SUBSTANTIVE EPIDEMIOLOGY 10. (1) Designed to give students an overview of major disease or health problem, disease or substantive area. The students will develop their knowledge of the topic regarding 1) The key definition, concepts and indicators useful in the study of the problem; 2) The epidemiology of the problem, and 3) Major studies of interventions designed to address the problems.

EPIB 668 SPECIAL TOPICS 1. (2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 669 SPECIAL TOPICS 2. (2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 669D1 (1), EPIB 669D2 (1) SPECIAL TOPICS 2. (Students must register for both EPIB 669D1 and EPIB 669D2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 670 SPECIAL TOPICS 3. (2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 671 SPECIAL TOPICS 4. (2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 672 SPECIAL TOPICS 5. (2) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 675 SPECIAL TOPICS. (3) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 676 SPECIAL TOPICS. (3) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 677 SPECIAL TOPICS. (3) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 678 SPECIAL TOPICS 4. (3) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 679 SPECIAL TOPICS 5. (3) Study, through lectures, guided reading, practicals, assignments etc., of an elected and approved topic of epidemiologic importance.

EPIB 680 COMPUTATION INTENSIVE STATISTICS. (4) (Prerequisites: MATH 556, MATH 557 or permission of instructor) (Restrictions: Not open to students who have taken or are taking MATH 680)

EPIB 690 M.Sc. THESIS. (24)

EPIB 690D1 (12), EPIB 690D2 (12) M.Sc. THESIS. (Students must register for both EPIB 690D1 and EPIB 690D2) (No credit will be given for this course unless both EPIB 690D1 and EPIB 690D2 are successfully completed in consecutive terms) (EPIB 690D1 and EPIB 690D2 together are equivalent to EPIB 690)

EPIB 693 STATISTICAL INFERENCE 1. (2) (Offered only in Summer term.) (Prerequisite: A first year course in undergraduate differential and integral calculus) Introduction to the basic principles of statistical inference used in clinical and epidemiologic research. Topics include variability; methods of processing and describing; sampling and sampling distributions; inferences regarding means. Together with course number EPIB 694, equivalent to EPIB 607.

EPIB 694 STATISTICAL INFERENCE 2. (2) (Offered only in Summer term.) (Prerequisite: A first year course in undergraduate differential and integral calculus) Continuation of course number EPIB 693. Introduction to the basic principles of statistical inference used in clinical and epidemiologic research, including proportions, non-parametric methods, regression and correlation. Together with course number EPIB 693, equivalent to EPIB 607.

EPIB 695 PRINCIPLES OF STUDY DESIGN 2. (3) (Prerequisites: EPIB 606, EPIB 607, EPIB 621 and EPIB 681.) Principles of design and analysis of etiologic studies.

EPIB 697 APPLIED LINEAR MODELS. (3) Applied Linear Models. Multiple regression, analysis of variance and analysis of covariance models will be presented under the general framework of linear models. Both theory and applications to medicine and epidemiology will be presented. Topics include model selection, diagnostics and validation.

EPIB 701 PH.D. COMPREHENSIVE EXAMINATION. (0) The comprehensive examination is a written examination. The objective is to assess the degree to which students have been able to assimilate and apply the principles of epidemiologic research. Examinations held twice yearly.

30 Food Science and Agricultural Chemistry

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Web site: www.agrenv.mcgill.ca/foodscience

Chair — W.D. Marshall

Chair of Graduate Program — B.K. Simpson

30.1 Staff

Professors

I. Alli; B.Sc.(Guy.), M.Sc., Ph.D.(McG.)
W.D. Marshall; B.Sc.(U.N.B.), Ph.D.(McM.)
H. Ramaswamy; B.Sc.(B'lore), M.Sc., Ph.D.(Br.Col.)
J.P. Smith; B.Sc., M.Sc.(Strath.), Ph.D.(Alta.)
F.R. van de Voort; B.Sc., M.Sc., Ph.D.(Br.Col.)

Associate Professors

A.A. Ismail; B.Sc., Ph.D.(McG.)
S. Kermasha; B.Sc.(Baghdad), DEAD, D.Sc.(Nancy)
B.K. Simpson; B.Sc.(Ghana), Ph.D.(Nfld.)
V. Yaylayan; B.Sc.(Beirut), M.Sc., Ph.D.(Alta.)

Adjunct Professors

J.W. Austin, Y. Konishi, B.Lee, M.Marcotte, A.Morin, J.R.J.Pare

30.2 Programs Offered

M.Sc and Ph.D.

The Department has laboratory and research facilities required for research leading to the degree of Master of Science and Doctor of Philosophy in the field of food science, specifically in the chemical, biochemical and analytical aspects thereof.

30.3 Admission Requirements

Applicants must be graduates of a university of recognized reputation and hold a B.Sc. in Food Science or a related discipline such as Chemistry, Biochemistry, or Microbiology with a minimum cumulative grade point average (CGPA) of 3.0/4.0 (second class-upper division) or 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

30.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

Department of Food Science and Agricultural Chemistry
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada
Telephone: (514) 398-7898
Fax: (514) 398-7977
E-mail: lise.stiebel@mcgill.ca

Applications will be considered upon receipt of a completed application form, \$60 application fee, and the following supporting documents:

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the

applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 550 on the paper-based test or 213 on the computer-based test) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate Schools), Biological Sciences-Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines - Applications, including all supporting documents must reach the Department no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students – Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

30.5 Program Requirements

M.Sc.

For candidates entering the M.Sc. program without restrictions, (i.e., those not requiring a qualifying term/year), the M.Sc. degree consists of 45 graduate credits. These credits are obtained through a combination of graduate courses and a research thesis.

Course Requirements (15 credits)

Six (6) credits of graduate seminar courses

A minimum of nine (9) additional course credits, usually at the 500/600 level.

Thesis Requirements (30 credits)

FDSC690 (8) M.Sc. Literature Review

FDSC691 (7) M.Sc. Research Proposal

FDSC692 (15) M.Sc. Thesis

The residence time for an M.Sc. degree is three academic terms based on unqualified entry into the M.Sc. program and students are encouraged to complete their studies within this time frame.

Each student must be registered for a minimum of 12 credits per term to qualify as a full-time graduate student. This limits the approach that one can take in taking courses within the three terms allotted. Listed below are two common options in terms of course selection which a student may take to meet the three-term, 45-credit M.Sc. program requirements.

Option A		Option B	
<i>Term 1</i>		<i>Term 1</i>	
Course 1	3.0	Course 1	3.0
Course 2	3.0	Seminar 1	1.5
Seminar 1	1.5	M.Sc. Literature Review	8.0
M.Sc. Literature Review	8.0		
Total Credits	15.5	Total Credits	12.5
<i>Term 2</i>		<i>Term 2</i>	
Course 3	3.0	Course 2	3.0
Seminar 1 (continued)	1.5	Course 3	3.0
Seminar 2	1.5	Seminar 1 (continued)	1.5
M.Sc. Research Protocol	7.0	Seminar 2	1.5
		M.Sc. Research Protocol	7.0
Total Credits	13.0	Total Credits	16.0
<i>Term 3 --</i>		<i>Term 3 --</i>	
<i>For either option (A or B)</i>		<i>For either option (A or B)</i>	
Seminar 2 (continued)	1.5	Seminar 2 (continued)	1.5
M.Sc. Research Thesis	15.0	M.Sc. Research Thesis	15.0
Total Credits	16.5	Total Credits	16.5
Grand Total Credits	45.0	Grand Total Credits	45.0

The program outlined above does not preclude students from taking more than 45 credits.

Ph.D.

Candidates will be judged principally on their ability in research. Course work will be arranged in consultation with the departmental graduate advisory committee. Candidates should be prepared to take the Comprehensive Preliminary Examination by the end of the second year in which they are candidates for the Ph.D. degree.

Course Requirements

Six (6) credits of graduate seminar courses.

Preliminary Comprehensive Examination.

30.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

FDSC 500 FOOD ENZYMOLOGY. (3) (Winter) (3 lectures) (Prerequisite: FDSC 305) (Course offered in odd years. Check with Graduate Advisor.) Enzymes as they pertain to the deteriorative processes, as processing aids and their use as analytical tools in food systems.

FDSC 510 FOOD HYDROCOLLOID CHEMISTRY. (3) (Winter) (3 lectures) (Prerequisite: FDSC 319. Corequisite: FDSC 305) (Course offered in even years (check with Graduate Advisor)

FDSC 515 ENZYME THERMODYNAMICS/KINETICS. (3) (Winter) (Prerequisites: FDSC 211 and FDSC 233 or instructor's permission) (Course offered in odd years. Check with Graduate Advisor.) 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)

FDSC 520 BIOPHYSICAL CHEMISTRY OF FOOD. (3) (Fall) (3 lectures) (Prerequisite: FDSC 233) (Course offered in even 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) (Fall) (3 lectures) (Prerequisite: FDSC 213) (Course offered in odd years (check with Graduate Advisor)

FDSC 535 FOOD BIOTECHNOLOGY. (3) (Fall) (3 lectures) (Prerequisite: MICR 230) 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.

Graduate Courses

FDSC 625 ADVANCED TOPICS IN FOOD SCIENCE. (3) (3 lectures) (Prerequisites: FDSC 330, FDSC 305) Selected subjects related to advancements taking place in the discipline of Food Science will be studied to gain an indepth understanding of their principles, application and potential impact.

FDSC 651 FOOD ANALYSIS 1. (3) (Fall) (3 lectures; one 3-hour lab) (Prerequisite: FDSC 211) The theory and methodology for the analysis of food products for moisture, fat, protein, ash, fibre and carbohydrate (proximate and analysis). Quantitative visible and infrared spectroscopy are developed in relation to color measurement and the analysis of the major components in food systems.

FDSC 652 FOOD ANALYSIS 2. (3) (Winter) (3 lectures; one 3-hour lab) (Prerequisites: FDSC 211 and FDSC 212) A specialized course on the principal analytical techniques used for analysis of carbohydrate, lipid, protein and vitamin constituents of foods and feedstuffs, for detection and determination of chemical additives and contaminants.

FDSC 690 M.Sc. LITERATURE REVIEW. (8) Master of Science literature review.

FDSC 691 M.Sc. RESEARCH PROTOCOL. (7) Master of Science research protocol.

FDSC 692 M.Sc. THESIS. (15) Master of Science research portion of the M.Sc. thesis based on results obtained from the research phase of the M.Sc. thesis. Satisfactory completion of the M.Sc. Thesis, its approval by reviewers and acceptance by the Graduate and Postdoctoral Studies Office is required to pass the course.

FDSC 695 GRADUATE SEMINAR 1. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.1).

FDSC 695D1 (1.5), FDSC 695D2 (1.5) GRADUATE SEMINAR 1. (Students must register for both FDSC 695D1 and FDSC 695D2) (No credit will be given for this course unless both FDSC 695D1 and FDSC 695D2 are successfully completed in consecutive terms) (FDSC 695D1 and FDSC 695D2 together are equivalent to FDSC 695) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.1).

FDSC 695N1 GRADUATE SEMINAR 1. (1.5) (Students must also register for FDSC 695N2) (No credit will be given for this course unless both FDSC 695N1 and FDSC 695N2 are successfully completed in a twelve month period) (FDSC 695N1 and FDSC 695N2 together are equivalent to FDSC 695) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.1).

FDSC 695N2 GRADUATE SEMINAR 1. (1.5) (Prerequisite: FDSC 695N1) (No credit will be given for this course unless both FDSC 695N1 and FDSC 695N2 are successfully completed in a twelve month period) (FDSC 695N1 and FDSC 695N2 together are equivalent to FDSC 695) See FDSC 695N1 for course description.

FDSC 696 GRADUATE SEMINAR 2. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.2).

FDSC 696D1 (1.5), FDSC 696D2 (1.5) GRADUATE SEMINAR 2. (Students must register for both FDSC 696D1 and FDSC 696D2) (No credit will be given for this course unless both FDSC 696D1 and FDSC 696D2 are successfully completed in consecutive terms) (FDSC 696D1 and FDSC 696D2 together are equivalent to FDSC 696) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.2).

FDSC 696N1 GRADUATE SEMINAR 2. (1.5) (Students must also register for FDSC 696N2) (No credit will be given for this course unless both FDSC 696N1 and FDSC 696N2 are successfully completed in a twelve month period) (FDSC 696N1 and FDSC 696N2 together are equivalent to FDSC 696) Presentation on a selected topic, research proposal or research results based on progress in degree work (M.Sc.2).

FDSC 696N2 GRADUATE SEMINAR 2. (1.5) (Prerequisite: FDSC 696N1) (No credit will be given for this course unless both FDSC 696N1 and FDSC 696N2 are successfully completed in a twelve month period) (FDSC 696N1 and FDSC 696N2 together are equivalent to FDSC 696) See FDSC 696N1 for course description.

FDSC 700 COMPREHENSIVE PRELIMINARY EXAMINATION. (0) (See Faculty Regulations)

FDSC 700D1 (0), FDSC 700D2 (0) COMPREHENSIVE PRELIMINARY EXAMINATION. (Students must register for both FDSC 700D1 and FDSC 700D2) (No credit will be given for this course unless both FDSC 700D1 and FDSC 700D2 are successfully completed in consecutive terms) (FDSC 700D1 and FDSC 700D2 together are equivalent to FDSC 700)

FDSC 700N1 COMPREHENSIVE PRELIMINARY EXAMINATION. (0) (Students must also register for FDSC 700N2) (No credit will be given for this course unless both FDSC 700N1 and FDSC 700N2 are successfully completed in a twelve month period) (FDSC 700N1 and FDSC 700N2 together are equivalent to FDSC 700)

FDSC 700N2 COMPREHENSIVE PRELIMINARY EXAMINATION. (0) (Prerequisite: FDSC 700N1) (No credit will be given for this course

unless both FDSC 700N1 and FDSC 700N2 are successfully completed in a twelve month period) (FDSC 700N1 and FDSC 700N2 together are equivalent to FDSC 700) See FDSC 700N1 for course description.

FDSC 797 GRADUATE SEMINAR. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 797D1 (1.5), FDSC 797D2 (1.5) GRADUATE SEMINAR. (Students must register for both FDSC 797D1 and FDSC 797D2) (No credit will be given for this course unless both FDSC 797D1 and FDSC 797D2 are successfully completed in consecutive terms) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 797N1 GRADUATE SEMINAR. (1.5) (Students must also register for FDSC 797N2) (No credit will be given for this course unless both FDSC 797N1 and FDSC 797N2 are successfully completed in a twelve month period) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 797N2 GRADUATE SEMINAR. (1.5) (Prerequisite: FDSC 797N1) (No credit will be given for this course unless both FDSC 797N1 and FDSC 797N2 are successfully completed in a twelve month period) See FDSC 797N1 for course description.

FDSC 798 GRADUATE SEMINAR. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 798D1 (1.5), FDSC 798D2 (1.5) GRADUATE SEMINAR. (Students must register for both FDSC 798D1 and FDSC 798D2) (No credit will be given for this course unless both FDSC 798D1 and FDSC 798D2 are successfully completed in consecutive terms) (FDSC 798D1 and FDSC 798D2 together are equivalent to FDSC 798) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 798N1 GRADUATE SEMINAR. (1.5) (Students must also register for FDSC 798N2) (No credit will be given for this course unless both FDSC 798N1 and FDSC 798N2 are successfully completed in a twelve month period) (FDSC 798N1 and FDSC 798N2 together are equivalent to FDSC 798) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

FDSC 798N2 GRADUATE SEMINAR. (1.5) (Prerequisite: FDSC 798N1) (No credit will be given for this course unless both FDSC 798N1 and FDSC 798N2 are successfully completed in a twelve month period) (FDSC 798N1 and FDSC 798N2 together are equivalent to FDSC 798) See FDSC 798N1 for course description.

31 French Language and Literature

Département de langue et littérature françaises
Pavillon Peterson
3460, rue McTavish
Montréal (QC) H3A 1X9
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Télécopieur: (514) 398-8557
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Directeur — Professeur François Ricard

*Directrice des études de 2^e et 3^e cycles
et de la recherche* — Professeure Jane Everett

31.1 Staff

Professeurs

M. Angenot; L. Phil. Romane, Dr. Phil. & Lettres (Bruxelles),
M.S.R.C. (James McGill Professor)

G. Di Stefano; Dr. ès L.(Turin), Dipl.Phil., Dr. 3e Cy.(Paris - Sorbonne)
 J.-P. Duquette; L. ès L.(Montr.), Dr. 3e Cy.(Paris X - Nanterre)
 Y. Lamonde; M.A.(Montr.), M.A., Ph.D.(Laval)
 F. Ricard; M.A.(McG.), Dr. 3e Cy.(Aix-Marseille), M.S.R.C. (James McGill Professor)
 Y. Rivard; M.A.(McG.), Dr. 3e Cy.(Aix-Marseille)
 J. Terrasse; L. Phil. Romane, Dipl. Phil., Dr. Phil. & Lettres (Bruxelles)

Professeurs agrégés

M. Biron; M.A.(Montr.), Dr.Phil & Lettres(Liège) (*Chaire de recherche du Canada en littérature québécoise et littératures francophones*)
 C. Bouchard; M.A.(Montr.), Dr. 3^e Cy.(Paris VII - Jussieu)
 J.-P. Boucher; M.A.(McG.) Dr. 3^e Cy.(Besançon)
 A. Chapdelaine; M.A., Dr. 3^e Cy.(Paris VII - Jussieu)
 D. Desrosiers-Bonin; M.A., Ph.D.(Montr.) (*William Dawson Scholar*)
 N. Doiron; M.A., Ph.D.(Montr.)
 J. Everett; M.A.(Carl.), Ph.D.(McG.)
 G. Lane-Mercier; M.A.(Montpellier), Ph.D.(McG.)

Professeur adjoint

F. Charbonneau; M.A., Ph.D.(Montr.)

31.2 Programmes

M.A. avec mémoire et sans mémoire, et Ph.D.

31.3 Conditions d'admission

Propédeutique

Peuvent être admis en Propédeutique les étudiants titulaires d'un B.A. avec concentration en littérature française, québécoise ou francophone ("Major"), qui sont alors tenus de s'inscrire à temps complet à un programme de 8 cours de premier cycle, établi lors de leur inscription.

M.A.

Pour être admis directement en M.A. I, le candidat doit être titulaire d'un B.A. avec spécialisation en littérature française, québécoise ou francophone, ou en traduction ("Honours"), ou d'un B.A. avec double spécialisation ("Joint Honours"). Le candidat doit également présenter un très bon dossier académique; le B.A. ne donne pas automatiquement droit à l'admission.

Ph.D.

Pour être admis au programme de Ph.D. le candidat doit satisfaire aux conditions suivantes:

- 1) Être titulaire d'un M.A. en littérature française, québécoise ou francophone, ou l'équivalent; avoir obtenu au cours de sa scolarité de maîtrise une moyenne d'au moins 75 %.
- 2) Présenter un projet d'étude, en français, indiquant avec une certaine précision le domaine et la méthodologie de la recherche qu'il envisage de poursuivre pour sa thèse de doctorat et le nom du professeur sous la direction duquel il souhaite travailler. La Commission des admissions sera mieux à même de juger, d'après ce projet, du sérieux du candidat et de ses aptitudes à la recherche littéraire avancée.

31.4 Demande d'admission

En plus de deux lettres de recommandation et des relevés de notes officiels, les étudiants de l'extérieur du Département doivent fournir un échantillon de travail écrit, en français.

Le formulaire de demande d'admission par le Web est disponible pour tous les candidats aux études supérieures à l'adresse suivante: www.mcgill.ca/applying/graduate. Pour obtenir un formulaire papier, s'adresser au Secrétariat des études de 2e et 3e cycles et de la recherche du Département.

31.5 Programme d'études

La note de passage est B- (65 %).

M.A. (48 crédits)

La durée des études de maîtrise est de trois trimestres: deux trimestres pour la scolarité (M.A.I) et un trimestre pour la rédaction du mémoire (M.A. II) ou l'exécution d'autres travaux de recherche. Il est possible de s'inscrire à des sessions additionnelles, mais le mémoire doit être déposé au plus tard trois ans après la première inscription en M.A.I.

Le programme de maîtrise est à la fois un programme complet en soi et une première étape vers le Ph.D. Il vise deux buts également importants:

- 1) Permettre à l'étudiant de compléter et d'approfondir ses connaissances de l'ensemble du domaine littéraire grâce à un programme d'enseignement portant sur les littératures française et québécoise de même que sur une variété de sujets connexes: théorie littéraire, histoire de la langue, civilisation, etc.
- 2) Favoriser l'apprentissage de la recherche et un début de spécialisation de la part de l'étudiant qui suit des séminaires d'initiation à la recherche littéraire et, soit rédige un mémoire, soit exécute d'autres travaux de recherche sous la direction des professeurs du Département.

Scolarité (M.A.I)

Dans le cas de la maîtrise avec mémoire, les deux premières sessions du programme de maîtrise sont consacrées à la scolarité, pour les étudiants inscrits à temps complet; ils doivent alors suivre 6 séminaires de 3 crédits (dont le FREN695 et le FREN697) et préparer leur sujet de mémoire (FREN696: 6crédits).

Dans le cas de la maîtrise sans mémoire, les deux premières sessions du programme sont aussi consacrées à la scolarité, pour les étudiants inscrits à temps complet; ils doivent suivre 8 séminaires de 3 crédits soit 4 par session. Les cours FREN695, FREN697 et FREN600 sont obligatoires.

Les étudiants inscrits à mi-temps doivent s'inscrire à un minimum de deux séminaires par session.

Les séminaires FREN609 et FREN611 – Création littéraire 1 et 2 – sont fortement recommandés aux étudiants qui ont l'intention de présenter un mémoire d'écriture littéraire.

Le choix des séminaires que fait l'étudiant doit être approuvé par le Directeur des études au moment de l'inscription. La Commission des admissions du Département peut accorder des dérogations au règlement des inscriptions à la Maîtrise en fonction du dossier de chaque étudiant, en reconnaissant un maximum de six crédits déjà obtenus dans une autre université.

Une partie de la scolarité (maximum de 6 crédits) peut être suivie dans un autre département de McGill qui offre des cours dans le domaine des Humanités de l'annuaire des Études supérieures et postdoctorales, ou dans une autre université, pourvu que les cours et séminaires y soient de même niveau que les cours 600 ou 700 offerts par le Département. Dans tous les cas, l'étudiant doit obtenir l'autorisation du Directeur des études de 2e et 3e cycles et de la recherche, qui ne sera accordée que si les cours en question cadrent avec le programme d'études du candidat.

Recherche (M.A.II)

L'étudiant peut présenter un mémoire de critique littéraire ou un mémoire d'écriture littéraire. Il peut aussi compléter son programme de maîtrise sans rédiger de mémoire, mais en exécutant d'autres travaux de recherche.

Dans le cas de la maîtrise avec mémoire, la composante recherche du programme est de 24 crédits (FREN699).

La composante recherche du programme de maîtrise sans mémoire est aussi de 24 crédits (FREN600: 3 crédits, FREN698: 18 crédits, ainsi qu'un séminaire: 3 crédits).

Ph.D.**Épreuve d'anglais**

Tous les étudiants de Ph.D. doivent réussir, avant le dépôt de leur thèse, une épreuve destinée à vérifier leur connaissance de la langue anglaise (FREN 790).

Peuvent être dispensés de cette épreuve les traducteurs professionnels et les étudiants qui ont fait des études antérieures dans des collèges ou des universités anglophones, à condition que leur programme ait comporté des cours donnés en anglais. Le fait d'avoir suivi un ou plusieurs cours de traduction ne suffit pas.

Aucune dispense n'est automatique. Les demandes de dispense doivent être soumises par écrit au Comité des études de 2e et 3e cycles et de la recherche.

Programme

Le programme de Ph.D. comporte trois parties:

- Scolarité
- Élaboration du projet de thèse et Examen préliminaire
- Thèse

Scolarité

L'admission se fait normalement au niveau de Ph.D. II. Lorsqu'un candidat, par exception, est admis en Ph.D. I, sa scolarité pendant cette année est la même que pour l'année de M.A. I (voir ci-dessus).

Ph.D. II

Trois séminaires au choix, ainsi que les Séminaires de doctorat 1 et 2 (FREN 710 et FREN 711) qui sont obligatoires.

Ph.D. III

Élaboration du projet de thèse (FREN706) et Examen préliminaire (FREN707).

Après l'élaboration du projet de thèse, celui-ci est soumis au Comité des études de 2e et 3e cycles et de la recherche; puis l'Examen préliminaire, qui consiste en la rédaction et la défense orale d'un document d'une cinquantaine de pages, a lieu à une date convenue entre les intéressés, devant un jury constitué de trois professeurs.

Ph.D. IV Thèse

Au moment de l'Examen préliminaire, un comité-conseil est constitué, comprenant le directeur de thèse et deux autres professeurs. Le rôle de ce comité-conseil est de suivre d'aussi près que possible le travail du candidat et de discuter avec lui de l'orientation de ses recherches.

La soutenance de la thèse a lieu devant un jury d'au moins cinq personnes, présidé par un représentant de la Doyenne; font partie du jury le comité-conseil de l'étudiant et deux autres professeurs, dont le Directeur du Département et au moins un universitaire extérieur au Département ou à l'Université McGill.

FREN 635 THÈME DE LITTÉRATURE FRANÇAISE 1. (3)**FREN 695 INITIATION À LA RECHERCHE LITTÉRAIRE. (3)****FREN 696 ÉLABORATION PROJET DE MÉMOIRE. (6)**

FREN 696D1 (3), FREN 696D2 (3) ÉLABORATION PROJET DE MÉMOIRE.(Les étudiants doivent aussi s'inscrire au cours FREN 696D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 696D1 et FREN 696D2 suivis en séquence) (FREN 696D1 et FREN 696D2 ensemble sont équivalents à FREN 696)

FREN 696N1 ÉLABORATION PROJET DE MÉMOIRE.(3) (Les étudiants doivent aussi s'inscrire au cours FREN 696N2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 696N1 et FREN 696N2 à l'intérieur d'une période de douze mois) (FREN 696N1 et FREN 696N2 ensemble sont équivalents à FREN 696)

FREN 696N2 ÉLABORATION PROJET DE MÉMOIRE.(3) (Préalable: FREN 696N1) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 696N1 et FREN 696N2 à l'intérieur d'une période de douze mois) (FREN 696N1 et FREN 696N2 ensemble sont équivalents à FREN 696) Voir FREN 696N1 pour la description.

FREN 697 MÉTHODOLOGIE ET THÉORIE LITTÉRAIRES. (3) Couverture systématique des domaines et méthodes des études littéraires de langue française: histoire littéraire, critique génétique et édition de textes, étude des genres, y compris des genres non canoniques, sociocritique, sémiotique, textanalyse, étude de la réception et autres aspects de la critique contemporaine.

FREN 698 MASTER'S SEMINAR. (18)

FREN 698D1 (9), FREN 698D2 (9) MASTER'S SEMINAR.(Les étudiants doivent aussi s'inscrire au cours FREN 698D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 698D1 et FREN 698D2 suivis en séquence) (FREN 698D1 et FREN 698D2 ensemble sont équivalents à FREN 698)

FREN 698N1 MASTER'S SEMINAR.(9) (Les étudiants doivent aussi s'inscrire au cours FREN 698N2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 698N1 et FREN 698N2 à l'intérieur d'une période de douze mois) (FREN 698N1 et FREN 698N2 ensemble sont équivalents à FREN 698)

FREN 698N2 MASTER'S SEMINAR.(9) (Préalable: FREN 698N1) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 698N1 et FREN 698N2 à l'intérieur d'une période de douze mois) (FREN 698N1 et FREN 698N2 ensemble sont équivalents à FREN 698) Voir FREN 698N1 pour la description.

FREN 699 M.A. THESIS. (24)

FREN 699D1 (12), FREN 699D2 (12) M.A. THESIS. (Les étudiants doivent aussi s'inscrire au cours FREN 699D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 699D1 et FREN 699D2 suivis en séquence) (FREN 699D1 et FREN 699D2 ensemble sont équivalents à FREN 699)

FREN 699N1 M.A. THESIS. (12) (Les étudiants doivent aussi s'inscrire au cours FREN 699N2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 699N1 et FREN 699N2 à l'intérieur d'une période de douze mois) (FREN 699N1 et FREN 699N2 ensemble sont équivalents à FREN 699)

FREN 699N2 M.A. THESIS. (12) (Préalable: FREN 699N1) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 699N1 et FREN 699N2 à l'intérieur d'une période de douze mois) (FREN 699N1 et FREN 699N2 ensemble sont équivalents à FREN 699) Voir FREN 699N1 pour la description.

FREN 706 ÉLABORATION DU SUJET DE THÈSE. (9)

FREN 706D1 (4.5), FREN 706D2 (4.5) ÉLABORATION DU SUJET DE THÈSE. (Les étudiants doivent aussi s'inscrire au cours FREN 706D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 706D1 et FREN 706D2 suivis en séquence) (FREN 706D1 et FREN 706D2 ensemble sont équivalents à FREN 706)

31.6 Cours de 2e et 3e cycles

Comme des changements dans l'offre des cours ont pu survenir depuis la publication de cet annuaire, il est fortement recommandé aux étudiants de consulter le site Web www.mcgill.ca/minerva (cliquer sur le lien Horaire des cours) avant de s'inscrire. On y trouvera une liste à jour des cours offerts par trimestre ainsi que les horaires, les locaux et les noms des professeurs.

L'étudiant trouvera, dans la section "Études de 2^e et 3^e cycles" accessible sur le site Web du Département, la description détaillée des séminaires offerts ainsi que tous les renseignements pertinents sur les programmes.

Cours offerts en 2004-2005. Le nombre de crédits est indiqué entre parenthèses, après le titre du cours.

FREN 600 TRAVAUX DIRIGÉS 1. (3)**FREN 611 CRÉATION LITTÉRAIRE 2. (3)****FREN 612 SÉMINAIRE DE RECHERCHE 1. (3)****FREN 615 LITTÉRATURE ET SOCIÉTÉ 1. (3)****FREN 620 ÉVOLUTION - LANGUE FRANÇAISE AU CANADA. (3)****FREN 621 PROBLÈMES D'ESTHÉTIQUE 1. (3)**

FREN 706N1 ÉLABORATION DU SUJET DE THÈSE. (4.5) (Les étudiants doivent aussi s'inscrire au cours FREN 706N2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 706N1 et FREN 706N2 à l'intérieur d'une période de douze mois) (FREN 706N1 et FREN 706N2 ensemble sont équivalents à FREN 706)

FREN 706N2 ÉLABORATION DU SUJET DE THÈSE. (4.5) (Préalable: FREN 706N1) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 706N1 et FREN 706N2 à l'intérieur d'une période de douze mois) (FREN 706N1 et FREN 706N2 ensemble sont équivalents à FREN 706) Voir FREN 706N1 pour la description.

FREN 707 EXAMEN PRÉLIMINAIRE. (9) (Préalable: FREN 706.) Épreuve qui consiste en la préparation d'un texte écrit d'une cinquantaine de pages, suivie d'une interrogation orale par un jury constitué du directeur de thèse et de deux professeurs du Département.

FREN 707D1 (4.5), FREN 707D2 (4.5) EXAMEN PRÉLIMINAIRE. (Prerequisite: FREN 606) (Les étudiants doivent aussi s'inscrire au cours FREN 707D2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 707D1 et FREN 707D2 suivis en séquence) (FREN 707D1 et FREN 707D2 ensemble sont équivalents à FREN 707) Voir FREN 707 pour la description.

FREN 707N1 EXAMEN PRÉLIMINAIRE. (4.5) (Prerequisite: FREN 706.) (Les étudiants doivent aussi s'inscrire au cours FREN 707N2) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 707N1 et FREN 707N2 suivis dans la même année civile) (FREN 707N1 et FREN 707N2 ensemble sont équivalents à FREN 707) Voir FREN 707 pour la description.

FREN 707N2 EXAMEN PRÉLIMINAIRE. (4.5) (Préalable: FREN 707N1) (Aucun crédit ne sera accordé pour ce cours à moins de réussir les deux cours FREN 707N1 et FREN 707N2 à l'intérieur d'une période de douze mois) (FREN 707N1 et FREN 707N2 ensemble sont équivalents à FREN 707) Voir FREN 707 pour la description.

FREN 710 SÉMINAIRE DE DOCTORAT 1. (1.5) (Restriction: Réservé aux étudiants de Ph.D. du Département.) Ce séminaire porte sur les aspects théoriques et méthodologiques du projet de thèse des candidats. Il se veut un lieu privilégié d'échanges et de réflexions où l'on discutera principalement des nouvelles problématiques textuelles, des enjeux théoriques contemporains et des questions d'actualité littéraire.

FREN 711 SÉMINAIRE DE DOCTORAT 2. (1.5) (Préalable: FREN 710) (Restriction: Réservé aux étudiants de Ph.D. du Département.) Ce séminaire prolonge la réflexion amorcée au sein du Séminaire de doctorat 1.

FREN 720 MOYEN ÂGE 1. (3)

FREN 727 17^E SIÈCLE 2. (3)

FREN 730 18^E SIÈCLE 2. (3)

FREN 736 19^E SIÈCLE 5. (3)

FREN 739 20^E SIÈCLE 3. (3)

FREN 761 THÈME DE LITTÉRATURE QUÉBÉCOISE 1. (3)

FREN 790 LANGUAGE REQUIREMENT. (0)

32 Geography

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Chair — G.O. Ewing

32.1 Staff

Emeritus Professor

B.J. Garnier; M.A.(Cantab.)

Post-Retirement

S.H. Olson; M.A., Ph.D.(Johns H.)

Professors

P.G. Brown; M.A., Ph.D.(Col.) (*joint appoint. with McGill School of Environment*)

T.R. Moore; B.Sc.(Swansea), Ph.D.(Aberd.)

N. Roulet; M.Sc.(Trent), Ph.D.(McM.)

G. Wenzel; M.A.(Man.), Ph.D.(McG.)

Associate Professors

G.L. Chmura; M.Sc.(Rhode I.), Ph.D.(Louis. St.)

O.T. Coomes; M.A.(Tor.), Ph.D.(Wis. Mad.)

G.O. Ewing; G.O., M.A.(Glas.), M.A., Ph.D.(McM.)

M.F. Lapointe; M.Sc.(McG.), Ph.D.(Br.Col.)

T.C. Meredith; M.Sc., Dip. Cons.(Lond.), Ph.D.(Cantab.)

L. Müller-Wille; Dr.phil.(Münster)

W.H. Pollard; M.A.(Guelph), Ph.D.(Ott.)

Assistant Professors

D. Mok; M.P.L.(Queen's), Ph.D.(Tor.)

G. Peterson; M.Sc., Ph.D.(Flor.)

N.A. Ross; M.A.(Queen's); Ph.D.(McM.)

J. Seaquist; B.Sc.(Tor.), Ph.D.(Lund, Sweden)

R. Sengupta; M.Sc., Ph.D.(Ill.)

R. Sieber; MPA(E.Mich.), Ph.D.(Rutgers) (*joint appoint. with McGill School of Environment*)

I.B. Strachan; B.Sc.(Tor.), M.Sc., Ph.D.(Queen's) (*joint appoint. with Natural Resource Sciences*)

S. Turner; B.Soc.Sc., M.Soc.Sc.(Waikato, N.Z.), Ph.D.(Hull, U.K.)

J. Wiles; M.A.(Otago), Ph.D.(Queen's)

Adjunct Professors

R. Cooke, S. Milne, G. Seutin

Research Associate

G. Akman

32.2 Programs Offered

M.A., M.Sc. and Ph.D.

McGill Northern Research Stations

The McGill Subarctic Research Station is located at Schefferville, in the centre of Québec-Labrador. Facilities exist for research in most areas of physical and some areas of human geography in the subarctic.

McGill University also operates a field station at Expedition Fiord on Axel Heiberg in the High Arctic. Facilities are limited to a small lab and dorm building and cookhouse. Research activities focus on the glacial and geological. For additional information on these stations, contact the Scientific Director, Wayne Pollard, Department of Geography.

Centre for Climate and Global Change Research

The Department of Geography, with the McGill Departments of Atmospheric and Oceanic Sciences, Economics, Natural Resource Sciences; and several departments from the Université du Québec à Montréal and Université de Montréal developed a collaborative research centre that examines climate and global change. Through this Centre there are graduate opportunities.

For more information contact Professor Nigel Roulet, Director, Centre for Climate and Global Change, McGill University.

32.3 Admission Requirements

M.A. and M.Sc. Degrees

Attention is directed to the Graduate and Postdoctoral Studies Office admission regulations outlined in the General Information section of the Calendar, headed "Admission".

Applicants not satisfying these conditions, but with primary undergraduate specialization in a cognate field, may be admitted to the M.A. or M.Sc. degree in Geography in certain circumstances. In general, they, and others who have deficiencies in their preparation but are otherwise judged to be acceptable, will be required to register for a qualifying program or to undertake additional courses.

Ph.D. Degree

Students who have completed a Master's degree in Geography (with high standing) may be admitted at Ph.D.2 level.

On rare occasions, a student may be admitted to the Ph.D. degree without having first taken the Master's degree. They, and others who have deficiencies in their preparation but are otherwise acceptable, will be required to register for a year of coursework and/or be required to take extra courses. The normal duration of a program, including field work where required, is three years.

Normally, the Department will restrict admission to the Ph.D. program to students prepared to work in one of the fields of human or physical geography in which specialized supervision is offered. These, which cover a wide range of systematic areas, are listed in documents available from the Department.

32.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. two letters of reference for Master's; three for Ph.D.;
4. \$60 application fee;
5. statement of proposed research;
6. official TOEFL or IELTS score (when necessary).

Deadline for applications February 1 (for September admission) and October 1 (for January admission).

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

32.5 Program Requirements

M.A. and M.Sc. Degrees (48 credits each)

Candidates must:

1. pass the equivalent of four graduate courses (12 credits), selected according to guidelines of the Department. Senior undergraduate courses in other departments may be substituted for some of this requirement with the permission of the Department of Geography;
2. pass courses GEOG631D1/GEOG631D2 and GEOG698 (12 credits), which deal with the preparation of the thesis proposal;
3. attend such additional courses as the Chair and the student's thesis supervisor think fit; and,
4. submit a thesis GEOG699 (24 credits) in an appropriate area of geographical inquiry.

M.A. – Neotropical Environment (48 credits)

Candidates must:

1. pass the required courses: ENVR610 and BIOL640 (6 credits total).
2. pass one 3-credit course chosen from POLI644; SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550.
3. pass one 3-credit Geography graduate course.

4. Participation in the MSE-Panama Symposium presentation in Montreal is required.
5. pass courses GEOG631D1/GEOG631D2 and GEOG698 (12 credits), which deal with the preparation of the thesis proposal;
6. submit a thesis GEOG699 (24 credits) on a topic approved by the advisor.

M.A. – Social Statistics Option (48 credits)

Candidates must:

1. pass the equivalent of two graduate courses (6 credits), selected according to guidelines of the Department. Senior undergraduate courses in other departments may be substituted for some of this requirement with the permission of the Department of Geography;
2. pass GEOG634 (or suitable substitute) (3 credits);
3. pass GEOG688 or ECON688 or POLI688 or SOCI688 (3 credits);
4. pass courses GEOG631D1/GEOG631D2 and GEOG698 (12 credits), which deal with the preparation of the thesis proposal;
5. attend such additional courses as the Chair and the student's thesis supervisor think fit; and,
6. submit a thesis GEOG699 (24 credits) on a topic approved by the Social Statistics Option advisor.

M.Sc. – Neotropical Environment (48 credits)

Candidates must:

1. pass the required courses: ENVR610 and BIOL640 (6 credits total).
2. pass one 3-credit course chosen from POLI644; SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550.
3. pass one 3-credit Geography graduate course.
4. Participation in the MSE-Panama Symposium presentation in Montreal is required.
5. pass courses GEOG631D1/GEOG631D2 and GEOG698 (12 credits), which deal with the preparation of the thesis proposal;
6. submit a thesis GEOG699 (24 credits) on a topic approved by the advisor.

Ph.D. Degree

Candidates must:

1. attend a minimum of two graduate courses (6 credits) and such additional courses as the Chair and the student's supervisory committee think fit;
2. pass course GEOG631D1/GEOG631D2 which deals with the preparation of the thesis proposal;
3. pass a comprehensive examination (GEOG700, GEOG701, GEOG702) the form of which is detailed in a document available from the Department; and,
4. submit a thesis based on original research in an appropriate area of geographical inquiry.

Ph.D. – Neotropical Environment

Candidates must:

1. pass the required courses: ENVR610 and BIOL640 and such additional courses as the Chair and the student's supervisory committee think fit.
2. pass one 3-credit course chosen from POLI644; SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550.
3. Participation in the MSE-Panama Symposium presentation in Montreal is required.
4. pass course GEOG631D1/GEOG631D2 which deals with the preparation of the thesis proposal;

5. pass a comprehensive examination (GEOG700, GEOG701, GEOG702) the form of which is detailed in a document available from the Department; and,
6. submit a thesis based on original research in an appropriate area.

32.6 Courses and Seminars for Advanced Undergraduates and Graduates

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

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)

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) (Undergraduate Prerequisite: 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 METHODS OF REGIONAL ANALYSIS. (3) (Winter) (3 hours) (Prerequisite: GEOG 311)

GEOG 504 INDUSTRIAL RESTRUCTURING - GEOGRAPHIC IMPLICATIONS. (3) (Fall) (Prerequisites: GEOG 311 or permission of instructor)

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 PERSPECTIVES ON GEOGRAPHIC INFORMATION ANALYSIS. (3) (Winter) (2 hours and laboratory) (Undergraduate Prerequisite: GEOG 201 and GEOG 306 and permission of instructor) Examination of a range of applications in automated processing of spatial data. Discussion will focus on both theoretical and practical aspects of Geographic Information Systems. Topics such as resource data base structure, methods of spatial interpolation and data quality and errors are covered. The application of Geographic Information Systems such as GRASS and digital image processing routines are used to answer questions in geographical research. Individual student projects will be emphasized.

GEOG 508 RESOURCES, PEOPLE AND POWER. (3) (Fall) (3 hours) (Prerequisite: GEOG 408 or GEOG 410 or permission of instructor)

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 513 BEHAVIOURAL GEOGRAPHY. (3) (3 hours) (Undergraduate Prerequisite: a course in introductory statistics)

GEOG 522 ADVANCED ENVIRONMENTAL HYDROLOGY. (3) (2 hours and 1 tutorial) (Prerequisite: GEOG 322, or permission of instructor) (Cross-listed with CASN 300)

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) (Undergraduate Prerequisites: permission of instructor)

GEOG 550 QUATERNARY PALEOECOLOGY. (3) (2 hours, laboratory and seminar) (Prerequisite: course in ecology or biogeography, or permission of instructor) Examination of landscape and ecosystem response to climatic change; addressing persistent problems in Pleistocene and Holocene paleoecology: episodes of temporary warming and cooling, locations of glacial refugia and sea level change. Principles and methods of Quaternary paleoecology and paleoclimatological reconstruction.

GEOG 551 ENVIRONMENTAL DECISIONS. (3) (Fall) (2 hours seminar, 1 hour tutorial) (Prerequisites: GEOG 302, GEOG 306 or equivalents)

GEOG 602 URBAN GEOGRAPHY: SELECTED TOPICS. (3)

GEOG 608 CULTURAL GEOGRAPHY PART 1. (3)

GEOG 609 HUMAN GEOGRAPHY - SOC,BEHAVIOURAL PROBS. (3)

GEOG 610 SOCIAL GEOGRAPHY: SELECTED TOPICS. (3)

GEOG 613 ADVANCED BIOGEOGRAPHY. (3)

GEOG 625 SPECIAL TOPICS IN HUMAN GEOGRAPHY. (3)

GEOG 626 SPECIAL TOPICS IN PHYSICAL GEOGRAPHY. (3)

GEOG 631 METHODS OF GEOGRAPHICAL RESEARCH. (6)

GEOG 631D1 (3), GEOG 631D2 (3) METHODS OF GEOGRAPHICAL RESEARCH. (Students must register for both GEOG 631D1 and GEOG 631D2) (No credit will be given for this course unless both GEOG 631D1 and GEOG 631D2 are successfully completed in consecutive terms)

GEOG 631N1 METHODS OF GEOGRAPHICAL RESEARCH. (3) (Students must also register for GEOG 631N2) (No credit will be given for this course unless both GEOG 631N1 and GEOG 631N2 are successfully completed in a twelve month period) (GEOG 631N1 and GEOG 631N2 together are equivalent to GEOG 631)

GEOG 631N2 METHODS OF GEOGRAPHICAL RESEARCH. (3) (Prerequisite: GEOG 631N1) (No credit will be given for this course unless both GEOG 631N1 and GEOG 631N2 are successfully completed in a twelve month period) (GEOG 631N1 and GEOG 631N2 together are equivalent to GEOG 631)

GEOG 634 QUANTITATIVE METHODS IN GEOGRAPHY. (3)

GEOG 698 THESIS PROPOSAL. (6)

GEOG 698D1 (3), GEOG 698D2 (3) THESIS PROPOSAL. (Students must register for both GEOG 698D1 and GEOG 698D2) (No credit will be given for this course unless both GEOG 698D1 and GEOG 698D2 are successfully completed in consecutive terms)

(GEOG 698D1 and GEOG 698D2 together are equivalent to GEOG 698) Preparation and evaluation of thesis proposal.

GEOG 698N1 THESIS PROPOSAL. (3) (Students must also register for GEOG 698N2) (No credit will be given for this course unless both GEOG 698N1 and GEOG 698N2 are successfully completed in a twelve month period) (GEOG 698N1 and GEOG 698N2 together are equivalent to GEOG 698)

GEOG 698N2 THESIS PROPOSAL. (3) (Prerequisite: GEOG 698N1) (No credit will be given for this course unless both GEOG 698N1 and GEOG 698N2 are successfully completed in a twelve month period) (GEOG 698N1 and GEOG 698N2 together are equivalent to GEOG 698)

GEOG 699 THESIS RESEARCH. (24)

GEOG 699D1 (12), GEOG 699D2 (12) THESIS RESEARCH. (Students must register for both GEOG 699D1 and GEOG 699D2) (No credit will be given for this course unless both GEOG 699D1 and GEOG 699D2 are successfully completed in consecutive terms) (GEOG 699D1 and GEOG 699D2 together are equivalent to GEOG 699)

GEOG 699N1 THESIS RESEARCH. (12) (Students must also register for GEOG 699N2) (No credit will be given for this course unless both GEOG 699N1 and GEOG 699N2 are successfully completed in a twelve month period) (GEOG 699N1 and GEOG 699N2 together are equivalent to GEOG 699)

GEOG 699N2 THESIS RESEARCH. (12) (Prerequisite: GEOG 699N1) (No credit will be given for this course unless both GEOG 699N1 and GEOG 699N2 are successfully completed in a twelve month period) (GEOG 699N1 and GEOG 699N2 together are equivalent to GEOG 699)

GEOG 700 COMPREHENSIVE EXAMINATION 1. (0)

GEOG 700D1 (0), GEOG 700D2 (0) COMPREHENSIVE EXAMINATION 1. (Students must register for both GEOG 700D1 and GEOG 700D2) (No credit will be given for this course unless both GEOG 700D1 and GEOG 700D2 are successfully completed in consecutive terms) (GEOG 700D1 and GEOG 700D2 together are equivalent to GEOG 700)

GEOG 701 COMPREHENSIVE EXAMINATION 2. (0)

GEOG 701D1 (0), GEOG 701D2 (0) COMPREHENSIVE EXAMINATION 2. (Students must register for both GEOG 701D1 and GEOG 701D2) (No credit will be given for this course unless both GEOG 701D1 and GEOG 701D2 are successfully completed in consecutive terms) (GEOG 701D1 and GEOG 701D2 together are equivalent to GEOG 701)

GEOG 702 COMPREHENSIVE EXAMINATION 3. (0)

GEOG 702D1 (0), GEOG 702D2 (0) COMPREHENSIVE EXAMINATION 3. (Students must register for both GEOG 702D1 and GEOG 702D2) (No credit will be given for this course unless both GEOG 702D1 and GEOG 702D2 are successfully completed in consecutive terms) (GEOG 702D1 and GEOG 702D2 together are equivalent to GEOG 702)

33 German Studies

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Chair — K. Bauer

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33.1 Staff

Emeritus Professor

P.M. Daly; B.A.(Brist.), Ph.D.(Zür.)

Professors

A. Hsia; Ph.D.(F.U.Berlin)

J. Schmidt; Ph.D.(Zür.)

Associate Professors

K. Bauer; M.A., Ph.D.(Wash.)

T. Goldsmith-Reber; Ph.D.(Cologne)

P. Peters; Ph.D.(F.U.Berlin)

H. Richter; Ph.D.(Göttingen)

33.2 Programs Offered

M.A. (thesis or non-thesis) and Ph.D. degrees in German.

Ph.D. Language Tests

Ph.D. candidates in other disciplines who are required to pass a reading test in German may prepare themselves by taking GERM200, GERM202 or GERM203D1/D2.

33.3 Admission Requirements

Masters

In order to be admitted to the M.A. program in German Studies, candidates must have at least a B.A. degree in German from McGill University or an equivalent degree from another college or university of recognized standing.

Applicants with joint degrees or Majors degrees may be admitted on individual merit but they may be required to take additional courses. They may also be able to enter the program as qualifying students for the purpose of completing these preliminary studies.

In order to pursue graduate studies in German, all candidates must have considerable fluency in German, as all courses are given in German.

Graduate students holding a Language Instructorship or who are otherwise employed will normally not be allowed to take more than four courses a year. Students may be required to attend an approved course in English if their knowledge of that language is judged inadequate. All graduate students are expected to attend the staff-student colloquium.

Ph.D.

M.A. or equivalent.

33.4 Application Procedures

1. Application form;
2. Two certified copies of all university transcripts; (All transcripts not in English or French must be accompanied by a certified English or French translation);
3. Two letters of reference (in English or French);
4. \$60 application fee;
5. Test results (GRE recommended, TOEFL required of all candidates whose mother tongue is not English and who have not completed an undergraduate degree using the English language. Proof of TOEFL must be presented at time of application or shortly thereafter);
6. Writing sample;
7. Statement of academic intent.

All information is to be submitted directly to the Graduate Coordinator in the Department of German Studies.

Deadline: February 1st.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

33.5 Program Requirements

M.A. with thesis (48 credits)

Thesis – Required Courses (30 credits)

GERM690 (9) Thesis Research 1

GERM691 (9) Thesis Research 2

GERM692 (12) Thesis Research 3

Complementary Courses (18 credits)

Six 3-credit courses, to be chosen from any graduate seminar listed as offered in the Department of German Studies.

Originality of research is not required for the thesis, but the student must show a critical understanding of the subject as demonstrated by the logical development of an argument which is supported by adequate documentation. Students are normally permitted to take a maximum of 3 credits in another department with the approval of the Graduate Studies Committee.

Students are expected to complete degree requirements in two years. They are expected to begin work on their thesis before the end of the first session. The thesis should demonstrate ability to organize the material under discussion, and should be succinct and relevant.

M.A. without thesis (45 credits)

Required Courses (18 credits)

GERM680 (6) Research Paper 1

GERM681 (6) Research Paper 2

GERM682 (6) Research Paper 3

Complementary Courses (27 credits)

Nine 3-credit courses

Ph.D.

Requirements:

Coursework – 8 three-credit courses (24 credits)

Comprehensive examination (oral and written)

French Language examination or Latin (if specializing in German Literature before 1600)

Thesis

Thesis Defence

Students may take up to 6 credits in another department with the approval of the Graduate Studies Committee.

Original research leading to new insights is a prerequisite for the acceptance of a Ph.D. thesis.

As a rule, it will take a candidate at least three years after the M.A. degree to complete the requirements for the Ph.D. degree. Students who have not spent an appreciable length of time in a German-speaking country are advised to spend one year at a university in such a country, for which credit may be given in the above program.

33.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Courses are normally given in the form of seminars. Each year, the Department publishes a list of those offerings which will be available in the ensuing session. These lists are available from the Graduate Coordinator or from the Graduate and Postdoctoral Studies Office, normally in the month of May.

GERM 511 MIDDLE HIGH GERMAN LITERATURE. (3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent)

GERM 561 GERMAN LITERATURE: BAROQUE. (3)

GERM 570 JOINT HONOURS THESIS. (3) (Fall or Winter) (For students in the Joint Honours Program only.)

GERM 575 HONOURS THESIS. (6) (Fall or Winter) (For students in the Honours Program only.)

GERM 605 MEDIEVAL GERMAN LITERATURE 1. (3)

GERM 619 TOPICS IN LITERARY THEORY. (3)

GERM 623 GERMAN LITERATURE: ENLIGHTENMENT 4. (3)

GERM 630 GERMAN CLASSICISM 1. (3)

GERM 631 GERMAN CLASSICISM 2. (3)

GERM 635 GERMAN ROMANTICISM 1. (3)

GERM 636 GERMAN ROMANTICISM 2. (3)

GERM 637 GERMAN ROMANTICISM 3. (3)

GERM 640 GERMAN REALISM AND EARLY NATURALISM 1. (3)

GERM 645 GERMAN LITERATURE - 20TH CENTURY 1. (3)

GERM 646 GERMAN LITERATURE - 20TH CENTURY 2. (3)

GERM 647 GERMAN LITERATURE - 20TH CENTURY 3. (3)

GERM 648 GERMAN LITERATURE - 20TH CENTURY 4. (3)

GERM 650 GERMAN LINGUISTICS AND PHILOSOPHY 1. (3)

GERM 656 LITERARY THEORY AND CRITICISM 2. (3)

GERM 657 LITERARY THEORY AND CRITICISM 3. (3)

GERM 658 LITERARY THEORY AND CRITICISM 4. (3)

GERM 660 COMPARATIVE LITERATURE STUDIES 1. (3)

GERM 661 COMPARATIVE LITERATURE STUDIES 2. (3)

GERM 666 THEORETICAL APPROACH - TEACHING GERMAN 2. (3)

GERM 675 RESEARCH SEMINAR. (3)

GERM 675D1 (1.5), GERM 675D2 (1.5) RESEARCH SEMINAR.

(Students must register for both GERM 675D1 and GERM 675D2) (No credit will be given for this course unless both GERM 675D1 and GERM 675D2 are successfully completed in consecutive terms) (GERM 675D1 and GERM 675D2 together are equivalent to GERM 675)

GERM 680 RESEARCH PAPER 1. (6)

GERM 681 RESEARCH PAPER 2. (6)

GERM 682 RESEARCH PAPER 3. (6)

GERM 690 THESIS RESEARCH 1. (9)

GERM 691 THESIS RESEARCH 2. (9)

GERM 692 THESIS RESEARCH 3. (12)

GERM 701D1 (0), GERM 701D2 (0) Ph.D. COMPREHENSIVE EXAMINATION. (Students must register for both GERM 701D1 and GERM 701D2) (No credit will be given for this course unless both GERM 701D1 and GERM 701D2 are successfully completed in consecutive terms)

GERM 790 Ph.D. LANGUAGE REQUIREMENT. (6)

GERM 790D1 (3), GERM 790D2 (3) Ph.D. LANGUAGE REQUIREMENT. (Students must register for both GERM 790D1 and GERM 790D2) (No credit will be given for this course unless both GERM 790D1 and GERM 790D2 are successfully completed in consecutive terms) (GERM 790D1 and GERM 790D2 together are equivalent to GERM 790)

34 Hispanic Studies

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Chair — J. Pérez-Magallón

Chair of Graduate Program — A. Holmes

34.1 Staff

Emeritus Professor

S. Lipp; M.S.(C.C.N.Y.), Ph.D.(Harv.)

Professors

J. Pérez-Magallón; Lic.Fil.(Barcelona), Ph.D.(Penn.)
K. Sibbald; M.A.(Cantab.), M.A.(Liv.), Ph.D.(McG.)

Associate Professor

D.A. Boruchoff; A.B., A.M., Ph.D.(Harv.)

Assistant Professor

A. Holmes; B.A.(McG.), M.A., Ph.D.(Oregon)
J.R. Jouvé-Martin; Lic.Fil. (Madrid), PhD (Georgetown)
F. Macchi; Lic.Lit. (Buenos Aires), MA (Oregon), PhD (Yale)

34.2 Programs Offered

M.A. and Ph.D. in Hispanic Studies.

The Department of Hispanic Studies is committed to the disciplined study of all aspects of the literature, intellectual history and culture of Spain and Latin America, as well as the Spanish and Portuguese languages.

Research interests focus on both the cluster of Golden Age, Viceregal America and Enlightenment studies, as well as specializations in contemporary Spain and Hispanic America.

A limited number of language instructorships are available each year and those interested should apply directly to the Chair of the Department.

34.3 Admission Requirements

M.A. Degree (thesis or non-thesis)

In order to be admitted to graduate work in Hispanic Studies, candidates must fulfill the following prerequisites:

- Candidates must possess a B.A. degree with Honours or, in certain cases, Joint Honours in Hispanic Studies from McGill University, or an equivalent degree from another college or university of recognized standing.
- Candidates who do not possess the above prerequisites may, with special permission, enter the Department as Qualifying students for the purpose of completing these preliminary studies. They may have to take, among other courses, HISP550, Comprehensive Examination.

Students may be required to attend an approved course in English or French if their knowledge of either language is deemed inadequate.

Prospective candidates may certainly express their preference but should note that the Graduate Committee of the Department of Hispanic Studies reserves the right to determine which of the two options (thesis/non-thesis) students admitted to the M.A. program will be permitted to pursue and/or continue to completion.

Ph.D. Degree

Applicants must normally possess an M.A. in Hispanic Studies, or in a related discipline, from a university of recognized standing. These applicants will be admitted to Ph.D.2 and follow the program requirements listed below. Exceptionally qualified candidates may apply to enter into Ph.D.1 directly from the B.A. Honours, and will be required to complete an additional 6 three-credit courses above those listed below.

Applicants must demonstrate proficiency in Spanish, and when appropriate in Portuguese, plus a working knowledge of either French or English.

Applicants should submit samples of research papers that they have completed during the course of their previous studies. Submission of the results of the Graduate Record Examination is also encouraged.

34.4 Application Procedures

Applications will be considered upon receipt of:

- duly completed application form;
- two certified copies of all university transcripts(all transcripts not in English or French must be accompanied by a certified English or French translation);
- two letters of recommendation (in English or French);
- \$60 application fee;
- TOEFL scores where applicable (required of all candidates whose mother tongue is not English and who have not completed an undergraduate degree using the English language. Proof of TOEFL must be presented at time of application or shortly thereafter);
- a sample of recent written work;
- statement of academic intent.

All information should be submitted directly to the Chair of the Graduate Program.

Deadlines

For admission in the Fall Term: March 15.

For admission in the Winter Term: November 1.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

34.5 Program Requirements

The Graduate Committee of the Department of Hispanic Studies reserves the right to determine which of the two options (thesis/non-thesis) students admitted to the M.A. will be permitted to pursue and/or continue to completion.

All general regulations of the Graduate and Postdoctoral Studies Office shall apply regarding the MA. degree.

M.A. Degree with thesis (48 credits)

Requirements:

- Coursework – 6 three-credit courses (18 credits)
- Research – 2 three-credit courses in Thesis Preparation (HISP695, HISP696) (6 credits)
- Thesis – HISP697 (24 credits)

Students pursuing the M.A. with thesis are expected to complete their degree requirements within 18 months. Ideally, students admitted to this option will pursue their studies on a full-time basis. The combination of three courses and one Thesis Preparation course will permit these students the 12 credits per term average that is required for most fellowships.

M.A. Degree without thesis (48 credits)

Requirements:

- Coursework – 8 three-credit courses (24 credits)
- Research – 2 three-credit courses in Hispanic Bibliography (HISP603, HISP604) (6 credits)
- Two Guided Research Projects – 18 credits

All candidates pursuing the M.A. without thesis must complete HISP615. Candidates choosing to focus their research on the literature of Spain will take HISP616. Those wishing to specialize in the literature of Spanish America will take HISP617.

At the conclusion of each Research Project, students will be required to produce an extended essay, or series of essays, during a 48-hour period with full access to critical material. Each of these essays will focus upon themes and issues central to the particular field of research and will be examined by at least two faculty members. Normally, the examinations for each of these projects will be offered only once during the academic year and always in the same rotation: "Medieval and Golden Age Literature" in December, and both "Modern and Contemporary Spanish Literature" and "Modern and Contemporary Spanish-American Literature" in April.

All candidates pursuing the M.A. without thesis, both full- and part-time, are expected to complete their degree requirements within 18 months, and must successfully complete at least one of their Guided Research projects during the first 12 months. In accordance with the regulations established by the Graduate and Postdoctoral Studies Office, students in non-thesis programs who

do not take at least 12 credits per term are considered to proceed toward their degree on a part-time basis.

Ph.D. Degree Requirements

1. Six 3-credit courses.
2. Proficiency in Spanish, and when appropriate in Portuguese, as well as a functional ability in French and English. A reading knowledge of a fourth language will be determined according to the needs of the candidate's research program.
3. HISP 701 Comprehensive Examinations, Oral and Written.
4. HISP 713 Research Seminar in Hispanic Studies.
5. Doctoral dissertation on an appropriate area of original research.

All courses, comprehensive examinations and language requirements will normally be completed before the dissertation topic is formally approved. A dissertation proposal should be submitted to the Graduate Committee of the Department of Hispanic Studies for approval no later than the end of the second year of full-time doctoral studies.

All general regulations of the Graduate and Postdoctoral Studies Office regarding the Ph.D. degree shall apply.

Required Academic Activities: All candidates preparing their dissertation are required to give an annual formal presentation of their research to the Department, normally beginning in their third year of full-time doctoral studies.

34.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

HISP 603 HISPANIC BIBLIOGRAPHY 1. (3)

HISP 604 HISPANIC BIBLIOGRAPHY 2. (3)

HISP 605 PROBLEMS OF LITERARY THEORY AND CRITICISM. (3)

HISP 606 PROBLEMS OF LITERARY THEORY AND CRITICISM. (3)

HISP 615 MEDIEVAL AND GOLDEN AGE LITERATURE: GRP. (9) An investigation of the principal themes and critical issues in medieval and Golden-Age Spanish literature. Attention will also focus on a comparison with similar problems in colonial Spanish-American literature. Project.

HISP 616 MODERN AND CONTEMPORARY SPANISH LITERATURE: GRP. (9) An investigation of the principal themes and critical issues in nineteenth- and twentieth-century Spanish literature. Project.

HISP 617 MODERN AND CONTEMPORARY SPANISH-AMERICAN LITERATURE: GRP. (9) An investigation of the principal themes and critical issues in nineteenth- and twentieth-century Spanish-American literature. Project.

HISP 619 TOPICS IN LITERARY THEORY. (3)

HISP 620 SPANISH LITERATURE OF THE MIDDLE AGES. (3)

HISP 625 SPANISH THEATRE: THE GOLDEN AGE. (3)

HISP 626 SPANISH THEATRE: THE GOLDEN AGE. (3)

HISP 627 SPANISH THEATRE: THE GOLDEN AGE. (3)

HISP 631 SPANISH POETRY: THE GOLDEN AGE. (3)

HISP 636 SPANISH PROSE: THE GOLDEN AGE. (3)

HISP 639 SPANISH PROSE: THE GOLDEN AGE. (3)

HISP 640 CERVANTES. (3)

HISP 641 CERVANTES. (3)

HISP 647 SPANISH NEOCLASSICISM AND ROMANTICISM. (3)

HISP 650 SPANISH REALISM AND NATURALISM. (3)

HISP 651 SPANISH REALISM AND NATURALISM. (3)

HISP 659 SPANISH LITERATURE FROM 1898 TO 1936. (3)

HISP 663 SPANISH LITERATURE SINCE CIVIL WAR. (3)

HISP 666 SPANISH-AMERICAN LITERATURE: COLONIAL PERIOD. (3)

HISP 667 SPANISH-AMERICAN LITERATURE: COLONIAL PERIOD. (3)

HISP 679 SPANISH-AMERICAN POETRY. (3)

HISP 680 SPANISH-AMERICAN PROSE. (3)

HISP 681 SPANISH-AMERICAN PROSE. (3)

HISP 683 SPANISH-AMERICAN PROSE. (3)

HISP 684 SPANISH-AMERICAN PROSE. (3)

HISP 687 SPANISH-AMERICAN PROSE. (3)

HISP 688 SPANISH-AMERICAN PROSE. (3)

HISP 689 SPANISH-AMERICAN PROSE. (3)

HISP 690 SPECIAL TOPICS. (3)

HISP 692 SPECIAL TOPICS. (3)

HISP 693 SPECIAL TOPICS. (3)

HISP 694 SPECIAL TOPICS. (3)

HISP 695 THESIS PREPARATION 1. (3)

HISP 695D1 (1.5), HISP 695D2 (1.5) THESIS PREPARATION 1. (Students must register for both HISP 695D1 and HISP 695D2) (No credit will be given for this course unless both HISP 695D1 and HISP 695D2 are successfully completed in consecutive terms) (HISP 695D1 and HISP 695D2 together are equivalent to HISP 695)

HISP 695N1 THESIS PREPARATION 1. (1.5) (Students must also register for HISP 695N2) (No credit will be given for this course unless both HISP 695N1 and HISP 695N2 are successfully completed in a twelve month period) (HISP 695N1 and HISP 695N2 together are equivalent to HISP 695)

HISP 695N2 THESIS PREPARATION 1. (1.5) (Prerequisite: HISP 695N1) (No credit will be given for this course unless both HISP 695N1 and HISP 695N2 are successfully completed in a twelve month period) (HISP 695N1 and HISP 695N2 together are equivalent to HISP 695)

HISP 696 THESIS PREPARATION 2. (3)

HISP 697 M.A. THESIS. (24)

HISP 697D1 (12), HISP 697D2 (12) M.A. THESIS. (Students must register for both HISP 697D1 and HISP 697D2) (No credit will be given for this course unless both HISP 697D1 and HISP 697D2 are successfully completed in consecutive terms) (HISP 697D1 and HISP 697D2 together are equivalent to HISP 697)

HISP 698 READING COURSE. (3)

HISP 701 COMPREHENSIVE EXAMINATIONS. (0) (Ph.D. students in the Department of Hispanic Studies only)

HISP 713 RESEARCH SEMINAR. (3) Doctoral-level research seminar exploring a variety of research topics.

HISP 790 PH.D. LANGUAGE REQUIREMENT. (6) (For students in other departments.)

HISP 790D1 (3), HISP 790D2 (3) PH.D. LANGUAGE REQUIREMENT. (Students must register for both HISP 790D1 and HISP 790D2) (No credit will be given for this course unless both HISP 790D1 and HISP 790D2 are successfully completed in consecutive terms) (HISP 790D1 and HISP 790D2 together are equivalent to HISP 790)

35 History

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Chair — Brian Lewis

Chair of Graduate Programs — TBA

35.1 Staff

Emeritus Professors

Michael P. Maxwell; B.A.(Sir G.Wms.), M.A., Ph.D.(McG.)
Albert Schachter; B.A.(McG.), D.Phil.(Oxon) (*Hiram Mills Emeritus Professor of Classics*)

Professors

Valentin J. Boss; B.A.(Cantab.), Ph.D.(Harv.)
Gwyn Campbell; B.Soc.S., M.Soc.Sc.(Birm.), Ph.D.(Wales, Swansea)
Myron J. Echenberg; M.A.(McG.), Ph.D.(Wis.) (*on leave Winter 2005*)
John W. Hellman; B.A.(Marq.), M.A., Ph.D.(Harv.) (*on leave Winter 2005*)
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.) (*Leonor Segal Professor of Jewish Studies*) (*joint appoint. with Jewish Studies*) (*on leave 2004-05*)
Carman I. Miller; B.A. B.ED.(Acadia), M.A.(Dal.), Ph.D.(Lond.)
Desmond Morton; B.A.(R.M.C.), B.A. M.A.(Oxon), Ph.D.(Lond.) (*Hiram Mills Professor of History*)
Yuzo Ota; B.A., M.A., Ph.D.(Tokyo)
Nancy F. Partner; B.A., M.A., Ph.D.(Calif.)
T. Wade Richardson; B.A.(McG.), M.A., Ph.D.(Harv.)
Hereward Senior; M.A., Ph.D.(McG.)
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.(Oxon), M.A.(Calif.), Ph.D.(Harv.) (*James McGill Professor*) (*joint appoint. with East Asian Studies*)
Brian J. Young; B.A.(Tor.), M.A., Ph.D.(Queen's) (*James McGill Professor*) (*on leave winter 2005*)
John E. Zucchi; B.A. M.A. Ph.D.(Tor.)

Associate Professors

Paula Clarke; B.A.(Mem.), B.A.(Oxon), M.A.(Tor.), Ph.D.(Lond.)
Brian Cowan; B.A.(Reed), M.A., Ph.D.(Prin.)
Catherine Desbarats; B.A.(Queen's), D.Phil.(Oxon), Ph.D.(McG.)
Nicolas Dew; B.A., M.Sc., D.Phil.(Oxf.)
Elizabeth Elbourne; B.A., M.A.(Tor.), D.Phil.(Oxon)
Michael P. Fronda; B.A.(C'nell), M.A. Ph.D.(Ohio St.)
Catherine LeGrand; B.A.(Reed), M.A., Ph.D.(Stan.)
Brian Lewis; B.A., M.A.(Oxon), A.M., Ph.D.(Harv.)
Leonard Moore; A.B., M.A., Ph.D.(Calif.)
Suzanne Morton; B.A.(Trent), M.A., Ph.D.(Dal.)
Laila Parsons; B.A.(Exe.), D.Phil.(Oxf.) (*joint appoint. with Institute of Islamic Studies*)
Griet VanKeerberghen; Licence(Catholic U. of 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

James Delbourgo; B.A.(East Anglia), M.Phil.(Camb.), Ph.D.(Col.)
Elsbeth Heaman; B.A., M.A.(McG.), Ph.D.(Tor.)

Kevin Kee; B.A.(E.Ont.), M.A., Ph.D.(Qu.) (*joint appoint. with Integrated Studies in Education*)
Margaret Kuo; Ph.D. (UCLA)
Lorenz Lüthi; Lic.Phil.I(Zürich), M.A., M.Phil., Ph.D.(Yale)
R. Jarrett Rudy; B.A., M.A.(Ott.), Ph.D.(McG.)
Daviken Studnicki-Gizbert; B.A.(Montr.), M.Phil., Ph.D.(Yale)

35.2 Programs Offered

M.A. Degree in History.

M.A. Degree in History of Medicine. (In cooperation with the Department of Social Studies of Medicine; application is made directly to the History Department.)

Ph.D. Degree in History.

The Department is prepared to direct theses in the following fields and the Redpath, McLennan, and Osler Libraries are well equipped with printed sources for these periods and subjects.

1. British Medieval, Modern Social, Political, Cultural, Diplomatic and Military history.
2. Canadian Social, Political, Military, Labour, Cultural, Religious and Economic history, and History of Quebec.
3. United States Colonial, Revolutionary, Modern Political and Social history.
4. Latin American history.
5. European History: French, German, Italian, Iberian, Russian, Medieval, Renaissance, Military, Intellectual, European Jewish history.
6. Japanese history.
7. Chinese history.
8. African history.
9. Ancient history.
10. Medical history.
11. World history.

35.3 Admission Requirements

General: CGPA minimum: 3.3 on 4.0; TOEFL minimum: 550 on the paper-based test (213 on the computer-based test).

Master in History

Normally, candidates are required to possess a B.A. (Honours) in History consisting of 60 credits in history. Students with other undergraduate history degrees (normally including serious research components) may be considered eligible. Applicants not satisfying these conditions, but otherwise judged worthy of serious consideration, will be asked to register in a Qualifying Program in which they undertake advanced undergraduate work.

Master in the History of Medicine

Candidates must have a background in either History – B.A. (Honours) or equivalent – or a degree in one of the health professions.

Ph.D. in History

Normally, M.A. in History. (Students choosing the field of History of Medicine normally enter with an M.A. in History of Medicine.)

35.4 Application Procedures

Completed applications and supporting material must be submitted directly to the Graduate Coordinator. Refer to the Department of History Web site for details (www.arts.mcgill.ca/programs/history).

Deadline for admission in September:

Ph.D. applications – January 6

M.A. applications – February 1.

Note: There are no January admissions.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

35.5 Program Requirements

M.A. Degree in History (48 credits)

The Department offers two options towards the M.A. degree, one with a thesis and the other without a thesis. Both options consist of 48 credits. The thesis option, composed of 12 credits of graduate seminars, plus a thesis, is normally completed within 2 years. The non-thesis option, composed of 18 credits of graduate seminars, plus a major research paper, is normally completed in three terms, or one calendar year (fall, winter and summer).

M.A. Degree in History of Medicine (48 credits normally completed in two years)

The program requires the completion of 48 credits, composed of 18 credits of graduate seminars, plus a major research paper. The program is normally completed in three terms, or one calendar year (fall, winter and summer).

Ph.D. Degree in History

Examination Requirements: Candidates are required to sit an oral comprehensive examination by May at the end of the 2nd term of the Ph.D. 2 year. The examination consists of:

HIST702 Comprehensive Examination in Major Field.

HIST703 Comprehensive Examination in First Minor Field.

HIST704 Comprehensive Examination in Second Minor Field.

Candidates must consult with their Director of Studies at the beginning of their Ph.D. work in order to determine their fields.

Thesis: With the completion of the oral comprehensive examination, candidates may proceed with their doctoral dissertation. Each Ph.D. candidate will be expected to establish an advisory committee to assist in supervising the dissertation.

Language Requirements: Ph.D. Candidates must offer one foreign language for examination purposes. The Department expects that candidates will have successfully demonstrated competence in the one required language by the end of their Ph.D.3 year.

It is understood that candidates may need a reading knowledge of such other languages as are required for research purposes in their major field.

Candidates in the field of Medical History will prepare the major field for the Comprehensive Examination with a member of the Department of Social Studies of Medicine and the two minor fields with members of the Department of History. The thesis will normally be directed by the director of the major field. In all other respects, the same rules will apply to candidates in this area as apply to other Ph.D. students in History.

35.6 Graduate Seminars and Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

Denotes courses not offered in 2004-05.

The course credit weight is given in parentheses after the title.

Courses currently scheduled for 2004-05:

HIST 550 ROMAN HISTORY: SEMINAR. (3) (Fall) (Undergraduate Prerequisite: HIST 209 or permission of instructor.) (Restricted to Honours students or advanced undergraduates who have permission of the instructor. Also open to graduate students.)

HIST 551 ROMAN HISTORY: RESEARCH. (3) (Winter) (Prerequisite: HIST 550) (Restricted to Honours students or advanced undergraduates who have permission of the instructor. Also open to graduate students.)

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.)

HIST 553 INTERNATIONAL RELATIONS: RESEARCH. (3) (Prerequisite: HIST 552) (Restrictions: Open only to students who have taken HIST 552 in the previous semester.)

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.) (Topic for 2004-05: Beyond the New Atlantis - Science, Travel and Empire in the Atlantic World.) 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.) (Topic for 2004-05: Beyond the New Atlantis - Science, Travel and Empire in the Atlantic World.) 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)

HIST 561 WORLD HISTORY: RESEARCH. (3) (Prerequisite: HIST 560) (Restrictions: Open only to students who have taken HIST 560 in the previous semester.)

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.)

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.)

HIST 579 THE ARTS OF HEALING IN CHINA. (3) (Undergraduate Prerequisite: At least two courses at the 300-level or above in East Asian history or permission of instructor)

HIST 580D1 (3), HIST 580D2 (3) EUROPEAN AND NATIVE-AMERICAN ENCOUNTERS. (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: at least two 300-level or above courses in East Asian history, or permission of instructor)

HIST 582 EUROPEAN INTELLECTUAL HISTORY. (3) (Undergraduate Prerequisite: a previous course in European History or permission of instructor)

HIST 585 THEORY FOR HISTORICAL STUDIES. (3) (Undergraduate Prerequisite: permission of instructor)

HIST 590 TOPICS: THE BRITISH EMPIRE. (3) (Undergraduate Prerequisite: permission of instructor)

HIST 594D1 (3), HIST 594D2 (3) TOPICS: TUDOR AND STUART ENGLAND. (Prerequisite: any university course in British history or consent of instructor) (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 will vary from year to year and may cover any aspect of early modern British history. Topics for the class presentation and seminar paper (also discussed in class) are assigned to each student according to student interest and availability of sources.

HIST 595D1 (3), HIST 595D2 (3) SEMINAR: EARLY MODERN WESTERN EUROPE. (Undergraduate Prerequisite: permission of the 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.

HIST 612D1 (3), HIST 612D2 (3) GERMAN NATIONAL SOCIALISM. (Students must register for both HIST 612D1 and HIST 612D2) (No credit will be given for this course unless both HIST 612D1 and HIST 612D2 are successfully completed in consecutive terms)

HIST 613D1 (3), HIST 613D2 (3) TOPICS: CANADIAN SOCIAL HISTORY. (Students must register for both HIST 613D1 and HIST 613D2) (No credit will be given for this course unless both HIST 613D1 and HIST 613D2 are successfully completed in consecutive terms) A seminar covering topics in Canadian Social History which vary from year to year.

HIST 614D1 (3), HIST 614D2 (3) TOPICS: LATIN AMERICAN HISTORY. (Students must register for both HIST 614D1 and HIST 614D2) (No credit will be given for this course unless both HIST 614D1 and HIST 614D2 are successfully completed in consecutive terms)

HIST 615D1 (3), HIST 615D2 (3) TOPICS IN ITALIAN HISTORY. (Students must register for both HIST 615D1 and HIST 615D2) (No credit will be given for this course unless both HIST 615D1 and HIST 615D2 are successfully completed in consecutive terms)

HIST 618 READINGS IN EAST ASIAN HISTORY. (3)

HIST 619 ANCIENT MEDICINE SEMINAR 1. (3)

HIST 620 ANCIENT MEDICINE SEMINAR 2. (3) (Prerequisite: HIST 619)

HIST 627D1 (3), HIST 627D2 (3) SEMINAR: EASTERN EUROPE. (Students must register for both HIST 627D1 and HIST 627D2) (No credit will be given for this course unless both HIST 627D1 and HIST 627D2 are successfully completed in consecutive terms)

HIST 628D1 (3), HIST 628D2 (3) TOPICS IN RUSSIAN HISTORY. (Students must register for both HIST 628D1 and HIST 628D2) (No credit will be given for this course unless both HIST 628D1 and HIST 628D2 are successfully completed in consecutive terms) A seminar covering topics in Russian History which vary from year to year.

HIST 631D1 (3), HIST 631D2 (3) TOPICS: U.S. SOCIAL HISTORY. (Students must register for both HIST 631D1 and HIST 631D2) (No credit will be given for this course unless both HIST 631D1 and HIST 631D2 are successfully completed in consecutive terms)

HIST 636 MEDIEVAL MEDICINE SEMINAR 1. (3)

HIST 637 MEDIEVAL MEDICINE SEMINAR 2. (3) (Prerequisite: HIST 638.)

HIST 640 MODERN MEDICINE SEMINAR 1. (3) Reading in and discussion of a theme in the history of Western European medicine since 1700.

HIST 641 MODERN MEDICINE SEMINAR 2. (3) (Prerequisite: HIST 640) Research paper on a theme in the history of Western European medicine since 1700.

HIST 643D1 (3), HIST 643D2 (3) CANADIAN HISTORY TO 1867. (Students must register for both HIST 643D1 and HIST 643D2) (No credit will be given for this course unless both HIST 643D1 and HIST 643D2 are successfully completed in consecutive terms)

HIST 655 TUTORIAL. (6)

HIST 655D1 (3), HIST 655D2 (3) TUTORIAL. (Students must register for both HIST 655D1 and HIST 655D2) (No credit will be given for this course unless both HIST 655D1 and HIST 655D2 are successfully completed in consecutive terms) (HIST 655D1 and HIST 655D2 together are equivalent to HIST 655) If a seminar is not available in a field judged necessary to complete the program, candidates may (with the consent of their Director of Studies and that of the Chair of the Graduate Committee) do tutorial work to replace a seminar.

HIST 656D1 (3), HIST 656D2 (3) TUTORIAL. (Students must register for both HIST 656D1 and HIST 656D2) (No credit will be given for this course unless both HIST 656D1 and HIST 656D2 are successfully completed in consecutive terms)

HIST 658D1 (3), HIST 658D2 (3) SEMINAR IN CHINESE HISTORY. (Students must register for both HIST 658D1 and HIST 658D2) (No credit will be given for this course unless both HIST 658D1 and HIST 658D2 are successfully completed in consecutive terms)

HIST 668D1 (3), HIST 668D2 (3) JAPANESE INTELLECTUAL HISTORY. (Students must register for both HIST 668D1 and HIST 668D2) (No credit will be given for this course unless both HIST 668D1 and HIST 668D2 are successfully completed in consecutive terms)

HIST 671D1 (3), HIST 671D2 (3) SEMINAR: A AMERICAN SOCIETY - CIVIL WAR - 1920 (Students must register for both HIST 671D1 and HIST 671D2) (No credit will be given for this course unless both HIST 671D1 and HIST 671D2 are successfully completed in consecutive terms)

HIST 673D1 (3), HIST 673D2 (3) PROBLEMS IN U.S. HISTORY. (Students must register for both HIST 673D1 and HIST 673D2) (No credit will be given for this course unless both HIST 673D1 and HIST 673D2 are successfully completed in consecutive terms)

HIST 677D1 (3), HIST 677D2 (3) SEMINAR: EUROPEAN JEWISH HISTORY. (Students must register for both HIST 677D1 and HIST 677D2) (No credit will be given for this course unless both HIST 677D1 and HIST 677D2 are successfully completed in consecutive terms)

HIST 678 HISTORIOGRAPHY. (3) This seminar examines the fundamentals of historical theory: developing a clear understanding of exactly why history has a "theory". The philosophic language and modes of reasoning necessary to understand historical theory are introduced.

HIST 679 HISTORICAL METHODS. (3) An examination of the major approaches to historical interpretation through the reading of important works of historical scholarship.

HIST 683D1 (3), HIST 683D2 (3) HISTORY OF MONTREAL. (Students must register for both HIST 683D1 and HIST 683D2) (No credit will be given for this course unless both HIST 683D1 and HIST 683D2 are successfully completed in consecutive terms)

HIST 691 M.A. RESEARCH PAPER 1. (6)

HIST 692 M.A. RESEARCH PAPER 2. (6)

HIST 693 M.A. RESEARCH PAPER 3. (9)

HIST 694 M.A. RESEARCH PAPER 4. (9)

HIST 696 THESIS RESEARCH 1. (12)

HIST 696D1 (6), HIST 696D2 (6) THESIS RESEARCH 1. (Students must register for both HIST 696D1 and HIST 696D2) (No credit will be given for this course unless both HIST 696D1 and HIST 696D2 are successfully completed in consecutive terms) (HIST 696D1 and HIST 696D2 together are equivalent to HIST 696)

HIST 697 THESIS RESEARCH 2. (12)

HIST 698 THESIS RESEARCH 3. (12)

HIST 699 TUTORIAL. (3)

HIST 699D1 (1.5), HIST 699D2 (1.5) TUTORIAL. (Students must register for both HIST 699D1 and HIST 699D2) (No credit will be given for this course unless both HIST 699D1 and HIST 699D2 are

successfully completed in consecutive terms) (HIST 699D1 and HIST 699D2 together are equivalent to HIST 699)

HIST 702 COMPREHENSIVE EXAMINATION - MAJOR FIELD. (0)

HIST 702D1 (0), HIST 702D2 (0) COMPREHENSIVE EXAMINATION - MAJOR FIELD. (Students must register for both HIST 702D1 and HIST 702D2) (No credit will be given for this course unless both HIST 702D1 and HIST 702D2 are successfully completed in consecutive terms) (HIST 702D1 and HIST 702D2 together are equivalent to HIST 702)

HIST 703 COMPREHENSIVE EXAMINATION - FIRST MINOR FIELD. (0)

HIST 703D1 (0), HIST 703D2 (0) COMPREHENSIVE EXAMINATION - FIRST MINOR FIELD. (Students must register for both HIST 703D1 and HIST 703D2) (No credit will be given for this course unless both HIST 703D1 and HIST 703D2 are successfully completed in consecutive terms) (HIST 703D1 and HIST 703D2 together are equivalent to HIST 703)

HIST 704 COMPREHENSIVE EXAMINATION - SECOND MINOR FIELD. (0)

HIST 704D1 (0), HIST 704D2 (0) COMPREHENSIVE EXAMINATION - SECOND MINOR FIELD. (Students must register for both HIST 704D1 and HIST 704D2) (No credit will be given for this course unless both HIST 704D1 and HIST 704D2 are successfully completed in consecutive terms) (HIST 704D1 and HIST 704D2 together are equivalent to HIST 704)

36 Human Genetics

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Web site: www.mcgill.ca/humangenetics

Chair — D.S. Rosenblatt

Program Directors:

M.Sc. in Genetic Counselling — R. Palmour
M.Sc. and Ph.D. in Human Genetics — R. St-Arnaud

Graduate Program Coordinator — L. Benner

36.1 Staff

Professors

E. Andermann; M.Sc., Ph.D., M.D., C.M.(McG.) (*Neurology and Neurosurgery*)
V. Der Kaloustian; B.A.(Acad.), M.Sc., Ph.D., M.D., C.M.(McG.), D.Sc.(Acad.), F.R.S.C., F.R.C.P.S.(C) (*Pediatrics*)
A. Duncan; B.Sc.(Queen's), Ph.D.(Edin.) (*Pathology and Pediatrics*)
K. Glass; M.A.(Barat), B.C.L., D.C.L.(McG.) (*Pediatrics*)
K. Morgan; B.S., M.S., Ph.D (Mich.) (*Medicine*)
R. Palmour; B.A.(Texas W.), Ph.D.(Texas) (*Psychiatry and Biology*)
D. Radzioch; M.Sc., Ph.D.(Jagiellonian, Krakow) (*Medicine*)
D.S. Rosenblatt; M.D., C.M.(McG.) (*Medicine, Pediatrics and Biology*)
G. Rouleau; B.Sc., M.D.(Ott.), Ph.D.(Harv.) (*Medicine and Psychiatry*)
R. Rozen; B.Sc., Ph.D.(McG.) (*Pediatrics and Biology*)
C. Scriver; B.A., M.D., C.M.(McG.) (*Paediatrics and Biology*)
E. Shoubbridge; B.Sc., M.Sc.(McG.), Ph.D.(Br.Col.)
H.S. Tenenhouse; M.Sc., Ph.D.(McG.) (*Pediatrics*)

Associate Professors

W. Foulkes; B.Sc., MB.BS., Ph.D.(Lond.) (*Medicine*)

T. Hudson; M.D.(Montr.) (*William Dawson Scholar*) (*Medicine*)
F. Kaplan; B.A.(Col.), Ph.D.(McG.) (*Pediatrics*)
D. Malo; D.U.M., M.Sc.(Montr.), Ph.D.(McG.) (*William Dawson Scholar*) (*Medicine*)
R. Nadon; B.A., M.A., Ph.D.(C'dia)
L. Russell; B.A.(Ind. U.), M.D.(Indiana) (*Pediatrics*)
R. St-Arnaud; B.Sc.(Montr.), Ph.D.(Laval) (*Surgery*)
E. Schurr; M.Sc., Ph.D.(Albert-Ludwigs, Freiburg) (*Medicine*)
P. Tonin; B.Sc., M.Sc., Ph.D.(Tor.) (*Medicine*)
J. Trasler; M.D., C.M., Ph.D.(McG.) (*William Dawson Scholar*) (*Pathology and Pediatrics*)

Assistant Professors

V. Desilets; M.D.(Laval) (*Obs. - Gyn.*)
K. Dewar; B.Sc.(Tor.), Ph.D.(Laval)
M. Fujiwara; M.Sc.(Alta.) (*Medicine*)
R. Koenekoop; B.Sc., M.Sc.(Utrecht), Ph.D.(Clark, Worcester), M.D., C.M.(McG.) (*Ophthalmology*)
R. Slim; M.Sc.(Lebanon), M.Sc., Ph.D.(Paris VII)
B. St-Jacques; Ph.D.(Camb.)

Lecturers

K. Australie (*Medicine*), N. Bolduc (*Obs/Gyn*), L. Cartier (*Pediatrics*), J.M.Chiu (*Pediatrics*), J.Fitzpatrick (*Pediatrics, Medicine*), L. Kasprzak (*Medicine*), N.Wong (*Medicine*)

Associate Members

Cardiology: E. Elstein, J. Genest; *Dentistry*: E. Shields;
Epidemiology: A. Lipmann; *Endocrinology*: C. Polychonakos;
Medicine: D. Cournoyer, B. Gilfix, G. Hendy, A. Karaplis, A. Peterson, E. Skamene, M. Trifiro; *Microbiology*: M. DuBow;
Neurology and Neurosurgery: M. Shevell; *Nephrology*: I. Gupta;
Obs.-Gyn.: A. Ao, A. Naumova; *Pediatrics*: P. Goodyer, A. Ryan;
Surgery: F. Glorieux, P. Roughley; J. Galipeau

36.2 Programs Offered

M.Sc. Degree (Genetic Counselling)

The Department of Human Genetics offers a two-year training program leading to a 48-credit non-thesis M.Sc. (Genetic Counselling). The curriculum is designed and intended to be flexible. The number and variety of courses taken by one trainee may differ from that of another in accord with their respective academic backgrounds.

Enrolment will be limited to 6 students.

M.Sc. and Ph.D. Degrees in Human Genetics

The Department of Human Genetics offers research training at both the M.Sc. and Ph.D. levels. Both degrees require the completion of a thesis which is the major focus of the student's effort. A minimal amount of course work is required but specific course choices are flexible and vary according to the student's previous training and current research interest.

Most of the faculty of the Human Genetics Department are located in McGill teaching hospitals, reflecting the medically learned knowledge at the core of human genetic studies.

Faculty have a wide variety of research interests which embrace; cancer genetics, cytogenetics, reproductive biology, neurogenetics, genomic and genetic basis of human diseases. Detailed information regarding faculty research interest can be found on the Department Web page at www.humangenetics.mcgill.ca.

Students accepted into the Human Genetics graduate program will be paid a minimum of \$13,000, plus tuition fees. Students who are thinking of applying for admission should realize that their chances of acceptance improve if they come with a student-ship award. Deadlines for scholarship applications may be anywhere from October to February.

36.3 Admission Requirements

M.Sc. in Genetic Counselling

Prerequisites: Bachelor's degree - minimum CGPA 3.0 on 4.0. Recent (5 years or less) university-level courses in the Basic Sci-

ences (basic biology, cell and molecular, biochemistry, principles of human genetics or basic genetics with a significant "human" component); and a *minimum* of two Social Sciences (social psychology, abnormal psychology).

Prerequisites or corequisites: Recent (5 years or less) university-level course in statistics.

Applicants must have obtained some experience (either paid or volunteer) working in a counselling or advisory capacity, ideally in a health care setting.

The Test of English as a Foreign Language (TOEFL) is required of students who have graduated from a non-English university outside of Canada. A score of 600 on the TOEFL paper-based test (250 on the computer-based test) is the **minimum** standard for admission.

M.Sc. and Ph.D. in Human Genetics

Prerequisites: B.Sc. – minimum CGPA 3.0/4.0 or 3.2/4.0 for the last two full-time academic years. Applicants must have a minimum of 6 credits in cellular and molecular biology or biochemistry, 3 credits in mathematics or statistics and 3 credits in genetics. Graduate Record Examination (GRE) scores are not required, but may be submitted. The Test of English as a Foreign Language (TOEFL) is required of students who have graduated from a non-English language university outside of Canada. A score of 600 on the TOEFL paper-based test (250 on the computer-based test) or 7 on the IELTS, is the minimum standard for admission.

Admission is based on an evaluation by the Graduate Training Committee and on acceptance by a research director who can provide adequate funding for personal and research expenses. Prospective graduate students are encouraged to contact staff members with whom they wish to study before applying for admission.

36.4 Application Procedures

M.Sc. in Genetic Counselling

Applications will be considered upon receipt of:

1. application form,
2. two original transcripts,
3. two original letters of reference,
4. statement of purpose,
5. test results for international students: TOEFL or IELTS,
6. application fee of \$60.00 (credit card, money order or certified cheque in Canadian funds).

Documentation must be received by February 1st, and the on-line application by March 1st. Interviews will be arranged during the weeks of April 15 – May 1 for the top 18 candidates. Admission to the program will be based on academic record, reference letters, statement of purpose and interview.

Applications should be sent to Ms. Laura Benner at the Departmental address above.

M.Sc. and Ph.D. in Human Genetics

Applications will be considered upon receipt of:

1. application form,
2. two original transcripts,
3. two original letters of reference,
4. supervisor selection form,
5. test results for international students: TOEFL or IELTS,
6. application fee of \$60.00 (credit card, money order or certified cheque in Canadian funds).

Deadlines for applications and all supporting documents are March 1 for September admission and October 1 for January admission (international applications for January admission due August 1).

Applications should be sent to: Ms. Laura Benner at the Departmental address above.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

36.5 Program Requirements

M.Sc. in Genetic Counselling

Students must complete 48 credits for the M.Sc. in Genetic Counselling.

Required Courses – Phase I (year 1) (27 credits)

BIOL370	(3)	Human Genetics Applied
EPIB606	(3)	Introduction to Epidemiology
HGEN600	(6)	Genetic Counselling Practicum
HGEN610	(3)	Genetic Counselling: Independent Studies.
HGEN620	(12)	Introductory Field Work Rotations

Required Courses – Phase II (year 2) (18 credits)

HGEN630D1	(6)	Advanced Field Work Rotations
HGEN630D2	(6)	Advanced Field Work Rotations
HGEN640	(3)	Clinical Genetic
HGEN641	(3)	Clinical Genetics 2

Complementary Course (3 credits)

chosen from:

PSYC337	(3)	Introduction: Abnormal Psychology 1
HGEN611	(3)	Genetic Counselling: Independent Studies Project
HGEN650	(3)	Genetic Counselling: Reading Project
HGEN660	(3)	Genetics and Bioethics

M.Sc. and Ph.D. in Human Genetics

The graduate program of each student is established and regularly evaluated by a two-member supervisory committee appointed by the Graduate Training Committee and chaired by the student's thesis supervisor.

All graduate students are required to participate regularly in the various seminar series and journal clubs offered by the Department.

M.Sc. Requirements

Length of Program – Three full-time terms of resident study at McGill University is the minimum time requirement to complete the Master's degree. The normal and expected duration is 2 1/2 years.

Course Requirements – Forty-five credits are required for the M.Sc. degree. Students must complete the courses HGEN662, HGEN680, HGEN681, HGEN682 (Lab techniques and M.Sc. Research 1, 2, 3). Students must also complete 3 additional, 3-credit Graduate courses to complete their requirements. For graduate students, a "pass" mark in required courses is B- and students are required to have a "B" average in all required courses.

Thesis – In Human Genetics, the M.Sc. degree is considered to be a research degree and the candidate must present a thesis which should contain original contributions to knowledge.

Transfer from M.Sc. to Ph.D. Program – The student's Supervisory Committee may recommend to the Graduate Training Committee that the student be permitted to transfer to the Ph.D. program. This is normally done at the end of the first year of the Master's program. Students who wish to transfer are required to take their Ph.D. Qualifying Examination before doing so.

Ph.D. Requirements

Length of Program – Candidates entering Ph.D.1 must complete at least three years of full-time resident study (6 terms). The normal and expected duration of the Ph.D. program is 4-5 years. A student who has obtained a Master's degree at McGill, or at an approved institution elsewhere, and is proceeding in the same subject towards a Ph.D. degree may, upon the recommendation of the Graduate Training Committee, enter at the Ph.D.2 level.

Course Requirements – Students are required to take 12 course credits. These courses may be taken in Human Genetics or in other departments and must be numbered 500 or higher. Additional courses may be required if the student's background is insufficient. A graduate pass (B- or better) is mandatory for all courses required for the Ph.D. degree.

Ph.D. Qualifying Examination – The Qualifying exam is a format of evaluation of the student's ability to proceed to the attainment of the Ph.D. Students must pass the Qualifying Examination (HGEN701) no later than 15 months from the date of registration in the program. Students who transfer from the Master's program must take the exam before doing so. Students who enter the Ph.D. program after completing an M.Sc. in Human Genetics at McGill must take the exam after 12 months.

36.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

M.Sc. in Genetic Counselling Courses

HGEN 600 GENETIC COUNSELLING PRACTICUM. (6) Designed for students enrolled in the M.Sc. in Genetic Counselling. Students will be taught how to take family histories, read pedigrees and the basic skills required for interviewing patients. Discussions with example cases. Attendance at Genetics Rounds is compulsory.

HGEN 600D1 (3), HGEN 600D2 (3) GENETIC COUNSELLING PRACTICUM. (Students must register for both HGEN 600D1 and HGEN 600D2) (No credit will be given for this course unless both HGEN 600D1 and HGEN 600D2 are successfully completed in consecutive terms) (HGEN 600D1 and HGEN 600D2 together are equivalent to HGEN 600) Designed for students enrolled in the M.Sc. in Genetic Counselling. Students will be taught how to take family histories, read pedigrees and the basic skills required for interviewing patients. Discussions with example cases. Attendance at Genetics Rounds is compulsory.

HGEN 610 GENETIC COUNSELLING: INDEPENDENT STUDIES. (3) Students enrolled in the M.Sc. in Genetic Counselling will become involved in an Independent Studies Project with a staff member. Students will also be responsible for specific assigned readings.

HGEN 610D1 (1.5), HGEN 610D2 (1.5) GENETIC COUNSELLING: INDEPENDENT STUDIES. (Students must register for both HGEN 610D1 and HGEN 610D2) (No credit will be given for this course unless both HGEN 610D1 and HGEN 610D2 are successfully completed in consecutive terms) (HGEN 610D1 and HGEN 610D2 together are equivalent to HGEN 610) Students enrolled in the M.Sc. in Genetic Counselling will become involved in an Independent Studies Project with a staff member. Students will also be responsible for specific assigned readings.

HGEN 611 GENETIC COUNSELLING: INDEPENDENT STUDIES PROJECT. (3) Students enrolled in the two-year M.Sc. in Genetic Counselling program will complete an independent studies project with a staff member. Students will also be responsible for specific assigned readings.

HGEN 620 INTRODUCTORY FIELD WORK ROTATIONS. (12) Students are required to spend a minimum of 600 hours in field work. They will rotate through the various laboratories (cytogenetics, biochemical/molecular genetics) and clinical settings (prenatal diagnosis, screening, medical genetics) at the Montreal Children's Hospital.

HGEN 620D1 (6), HGEN 620D2 (6) INTRODUCTORY FIELD WORK ROTATIONS. (Students must register for both HGEN 620D1 and HGEN 620D2) (No credit will be given for this course unless both HGEN 620D1 and HGEN 620D2 are successfully completed in consecutive terms) (HGEN 620D1 and HGEN 620D2 together are

equivalent to HGEN 620) Students are required to spend a minimum of 600 hours in field work. They will rotate through the various laboratories (cytogenetics, biochemical/molecular genetics) and clinical settings (prenatal diagnosis, screening, medical genetics) at the Montreal Children's Hospital.

HGEN 630D1 (6), HGEN 630D2 (6) ADVANCED FIELD WORK ROTATIONS. (Students must register for both HGEN 630D1 and HGEN 630D2) (No credit will be given for this course unless both HGEN 630D1 and HGEN 630D2 are successfully completed in consecutive terms) Students are required to spend a minimum of 600 hours in advanced clinical work. Students will rotate through the Division of Medical Genetics at the Montreal Children's Hospital, in some of its disease-oriented clinics and screening programs; at the Neurogenetics Unit of the Montreal Neurological Hospital; and the Medical Genetics Divisions at the adult hospitals (Montreal General Hospital, Royal Victoria Hospital and the Sir Mortimer B. Davis-Jewish General Hospital).

HGEN 640 CLINICAL GENETICS. (3) This course is designed for students in the M.Sc. in Genetic Counselling program. The lectures will cover current topics in human/medical genetics (cytogenetics, biochemical genetics, molecular genetics, population genetics, etc.) related to clinical cases.

HGEN 640D1 (1.5), HGEN 640D2 (1.5) CLINICAL GENETICS. (Students must register for both HGEN 640D1 and HGEN 640D2) (No credit will be given for this course unless both HGEN 640D1 and HGEN 640D2 are successfully completed in consecutive terms) (HGEN 640D1 and HGEN 640D2 together are equivalent to HGEN 640) This course is designed for students in the M.Sc. in Genetic Counselling program. The lectures will cover current topics in human/medical genetics (cytogenetics, biochemical genetics, molecular genetics, population genetics, etc.) related to clinical cases.

HGEN 641 CLINICAL GENETICS 2. (3) This course is designed for students in the M.Sc. in Genetic Counselling program. The lectures will cover current topics in human/medical genetics (cytogenetics, biochemical genetics, molecular genetics, population genetics, etc.) related to clinical cases.

HGEN 650 GENETIC COUNSELLING: READING PROJECT. (3) Students in the M.Sc. in Genetic Counselling will be assigned a Reading/Literature Search project on various topics: Bereavement, Pregnancy Loss, etc. Students will prepare and present information in seminar/discussion format.

HGEN 660 GENETICS AND BIOETHICS. (3) This course will deal with ethical issues in the gathering, dissemination, and use of genetic information for decisions concerning reproduction, health care, and research.

HGEN 661 POPULATION GENETICS. (3) This course will deal with the quantitative analysis of factors that affect the distribution of genetic variation in defined populations. Lectures and presentations.

HGEN 662 LABORATORY RESEARCH TECHNIQUES. (3) Directed training in selected methods. Form and content are flexible to allow the department to meet specific student demands and needs.

HGEN 670 ADVANCES IN HUMAN GENETICS 1. (3) This course will deal with recent progress in human genetics, and its applications to health care, by identifying different fields including different disciplines (e.g. cancer genetics, neurogenetics), different conceptual approaches, or different methodologic approaches.

HGEN 671 ADVANCES IN HUMAN GENETICS 2. (3) This course will deal with recent progress in human genetics, and its applications to health care, by identifying different fields including different disciplines (e.g. cancer genetics, neurogenetics), different conceptual approaches, or different methodologic approaches.

HGEN 672 ADVANCES IN HUMAN GENETICS 3. (3) This course will deal with recent progress in human genetics, and its applications to health care, by identifying different fields including different disciplines (e.g. cancer genetics, neurogenetics), different conceptual approaches, or different methodologic approaches.

HGEN 680 M.Sc. THESIS RESEARCH 1. (9) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

HGEN 681 M.Sc. THESIS RESEARCH 2. (12) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

HGEN 682 M.Sc. THESIS RESEARCH 3. (12) Independent research work under the direction of the Thesis Supervisor and the Supervisory Committee.

HGEN 690 INHERITED CANCER SYNDROMES. (3) The principles and practice associated with inherited predisposition to cancer (breast and colon cancers, example) such as the methods of gene discovery, clinical characteristics of inherited predisposition, methods of mutation analysis, genetic counselling, and ethical issues of genetic testing.

HGEN 691 HOST RESPONSES TO PATHOGENS. (3) Introduction to advanced concepts of host resistance to infectious diseases as they apply to both animal models and human populations.

HGEN 692 HUMAN GENETICS. (3) (Restriction: For Department of Human Genetics graduate students.) This course will emphasize the principles and practice of human genetics, including an overview of the fundamental aspects of human genetics pertaining to chromosomes and mutations, population, cancer and development genetics, the inheritance of complex traits.

HGEN 701 Ph.D. COMPREHENSIVE EXAMINATION. (0)

Related advanced undergraduate courses offered in other departments include the following. (Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.)

Biology

BIOL 370 Human Genetics Applied. (3)
 BIOL 468 Topics on the Human Genome. (3)
 BIOL 475 Human Biochemical Genetics. (3)
 BIOL 588 Molecular/Cellular Neurobiology. (3)

Biochemistry

BIOC 450 Protein Structure and Function. (3)
 BIOC 454 Nucleic Acids. (3)

37 Integrated Studies in Education

Department of Integrated Studies in Education
 Education Building, Room 244
 3700 McTavish Street
 Montreal QC H3A 1Y2

Telephone: (514) 398-4527

Fax: (514) 398-4529

Web site: www.mcgill.ca/edu-integrated

Graduate Programs:

Education Building, Room 244

Telephone: (514) 398-4531

Fax: (514) 398-4529

E-mail: diseadvisegrad.education@mcgill.ca

Chair — Steven Jordan

Director of Graduate Programs:

Dr. Ann Beer (Fall 2004)

Dr. Carolyn Turner (Winter 2005)

The administrative office is open Monday to Friday from 08:30 to 17:00. During the first week of classes, the office will remain open until 18:00. For general information, please initially contact the Graduate Program Coordinator at (514)398-4531.

37.1 Staff

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 Professor 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.(Strasbourg)

David C. Smith; B.Ed.(McG.) Ph.D.(Lond.), F.C.C.T., F.R.S.A.z'

Professors

David Dillon; B.A.(St. Columban's), M.S.(S.W. Texas St.), Ph.D.(Texas at Austin)

Ratna Ghosh; C.M., B.A.(Calc.), M.A., Ph.D.(Calc.) F.R.S.C., (*William C. Macdonald Professor of Education*) (*James McGill Chair*)

Barry Levy; B.A., M.A., BRE(Yeshiva), Ph.D.(N.Y.U.)

Mary H. Maguire; B.A., B.Ed., M.A.(Montr.), M.Ed., Cert. Reading(McG.) Ph.D.(Ariz.)

Claudia A. Mitchell; B.A.(Bran.), M.A.(Mt. St. Vin.), Ph.D.(Alta.)

Bernard Shapiro; B.A.(McG.), M.A.T., Ed.D.(Harv.)

R. Lynn Studham; N.D.D.(Sunder.), A.R.A.(Royal Acad., Copen.), M.A.(E. Carolina), C.S.G.A., S.C.A.

Associate Professors

Brian J. Alters; B.Sc., Ph.D.(USC) (*William Dawson Scholar*)

Helen Amoroggi; B.Sc., M.A.(Rhode Isl.), Ed.D.(Boston)

Ann J. Beer; B.A.(Oxon.), M.A.(Tor.), D.Phil.(Oxon.)

Jon G. Bradley; B.A., M.A.(Sir G.Wms.)

Lynn Butler-Kisber; B.Ed., M.Ed.(McG.), Ed.D.(Harv.)

Janet Donin; B.A.(Tor.), M.A.(Ill.), Ph.D.(Cal.) (joint appoint. with Educational and Counselling Psychology)

Steven Jordan; B.A.(Kent), M.Sc.(Lond.), Ph.D.(McG.)

Yarema G. Kelebay; B.A., B.Ed.(Montr.), M.A.(Sir G.Wms.), Ph.D.(C'dia)

Cathrine Le Maistre; B.Sc., Dip.Ed.(Exeter), M.Ed., Ph.D.(McG.)

Denise Lussier; B.A.(Coll. Jesus Marie de Sillery), M.A.(Boston), M.Ed., Ph.D.(Laval)

Charles S. Lusthaus; B.S., M.S.(Canisius), Ph.D.(S.U.N.Y.)

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.), M.Ed.(McG.), Ed.D.(Tor.)

Ronald Morris; B.Ed., M.A., Ph.D.(McG.)

Anthony Paré; B.Ed, M.Ed., Ph.D.(McG.)

Howard N. Riggs; B.Ed.(Alta.), M.A., Ph.D.(Minn.)

Phyllis Shapiro; Dip.Ed.(McG.), B.A.(C'dia), M.Ed., D.Ed.(Boston)

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.(Pitts.), M.A.(Minn.), Cert. Ped.(C'dia), Ph.D.(WI)

Elizabeth Wood; B.F.A.(York), 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)

Eric Caplan; B.A.(Tor.), M.A.(Hebrew University), Ph.D.(McG.)

Valentina De Krom; B.A. (Ott.), Dip.Ed., M.Sc. (McG.)

Michael Doxtater; B.A.(McM.), M.Sc.Ed. (C'nell), Ph.D.(Cornell)

Michael Hoechsmann; B.A., M.A.(S.Fraser), Ph.D.(Tor.)

Dip Kapoor; B.Com., M.B.A., Ph.D.(Alta)

Kevin Kee; B.A., M.A., Ph.D.(Queen's)

Bronwen Low; B.A. (Queen's), M.A. (UBC), Ph.D. (York)

Joan Russell; B.Mus., L.Mus., M.Ed., Ph.D.(McG.)

Ruth Sandwell; B.A.(Carl.), M.A.(U.Vic.), Ph.D.(S.Fraser)

Mela Sarkar; B.A., Dip.Ed.(McG.), M.A., Ph.D.(C'dia)

Marc Schwartz; B.Sc., M.Ed.(N.H.), Ed.D.(Harv.)

Shaheen Shariff; B.G.S., M.A.Educ., Ph.D.(S.Fraser)

Sylvia Sklar; Dip.Ed.(McG.), B.A.(C'dia), M.Ed.(McG.)

Doreen Starke-Meyerring; B.Ed.(Potsdam), M.A.(N.Dakota), Ph.D.(Minn.)

Teresa Strong-Wilson; B.A.(Calg.), B.A.(McG.), M.A., Ph.D.(Vic. B.C.)

Associate Members

Michael Doxtater; B.A. (McMaster), M.Sc., Ph.D. (Cornell)
Richard Harris, Lynn McAlpine

Faculty Lecturers

Linda Cooper, Carolyn Pittenger

Adjunct Professors

Abigail Anderson, Noel C. Burke, Gretta Chambers, Scott Conrod,
Charley Levy, Daniel Michael Mason, Marianna McVey, Kenneth
Robertson, Howard Simpkin, Vikki Zack

37.2 Programs Offered

The Department offers M.A. thesis and non-thesis degree programs (45 credits) in the following areas:

- Culture and Values in Education
- Second Language Education
- Educational Studies (Curriculum or Leadership concentration)

The Department also offers two 15-credit Graduate Certificates in Educational Leadership and an *ad hoc* Ph.D.

Applicants should take note that, unlike the Department's Bachelor of Education programs, these graduate programs do not lead to teacher certification.

37.3 Admission Requirements

M.A. and Certificate Programs

1. Applicants to the M.A. and Certificate programs must hold a Bachelor's degree from a recognized university. A minimum standing equivalent to a CGPA of 3.0 on 4.0, or 3.2 out of 4.0 for the last two full-time academic years, is required. A concentration of courses related to the area chosen for graduate work is usually required. (See #5, below.) Applicants who lack some requirements may be admitted as Qualifying or Special Students to take relevant courses. All course selection is made in consultation with a program advisor.
2. International students who have not completed their undergraduate studies at an English-speaking university must have a TOEFL score of at least 580 on the paper-based test (237 on the computer-based test). The Department reserves the right to evaluate the applicant's language proficiency before initial registration.
3. A letter of intent specifying academic and professional experience and interests (specifically, research interests for the thesis option; project interests, for the non-thesis option).
4. Two letters of recommendation, at least one of which must be from a university-level instructor; the other may be from an administrator in an educationally relevant context.
5. Further requirements applicable to specific options:

Master of Arts in Second Language Education. Normally, a minimum of 36 credits including a combination of relevant courses in education and language studies.

Normally, at least two years of relevant professional experience in education.

Master of Arts in Educational Studies. Normally, at least two years of relevant educational experience (teaching or related professional experience).

Graduate Certificates in Educational Leadership I and II. Normally, at least two years of relevant educational experience (teaching or related professional experience).

Ad hoc Ph.D

Applicants to the *ad hoc* Ph.D must contact the Graduate Program Coordinators (514) 398-6985, for more detailed and current information.

The designation of *ad hoc* in the Ph.D. program indicates that there are no required courses common to all doctoral candidates in the Department of Integrated Studies in Education. Instead, requirements for each student are determined by the Department according to the area of research and the background of the applicant.

In the absence of a more structured program, considerable independence is expected of *ad hoc* Ph.D. students and demonstration of certain research skills is thus prerequisite to admission. For this reason, the submission of a five-page proposal and identification of a prospective supervisor are part of the application procedure.

The deadline for applications to the *ad hoc* Ph.D. is February 1.

37.4 Application Procedure

McGill's on-line application form is available to all graduate program candidates at www.mcgill.ca/web-apply.

Applicants must submit, **before the application deadline**, the following:

1. Completed Web application form
2. \$60 application fee
3. Letter of intent (1 to 2 pages)
4. Curriculum vitae
5. TOEFL score (if applicable)

Applicants must arrange to have the following documents sent directly to the Department from the institutions involved:

6. Official transcripts of all previous undergraduate and graduate studies.
7. Two letters of recommendation. (At least one of the letters must be from a university-level instructor; the other may be from an administrator qualified to assess the applicant's professional qualities. Both letters must be on institutional letterhead paper with original signatures; no standard evaluation form is available for this purpose.)

The deadlines for submitting applications are:

Fall admission:

February 1st – Ph.D., M.A., and Certificate applicants

Winter admission:

October 1st – Certificate applicants

All documentation is to be submitted directly to the Graduate Program Coordinator in the Department of Integrated Studies in Education.

37.5 Program Requirements

37.5.1 M.A. in Culture and Values in Education

This program encourages research into educational issues that have a culture and/or values orientation as a key investigative focus on more specific topics covered in the Department.

MASTER OF ARTS IN CULTURE AND VALUES IN EDUCATION (ThesisOption) (45credits)

Required Courses (6 credits)

EDEM609 (3) Issues in Educational Studies
EDER615 (3) Culture, Values and Education

Complementary Courses (12 credits)

9 credits to be selected from the following courses:

EDEM620 (3) Meanings of Literacy
EDER600 (3) Globalization, Education & Change
EDER606 (3) Philosophy of Moral Education
EDER607 (3) Values Education: Contemporary Approaches
EDER614 (3) Sociology of Education
EDER617 (3) Aesthetics and Education
EDER625 (3) Topics: Culture in Education
EDER626 (3) Topics: Value in Education
EDER649 (3) Education: Multicultural Societies

3 credits to be selected from the following courses:

EDEC706 (3) Textual Approaches to Research

- EDEM690 (3) Research Methods
 EDEM692 (3) Qualitative Research Methods
 EDSL630 (3) Qualitative/Ethnographic Methods

Elective Course (3 credits)

Students are required to take 3 additional credits at the 500- or 600-level, inside or outside the Department. These are to be approved by the Graduate Program Director.

Thesis Component – Required (24 credits)

- EDER690 (6) Thesis Preparation 1
 EDER691 (6) Thesis Preparation 2
 EDER692 (12) Thesis Preparation 3

MASTER OF ARTS IN CULTURE AND VALUES IN EDUCATION (Non-thesis Option) (45credits)

Required Courses (18 credits)

- EDEM609 (3) Issues in Educational Studies
 EDER615 (3) Culture, Values and Education
 EDER633 (12) Special Project

Complementary Courses (12 credits)

9 credits to be selected from the following courses:

- EDEM620 (3) Meanings of Literacy
 EDER600 (3) Globalization, Education & Change
 EDER606 (3) Philosophy of Moral Education
 EDER607 (3) Values Education: Contemporary Approaches
 EDER614 (3) Sociology of Education
 EDER617 (3) Aesthetics and Education
 EDER625 (3) Topics: Culture in Education
 EDER626 (3) Topics: Value in Education
 EDER649 (3) Education: Multicultural Societies

3 credits to be selected from the following courses:

- EDEC706 (3) Textual Approaches to Research
 EDEM690 (3) Research Methods
 EDEM692 (3) Qualitative Research Methods
 EDSL630 (3) Qualitative/Ethnographic Methods

Elective Courses (15 credits)

Students are required to take 15 additional credits at the 500- or 600-level, inside or outside the Department. These are to be approved by the Graduate Program Director.

MASTER OF ARTS IN CULTURE AND VALUES IN EDUCATION (Non-thesis Option – Jewish Education) (45credits)

This program is designed to offer a graduate-level point of entry into the teaching profession for students who typically will have completed a B.A. with minor or major in Jewish studies. The M.A. will not provide Quebec Government teacher certification (in Quebec certification is at the B.Ed. level) but Jewish schools presently have the right to hire non-certified teachers of Jewish studies.

Students interested in doing a research-focused M.A. in the area of Jewish education should follow one of the other graduate degree offerings within the area of Culture and Values in Education.

Required Courses (21 credits)

- EDEM690 (3) Research Methods
 EDER520 (3) Issues in Jewish Education
 EDER529 (0) Hebrew Language Requirement
 EDER610D1 (7.5) Internship
 EDER610D2 (7.5) Internship

Complementary Courses (24 credits)

24 credits at the 500 level or above, selected in consultation with the program advisor. Students will normally follow this profile:

9 credits from the course offerings of the Department of Jewish Studies, Faculty of Arts.

9 credits from among the following:

- EDER521 (3) Teaching Judaism: Yiddish
 EDER522 (3) Teaching Judaism: Hebrew
 EDER523 (3) Teaching Judaism: Bible

- EDER524 (3) Teaching Judaism: History
 EDER525 (3) Teaching Judaism: Holidays
 EDER526 (3) Teaching Judaism: Liturgy
 EDER527 (3) Teaching Judaism: Special Topics
 EDER528 (3) Teaching Judaism: The Holocaust

6 credits from among the following:

- EDPI526 (3) Talented and Gifted Studies
 EDPI642 (3) Education of Learners/Special Needs 1
 EDPI654 (3) Instruction/Curriculum Adaptation
 EDPI666 (3) Methods: Learning Disabilities
 EDPE510 (3) Learning and Technology
 EDPE535 (3) Instructional Design
 EDPE616 (3) Cognitive Development

37.5.2 M.A. in Second Language Education

From a range of pedagogical, linguistic, cognitive, political, and sociocultural perspectives, this program combines theoretical and applied studies of how second and foreign languages are learned and used. The M.A. Thesis option is a research-oriented degree, approximately half of which consists of thesis research. The M.A. Non-thesis option, consisting entirely of course work, is less research-oriented and suitable for practitioners interested in professional development with a theoretical orientation.

MASTER OF ARTS IN SECOND LANGUAGE EDUCATION (Thesis Option) (45 credits)

Required Courses (12 credits)

- EDEM609 (3) Issues in Educational Studies
 EDPE575 (3) Educational Measurement
 EDSL623 (3) Second Language Learning
 EDSL664 (3) Second Language Research Methods

Complementary Courses (9 credits)

9 credits chosen from the following:

- EDSL617 (3) Special Topic in Second Language Education
 EDSL620 (3) Critical Issues in Second Language Education
 EDSL624 (3) Educational Sociolinguistics
 EDSL627 (3) Classroom-Centred Second Language Research
 EDSL629 (3) Second Language Testing and Evaluation
 EDSL630 (3) Qualitative/Ethnographic Methods
 EDSL631 (3) Second Language Curriculum
 EDSL632 (3) Second Language Literacy Development

Thesis Component – Required (24 credits)

- EDSL666 (6) Thesis Research 1
 EDSL667 (6) Thesis Research 2
 EDSL668 (6) Thesis Research 3
 EDSL669 (6) Thesis Research 4

MASTER OF ARTS IN SECOND LANGUAGE EDUCATION (Non-thesis) (45 credits)

Required Courses (12 credits)

- EDEM609 (3) Issues in Educational Studies
 EDPE575 (3) Educational Measurement
 EDSL623 (3) Second Language Learning
 EDSL664 (3) Second Language Research Methods

Complementary Courses (15 credits)

15 credits chosen from the following:

- EDSL617 (3) Special Topic in Second Language Education
 EDSL620 (3) Critical Issues in Second Language Education
 EDSL624 (3) Educational Sociolinguistics
 EDSL627 (3) Classroom-Centred Second Language Research
 EDSL629 (3) Second Language Testing and Evaluation
 EDSL630 (3) Qualitative/Ethnographic Methods
 EDSL631 (3) Second Language Curriculum
 EDSL632 (3) Second Language Literacy Development

Elective Courses (18 credits)

Elective courses, at the 500- or 600-level, are selected in consultation with the Graduate Program Director and may include complementary courses listed above. Up to 6 of the elective credits may include the following:

- EDEC635 (3) Advanced Written Communication (for students whose primary language is English)
 ESLN590 (3) Writing for Graduate Students (for students whose primary language is not English)

An undergraduate language course (e.g., Spanish, Italian, Japanese).

37.5.3 M.A. in Educational Studies

This program enables graduate students to explore areas of education with special concern for the relationship between curriculum and educational leadership. The program includes the social, cultural and ideological factors that influence formal and informal contexts for learning. Particular attention is paid to the content and activity of the curriculum and to the ways in which leadership at local, national, and international levels affects the nature and practice of education. There are two possible concentrations from which a student may choose: Curriculum or Leadership.

MASTER OF ARTS EDUCATIONAL STUDIES (Thesis Option) – Curriculum Concentration (45 credits)**Required Courses** (9 credits)

- EDEM609 (3) Issues in Educational Studies
 EDEM620 (3) Meanings of Literacy
 EDEC606 (3) Seminar in Curriculum Inquiry

Complementary Courses (6 credits)

two of the following courses:

- EDEM679 (3) Interpretive Inquiry, or equivalent
 EDEM690 (3) Research Methods
 EDEM692 (3) Qualitative Research Methods, or equivalent

Elective Courses (6 credits)

Two courses chosen in consultation with an advisor.

Thesis Component – Required (24 credits)

- EDEM621 (6) Thesis 1
 EDEM623 (6) Thesis 2
 EDEM699 (12) Thesis 3

MASTER OF ARTS EDUCATIONAL STUDIES (Non-thesis Option) – Curriculum Concentration (45 credits)**Required Courses** (12 credits)

- EDEM609 (3) Issues in Educational Studies
 EDEM620 (3) Meanings of Literacy
 EDEM690 (3) Research Methods
 EDEC606 (3) Seminar in Curriculum Inquiry

Complementary Courses (15 credits)

Four Curriculum courses, chosen in consultation with an advisor. One Leadership course.

Elective Courses (6 credits)

Courses chosen in consultation with an advisor.

Project Component – Required (12 credits)

- EDEM625 (6) Project 1
 EDEM627 (6) Project 2

MASTER OF ARTS EDUCATIONAL STUDIES (Thesis Option) – Leadership Concentration (45 credits)**Required Courses** (9 credits)

- EDEM609 (3) Issues in Educational Studies
 EDEM610 (3) Leadership in Action
 EDEM673 (3) Leadership Theory in Education

Complementary Courses (6 credits)

two of the following courses:

- EDEM679 (3) Interpretive Inquiry, or equivalent
 EDEM690 (3) Research Methods
 EDEM692 (3) Qualitative Research Methods, or equivalent

Elective Courses (6 credits)

Two courses chosen in consultation with an advisor.

Thesis Component – Required (24 credits)

- EDEM621 (6) Thesis 1
 EDEM623 (6) Thesis 2
 EDEM699 (12) Thesis 3

MASTER OF ARTS EDUCATIONAL STUDIES (Non-Thesis Option) – Leadership Concentration (45 credits)**Required Courses** (12 credits)

- EDEM609 (3) Issues in Educational Studies
 EDEM610 (3) Leadership in Action
 EDEM673 (3) Leadership Theory in Education
 EDEM690 (3) Research Methods

Complementary Courses (15 credits)

Four Leadership courses, chosen in consultation with an advisor. One Curriculum course.

Elective Courses (6 credits)

Two courses chosen in consultation with an advisor.

Project Component – Required (12 credits)

- EDEM625 (6) Project 1
 EDEM627 (6) Project 2

37.5.4 Graduate Certificate in Educational Leadership1

This 15-credit program addresses the needs of experienced and aspiring school leaders who are taking increased responsibility for the students and communities they serve. The management of schools is increasingly seen as making a major contribution to the learning and personal development of students. The professional development of school leaders, educational reform and school partnership form the basis for the program.

Required Courses (9 credits)

- EDEM610 (3) Leadership in Action
 EDEM628 (3) Education Resource Management
 EDEM646 (3) Planning and Evaluation

Complementary Courses (6 credits)

Two courses chosen from the following:

- EDEC635 (3) Advanced Written Communication
 EDEM635 (3) Fiscal Accountability in Education
 EDEM637 (3) Managing Educational Change
 EDEM644 (3) Curriculum Development and Implementation
 EDEM660 (3) Community Relations in Education
 EDEM664 (3) Education and the Law
 EDEM671 (3) The Principalship
 EDEM675 (3) Special Topics 1
 EDEM679 (3) Interpretive Inquiry
 EDEM693 (3) School Improvement Approaches
 EDEM695 (3) Policy Studies in Education

37.5.5 Graduate Certificate in Educational Leadership2

This 15-credit program explores deeper leadership theory and educational issues and applications in a practicum. Candidates for the Graduate Certificate in Educational Leadership 2 should normally have completed the first certificate. In combination, the two certificates allow school administrators to acquire the 30 graduate credits in the field of educational leadership required by the Quebec Ministry of Education.

Required Courses (9 credits)

- EDEM609 (3) Issues in Educational Studies
 EDEM673 (3) Leadership Theory in Education
 EDEM681 (3) Practicum-Administrative Studies

Complementary Courses (6 credits)

Two courses chosen from the following:

- EDEC635 (3) Advanced Written Communication
 EDEM635 (3) Fiscal Accountability in Education
 EDEM637 (3) Managing Educational Change
 EDEM644 (3) Curriculum Development and Implementation
 EDEM660 (3) Community Relations in Education

EDEM664	(3)	Education and the Law
EDEM671	(3)	The Principalship
EDEM675	(3)	Special Topics 1
EDEM679	(3)	Interpretive Inquiry
EDEM693	(3)	School Improvement Approaches
EDEM695	(3)	Policy Studies in Education

Other courses may be taken with permission from the Director of Graduate Certificate Programs in consultation with the Graduate Program Director.

37.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Single term and Multi-term Courses (D1/D2, N1/N2, J1/J2/J3)

The same course may be available as a single term offering and also as a multi-term offering. The course content and credit weight is equivalent in all modes; the only difference being the scheduling.

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 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 2004 and Winter 2005.

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.

For more information on Multi-term Courses, Course Terminology, Class Schedule and Course Catalog, see the *General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05*.

☐ Denotes limited enrolment

37.6.1 EDEA – Arts Education

Courses:

EDEA 606N1	Printmaking.	(3)
EDEA 606N2	Printmaking.	(3)
EDEA 612	Art Education Tutorial.	(3)
EDEA 613	Research Paper on Art Education.	(6)
EDEA 613D1	Research Paper on Art Education.	(3)
EDEA 613D2	Research Paper on Art Education.	(3)
EDEA 613J1	Research Paper on Art Education.	(2)
EDEA 613J2	Research Paper on Art Education.	(2)
EDEA 613J3	Research Paper on Art Education.	(2)
EDEA 615	Special Topics in Music Education.	(3)
EDEA 642	Role Music Education in Child Development.	(3)
EDEA 652	Approaches to Music Curriculum.	(3)

37.6.2 EDEC – Curriculum and Instruction

Courses currently scheduled for 2004-05:

☐ **EDEC 500 TUTORING WRITING.** (3) Theory and practice of teaching writing through one-on-one conferencing. Focus on composition theory and research, rules of English usage, and tutorial teaching strategies. Practical experience offered through work in

Writing Tutorial Service. Relevant for anyone who teaches or will teach in English at any level in any subject.

EDEC 602 FOUNDATIONS OF CURRICULUM. (3)

EDEC 603 INDIVIDUAL READING COURSE. (6)

EDEC 603D1 (3), EDEC 603D2 (3) INDIVIDUAL READING

COURSE. (Students must register for both EDEC 603D1 and EDEC 603D2) (No credit will be given for this course unless both EDEC 603D1 and EDEC 603D2 are successfully completed in consecutive terms) (EDEC 603D1 and EDEC 603D2 together are equivalent to EDEC 603)

EDEC 604 LITERACY AND LEARNING ACROSS CURRICULUM. (3)

Examination of the central role of language in learning across the curriculum: the processes by which pupils acquire information and understanding and the ways in which teaching must take account of these processes: learning through talk, learning by writing, learning from text.

EDEC 606 SEMINAR IN CURRICULUM INQUIRY. (3) Students will be introduced to debates that are current in curriculum studies which centre on the appropriate emphasis to be accorded to traditions of schooling. To join the debate, students will need to explore the nature of a variety of traditions and the concomitant curricular manifestations and approaches to pedagogy.

EDEC 606D1 (1.5), EDEC 606D2 (1.5) SEMINAR IN CURRICULUM INQUIRY. (Students must register for both EDEC 606D1 and EDEC 606D2) (No credit will be given for this course unless both EDEC 606D1 and EDEC 606D2 are successfully completed in consecutive terms) (EDEC 606D1 and EDEC 606D2 together are equivalent to EDEC 606)

EDEC 607 FOUNDATIONS OF LITERACY. (3)

EDEC 608 SELECTED READINGS IN LITERACY. (6)

EDEC 608D1 (3), EDEC 608D2 (3) SELECTED READINGS IN LITERACY. (Students must register for both EDEC 608D1 and EDEC 608D2) (No credit will be given for this course unless both EDEC 608D1 and EDEC 608D2 are successfully completed in consecutive terms) (EDEC 608D1 and EDEC 608D2 together are equivalent to EDEC 608)

EDEC 609 DRAMA AND LITERACY. (3)

EDEC 610 LITERATURE: CHILDREN/YOUNG ADULTS. (3)

EDEC 612 MEDIA LITERACY. (3)

EDEC 613 SELECTED READINGS IN CURRICULUM. (6)

EDEC 613D1 (3), EDEC 613D2 (3) SELECTED READINGS IN CURRICULUM. (Students must register for both EDEC 613D1 and EDEC 613D2) (No credit will be given for this course unless both EDEC 613D1 and EDEC 613D2 are successfully completed in consecutive terms) (EDEC 613D1 and EDEC 613D2 together are equivalent to EDEC 613)

EDEC 614 NUMERACY ACROSS THE CURRICULUM. (3)

EDEC 616 READING COURSE. (3)

EDEC 616D1 (1.5), EDEC 616D2 (1.5) READING COURSE. (Students must register for both EDEC 616D1 and EDEC 616D2) (No credit will be given for this course unless both EDEC 616D1 and EDEC 616D2 are successfully completed in consecutive terms) (EDEC 616D1 and EDEC 616D2 together are equivalent to EDEC 616)

EDEC 617 SPECIAL TOPICS - LITERACY STUDIES. (3)

EDEC 617D1 (1.5), EDEC 617D2 (1.5) SPECIAL TOPICS - LITERACY STUDIES. (Students must register for both EDEC 617D1 and EDEC 617D2) (No credit will be given for this course unless both EDEC 617D1 and EDEC 617D2 are successfully completed in consecutive terms) (EDEC 617D1 and EDEC 617D2 together are equivalent to EDEC 617)

EDEC 623 EMERGENT LITERACY. (3)

EDEC 627 RESPONDING TO TEXTS. (3)

EDEC 629 WRITING: THEORY, RESEARCH, AND PRACTICE. (3)

EDEC 635 ADVANCED WRITTEN COMMUNICATION. (3) Rhetorical practices and principles that remain constant across disciplines: generating and organizing ideas; setting goals; planning; considering readers; editing and revising. Students will analyze and pro-

duce texts that use the formats, rhetorical strategies, styles, genres, and other conventions of their disciplines.

EDEC 637 GENDER, GENRE AND SCHOOLING. (3)

EDEC 645 SCIENCE WRITING AND PUBLISHING. (3) (Limited to senior graduate students - Ph.D.2 and above.) Techniques for writing reader-sensitive scientific articles and grant applications, including how to express abstract ideas.

EDEC 690 MONOGRAPH PREPARATION AND PRESENTATION. (12)

EDEC 690D1 (6), EDEC 690D2 (6) MONOGRAPH PREPARATION AND PRESENTATION. (Students must register for both EDEC 690D1 and EDEC 690D2) (No credit will be given for this course unless both EDEC 690D1 and EDEC 690D2 are successfully completed in consecutive terms) (EDEC 690D1 and EDEC 690D2 together are equivalent to EDEC 690)

EDEC 701 PROSEMINAR IN EDUCATION 1. (2) (Restriction: Limited to Doctoral students)

EDEC 702 PROSEMINAR IN EDUCATION 2. (2) (Restriction: Limited to Doctoral students)

EDEC 703 PH.D. COLLOQUIUM 1. (2) (Restriction: Limited to Doctoral students)

EDEC 704 PH.D. COLLOQUIUM 2. (2) (Restriction: Limited to Doctoral students)

EDEC 705 ADVANCED RESEARCH DESIGNS. (3) (Restriction: Limited to Doctoral students)

EDEC 706 TEXTUAL APPROACHES TO RESEARCH. (3) (Restriction: Limited to Doctoral students)

37.6.3 EDEE – Elementary Education

Courses currently scheduled for 2004-05:

EDEE 655 SPECIAL TOPICS - CURRICULUM STUDIES. (3)

EDEE 661 GLOBAL EDUCATION. (3)

37.6.4 EDEM – Admin & Policy Studies in Education

Courses currently scheduled for 2004-05:

EDEM 603 INDIVIDUAL READING COURSE. (6)

EDEM 603D1 (3), EDEM 603D2 (3) INDIVIDUAL READING COURSE. (Students must register for both EDEM 603D1 and EDEM 603D2) (No credit will be given for this course unless both EDEM 603D1 and EDEM 603D2 are successfully completed in consecutive terms) (EDEM 603D1 and EDEM 603D2 together are equivalent to EDEM 603)

EDEM 606 EDUCATIONAL LEADERSHIP ISSUES. (3) Critical analysis and appraisal of leadership issues across geographic, linguistic, racial, gender and cultural contexts from a comparative perspective. Students will analyze their own experience.

EDEM 609 ISSUES IN EDUCATIONAL STUDIES. (3) The purpose is to explore critically the contemporary trends, issues, historical contexts and implications in curriculum and leadership through processes that engage students with each other and various members of the Department.

EDEM 610 LEADERSHIP IN ACTION. (3) Teaching of the use of reflective practice as a means of developing individual theories of action in educational settings. It provides students with the knowledge, skills and attitudes necessary to engage in processes that can improve individual and organizational performance. Special emphasis will be given to communication, problem solving and decision-making.

EDEM 610D1 (1.5), EDEM 610D2 (1.5) LEADERSHIP IN ACTION. (Students must register for both EDEM 610D1 and EDEM 610D2)

EDEM 612 FOUNDATIONS OF ADMINISTRATION & POLICY STUDIES EDUCATION 1. (3)

EDEM 612D1 (1.5), EDEM 612D2 (1.5) FOUNDATIONS OF ADMINISTRATION & POLICY STUDIES EDUCATION 1. (Students must register for both EDEM 612D1 and EDEM 612D2) (No credit will be given for this course unless both EDEM 612D1 and EDEM 612D2

are successfully completed in consecutive terms) (EDEM 612D1 and EDEM 612D2 together are equivalent to EDEM 612)

EDEM 613 FOUNDATIONS OF ADMINISTRATION & POLICY STUDIES EDUCATION 2. (3)

EDEM 615 SELECTED ISSUES: CONTEMPORARY EDUCATION. (6)

EDEM 615D1 (3), EDEM 615D2 (3) SELECTED ISSUES: CONTEMPORARY EDUCATION. (Students must register for both EDEM 615D1 and EDEM 615D2) (No credit will be given for this course unless both EDEM 615D1 and EDEM 615D2 are successfully completed in consecutive terms)

EDEM 616 INDIVIDUAL READING COURSE. (3)

EDEM 616D1 (1.5), EDEM 616D2 (1.5) INDIVIDUAL READING COURSE. (Students must register for both EDEM 616D1 and EDEM 616D2) (No credit will be given for this course unless both EDEM 616D1 and EDEM 616D2 are successfully completed in consecutive terms) (EDEM 616D1 and EDEM 616D2 together are equivalent to EDEM 616)

EDEM 620 MEANINGS OF LITERACY. (3) Investigation of basic issues related to definitions of literacy. Issues include new directions in literacy and education, the need for non-print literacies in contemporary life, and the challenges these changes present for educators.

EDEM 621 THESIS 1. (6)

EDEM 621D1 (3), EDEM 621D2 (3) THESIS 1. (Students must register for both EDEM 621D1 and EDEM 621D2) (No credit will be given for this course unless both EDEM 621D1 and EDEM 621D2 are successfully completed in consecutive terms) (EDEM 621D1 and EDEM 621D2 together are equivalent to EDEM 621)

EDEM 623 THESIS 2. (6) Continuation of EDEM 621.

EDEM 623D1 (3), EDEM 623D2 (3) THESIS 2. (Students must register for both EDEM 623D1 and EDEM 623D2) (No credit will be given for this course unless both EDEM 623D1 and EDEM 623D2 are successfully completed in consecutive terms) (EDEM 623D1 and EDEM 623D2 together are equivalent to EDEM 623) Continuation of EDEM 621.

EDEM 625 PROJECT 1. (6)

EDEM 625D1 (3), EDEM 625D2 (3) PROJECT 1. (Students must register for both EDEM 625D1 and EDEM 625D2) (No credit will be given for this course unless both EDEM 625D1 and EDEM 625D2 are successfully completed in consecutive terms) (EDEM 625D1 and EDEM 625D2 together are equivalent to EDEM 625)

EDEM 627 PROJECT 2. (6) Extension of Project 1 or new project.

EDEM 627D1 (3), EDEM 627D2 (3) PROJECT 2. (Students must register for both EDEM 627D1 and EDEM 627D2) (No credit will be given for this course unless both EDEM 627D1 and EDEM 627D2 are successfully completed in consecutive terms) (EDEM 627D1 and EDEM 627D2 together are equivalent to EDEM 627)

EDEM 628 EDUCATION RESOURCE MANAGEMENT. (3) An exploration of the concepts and skills necessary to manage the human and financial resources of small organizations (schools, NGOs, departments). Among the areas to be explored are labour contracts, supervision, grantsmanship, use of volunteers, managing site-based budgets.

EDEM 628D1 (1.5), EDEM 628D2 (1.5) EDUCATION RESOURCE MANAGEMENT. (Students must register for both EDEM 628D1 and EDEM 628D2) (No credit will be given for this course unless both EDEM 628D1 and EDEM 628D2 are successfully completed in consecutive terms) (EDEM 628D1 and EDEM 628D2 together are equivalent to EDEM 628)

EDEM 630 POLICY ISSUES: WORKPLACE LEARNING. (3)

EDEM 634 MONOGRAPH: PREPARATION AND PRESENTATION. (12) (Prerequisite: Completion of required courses)

EDEM 634D1 (6), EDEM 634D2 (6) MONOGRAPH: PREPARATION AND PRESENTATION. (Students must register for both EDEM 634D1 and EDEM 634D2) (No credit will be given for this course unless both EDEM 634D1 and EDEM 634D2 are successfully completed in consecutive terms) (EDEM 634D1 and EDEM 634D2 together are equivalent to EDEM 634)

EDEM 635 FISCAL ACCOUNTABILITY IN EDUCATION. (3)

EDEM 644 CURRICULUM DEVELOPMENT AND IMPLEMENTATION. (3) Processes of planning, developing, implementing and adapting curricula in various learning systems.

EDEM 644D1 (1.5), EDEM 644D2 (1.5) CURRICULUM DEVELOPMENT AND IMPLEMENTATION. (Students must register for both EDEM 644D1 and EDEM 644D2) (No credit will be given for this course unless both EDEM 644D1 and EDEM 644D2 are successfully completed in consecutive terms) (EDEM 644D1 and EDEM 644D2 together are equivalent to EDEM 644)

EDEM 646 PLANNING AND EVALUATION. (3) Knowledge and skills development in educational planning and monitoring at the service delivery unit (school, non-governmental organization, adult education centre). Areas of study include strategic management, results-based management, log frame analysis, systems assessment, stakeholders analysis, and fourth generation evaluation.

EDEM 646D1 (1.5), EDEM 646D2 (1.5) PLANNING AND EVALUATION. (Students must register for both EDEM 646D1 and EDEM 646D2) (No credit will be given for this course unless both EDEM 646D1 and EDEM 646D2 are successfully completed in consecutive terms) (EDEM 646D1 and EDEM 646D2 together are equivalent to EDEM 646)

EDEM 659 PROGRAM EVALUATION. (3)

EDEM 664 EDUCATION AND THE LAW. (3) The legal and institutional framework of Canadian education systems; legal terminology and the tools and methods of legal research; selected public and private law issues in Canadian education.

EDEM 671 THE PRINCIPALSHIP. (3)

EDEM 673 LEADERSHIP THEORY IN EDUCATION. (3) Concepts of leadership and the role of leadership in educational settings.

EDEM 673D1 (1.5), EDEM 673D2 (1.5) LEADERSHIP THEORY IN EDUCATION. (Students must register for both EDEM 673D1 and EDEM 673D2) (No credit will be given for this course unless both EDEM 673D1 and EDEM 673D2 are successfully completed in consecutive terms) (EDEM 673D1 and EDEM 673D2 together are equivalent to EDEM 673)

EDEM 674 ORGANIZATIONAL THEORY AND EDUCATION. (3)

EDEM 674D1 (1.5), EDEM 674D2 (1.5) ORGANIZATIONAL THEORY AND EDUCATION. (Students must register for both EDEM 674D1 and EDEM 674D2) (No credit will be given for this course unless both EDEM 674D1 and EDEM 674D2 are successfully completed in consecutive terms) (EDEM 674D1 and EDEM 674D2 together are equivalent to EDEM 674)

EDEM 675 SPECIAL TOPICS 1. (3) Important current issues in the field of Educational Studies. (Content varies from year to year.)

EDEM 675D1 (1.5), EDEM 675D2 (1.5) SPECIAL TOPICS 1. (Students must register for both EDEM 675D1 and EDEM 675D2) (No credit will be given for this course unless both EDEM 675D1 and EDEM 675D2 are successfully completed in consecutive terms) (EDEM 675D1 and EDEM 675D2 together are equivalent to EDEM 675) (Content varies from year to year.)

EDEM 677 SPECIAL TOPICS 2. (3)(Content varies from year to year.)

EDEM 677D1 (1.5), EDEM 677D2 (1.5) SPECIAL TOPICS 2. (Students must register for both EDEM 677D1 and EDEM 677D2) (No credit will be given for this course unless both EDEM 677D1 and EDEM 677D2 are successfully completed in consecutive terms) (EDEM 677D1 and EDEM 677D2 together are equivalent to EDEM 677)(Content varies from year to year.)

EDEM 679 INTERPRETIVE INQUIRY. (3)

EDEM 681 PRACTICUM - ADMINISTRATIVE STUDIES. (3)

EDEM 683 ADVANCED PRACTICUM. (6) (Prerequisite: Completion of required courses.)

EDEM 683D1 (3), EDEM 683D2 (3) ADVANCED PRACTICUM. (Students must register for both EDEM 683D1 and EDEM 683D2) (No credit will be given for this course unless both EDEM 683D1 and EDEM 683D2 are successfully completed in consecutive

terms) (EDEM 683D1 and EDEM 683D2 together are equivalent to EDEM 683)

EDEM 690 RESEARCH METHODS. (3) Students will develop a critical understanding of quantitative and qualitative research in the field of Educational Studies. Students will learn about the purposes and types of research, the research process and how to evaluate and use research information.

EDEM 690D1 (1.5), EDEM 690D2 (1.5) RESEARCH METHODS. (Students must register for both EDEM 690D1 and EDEM 690D2) (No credit will be given for this course unless both EDEM 690D1 and EDEM 690D2 are successfully completed in consecutive terms) (EDEM 690D1 and EDEM 690D2 together are equivalent to EDEM 690)

EDEM 692 QUALITATIVE RESEARCH METHODS. (3) Theoretical and practical exploration of the foundations of qualitative methods, with emphasis on underlying principles.

EDEM 693 SCHOOL IMPROVEMENT APPROACHES. (3)

EDEM 693D1 (1.5), EDEM 693D2 (1.5) SCHOOL IMPROVEMENT APPROACHES. (Students must register for both EDEM 693D1 and EDEM 693D2) (No credit will be given for this course unless both EDEM 693D1 and EDEM 693D2 are successfully completed in consecutive terms) (EDEM 693D1 and EDEM 693D2 together are equivalent to EDEM 693)

EDEM 695 POLICY STUDIES IN EDUCATION. (3)

EDEM 695D1 (1.5), EDEM 695D2 (1.5) POLICY STUDIES IN EDUCATION. (Students must register for both EDEM 695D1 and EDEM 695D2) (No credit will be given for this course unless both EDEM 695D1 and EDEM 695D2 are successfully completed in consecutive terms) (EDEM 695D1 and EDEM 695D2 together are equivalent to EDEM 695)

EDEM 699 THESIS 3. (12)

EDEM 699D1 (6), EDEM 699D2 (6) THESIS 3. (Students must register for both EDEM 699D1 and EDEM 699D2) (No credit will be given for this course unless both EDEM 699D1 and EDEM 699D2 are successfully completed in consecutive terms) (EDEM 699D1 and EDEM 699D2 together are equivalent to EDEM 699)

EDEM 700 COMPREHENSIVE EXAMINATION. (0)

EDEM 700D1 (0), EDEM 700D2 (0) COMPREHENSIVE EXAMINATION. (Students must register for both EDEM 700D1 and EDEM 700D2) (No credit will be given for this course unless both EDEM 700D1 and EDEM 700D2 are successfully completed in consecutive terms) (EDEM 700D1 and EDEM 700D2 together are equivalent to EDEM 700)

37.6.5 EDER – Religious Studies

Courses currently scheduled for 2004-05:

EDER 603 INDIVIDUAL READING COURSE. (6)

EDER 603D1 (3), EDER 603D2 (3) INDIVIDUAL READING COURSE. (Students must register for both EDER 603D1 and EDER 603D2) (No credit will be given for this course unless both EDER 603D1 and EDER 603D2 are successfully completed in consecutive terms) (EDER 603D1 and EDER 603D2 together are equivalent to EDER 603)

EDER 604 SELECTED EDUCATIONAL THEORIES. (3)

EDER 606 PHILOSOPHY OF MORAL EDUCATION. (3) A study of principles underlying contemporary moral education such as what constitutes moral values and judgments, normative basis for morality, and differing foundations employed in determining moral norms.

EDER 607 VALUES EDUCATION: CONTEMPORARY APPROACHES. (3)

A study of the objectives, content and approaches to the teaching of human and moral values. A critical examination of selected programs dealing with human and moral values.

EDER 608 EDUCATIONAL IMPLICATIONS OF SOCIAL THEORY. (3)

EDER 609 EDUCATION AND PHILOSOPHICAL THOUGHT. (3)

EDER 614 SOCIOLOGY OF EDUCATION. (3) Social context of schooling, including education and social stratification and socialization processes within and outside schools.

EDER 615 CULTURE, VALUES AND EDUCATION. (3) In-depth examination of culture and values in education.

EDER 616 INDIVIDUAL READING COURSE. (3)

EDER 617 AESTHETICS AND EDUCATION. (3)

EDER 618 PERFORMANCE/STUDIO CRITIQUE 1. (3)

EDER 622 STUDIES IN COMPARATIVE EDUCATION. (3)

EDER 623 ISSUES IN EDUCATION 2. (3)

EDER 625 TOPICS: CULTURE IN EDUCATION. (3) In-depth examination of topics in culture in education. Content will vary from year to year and will be announced prior to registration. (Examples: Post-modernism and Education; Antiracist Education; Cultural Relativism and Critical Thinking; Popular Culture and Education.)

EDER 626 TOPICS: VALUE IN EDUCATION. (3)

EDER 632 PEACE EDUCATION. (3)

EDER 633 SPECIAL PROJECT. (12) (Prerequisite: Completion of program course requirements. For non-thesis students only.)

EDER 633D1 (6), EDER 633D2 (6) SPECIAL PROJECT. (Students must register for both EDER 633D1 and EDER 633D2) (No credit will be given for this course unless both EDER 633D1 and EDER 633D2 are successfully completed in consecutive terms) (EDER 633D1 and EDER 633D2 together are equivalent to EDER 633)

EDER 639 EDUCATION AND DEVELOPMENT. (3)

EDER 643 WOMEN, EDUCATION AND DEVELOPMENT. (3)

EDER 649 EDUCATION: MULTICULTURAL SOCIETIES. (3)

EDER 652 NATIONAL EDUCATION SYSTEMS 1. (3)

EDER 659 PRINCIPLES-EDUCATION IN HUMAN SEXUALITY. (3)

EDER 672 POLICY ON GENDER ISSUES. (3)

EDER 690 THESIS PREPARATION 1. (6)

EDER 690D1 (3), EDER 690D2 (3) THESIS PREPARATION 1. (Students must register for both EDER 690D1 and EDER 690D2) (No credit will be given for this course unless both EDER 690D1 and EDER 690D2 are successfully completed in consecutive terms) (EDER 690D1 and EDER 690D2 together are equivalent to EDER 690)

EDER 691 THESIS PREPARATION 2. (6)

EDER 691D1 (3), EDER 691D2 (3) THESIS PREPARATION 2.

(Students must register for both EDER 691D1 and EDER 691D2) (No credit will be given for this course unless both EDER 691D1 and EDER 691D2 are successfully completed in consecutive terms) (EDER 691D1 and EDER 691D2 together are equivalent to EDER 691)

EDER 691N1 THESIS PREPARATION 2. (3) (Students must also register for EDER 691N2) (No credit will be given for this course unless both EDER 691N1 and EDER 691N2 are successfully completed in a twelve month period) (EDER 691N1 and EDER 691N2 together are equivalent to EDER 691)

EDER 691N2 THESIS PREPARATION 2. (3) (Prerequisite: EDER 691N1) (No credit will be given for this course unless both EDER 691N1 and EDER 691N2 are successfully completed in a twelve month period) (EDER 691N1 and EDER 691N2 together are equivalent to EDER 691)

EDER 692 THESIS PREPARATION 3. (12)

EDER 692D1 (6), EDER 692D2 (6) THESIS PREPARATION 3.

(Students must register for both EDER 692D1 and EDER 692D2) (No credit will be given for this course unless both EDER 692D1 and EDER 692D2 are successfully completed in consecutive terms) (EDER 692D1 and EDER 692D2 together are equivalent to EDER 692)

EDER 692N1 THESIS PREPARATION 3. (6) (Students must also register for EDER 692N2) (No credit will be given for this course unless both EDER 692N1 and EDER 692N2 are successfully completed in a twelve month period) (EDER 692N1 and EDER 692N2 together are equivalent to EDER 692)

EDER 692N2 THESIS PREPARATION 3. (6) (Prerequisite: EDER 692N1) (No credit will be given for this course unless both EDER 692N1 and EDER 692N2 are successfully completed in a twelve month period) (EDER 692N1 and EDER 692N2 together are equivalent to EDER 692)

EDER 701 DOCTORAL COMPREHENSIVE EXAMINATION. (0)

EDER 701D1 (0), EDER 701D2 (0) DOCTORAL COMPREHENSIVE EXAMINATION. (Students must register for both EDER 701D1 and EDER 701D2) (No credit will be given for this course unless both EDER 701D1 and EDER 701D2 are successfully completed in consecutive terms) (EDER 701D1 and EDER 701D2 together are equivalent to EDER 701)

37.6.6 EDES – Secondary Education

Courses:

EDES 602 Selected Topics 1. (3)

EDES 604 Advanced Studies in Subject Area 2. (3)

EDES 611 Modern Secondary School Chemistry Curricula. (3)

EDES 671 Issues in Science Curriculum. (3)

37.6.7 EDSL – Education in Second Languages

Courses currently scheduled for 2004-05:

EDSL 506 C COMPUTER/INTERNET AND L2 LEARNING. (3)

EDSL 603 INDIVIDUAL READING COURSE 1. (6)

EDSL 603D1 (3), EDSL 603D2 (3) INDIVIDUAL READING COURSE 1. (Students must register for both EDSL 603D1 and EDSL 603D2) (No credit will be given for this course unless both EDSL 603D1 and EDSL 603D2 are successfully completed in consecutive terms) (EDSL 603D1 and EDSL 603D2 together are equivalent to EDSL 603)

EDSL 616 INDIVIDUAL READING COURSE 2. (3)

EDSL 617 SPECIAL TOPIC IN SECOND LANGUAGE EDUCATION.

(3) In-depth study of a current topic in Second Language Education. in conjunction with EDSL 630.)

EDSL 620 CRITICAL ISSUES IN SECOND LANGUAGE EDUCATION. (3)

An examination of social identity, first language maintenance, and power relations, and their impact on the nature of second language teaching, from the perspective of critical applied linguistics. Topics range from the micro level of the individual to the macro level of language planning and policy-making.

EDSL 623 SECOND LANGUAGE LEARNING. (3) Seminar in second

language acquisition theory and research and their relevance to teaching a second language.

EDSL 624 EDUCATIONAL SOCIOLINGUISTICS. (3) Seminar in the social, cultural and political dimensions of English second language learning and teaching.

EDSL 627 CLASSROOM-CENTRED SECOND LANGUAGE RESEARCH.

(3) Seminar in second language classroom-centered research focusing on instructional procedures and practices in relationship to learning outcomes.

EDSL 629 SECOND LANGUAGE TESTING AND EVALUATION. (3)

Seminar in research, theory and practice in second language testing and evaluation in relationship to learners, teachers, and programs.

EDSL 630 QUALITATIVE/ETHNOGRAPHIC METHODS. (3) An examination of theoretical and applied issues in qualitative and ethnographic studies in second language education.

EDSL 631 SECOND LANGUAGE CURRICULUM. (3)

EDSL 632 SECOND LANGUAGE LITERACY DEVELOPMENT. (3) Theory and research related to the teaching and learning of second language literacy. The orientation is on reading and writing as a socio-cognitive activity.

EDSL 643 PSYCHOLINGUISTIQUE ET ENSEIGNEMENT DU FRANÇAIS LS. (3)

EDSL 644 SOCIOLINGUISTIQUE ET ENSEIGNEMENT DU FRANÇAIS LS. (3)

EDSL 647 DEVELOPPEMENT CURRICULAIRE. (3)

EDSL 651 FRENCH IMMERSION EDUCATION: CANADA. (3)

EDSL 664 SECOND LANGUAGE RESEARCH METHODS. (3) An examination of general research procedures and specific research methods and designs employed in second language research.

EDSL 666 THESIS RESEARCH 1. (6)**EDSL 667 THESIS RESEARCH 2.** (6)**EDSL 668 THESIS RESEARCH 3.** (6)**EDSL 669 THESIS RESEARCH 4.** (6)**EDSL 690 MONOGRAPH - SECOND LANGUAGES.** (12)

EDSL 690D1 (6), EDSL 690D2 (6) MONOGRAPH - SECOND LANGUAGES. (Students must register for both EDSL 690D1 and EDSL 690D2) (No credit will be given for this course unless both EDSL 690D1 and EDSL 690D2 are successfully completed in consecutive terms) (EDSL 690D1 and EDSL 690D2 together are equivalent to EDSL 690)

38 Islamic Studies

Institute of Islamic Studies
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E-mail: info.islamics@mcgill.ca

Web site: www.arts.mcgill.ca/programs/islamic

Director — Eric Ormsby

38.1 Staff

Emeritus Professor

Donald P. Little; B.A.(Vanderbilt), M.A.(Stan.), Ph.D.(Calif.)

Professors

Sajida S. Alvi; B.A., M.A., Ph.D.(Punj.)

Wael B. Hallaq; B.A.(Haifa), Ph.D.(Wash.)

Eric L. Ormsby; B.A.(Penn.), M.A.(Prin.), M.L.S.(Rutgers),
Ph.D.(Prin.)

Associate Professor

A. Üner Turgay; B.A.(Robert Coll., Istanbul), M.A., Ph.D.(Madison-Wisc.)

Robert Wisnovsky; B.A.(Yale), M.A., Ph.D.(Harv.)

Assistant Professor

Rula J. Abisaab; B.A.(Amer.U.Beirut), M.A.(Calif.St.),
M.Phil.,Ph.D.(Yale)

Michelle L. Hartman; B.A.(Col.), Ph.D.(Oxf.)

Laila Parsons; B.A.(Exe.), D.Phil.(Oxf.)

Lecturers (part-time)

Issa J. Boullata; Ph.D.(Lond.) (post-retirement)

Henry Habib; Ph.D.(McG.)

Faruq Hassan; Ph.D.(Leeds)

Bilal Kuspinar; Ph.D.(McG.)

38.2 Programs Offered

Courses of study and research are offered leading to the degrees of M.A. and Ph.D. in Islamic Studies, and a Graduate Diploma in Islamic Studies.

The Institute of Islamic Studies is concerned with the disciplined study of Islamic civilization throughout the scope of its history and geographical spread. It gives attention to the origins of Islam, to the rise of the civilization in which Islamic faith was the vivifying factor, to the forces which shaped the civilization and the changes it has undergone. It is also concerned with the contemporary dynamics of the Islamic world as Muslims seek to relate their heritage from the past to the present. Courses, seminars and possibilities for research are offered in Islamic languages, in

Islamic history, in the social institutions of the Islamic world, in Islamic thought, and in modern developments in various regions of the Islamic world.

The Islamic Studies Library is especially strong in its reference materials and periodical holdings for the Islamic regions. The collection, one of the largest in North America, contains approximately 100,000 volumes in the principal European languages as well as in Arabic, Persian, Turkish, Urdu and other Islamic languages.

38.3 Admission Requirements

Applicants must have a degree (B.A. or M.A.) from a recognized university, with a *minimum* Cumulative Grade Point Average (CGPA) of 3.0 out of 4 (or equivalent), OR a Grade Point Average (GPA) of 3.2 out of 4 in the last two years of full-time studies, according to Canadian standards. The degree should be in the Humanities or Social Sciences, preferably in Islamic or Middle Eastern Studies.

Applicants whose first language is not English and who have not studied in an institution where English is the language of instruction, must submit acceptable evidence of competence in English before their application for admission can be considered. The Test of English as a Foreign Language (TOEFL) with a minimum score of 550 on the paper-based test (213 on the computer-based test) OR an IELTS score of at least 6.5 overall band are acceptable at McGill University. Only TOEFL or IELTS scores will be accepted. No other test scores will be considered. GRE scores are not required.

38.4 Application Procedures

Applications will be considered upon receipt of:

1. McGill University application form.
2. Two originals of all official university transcripts (B.A. and/or M.A. if applicable).
3. Two letters of recommendation for M.A. applications OR three letters of recommendation for Ph.D. applications.
4. Application fee of \$60.00 (money order or certified cheque in Canadian funds; for the on-line application, payable by credit card.)
5. TOEFL or IELTS test results.
6. Proof of Citizenship (*certified* photocopy of passport, birth certificate or equivalent).
7. Institute of Islamic Studies Academic Background form.
8. Copy of M.A. thesis for Ph.D. applicants.

All application documents must be submitted directly to the Chair, Admissions Committee, Institute of Islamic Studies before March 1st.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

38.5 Program Requirements

M.A. Degree (51 credits)

Students registered in the M.A. program must fulfill the following criteria in order to receive their Master's degree:

- a) residence requirement (see Guidelines of Graduate and Post-doctoral Studies Office);
- b) course work: 27 credits which must include at least one 700-level seminar course offered by the Institute, and Lower Intermediate Arabic ISLA522 (as the Language Requirement);
- c) Research Materials ISLA603 ("Pass" - not for credit);
- d) Thesis courses (24 credits in all): ISLA697 (6 credits), ISLA698 (6 credits) and ISLA699 (12 credits).

Ph.D. Degree

The Ph.D. program requirements are:

- a) five 6-credit courses (or equivalent) for a total of 30 credits beyond the M.A. level, including two 700-level seminars (total of 12 credits) offered by the Institute;
- b) Higher Intermediate Arabic (ISLA523D1/ISLA523D2), or equivalent;
- c) knowledge of an Islamic language, other than Arabic, at the second year level;
- d) knowledge of a European language at the second year level (i.e., French, German, Russian, Spanish, Dutch, Italian)
- e) comprehensive examinations in four specified fields: (ISLA701D1/ISLA701D2);
- f) a dissertation judged to contain original research. Upon approval of the dissertation, "pass" must be received at the final oral examination.

Graduate Diploma in Islamic Studies

With a B.A. in Islamic Studies (or its equivalent), applicants may be admitted to this non-degree program, which requires the completion of 30 credits of course work *in one academic year*. Candidates will choose a minimum of 18 credits from graduate courses in Islamic Studies and a maximum of 12 credits from graduate courses in related fields. If awarded this Diploma with high standing, they may be allowed to proceed to a higher degree in Islamic Studies.

38.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

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) (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)

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)

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) (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) (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 603 INTRODUCTORY: RESEARCH MATERIALS - ISLAMIC STUDIES. (3) (Non-credit) (2 hours) (Compulsory for M.A. students; recommended for Ph.D. students) Some discussion of research methods, the preparation of reports and essays, documentation;

transliteration; WWW/Gophers/Databases and on-line catalogue searching; resources for research and teaching. Particular attention given to special reference books and serials used in the field.

ISLA 604 ARABIC MANUSCRIPT TRADITION. (3) This course will examine the way manuscript books were bound, transcribed, decorated, collated, corrected and glossed. It will deal with various scribal practices employed in the critical apparatus, including abbreviations, and will provide practical assistance on how to locate and choose a manuscript for text editing.

ISLA 605D1 (3), ISLA 605D2 (3) ARABIC LITERATURE ADD. C500-1970s. (Students must register for both ISLA 605D1 and ISLA 605D2) (No credit will be given for this course unless both ISLA 605D1 and ISLA 605D2 are successfully completed in consecutive terms)

ISLA 607 ISLAM AND POLITICS: PAKISTAN. (3) Religious and institutional developments from later Mughal and British periods (1707-1947) to present; questions of Muslim identity and separatism; creation of Pakistan - an ideological or a modern state?; evolution of Islamic thought; the traditionalists and modernists; interplay of religion and politics; and the experiment of Islamization and its aftermath.

ISLA 608 ISLAM AND POLITICS: IRAN. (3)

ISLA 633D1 (3), ISLA 633D2 (3) HIGHER INTERMEDIATE TURKISH. (Prerequisite: ISLA 532 or equivalent) (Students must register for both ISLA 633D1 and ISLA 633D2) (No credit will be given for this course unless both ISLA 633D1 and ISLA 633D2 are successfully completed in consecutive terms)

ISLA 680 PRO-SEMINAR: OTTOMAN INSTITUTIONS. (3)

ISLA 697 THESIS RESEARCH. (6) Six credits for accepted thesis proposal.

ISLA 697D1 (3), ISLA 697D2 (3) THESIS RESEARCH. (Students must register for both ISLA 697D1 and ISLA 697D2) (No credit will be given for this course unless both ISLA 697D1 and ISLA 697D2 are successfully completed in consecutive terms) (ISLA 697D1 and ISLA 697D2 together are equivalent to ISLA 697) Six credits for accepted thesis proposal.

ISLA 698 THESIS RESEARCH. (6) Six credits on submission of completed thesis.

ISLA 698D1 (3), ISLA 698D2 (3) THESIS RESEARCH. (Students must register for both ISLA 698D1 and ISLA 698D2) (No credit will be given for this course unless both ISLA 698D1 and ISLA 698D2 are successfully completed in consecutive terms) (ISLA 698D1 and ISLA 698D2 together are equivalent to ISLA 698) Six credits on submission of completed thesis.

ISLA 699 THESIS RESEARCH. (12) Twelve credits for thesis passed by Internal and External examiners.

ISLA 699D1 (6), ISLA 699D2 (6) THESIS RESEARCH. (Students must register for both ISLA 699D1 and ISLA 699D2) (No credit will be given for this course unless both ISLA 699D1 and ISLA 699D2 are successfully completed in consecutive terms) (ISLA 699D1 and ISLA 699D2 together are equivalent to ISLA 699) Twelve credits for thesis passed by Internal and External examiners.

ISLA 701 COMPREHENSIVE EXAMINATION. (0)

ISLA 701D1 (0), ISLA 701D2 (0) COMPREHENSIVE EXAMINATION. (Students must register for both ISLA 701D1 and ISLA 701D2) (No credit will be given for this course unless both ISLA 701D1 and ISLA 701D2 are successfully completed in consecutive terms) (ISLA 701D1 and ISLA 701D2 together are equivalent to ISLA 701)

ISLA 704 TOPICS IN ISLAMIC THEOLOGY. (3) (Seminar 2 hours) A study of significant aspects of the Muslims' efforts to give intellectual expression to their faith in various periods in the past.

ISLA 705D1 (3), ISLA 705D2 (3) STATE AND GOVERNMENT IN ISLAM. (Students must register for both ISLA 705D1 and ISLA 705D2) (No credit will be given for this course unless both ISLA 705D1 and ISLA 705D2 are successfully completed in consecutive terms) Survey of the evolution of the various patterns and concrete manifestations of Muslim political theory through the classical and

medieval periods of Islamic history. The rise of modern states and relations between religion and politics in various Muslim countries.

ISLA 706D1 (3), ISLA 706D2 (3) ISLAMIC LAW. (Students must register for both ISLA 706D1 and ISLA 706D2) (No credit will be given for this course unless both ISLA 706D1 and ISLA 706D2 are successfully completed in consecutive terms) The nature of the law, its origins and historical development, the medieval schools of law, modern evolution of the law, and its roles in Islamic religious and political thought.

ISLA 707 QUR'AN EXEGESIS (CLASSICAL). (3) (Seminar 2 hours) (Prerequisite: Reading knowledge of Arabic) A study of two or three suras of the Qur'an as interpreted by classical exegetes. The suras considered will vary from year to year.

ISLA 708 QUR'AN EXEGESIS (MODERN). (3) (Seminar 2 hours) (Prerequisite: Reading knowledge of Arabic) A study of two or three suras of the Qur'an as interpreted by modern exegetes. The suras considered may vary from year to year.

ISLA 711 ISLAMIC JURISPRUDENCE. (3) (Seminar 2 hours) (Prerequisite: Reading knowledge of Arabic) Contents of this course change from year to year.

ISLA 713 ISLAM AND NATION STATES: SOUTHEAST ASIA. (3) (Seminar 2 hours) The study of Islam and Islamic social dynamics in the political structures of the countries in Southeast Asia (Malaysia, Brunei, the Philippines and Thailand, etc.); manifestations of Islamic resurgence in these countries.

ISLA 715 ADVANCED STUDIES IN ISLAMIC LAW. (3) (Seminar, 2 hours) (Prerequisite: Reading knowledge of Arabic and ISLA 711 or consent of the instructor) An intensive investigation of the theory of law and methodology of juristic construction as expounded in the classical Arabic texts of Islamic jurisprudence.

ISLA 716 ISLAMIC LEGAL DISCOURSE. (3) A study of the modes in which medieval Muslim jurists gave expression to their individual theories of law.

ISLA 723D1 (3), ISLA 723D2 (3) ISLAMIC DEVELOPMENTS - MODERN INDIA AND PAKISTAN. (Students must register for both ISLA 723D1 and ISLA 723D2) (No credit will be given for this course unless both ISLA 723D1 and ISLA 723D2 are successfully completed in consecutive terms)

ISLA 732D1 (3), ISLA 732D2 (3) RISE AND EVOLUTION - NATIONALISM AMONG MUSLIMS. (Students must register for both ISLA 732D1 and ISLA 732D2) (No credit will be given for this course unless both ISLA 732D1 and ISLA 732D2 are successfully completed in consecutive terms)

ISLA 735 SPECIAL SEMINAR. (3)

ISLA 736 SPECIAL TOPICS. (3)

ISLA 739 SPECIAL SEMINAR. (3)

ISLA 740D1 (3), ISLA 740D2 (3) MYSTICAL TRADITION OF ISLAM. (Seminar 2 hours) (Students must register for both ISLA 740D1 and ISLA 740D2) (No credit will be given for this course unless both ISLA 740D1 and ISLA 740D2 are successfully completed in consecutive terms)

ISLA 741D1 (3), ISLA 741D2 (3) PHILOSOPHICAL TRADITION IN ISLAM. (Seminar 2 hours) (Students must register for both ISLA 741D1 and ISLA 741D2) (No credit will be given for this course unless both ISLA 741D1 and ISLA 741D2 are successfully completed in consecutive terms)

ISLA 745 SPECIAL SEMINAR. (3)

ISLA 752D1 (3), ISLA 752D2 (3) SOCIAL/ECONOMIC DEVELOPMENTS / MUSLIM COUNTRIES. (Seminar, 2 hours) (Students must register for both ISLA 752D1 and ISLA 752D2) (No credit will be given for this course unless both ISLA 752D1 and ISLA 752D2 are successfully completed in consecutive terms)

ISLA 761D1 (3), ISLA 761D2 (3) THE MUGHALS AND THE SAFAVIDS. (Seminar 2 hours) (Students must register for both ISLA 761D1 and ISLA 761D2) (No credit will be given for this course unless both ISLA 761D1 and ISLA 761D2 are successfully completed in consecutive terms)

ISLA 764D1 (3), ISLA 764D2 (3) OTTOMAN HISTORY. (Seminar 2 hours) (Students must register for both ISLA 764D1 and ISLA 764D2) (No credit will be given for this course unless both ISLA 764D1 and ISLA 764D2 are successfully completed in consecutive terms) A critical examination of significant developments in political, social and economic spheres.

ISLA 777 ISLAMIC PHILOSOPHY. (3) (Seminar 2 hours)

ISLA 778 THE QUR'AN AND ARABIC STYLISTICS. (3) (Seminar 2 hours)

ISLA 782D1 (3), ISLA 782D2 (3) MUSLIMS IN CENTRAL ASIA. (Students must register for both ISLA 782D1 and ISLA 782D2) (No credit will be given for this course unless both ISLA 782D1 and ISLA 782D2 are successfully completed in consecutive terms)

ISLA 785 MODERN ARABIC LITERATURE 1. (3)

ISLA 786 MODERN ARABIC LITERATURE 2. (3)

ISLA 789 SPECIAL TOPICS. (6)

ISLA 789D1 (3), ISLA 789D2 (3) SPECIAL TOPICS. (Students must register for both ISLA 789D1 and ISLA 789D2) (No credit will be given for this course unless both ISLA 789D1 and ISLA 789D2 are successfully completed in consecutive terms) (ISLA 789D1 and ISLA 789D2 together are equivalent to ISLA 789)

39 Italian Studies

Department of Italian Studies
688 Sherbrooke Street West, Room 425
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Canada

Telephone: (514) 398-3953

Fax: (514) 398-1748

E-mail: italian.studies@mcgill.ca

Web site: www.mcgill.ca/italian

Chair — Lucienne Kroha

Graduate Director — Maria Predelli

39.1 Staff

Emeritus Professor

Pamela D. Stewart; B.A.(Montr.), M.A.(McG.), F.R.S.C.

Professor

Maria Predelli; Dott.Lett.(Florence)

Associate Professor

Lucienne Kroha; B.A., M.A.(McG.), Ph.D.(Harv.)

Assistant Professor

Eugenio Bolongaro; B.A., LL.B.(U.B.C.), M.A., Ph.D.(McG.)

Elena Lombardi; Dott.Lett.(Pavia), M.A., Ph.D.(NYU)

39.2 Programs Offered

M.A. (thesis and non-thesis option).

39.3 Admission Requirements

The B.A. degree with Honours or Joint Honours in Italian or its equivalent and a CGPA of 3.20 constitute the minimum requirement. Applicants who do not have these prerequisites may be admitted to a Qualifying Year, or, in some cases, to a Qualifying Term.

39.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two certified copies of all university transcripts;(all transcripts not in English or French **must** be accompanied by a **certified** English or French translation);

3. two letters of recommendation (in English or French);
4. a sample critical essay, written in Italian;
5. for international students, TOEFL test results (required of all candidates whose mother tongue is not English and who have not completed an undergraduate degree using the English language. Proof of TOEFL must be presented at time of application or shortly thereafter);
6. application fee of \$60 (credit card, money order, certified cheque in Canadian funds);
7. statement of academic intent.

Deadline: March 15.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

39.5 Program Requirements

M.A. Degree (45 credits)

The course work, the thesis and/or research papers must demonstrate that the student possesses a sound knowledge of the language, is familiar with all periods of Italian literature and has developed the background and skills necessary to carry out scholarly research.

The regulations concerning the M.A. degree, as stated in the General Information section of the *Graduate and Postdoctoral Studies Calendar*, apply.

M.A., thesis option:

Required Courses (12 credits)

ITAL602 (3) The Literary Tradition

ITAL610 (3) Bibliography of Italian Literature

ITAL619 (3) Topics in Literary Theory, or a similar approved course in another department

ITAL680 (3) Research Seminar

Complementary Courses (9 credits)

9 additional course-credits, chosen in consultation with an advisor from among the graduate courses offered by the Department. The three courses should cover three distinct chronological periods in Italian literature.

Thesis Component – Required (24 credits)

ITAL698 (6) Thesis Proposal

ITAL699 (18) Thesis

A maximum of 6 credits of graduate courses may be taken outside the Italian Studies Department, upon the advice of the Supervisor and with the permission of the Graduate Studies Director.

In exceptional cases, when program requirements cannot be fulfilled otherwise, students may take ITAL606 Individual Reading Course 1 and ITAL607 Individual Reading Course 2 offered as tutorials.

Typically, the first year program will consist of: Literary Theory course, ITAL610, the three Complementary courses, and ITAL698. The second year will include ITAL602, ITAL680 and the Thesis.

M.A., non-thesis option:

Required Courses (30 credits)

ITAL602 (3) The Literary Tradition

ITAL610 (3) Bibliography of Italian Literature

ITAL619 (3) Topics in Literary Theory, or a similar approved course in another department

ITAL680 (3) Research Seminar

ITAL690 (9) Research Paper 1

ITAL691 (9) Research Paper 2

Complementary Courses (15 credits)

15 additional course-credits, chosen in consultation with an advisor from among the graduate courses offered by the Department. The courses should cover at least three distinct chronological periods in Italian literature.

A maximum of 6 credits of graduate courses may be taken outside the Italian Studies Department, upon the advice of the Supervisor and with the permission of the Graduate Studies Director.

In exceptional cases, when program requirements cannot be fulfilled otherwise, students may take ITAL606 Individual Reading Course 1 and ITAL607 Individual Reading Course 2 offered as tutorials.

Typically, the first year program will consist of: Literary Theory course, ITAL610, three Complementary courses, and ITAL690. The second year will include ITAL602, ITAL680, two Complementary courses and ITAL691.

39.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

ITAL 530 17TH-18TH CENTURY CULTURE. (3)

ITAL 542 HISTORY OF ITALIAN LANGUAGE. (3) (Fall) (Undergraduate Prerequisite: permission of the Department)

ITAL 551 BOCCACCIO AND THE ITALIAN NOVELLA. (3) (Undergraduate Prerequisite: ITAL 215D1/ITAL 215D2, ITAL 216, or equivalent) A study of Boccaccio's "Decameron" and of Italian narrative prose up to the 16th century.

ITAL 560 TOPICS IN 19TH & 20TH CENTURY LITERATURE.(3) (Prerequisite: 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) (Undergraduate Prerequisite: permission of the Department)

ITAL 602 THE LITERARY TRADITION. (3) The course highlights the importance of tradition in literature and focuses on different aspects of Italian literary history.

ITAL 606 INDIVIDUAL READING COURSE 1. (3)

ITAL 607 INDIVIDUAL READING COURSE 2. (3)

ITAL 610 BIBLIOGRAPHY OF ITALIAN LITERATURE. (3) Tools for literary research: encyclopedias, dictionaries, bibliographies, journals, Internet sites, library catalogues. Tools for linguistic research: historical, specialized, Italian-dialect, etymological vocabularies. History of the book: manuscript, early printing, catalogues of incunabula and of early books.

ITAL 619 TOPICS IN LITERARY THEORY. (3) An introduction to some of the main subjects and authors of modern literary theory. Topics may include reception theory, deconstruction, postmodernism, cultural studies, formalism and structuralism, semiotics, gender studies, psychoanalysis, Marxism, translation and subjectivity.

ITAL 640 ITALIAN LITERATURE AND WESTERN CULTURAL TRADITION. (3)

ITAL 650 ITALIAN LITERATURE AND FOLKLORE. (3)

ITAL 680 RESEARCH SEMINAR. (3)

ITAL 690 RESEARCH PAPER 1. (9) For students in non-thesis option only.

ITAL 691 RESEARCH PAPER 2. (9) For students in non-thesis option only.

ITAL 698 THESIS PROPOSAL. (6) A written presentation which will include: (a) a review of the literature pertinent to the thesis, (b) the definition of the thesis research project within the parameters of the critical literature, and (c) an indication of how the research project will be carried out.

ITAL 699 THESIS. (18) Completion of the thesis.

ITAL 701D1 (0), ITAL 701D2 (0) COMPREHENSIVE EXAMINATION. (Students must register for both ITAL 701D1 and ITAL 701D2) (No credit will be given for this course unless both ITAL 701D1 and ITAL 701D2 are successfully completed in consecutive terms)

ITAL 710 TOPICS IN ITALIAN LITERATURE 1. (3)

ITAL 720 TOPICS IN ITALIAN LITERATURE 2. (3)

ITAL 780 STUDENT STAFF SEMINAR. (3)

ITAL 790 PH.D. LANGUAGE REQUIREMENT. (6)

40 Jewish Studies

Department of Jewish Studies
3438 McTavish Street, Room 202
Montreal, QC H3A 1X9
Canada

Telephone: (514) 398-6543

Fax: (514) 398-5158

E-mail: graduate.jewishst@mcgill.ca

Web site: www.arts.mcgill.ca/programs/jewish

Chair — Eugene Orenstein

40.1 Staff

Professors

Gershon Hundert; B.A., M.A.(Ohio St.), Ph.D.(Col.) (*Leonor Segal Professor of Jewish Studies*) (*joint appoint. with History*) (*on leave 2004-05*)

B. Barry Levy; B.A., M.A., B.R.E.(Yeshiva), Ph.D.(N.Y.U.)

Associate Professors

David Aberbach; B.A.(U.C., Lon.) M.Litt. Ph.D.(Oxon)

Lawrence Kaplan; B.A.(Yeshiva), M.A., Ph.D.(Harv.) (*on leave 2004-05*)

Eugene Orenstein; B.A.(C.C.N.Y.), M.A., Ph.D.(Col.)

Assistant Professors

Eric Caplan; B.A., M.A., Ph.D.(McG.) (*joint appoint. with Integrated Studies in Education*)

Carlos Fraenkel; B.A., M.A., Ph.D.(F.U. Berlin)

Yael Halevi-Wise; B.A.(Heb.U.), M.A.(Georgetown), Ph.D.(Prin.) (*joint appoint. with English*)

Adjunct Professors

Magdalena Opalski; MA (Warsaw), Ph.D. (Ott.)

Ruth Wisse; M.A.(Col.), Ph.D.(McG.)

40.2 Programs Offered

M.A. in Jewish Studies. (An *ad hoc* Ph.D. in Jewish Studies may be offered. Please contact the Department.)

The Department of Jewish Studies offers both thesis and non-thesis M.A. Programs:

The **thesis** option is intended for students interested in one of two specific areas: the History of Jewish Interpretation of the Bible or East European Jewish Studies. These areas are broadly construed to accommodate the range of research interests in the Department.

The **non-thesis** program permits students to acquire a generalist degree in Jewish Studies with advanced work in the areas of Jewish History, Thought and Literature.

40.3 Admission Requirements

All applicants to the graduate program must hold an Honours B.A. in Jewish Studies or the equivalent. Students whose backgrounds are, in the opinion of the staff, inadequate in one or more areas will be required to pursue qualifying programs to eliminate these deficiencies.

Students seeking admission to the History of Jewish Interpretation of the Bible or to the non-thesis option must demonstrate

competence in Hebrew. Those pursuing a program in East European Jewish Studies, or the non-thesis option, must demonstrate fluency in either Yiddish or Hebrew.

Applicants are also required to submit samples of their academic work in Jewish Studies as well as the appropriate references, transcripts and examination scores. A personal interview is strongly recommended but not required.

40.4 Application Procedures

Applications will be considered upon receipt of:

1. application form,
2. official transcripts,
3. letters of reference,
4. \$60 application fee,
5. GRE scores (if applicable),
6. samples of applicant's academic work.

Deadline for admission in September:

Ph.D. applications – January 6

M.A. applications – February 1.

Note: there are no January admissions.

Application inquiries should be addressed to the Graduate Coordinator, (514) 398-3977. E-mail: graduate.jewishst@mcgill.ca.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

40.5 Program Requirements

M.A. (thesis) Degree (45 credits)

Thesis option students must specialize in one of the following two areas:

- Area I: The History of Jewish Interpretation of the Bible (includes additional language requirement, as noted below);
- Area II: East European Jewish Studies.

M.A., with thesis

Area I – The History of Jewish Interpretation of the Bible

Required Courses (9 credits)

- JWST510 (3) Jewish Bible Interpretation 1
 JWST511 (3) Jewish Bible Interpretation 2
 JWST699 (3) Research in Jewish Studies

Complementary Courses (12 credits)

An additional 12 credits of courses, seminars, or tutorials.

Thesis Component – Required (24 credits)

- JWST690 (3) M.A. Thesis 1
 JWST691 (6) M.A. Thesis 2
 JWST692 (12) M.A. Thesis 3
 JWST694 (3) M.A. Thesis 4: Area I

Students must also master an additional language (not Hebrew) in which primary documents of Jewish Bible Interpretation have been written; in most cases, this will be Aramaic, but classical Arabic and Greek are accepted. Mastery is normally determined by an examination administered by the Department.

M.A., with thesis

Area II – East European Jewish Studies

Required Course (3 credits)

- JWST699 (3) Research in Jewish Studies

Complementary Courses (18 credits)

6 credits to be taken from:

- JWST602 (3) East European Jewish History 1
 (or other appropriate tutorial, seminar or topics course)
 JWST603 (3) East European Jewish History 2
 (or other appropriate tutorial, seminar or topics course)

An additional 12 credits of courses, seminars, or tutorials.

Thesis Component – Required (24 credits)

- JWST695 (3) M.A. Thesis 1: Area II
 JWST696 (6) M.A. Thesis 2: Area II

- JWST697 (12) M.A. Thesis 3: Area II

- JWST601 (3) M.A. Thesis 4: Area II

M.A., non-thesis option (45 credits)

Required Course (3 credits)

- JWST699 (3) Research in Jewish Studies

Complementary Courses (42 credits)

Students will normally take 15 credits in two of the following areas and 12 credits in the third.

(The substitution of credits in related disciplines outside of Jewish Studies may be permitted if appropriate.)

Jewish Thought (12 or 15 credits)

- JWST510 (3) Jewish Bible Interpretation 1
 JWST511 (3) Jewish Bible Interpretation 2
 JWST542 (3) Abraham Ibn Ezra as Parshan
 JWST543 (3) Maimonides as Parshan
 JWST544 (3) Nachmanides as Parshan
 JWST555 (3) The Bible in Jewish Philosophy
 JWST556 (3) Modern Parshanut 1
 JWST558 (3) Topics: Modern Jewish Thought
 JWST661 (3) Study of a Biblical Character

Jewish History (12 or 15 credits)

- JWST585 (3) Tutorial: Eastern European Studies 1
 JWST586 (3) Tutorial: Eastern European Studies 2
 JWST602 (3) East European Jewish History 1
 JWST603 (3) East European Jewish History 2
 HIST655 (6) Tutorial
 HIST677D1 (3) Seminar: European Jewish History
 HIST677D2 (3) Seminar: European Jewish History

Jewish Literature (12 or 15 credits)

- JWST502 (3) Contemporary Hebrew Literature
 JWST510 (3) Jewish Bible Interpretation 1
 JWST511 (3) Jewish Bible Interpretation 2
 JWST520 (3) Bible Interpretation in Antiquity
 JWST521 (3) Bible in the Dead Sea Scrolls
 JWST530 (3) Topics in Yiddish Literature
 JWST531 (3) Topics in Yiddish Literature
 JWST532 (3) Narrative Midrash
 JWST533 (3) Halakhic Midrash
 JWST534 (3) Homiletic Midrash
 JWST535 (3) Exegetic Midrash
 JWST536 (3) Readings: Aramaic Bible Translation
 JWST537 (3) The Bible in the Talmud Bavli
 JWST538 (3) Early Rabbinic Parshanut 1
 JWST541 (3) Medieval Ashkenazi Parshanut
 JWST546 (3) Innovative Medieval Parshanut
 JWST547 (3) Mystical Biblical Interpretation
 JWST548 (3) Medieval Parshanut
 JWST550 (3) The Bible in Hebrew Literature
 JWST551 (3) 20th Century Parshanut
 JWST554 (3) Modern Jewish Biblical Scholarship
 JWST555 (3) The Bible in Jewish Philosophy
 JWST556 (3) Modern Parshanut 1
 JWST571 (3) Biblical Literature
 JWST572 (3) Aggadah in Modern Scholarship
 JWST573 (3) History of Hebrew Bible Text
 JWST574 (3) Bible in Responsa Literature
 JWST575 (3) Topics in Parshanut
 JWST581 (3) Aramaic Language
 JWST582 (3) Hebrew and Aramaic Philology
 JWST587 (3) Tutorial in Yiddish Literature
 JWST588 (3) Tutorial in Yiddish Literature

40.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been

added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

Denotes courses not offered in 2004-05.

The course credit weight is given in parentheses after the title.

JWST 502 CONTEMPORARY HEBREW LITERATURE. (3) (Prerequisite: JWST 340 or permission of instructor) (Knowledge of Hebrew required)

JWST 510 JEWISH BIBLE INTERPRETATION 1. (3) (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) (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 523 ANCIENT BIBLE INTERPRETATION. (3)

JWST 534 HOMILETIC MIDRASH. (3) The issues and techniques of early rabbinic preaching and teaching the Bible as they emerge from a close reading of homiletical midrashic texts.

JWST 535 EXEGETIC MIDRASH. (3)

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 540 BIBLICAL INTERPRETATION 2. (3) Close reading of medieval rabbinic bible interpretation: Ashkenazi and Sefaradi exegetes, commentators, philologists, philosophers and jurists.

JWST 543 MAIMONIDES AS PARSHAN. (3) (Requires Departmental approval) (Not open to students who have taken JWST 540)

JWST 544 NACHMANIDES AS PARSHAN. (3)

JWST 548 MEDIEVAL PARSHANUT. (3)

JWST 550 THE BIBLE IN HEBREW LITERATURE. (3) (Readings in Hebrew) Biblical themes, issues, and characters as they emerge from a comparison of Scripture and various Hebrew essays, poems, plays, short stories and novels of the 18th, 19th, and 20th centuries.

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 554 MODERN JEWISH BIBLICAL SCHOLARSHIP. (3)

JWST 556 MODERN PARSHANUT 1. (3) (Not open to students who have taken JWST 560)

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.)

JWST 573 HISTORY OF HEBREW BIBLE TEXT. (3) (Undergraduate Prerequisite: permission of instructor) (Not open to students who have taken JWST 507)

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)

JWST 581 ARAMAIC LANGUAGE. (3) (Requires Departmental approval) (Not open to students who have taken JWST 506)

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.

The following are also considered graduate courses in Jewish studies:

HIST 655 Tutorial. (6)

HIST 677D1 Seminar: European Jewish History. (3)

HIST 677D2 Seminar: European Jewish History. (3)

41 Kinesiology and Physical Education

Department of Kinesiology and Physical Education
Sir Arthur Currie Memorial Gymnasium
475 Pine Avenue West
Montreal, Quebec H2W 1S4

Telephone: (514) 398-4184

Fax: (514) 398-4186

Web site: www.education.mcgill.ca/phys_ed

Chair — Dr. H  l  ne Perrault

Graduate Program Director — Dr. Ren   A. Turcotte

Telephone: (514) 398-4184 ext. 0539

41.1 Staff

Professors

David Montgomery; B.Sc.(Guelph), M.Sc., Ph.D.(Purdue)

H  l  ne 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

Margaret J. Downey; B.Ed., M.A., Ph.D.(McG)

David J. Pearsall; B.A., BPHE, M.Sc., Ph.D.(Queen's)

Ren   A. Turcotte; H.B.P.H.E.(Lauren.), M.Sc., Ph.D.(Alta.)

Assistant Professors

Gordon Bloom; B.Ed.(W.Ont.), M.A.(York), Ph.D.(Ott.)

Julie C  t  ; B.Sc., M.Sc.(Wisconsin-Madison), Ph.D.(Montr.)

Todd M. Loughhead; B.Sc.(Ott.), B.Ed.(Brock), M.Sc.(Tor.), Ph.D.(W.Ont.)

Paul Stapley; B.A. (Leeds), M.Sc. (North Umbria), Ph.D. (Bourgogne)

Tanja Taivassalo; B.Sc., Ph.D. (McG)

Associate Member

Karen Johnston (*Neurology and Neurosurgery*)

Adjunct Professors

Robert Boushel, Bernard Aguilaniu, Gerald S. Zavorsky

41.2 Programs Offered

The Kinesiology and Physical Education Department offers thesis and non-thesis options leading to an M.A. or an M.Sc. in Kinesiology and Physical Education. Graduate program of studies in the areas of Adapted Physical Activity, Psychology of Sport and Motor Behavior or Pedagogy lead to an M.A. while graduate program of studies in the areas of Exercise Physiology and Biomechanics lead to an M.Sc.

The M.A. or M.Sc. with thesis route provide the opportunity to acquire critical skills and knowledge related to systematic research in an area of specialization.

The M.A. or M.Sc. non-thesis route provides the opportunity for those interested in professional practice to acquire advanced knowledge in an area of specialization as well as some breadth.

Prospective applicants to the Ph.D. (*ad hoc*) program should contact the Department at (514) 398-4184.

41.3 Admission Requirements

1. An undergraduate degree with a Major in Kinesiology or in a related biological science or behavioral science or in Physical Education or equivalent from a recognized university is required.
2. A minimum academic standing equivalent to a CGPA of 3.0 out of 4.0.

41.4 Application Procedure

McGill's on-line application form is available to all graduate program candidates at www.mcgill.ca/applying/graduate.

Applications will be considered upon receipt of:

1. application form,
2. official transcripts from previous undergraduate/graduate programs of study,
3. two letters of reference,
4. \$60 application fee,
5. TOEFL score (where applicable).

The deadlines for Canadians to submit applications are:

- Fall session – March 1
- Winter session – November 1

For International students, applications must be submitted at least six months prior to the official deadline indicated above.

All documentation is to be submitted directly to the Graduate Program Director in the Department of Kinesiology and Physical Education.

41.5 Program Requirements

M.A. Kinesiology and Physical Education (ThesisOption) (45 credits)

Areas of concentration: Adapted Physical Activity, Psychology of Sport and Motor Behavior or Pedagogy

Required Courses (6 credits)

- EDKP605 (3) Research Methods 1
- EDPE676 (3) Intermediate Statistics 2 or equivalent

Complementary Courses (15 credits)

Students must take a minimum of 9 credits of coursework in a classroom setting in the area of concentration selected in consultation with the graduate student advisor.

- EDKP504 (3) Health and Lifestyle Education
- EDKP505 (3) Sport in Society
- EDKP550 (3) Analyzing Instructional Behaviors
- EDKP603 (6) Individual Reading Course 1
- EDKP607 (3) Curriculum Innovation and Change
- EDKP616 (3) Individual Reading Course 2
- EDKP650 (3) Teaching in Physical Education
- EDKP654 (3) Sport Psychology
- EDKP655 (3) Program Development/Adapted Physical Activity

- EDKP664 (3) Motor Learning
- EDKP665 (3) Motor Performance of Disabled Persons
- EDKP671 (3) Experimental Problems
- EDKP672 (6) Experimental Problems
- EDKP695 (3) Thesis Research 5 or complementary course
- EDKP696 (3) Thesis Research 6 or complementary course

Students may also take courses from the Faculty of Education or the Faculty of Arts in consultation with an advisor (500-level or higher).

Thesis Component – Required (24 credits)

- EDKP691 (6) Thesis Research 1
- EDKP692 (6) Thesis Research 2
- EDKP693 (6) Thesis Research 3
- EDKP694 (6) Thesis Research 4

M.A. Kinesiology and Physical Education (Non-thesis Option) (45 credits)

Areas of concentration: Adapted Physical Activity, Psychology of Sport and Motor Behavior or Pedagogy)

Project Component – Required (15 credits)

- EDKP608 (15) Special Project

Complementary Courses (18 credits)

6 credits, two courses from the following list:

- EDPE575 (3) Educational Measurement
- EDKP605 (3) Research Methods 1
- EDSL630 (3) Qualitative/Ethnographic Methods
- or EDEM692 (3) Qualitative Research Methods

12 credits from the following list:

- EDKP504 (3) Health and Lifestyle Education
- EDKP505 (3) Sport in Society
- EDKP550 (3) Analyzing Instructional Behaviors
- EDKP607 (3) Curriculum Innovation and Change
- EDKP650 (3) Teaching in Physical Education
- EDKP654 (3) Sport Psychology
- EDKP655 (3) Program Development/Adapted Physical Activity
- EDKP664 (3) Motor Learning
- EDKP665 (3) Motor Performance of Disabled Persons
- EDKP671 (3) Experimental Problems
- EDKP672 (6) Experimental Problems

Students may also take courses from the Faculty of Education or the Faculty of Arts in consultation with an advisor (500-level or higher).

Elective Courses (12 credits)

12 credits (normally four courses) chosen in consultation with an advisor (should be 500-level or higher).

M.Sc. Kinesiology and Physical Education (ThesisOption) (45 credits)

Areas of concentration: Exercise Physiology and Biomechanics

Required Courses (6 credits)

- EDKP605 (3) Research Methods 1
- EDPE676 (3) Intermediate Statistics 2 or equivalent

Complementary Courses (15 credits)

Students must take a minimum of 9 credits of coursework in a classroom setting in the area of concentration selected in consultation with the graduate student advisor.

- EDKP553 (3) Physiological Assessment: Sport
- EDKP566 (3) Biomechanical Assessment
- EDKP603 (6) Individual Reading Course 1
- EDKP616 (3) Individual Reading Course 2
- EDKP652 (3) Cardio - Respiratory Exercise Physiology
- EDKP662 (3) Metabolic/Neuromuscular Responses to Exercise
- EDKP663 (3) Application: Exercise Physiology to Sport
- EDKP667 (3) Sport Science – Seminar
- EDKP668 (3) Data Acquisition in Sport Science
- EDKP671 (3) Experimental Problems
- EDKP672 (6) Experimental Problems
- EDKP695 (3) Thesis Research 5
- EDKP696 (3) Thesis Research 6

Students may also take courses from the Faculty of Science chosen in consultation with advisor (500-level or higher) .

Thesis Component – Required (24 credits)

- EDKP691 (6) Thesis Research 1
- EDKP692 (6) Thesis Research 2
- EDKP693 (6) Thesis Research 3
- EDKP694 (6) Thesis Research 4

M.Sc. Kinesiology and Physical Education (Non-thesisOption) (45 credits)

Areas of concentration: Exercise Physiology and Biomechanics

Project Component – Required (15 credits)

- EDKP608 (15) Special Project

Complementary Courses (18 credits)

6 credits, two courses from the following list:

EDPE575	(3)	Educational Measurement
EDKP603	(6)	Individual Reading Course 1
EDKP605	(3)	Research Methods
EDKP616	(3)	Individual Reading Course 2
EDSL630	(3)	Qualitative/Ethnographic Methods
or EDEM692	(3)	Qualitative Research Methods

12 credits chosen from the following:

EDKP553	(3)	Physiological Assessment: Sport
EDKP566	(3)	Biomechanical Assessment
EDKP652	(3)	Cardio - Respiratory Exercise Physiology
EDKP662	(3)	Metabolic/Neuromuscular Responses to Exercise
EDKP663	(3)	Application: Exercise Physiology to Sport
EDKP667	(3)	Sport Science – Seminar
EDKP668	(3)	Data Acquisition in Sport Science
EDKP671	(3)	Experimental Problems
EDKP672	(6)	Experimental Problems

Students may also take courses from the Faculty of Science in consultation with advisor.

Elective Courses (12 credits)

12 credits (normally four courses) chosen in consultation with an advisor.

41.6 Courses (EDKP)

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Single term and Multi-term Courses (D1/D2, N1/N2, J1/J2/J3)

The same course may be available as a single term offering and also as a multi-term offering. The course content and credit weight is equivalent in all modes; the only difference being the scheduling.

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 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 2004 and Winter 2005.

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.

The course credit weight is given in parentheses after the title.

Descriptions of courses not scheduled in 2004-05 can usually be found in the preceding Calendar.

For more information on Multi-term Courses, Course Terminology, Class Schedule and Course Catalog, see the *General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05*.

Courses currently scheduled for 2004-05:

EDKP 553 PHYSIOLOGICAL ASSESSMENT: SPORT. (3) (Prerequisite: EDKP 391.) Various modes and protocols to evaluate the physical fitness of athletes will be examined. Students will design testing programs for athletes in specific sports.

EDKP 566 BIOMECHANICAL ASSESSMENT. (3) (Prerequisite: EDKP 303.) An examination of the quantitative measurement and analysis of movement of the human musculoskeletal system including: anthropometry, kinematics, and kinetics. Links between theoretical and applied techniques will be stressed.

EDKP 568 BIOMECHANICS INSTRUMENTATION. (3) (Restriction: Not open to students who have taken EDKP 668.) Instrumentation and technical knowledge to assist in the acquisition and processing of data used in biomechanics.

EDKP 603 INDIVIDUAL READING COURSE 1. (6)

EDKP 603D1 (3), EDKP 603D2 (3) INDIVIDUAL READING COURSE 1. (Students must register for both EDKP 603D1 and EDKP 603D2) (No credit will be given for this course unless both EDKP 603D1 and EDKP 603D2 are successfully completed in consecutive terms) (EDKP 603D1 and EDKP 603D2 together are equivalent to EDKP 603)

EDKP 605 RESEARCH METHODS 1. (3) The course will examine the nomenclature, structure, methods and areas of quantitative and qualitative research in Physical Education. Students will be required to evaluate research concepts and examine their relationship to statistical design. Activities will focus on data retrieval, research problems, proposals, data collection and report of findings.

EDKP 608 SPECIAL PROJECT. (15) The development of a substantive written document which depicts an investigation or application of a physical education problem, issue or innovative practice. The monograph is to be presented to the candidate's advisor after satisfactory completion of the required course work.

EDKP 616 INDIVIDUAL READING COURSE 2. (3) Reading Course.

EDKP 650 TEACHING IN PHYSICAL EDUCATION. (3) This course provides a theoretical background for research on teaching in physical education. Readings drawn from current research journals on teaching and guided seminars. Readings will include qualitative, single subject, and group design research in physical education pedagogy.

EDKP 652 CARDIO-RESPIRATORY EXERCISE PHYSIOLOGY. (3) A comprehensive review of the basic physiological responses of the circulatory and respiratory systems to acute and chronic exercise and a brief discussion of regulatory mechanisms.

EDKP 654 SPORT PSYCHOLOGY. (3) The psychological factors and personality characteristics that influence diverse aspects of sport and physical activity. Seminars focus on discussions/presentations of theory, psychometrics and application of psychological principles to behavior in sport.

EDKP 655 PROGRAM DEVELOPMENT/ADAPTED PHYSICAL ACTIVITY. (3) An examination of program development and evaluation in adapted physical activity along the segregated-integration continuum. Assessment techniques for persons who are disabled, pedagogical considerations and evaluation via single-subject designs. Existing curriculum models and the program development literature within selected special populations are studied.

EDKP 662 METABOLIC/NEUROMUSCULAR RESPONSES TO EXERCISE. (3) A comprehensive theoretical understanding of the basic physiological adaptations to acute and chronic exercise in terms of metabolic pathways and fuel utilization as well as neuromuscular responses. Discussion of current concepts of regulating factors will be discussed.

EDKP 663 APPLICATION: EXERCISE PHYSIOLOGY TO SPORT. (3) An overview of the scientific literature of the muscular, respiratory, cardiovascular and metabolic effects of acute and chronic exposure to various sports. Application of this knowledge towards the improvement of athletic performance.

EDKP 664 MOTOR LEARNING. (3) The analysis of conditions and factors related to human learning and performance or behavioral potential using the information processing model of behavior. Seminar format is used to discuss experimentation and theory that examine motor skill acquisition.

EDKP 665 MOTOR PERFORMANCE OF DISABLED PERSONS. (3) An examination of the factors which determine the motor performance and learning of individuals who are disabled. Topics include: anthropometric characteristics; information processing; knowledge, strategies and metacognition; motor control from the ecological psychology perspective; and personality and motivational determinants.

EDKP 667 SPORT SCIENCE - SEMINAR. (3) Students will review selected research papers regarding the physiological and biomechanical factors affecting exercise and sport. Students will be required to prepare literature precis, critiques and lead in some group discussions.

EDKP 671 EXPERIMENTAL PROBLEMS. (3) Study in one area of: ergo-physiology or biomechanics or psychology of motor performance or motor performance for exceptional children. To provide an opportunity to conduct a research project and develop an awareness of the problems involved in the area of concentration under departmental supervision.

EDKP 672 EXPERIMENTAL PROBLEMS. (6) See EDKP 671. This course, however, is more intensive and comprehensive in nature.

EDKP 672D1 (3), EDKP 672D2 (3) EXPERIMENTAL PROBLEMS. (Students must register for both EDKP 672D1 and EDKP 672D2) (No credit will be given for this course unless both EDKP 672D1 and EDKP 672D2 are successfully completed in consecutive terms) (EDKP 672D1 and EDKP 672D2 together are equivalent to EDKP 672) See EDKP 671. This course, however, is more intensive and comprehensive in nature.

EDKP 691 THESIS RESEARCH 1. (6) A comprehensive literature review in the general area of the thesis topic. Independent work under the supervision of the thesis advisor(s).

EDKP 691D1 (3), EDKP 691D2 (3) THESIS RESEARCH 1. (Students must register for both EDKP 691D1 and EDKP 691D2) (No credit will be given for this course unless both EDKP 691D1 and EDKP 691D2 are successfully completed in consecutive terms) (EDKP 691D1 and EDKP 691D2 together are equivalent to EDKP 691) A comprehensive literature review in the general area of the thesis topic. Independent work under the supervision of the thesis advisor(s).

EDKP 692 THESIS RESEARCH 2. (6) Independent work under the supervision of the thesis advisor(s) culminating with a written proposal and oral seminar explaining the direction of the thesis research.

EDKP 692D1 (3), EDKP 692D2 (3) THESIS RESEARCH 2. (Students must register for both EDKP 692D1 and EDKP 692D2) (No credit will be given for this course unless both EDKP 692D1 and EDKP 692D2 are successfully completed in consecutive terms) (EDKP 692D1 and EDKP 692D2 together are equivalent to EDKP 692) Independent work under the supervision of the thesis advisor(s) culminating with a written proposal and oral seminar explaining the direction of the thesis research.

EDKP 693 THESIS RESEARCH 3. (6) Ongoing research pertaining to the thesis under the direction of the thesis advisor(s).

EDKP 693D1 (3), EDKP 693D2 (3) THESIS RESEARCH 3. (Students must register for both EDKP 693D1 and EDKP 693D2) (No credit will be given for this course unless both EDKP 693D1 and EDKP 693D2 are successfully completed in consecutive terms) (EDKP 693D1 and EDKP 693D2 together are equivalent to EDKP 693) Ongoing research pertaining to the thesis under the direction of the thesis advisor(s).

EDKP 694 THESIS RESEARCH 4. (6) Independent work under the supervision of the thesis advisor(s). Final submission and approval of the thesis.

EDKP 694D1 (3), EDKP 694D2 (3) THESIS RESEARCH 4. (Students must register for both EDKP 694D1 and EDKP 694D2) (No credit will be given for this course unless both EDKP 694D1 and EDKP 694D2 are successfully completed in consecutive terms) (EDKP 694D1 and EDKP 694D2 together are equivalent to EDKP 694) Independent work under the supervision of the thesis advisor(s). Final submission and approval of the thesis.

EDKP 695 THESIS RESEARCH 5. (3) Independent work under the supervision of the thesis advisor(s) leading to the finalization of procedures for data collection.

EDKP 696 THESIS RESEARCH 6. (3) Independent work under the supervision of the thesis advisor(s) leading to the finalization of procedures for data collection.

42 Law

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Dean, Faculty of Law — Nicholas Kasirer
Director, Institute of Comparative Law — Fabien Gélinas
Director, Institute of Air and Space Law — Paul Dempsey
Associate Dean (Graduate Studies) —
Marie-Claude Prémont

42.1 Staff

Institute of Air and Space Law

Emeritus Professor
I.A. Vlastic; B.C.L.(Zag.), LL.M.(McG.), LL.M., J.S.D.(Yale)

Professors
P. S. Dempsey; A.B.J., J.D.(Georgia), LL.M.(G.Wash.U.),
D.C.L.(McG.) (*Tomlinson Professor of Global Governance*)
M. Milde; LL.M., Ph.D.(Charles), Dip. Air and Space Law(McG.)

Associate Professors
R. Jakhu; D.C.L.(McG.)
R. Janda; B.A.(Tor.), LL.B., B.C.L.(McG.), LL.M.(Col.)

Adjunct Professors
D. Bunker, A. Harakas, S. Lessard, R. Margo, P. Nesgos, J. Saba,
F. Schubert, P. van Fenema, L. WilhelmyvanHasselt, L. Weber

Faculty of Law

Emeritus Professors
Paul A. Crépeau; O.C., Q.C., B.A., L.Ph.(Ott.), LL.L.(Montr.),
B.C.L.(Oxon), Docteur de l'Université de Paris (Droit),
LL.D.(Honoris Causa)(Ott., York *Dalhousie*, *Strasbourg*,
Montréal, Paris II), F.R.S.C.(*Emeritus Wainwright Professor of*
Civil Law)
Stephen A. Scott; B.A., B.C.L.(McG.), D.Phil(Oxon)

Professors
G. Blaine Baker; B.A., LL.B.(W.Ont.), LL.M.(Col.)
Jean-Guy Belley; LL.L., LL.M.(Laval), Doctorat en sociologie
juridique(Paris 2) (*Sir William C. Macdonald Professor of Law*)
Madeleine Cantin-Cumyn; B.A., LL.L.(Laval)
Irwin Cotler; B.A., B.C.L.(McG.), LL.M.(Yale), LL.D.(Bar-Ilan,
York), LL.D.(Honoris Causa) (S. Fraser)
Armand L.C. DeMestral; A.B.(Harv.), B.C.L.(McG.), LL.M.(Harv.),
LL.D.(Honoris Causa)(Lyon III; Kwaneisi) (Takuin)
William F. Foster; LL.B.(Auck.), LL.M.(Br.Col.) (*Sir William C.*
Macdonald Professor of Law)

H. Patrick Glenn; B.A.(Br.Col.), LL.B.(Queen's), LL.M.(Harv.),
D.E.S., Docteur de l'Université de Strasbourg (Droit) (*Peter M.*
Laing Professor of Law)
Jane Matthews Glenn; B.A., (Hons.), LL.B.(Queen's), Docteur de
l'Université de Strasbourg (Droit)
Patrick Healy; B.A.(Hons.) (Vict.), B.C.L.(McG.), LL.M.(Tor.)
Pierre-G. Jobin; B.A., B.Ph., LL.L.(Laval), Dipl. d'ét. sup. en dr. pr.,
Docteur d'État en droit privé(Montpellier)
Daniel Jutras; LL.B.(Montr.), LL.M.(Harv.)
Nicholas Kasirer; B.A.(Tor.), B.C.L., LL.B.(McG.), D.E.A.(Paris)
(*James McGill Professor*)
Dennis R. Klinck; B.A., M.A.(Alta.), Ph.D.(Lon.), LL.B.(Sask.)
Roderick A. Macdonald; B.A., LL.B.(York), LL.L.(Ott.), LL.M.(Tor.)
(*F.R. Scott Professor of Public and Constitutional Law*)

Desmond Manderson; B.A.(Hons.), LL.B.(Hons.)(A.N.U.),
D.C.L.(McG.) (Canada Research Chair)
Michael Milde; LL.M., Ph.D.(Charles), Dip.Air & Space Law (McG.)
Margaret A. Somerville; A.U.A.(Pharm.) (Adel.), LL.B.(Syd.),
D.C.L.(McG.) F.R.S.C. (*Gale Professor of Law*) (*joint appoint.
with the Faculty of Medicine*)
William Tetley; Q.C., B.A.(McG.); LL.L.(Laval)
Stephen J. Toope; A.B.(Harv.), B.C.L., LL.B.(McG.),
Ph.D.(Cantab.)

Associate Professors

Mark Antaki; B.C.L., LL.B.(McG.), M.A.(Calif.)
Fabien Gélinas; LL.B., LL.M.(Montr.), D.Phil.(Oxon)
Richard Gold; B.Sc.(McG.), LL.B.(Tor.), LL.M.,
S.J.D.(Michigan) (*B.C.E. Professor of E-Governance*)
Richard A. Janda; B.A.(Tor.), LL.B., B.C.L.(McG.), LL.M.(Col.)
Rosalie Jukier; B.C.L., LL.B.(McG.), B.C.L.(Oxon)
David Lametti, B.A.(Tor.), LL.B., B.C.L.(McG.), LL.M.(Yale)
D.Phil.(Oxon)
Marie-Claude Prémont, B.Eng.(Sher.), LL.M., Ph.D.(Laval)
René Provost; LL.B.(Montr.), LL.M.(Berkeley), D.Phil.(Oxon)
Geneviève Saumier, B.Com, B.C.L., LL.B.(McG.) Ph.D.(Cantab.)
Colleen Sheppard; B.A., LL.B.(Tor.), LL.M.(Harv.)
Ronald B. Sklar; B.S.(N.Y.U.), LL.B.(Brooklyn),
LL.M.(Northwestern), LL.M.(Yale)
Lionel Smith; B.Sc.(Tor.), LL.B.(W.Ont.), LL.M.(Cantab.),
D.Phil.(Oxon) (James McGill Professor)
Stephen Smith; B.A.(Queen's), LL.B.(Tor.), D.Phil.(Oxon) (*William
Dawson Scholar*)
Shauna van Praagh; B.Sc., LL.B.(Tor.), LL.M., J.S.D.(Col.)
Catherine Walsh; B.A.(Dal.), LL.B.(U.N.B.), B.C.L.(Oxon)

Assistant Professors

Wendy Adams; J.D.(Tor.), LL.M.(Michigan)
Frédéric Bachand; LL.B.(Montr.), LL.M.(Cantab.)
Adelle Blackett; B.A.(Queen's), LL.B., B.C.L.(McG.), LL.M.(Col.)
Angela Campbell; B.A., LL.B., B.C.L.(McG.), LL.M.(Harv.)
Jaye Ellis; B.A.(Calg.), LL.B., B.C.L.(McG.), LL.M.(U.B.C.),
D.C.L.(McG.)
Lara Khoury; LL.B.(Sherb.), B.C.L.(Oxon)

42.2 Programs Offered

Graduate programs in law are offered through the Faculty of Law and its two teaching Institutes, the Institute of Air and Space Law and the Institute of Comparative Law. The degrees offered are the LL.M. (Master of Laws) and the D.C.L. (Doctor of Civil Law). Both Institutes also offer a Graduate Certificate.

The Institute of Air and Space Law operates within the Faculty of Law. The Institute provides facilities for advanced study and research in Air and Space Law and related problems of international law for qualified law graduates or others with appropriate qualifications. The Institute is also responsible to the GPSO for graduate studies. The Institute offers a Graduate Certificate in Air and Space Law and the degrees of Master of Laws (LL.M.) and Doctor of Civil Law (D.C.L.).

The Graduate Certificate in Air and Space Law is a course work program with a limited research and writing requirement. It is particularly appropriate for students with a strong professional orientation who do not wish to write a thesis.

The Institute of Comparative Law operates within the Faculty of Law. As a centre of comparative legal studies, the Institute provides facilities for graduate work, advanced studies and field research in areas of private, commercial, international and public law. The Institute is also responsible to the Graduate and Postdoctoral Studies Office for graduate studies. The Institute offers a Graduate Certificate in Comparative Law and the degrees of Master of Laws (LL.M.), Master of Laws (LL.M.) with specialization in Bioethics, Master of Civil Law (M.C.L.) and of Doctor of Civil Law (D.C.L.). (Please note: the M.C.L. is not currently being offered.)

The Graduate Certificate in Comparative Law provides advanced training in subjects within the scope of the ICL to candidates who do not wish to undertake the Master's degree. The

Graduate Certificate is particularly appropriate for judges, law professors, and legal practitioners from countries undergoing substantial legal reform (such as post-Communist or developing countries) who wish to pursue advanced studies in areas such as civil, commercial, or human rights law.

42.3 Admission Requirements

General

The Faculty of Law has a Graduate Admissions Committee that makes recommendations regarding admission to the Graduate and Postdoctoral Studies Office. Final admissions decisions are taken by the Graduate and Postdoctoral Studies Office, in the months of March and April.

For information and application forms please consult the Faculty Web site or write to the Coordinator, Graduate Studies in Law, McGill University at the above address.

Language Requirement

All graduate students must have very good knowledge of English.

Non-Canadian applicants must provide proof of competence in oral and written English. An official test score is required unless (a) the applicant's mother tongue is English, or (b) the applicant has completed an undergraduate degree from a recognized institution where English is the language of instruction. Tests recognized are the TOEFL (Test of English as a Foreign Language) and the IELTS (International English Language Testing System). Non-native Canadian applicants must have completed an undergraduate degree in a French or English Canadian institution in order to be exempted from the above.

Generally, applicants must achieve a minimum TOEFL score of 600 (250 on the computer-based test) or 7.5 in the IELTS.

There are, however, some exceptions:- in the IASL: applicants must achieve a minimum TOEFL score of 575 (233 on the computer-based test) or 7.0 overall band in the IELTS.

In all programs, non-Canadian applicants whose mother tongue is French must achieve a minimum TOEFL score of 550 (213 computer-based) or an IELTS score of 6.5 overall band. This is because at McGill, students can write essays, examinations and theses in French, even where the course is taught in English. All students should be aware that the majority of courses in Graduate Programmes in Law are taught in English.

For information about the TOEFL, and to register to take the test, see <http://www.toefl.org>. For information about the IELTS, see <http://www.ielts.org>. There may be a lengthy delay for registration, and the communication of results takes approximately 40 days. For both tests, the official results should be sent directly from the testing institution to Graduate Programmes in Law. For the TOEFL, McGill's institutional code is 0935 and Law's departmental code is 03. These codes must be provided to TOEFL when requesting a test report form. For the IELTS, applicants must ask for an official report to be sent to Graduate Programmes in Law at the above address. For either test, the test must be taken sufficiently early for results to reach McGill no later than March 15 of the year of admission. Application files not completed by that date will not be considered.

French: The ability to speak or read French is an asset but not a necessity. In areas such as the study of private law in the civilian tradition or comparative private law, a reading knowledge of French is essential. Applicants should indicate their knowledge of French on the admissions questionnaire; they will be notified if French is essential to the area of study.

Graduate Certificate Programs

The requirements for admission to the Graduate Certificate programs are essentially the same as for the Master's programs, except that greater weight may be placed on professional experience.

Candidates desiring a Graduate Certificate in Air and Space Law who do not hold a law degree may be admitted if they have earned an undergraduate university degree in another discipline

and possess sufficient professional experience to compensate for the lack of a law degree (as determined by the Graduate Admissions Committee).

Master's Degrees

Candidates for admission to the LL.M. program must hold a Bachelor of Laws (LL.B.) degree, or its equivalent, with at least upper second class honours. This standing does not guarantee admission, however. The Graduate Admissions Committee weighs the entire file, including the applicant's references and the quality of the research proposal.

Furthermore, in the case of thesis programs, the Committee must consider the availability of a supervisor. If a supervisor is not available in the applicant's preferred field of study, the applicant may be refused admission or else offered admission pending a change of field of study.

LL.M. specialization in Bioethics: Requirements for admission to the Master's program in Bioethics from the base discipline Law, are the same as for admission to the LL.M.

For further information see the bioethics section of the calendar, or contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3647 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514) 398-6980; Fax:(514) 398-8349; E-mail: Glass@falaw.lan.mcgill.ca.

D.C.L. Degree

Applicants demonstrating outstanding academic ability will be considered for admission to the doctoral program.

Admission to the DCL program occurs only when:

- the candidate has completed a graduate law degree with thesis at McGill or at another university, and
- the Graduate Admissions Committee is satisfied that the quality of his or her previous research is sufficient to justify admission to a doctoral program.

The latter usually requires review of the completed Master's thesis.

42.4 Application Procedures

An application will be considered upon receipt of:

- application form;
- statement of academic program and brief resume;
- official transcripts and proof of degree;
- certified translations of transcripts and proof of degree (if not written in French or English);
- letters of reference on forms provided for that purpose and/or official letterhead (sent directly by the referee to Graduate Programs in Law);
- \$60 application fee;
- official TOEFL or IELTS score report (sent directly by the testing organization).

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate. Documents corresponding to numbers 2-5 and 7 should be sent to the Coordinator, Graduate Studies in Law, at the above address.

Deadline: March 1st in the year prior to the start of the academic year for which the candidate is applying.

LL.M. specialization in Bioethics

Applications are made initially through the Biomedical Ethics Unit in the Faculty of Medicine, which administers the program and teaches the core courses.

Applicants must be accepted first by Law and then by the Bioethics Graduate Studies Advisory Committee.

42.5 Program Requirements

Graduate Certificate in Comparative Law

The Graduate Certificate is awarded after at least one term of residence in the Faculty and upon completion of a minimum of 15

academic credits. At least nine of those credits must be earned through course work, with the balance earned through essays or the preparation of teaching or course materials. In every case, the program is structured to meet individual needs and must be approved by the Associate Dean (Graduate Studies).

Note: International students must register for at least 12 credits per term in order to satisfy visa requirements.

Graduate Certificate in Air and Space Law

The Graduate Certificate in Air and Space Law is a course work program with a limited research and writing requirement. It is particularly appropriate for students with a strong professional orientation who do not wish to write a thesis.

The Graduate Certificate is awarded after at least one term of residence in the Faculty and upon completion of a minimum of 15 academic credits of law courses. Those credits must include the three air and space law courses obligatory for Master's students (ASPL 633, ASPL 636, and ASPL 637).

The required courses are offered in the fall, hence Graduate Certificate students must be in residence during at least one Fall term. The balance of required graduate credits can be obtained either through other IASL courses, Independent Study courses, or any other course in the University or other universities related to the area of concentration, subject to approval by the Associate Dean (Graduate Studies). Students may take courses beyond the minimum of 15 credits, and these additional courses may be non-law courses.

Graduate Certificate students generally remain in residence for both terms and take all of the air and space law courses.

Note: International students must register for at least 12 credits per term in order to satisfy visa requirements.

MASTER'S DEGREES

There are two LL.M. options in the Faculty of Law: thesis and non-thesis. In each case, the student must complete 45 credits. It is not normally possible to take extra credits. Students pursuing the LL.M. (thesis and non-thesis) in the Faculty must take the following courses: Legal Research Methodology (4 credits) and Theoretical Approaches to Law (4 credits). Other courses are selected from those offered by the Faculty and its Institutes, subject to the approval of the Associate Dean (Graduate Studies) of the Faculty of Law.

Students must register and pay fees for three terms of full-time study. Usually courses are taken during the first two terms only. The third term, devoted to research, may be taken during the summer session of the first year, if the thesis or Project supervisor approves. This means that it may be possible to complete the three terms within one calendar year.

Candidates who complete all courses required of them with a grade of at least B- (65%) may normally proceed to the submission of their Master's thesis on a subject approved by the Director or the Associate Dean (Graduate Studies). In some cases, candidates may be required to undergo an oral examination before a jury appointed by the Director or the Associate Dean.

Thesis Option

The thesis option is more suited to students who wish to work on a project of original scholarly research, and are less concerned to take a larger number of taught courses. The thesis topic is normally determined in consultation with the supervisor and must be approved by the Associate Dean (Graduate Studies). The completed thesis is evaluated by the candidate's supervisor and by an external examiner chosen by the Graduate and Postdoctoral Studies Office. The thesis must show familiarity with work in the field and demonstrate the student's ability for organizing results and solid, independent analysis.

In the LL.M. (thesis), the work on the thesis is recognized through "thesis courses" of different credit weights, ranging from 30 to 33 credits. The student must therefore take 12 to 15 credits of other courses.

The Master's Thesis programs consist of a course work component and a thesis of approximately 100 pages. Candidates

must remain in residence for three terms. The third term, usually devoted to thesis research, may be taken the summer of the first year, making it possible to complete residence requirements within one calendar year. If the thesis is not completed in this time, students must register for additional sessions as needed. All degree requirements must be completed within three years of the date of registration.

As part of Master's Thesis 1, a thesis candidate must provide a protocol to his or her supervisor setting out details as to the thesis topic, the deadlines for the completion of the various thesis courses and the schedule of meetings with the thesis supervisor. Modifications to the protocol must be made in writing and submitted to the Associate Dean (Graduate Studies).

The thesis topic is normally determined in consultation with the supervisor early in the second term and must be approved by the Associate Dean (Graduate Studies). The submitted thesis is evaluated by the candidate's supervisor and an external examiner chosen by the Graduate and Postdoctoral Studies Office. The thesis must show familiarity with previous work in the field and demonstrate the student's capacity for solid, independent analysis and for organizing results.

Non-Thesis Option

The non-thesis option is more suited to students who wish to have a wide exposure to a range of taught courses, and are less concerned to have the chance to do a piece of original scholarly research. The non-thesis option does require a substantial Supervised Research Project and students take more courses than students in the thesis program.

The LL.M. (non-thesis) includes a Supervised Research Project which counts for 18 credits, although it can be reduced to 15, 16 or 17 if a student wishes to take more taught course credits. The student must therefore take 27 to 30 credits of other courses.

Institute of Air and Space Law

Master of Laws (LL.M.)

The student must take at least 18 credits of courses. Normally the student will take the following courses:

ASPL636	(3)	Private International Air Law
ASPL633	(3)	Public International Air Law
ASPL637	(3)	Space Law: General Principles
ASPL632*	(3)	Comparative Air Law
ASPL613*	(3)	Government Regulation of Air Transport
ASPL638*	(3)	Law of Space Applications
ASPL639*	(3)	Government Regulation of Space Activities

* On occasion, students will be permitted to substitute for any of the asterisked courses, other courses selected from a list of Faculty or Institute of Comparative Law courses or courses offered by another department of the University.

Each student's final choice of curriculum is subject to the approval of the Associate Dean (Graduate Studies).

Thesis Component – Required (27 credits)

ASPL690	(3)	Master's Thesis 1
ASPL691	(3)	Master's Thesis 2
ASPL692	(6)	Master's Thesis 3
ASPL693	(12)	Master's Thesis 4
ASPL694	(3)	Master's Thesis 5

The LL.M. student must present an acceptable thesis on a subject approved by the Associate Dean (Graduate Studies). Work on the Master's thesis is divided into five courses, and is conducted under the close supervision of a member of Faculty. To be allowed to submit a thesis, a student must have obtained at least B- (65%) in each of the courses taken.

Candidates for the Master's degree must spend three terms of full-time study and research in residence at the Institute.

The Master of Laws (LL.M.); Law - Thesis is a 45-credit program that requires some foundational course work, but its core is

a substantial thesis (up to 100 pages) to be credited at 30 credits (or more in exceptional cases). Required courses are:

CMPL 610	(4)	Legal Research Methodology
CMPL 641	(4)	Theoretical Approaches to Law
CMPL612	(3)	Master's Thesis 1
CMPL613	(3)	Master's Thesis 2
CMPL614	(3)	Master's Thesis 3
CMPL615	(6)	Master's Thesis 4
CMPL616	(12)	Master's Thesis 5
CMPL617	(3)	Master's Thesis 6

If approved by the Associate Dean (Graduate Studies), students may reduce their elective course work by up to 3 credits by completing one or both of:

CMPL618	(2)	Master's Thesis 7
CMPL619	(1)	Master's Thesis 8

The remaining 7 credits (or fewer if more credits are earned for the Master's Thesis) are elective, with courses to be chosen from among Faculty offerings. Courses below 500 level will not normally be approved.

The Master of Laws (LL.M.); Law - non-Thesis is a 45-credit program that combines a significant body of course work with a substantial guided research project.

CMPL 610	(4)	Legal Research Methodology
CMPL 641	(4)	Theoretical Approaches to Law
CMPL 655	(15)	Research Project 1

If approved by the Associate Dean (Graduate Studies), students may reduce their elective course work by up to 3 credits by completing one or both of:

CMPL656	(2)	Research Project 2
CMPL657	(1)	Research Project 3

The remaining 22 credits (or fewer if more credits are earned for the research project) are elective, with courses to be chosen from among Faculty offerings. Courses below 500 level will not normally be approved.

The Master of Laws (LL.M.); Law; Comparative Law - Thesis

is a 45-credit program that requires some foundational course work, but its core is a substantial thesis (up to 100 pages) to be credited at 30 credits (or more in exceptional cases):

CMPL 600	(4)	Legal Traditions
CMPL 610	(4)	Legal Research Methodology
CMPL 641	(4)	Theoretical Approaches to Law
CMPL612	(3)	Master's Thesis 1
CMPL613	(3)	Master's Thesis 2
CMPL614	(3)	Master's Thesis 3
CMPL615	(6)	Master's Thesis 4
CMPL616	(12)	Master's Thesis 5
CMPL617	(3)	Master's Thesis 6

If approved by the Associate Dean (Graduate Studies), students may reduce their elective course work by up to 3 credits by completing one or both of:

CMPL618	(2)	Master's Thesis 7
CMPL619	(1)	Master's Thesis 8

The remaining 3 credits (or fewer if more credits are earned for the Master's Thesis) are elective, with courses to be chosen from among Faculty offerings. Courses below 500 level will not normally be approved.

The Master of Laws (LL.M.); Law; Comparative Law - non-Thesis is a 45-credit program that combines a significant body of course work with a substantial guided research project.

CMPL 600	(4)	Legal Traditions
CMPL 610	(4)	Legal Research Methodology
CMPL 641	(4)	Theoretical Approaches to Law
CMPL 655	(15)	Research Project 1

If approved by the Associate Dean (Graduate Studies), students may reduce their elective course work by up to 3 credits by completing one or both of:

CMPL656	(2)	Research Project 2
CMPL657	(1)	Research Project 3

The remaining 18 credits (or fewer if more credits are earned for the research project) are elective, with courses to be chosen from among Faculty offerings. Courses below 500 level will not normally be approved.

COURSE SELECTION

It should be noted that not all courses are offered in each year. Students wishing to pursue research topics outside of these particular fields are welcome to do so, subject to the availability of appropriate thesis supervisors.

The graduate-level Law courses are grouped into four inter-related concentrations.

Legal Traditions and Legal Theory

This concentration combines two areas of strength: the co-existence of diverse legal traditions, particularly (but not exclusively) the civil and common law, and the awareness of the importance of theoretical approaches to law as a means of understanding both the internal dynamic of legal phenomena and their relationship to other social phenomena.

Courses offered within this concentration include:

- Aboriginal Peoples and the Law
- Advanced Jurisprudence
- Canadian Legal History
- Canon Law
- Comparative Modern Legal History
- Feminist Legal Theory
- Islamic Law
- Jurisprudence
- Legal Theory
- Linguistic and Literary Approaches to the Law
- Research Seminars
- Roman Law
- Social and Ethical Issues in Jewish Law
- Social Diversity and the Law
- Talmudic Law
- Tort Theory

International Business Law

The ICL pioneered the first graduate concentration in international business law in Canada. This field has practical significance in international business relations and also provides opportunities to apply experience derived from multiple legal systems to the development of multi-jurisdictional, "international" commercial rules.

Courses offered within this concentration include:

- Comparative Legal Institutions
- European Community Law 1
- European Community Law 2
- International Business Enterprises
- International Carriage of Goods by Sea
- International Development Law
- International and Domestic Documentary Sales
- International Maritime Conventions
- International Securities Markets
- International Taxation
- Law and Practice of International Trade
- Research Seminars
- Resolution of International Disputes

Human Rights and Cultural Diversity

Building on the Faculty's strength in public law, this concentration promotes the comparative study of human rights law. It provides students with opportunities to reflect critically on the emergence and institutionalization of human rights norms in both domestic and international settings and to explore complexities arising from cultural diversity.

Courses offered within this concentration include:

- Aboriginal Peoples and the Law
- Canadian Charter of Rights and Freedoms
- Children and the Law
- Civil Liberties
- Comparative Constitutional Protection of Human Rights
- Comparative and International Protection of Minorities' Rights

- Current Problems of the International Legal Order
- Discrimination and the Law
- International Law of Human Rights
- Research Seminars
- Social Diversity and Law

Regulation, Technology and Society

This concentration focuses on the comparative and inter-disciplinary study of legal regulation in areas of rapid technological change. It encourages critical reflection on notions of the public interest and its protection in areas as diverse as the bio-medical sciences, the environment, the growth of computer networks, and the commercial exploitation of space.

Courses offered within this concentration include:

- Administrative Process
- Communications Law
- Comparative Medical Law
- Computers and the Law
- Contemporary Private Law Problems 1
- Entertainment Law
- Environment and the Law
- Government Control of Business
- Intellectual and Industrial Property
- International Environmental Law
- Land Use Planning
- Policies, Politics and the Legislative Process
- Research Seminars

LL.M. in Law - Bioethics option: The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (3credit minimum) offered by the base faculty or department (for Faculty of Law: CMPL642), and any graduate courses required or accepted by a base faculty for the granting of a Master's degree for a total of 18 to 21 credits (for Faculty of Law: CMPL641, with remaining credits chosen from Faculty of Law and Bioethics offerings at the 500 or 600 level). A minimum of 45 credits is required including the thesis. For further information regarding this program, please refer to the Bioethics section.

DOCTOR OF CIVIL LAW (D.C.L.) DEGREE

The Doctor of Civil Law (D.C.L.) in Air and Space Law is the doctoral program in the Institute of Air and Space Law of the Faculty of Law. The core of the program is a substantial thesis that makes an original contribution to legal scholarship. Students must pass a Comprehensive Exam - Air/Space Law (ASPL 701).

The Doctor of Civil Law (D.C.L.); Law is the doctoral program in the Faculty of Law. The core of the program is a substantial thesis that makes an original contribution to legal scholarship. Students must pass a Comprehensive Exam - Law (LAWG 701). Students are also required to take CMPL641 Theoretical Approaches to Law.

The Doctor of Civil Law (D.C.L.) in Law; Comparative Law is the doctoral program in the Institute of Comparative Law of the Faculty of Law. The core of the program is a substantial thesis that makes an original contribution to legal scholarship. Students must pass a Comprehensive Exam (CMPL 701). Students are also required to take CMPL641 Theoretical Approaches to Law.

The Doctor of Civil Law is a research degree offered by the Faculty of Law. Candidates who do not hold a McGill law degree may be required to take two or three courses designed to introduce them to the McGill professors and resources available in their field.

The degree will be awarded, at the earliest, after the completion of three years of residence in the Faculty. In the case of a candidate holding an LL.M. from McGill or an equivalent degree from another university, the residency requirement may be reduced to two years of study beyond the Master's degree, with the approval of the Graduate and Postdoctoral Studies Office, upon recommendation of the Graduate Studies Committee of the Faculty of Law.

All candidates are must pass the Comprehensive Examination, normally after one year in residence.

The principal basis for evaluation is a doctoral thesis of up to 400 pages. It must constitute a significant contribution to legal knowledge, evidencing in concept and execution the original work of the candidate. Its form must be suitable for publication. The thesis must be submitted within four years of completion of the residency requirement.

42.6 Course Descriptions

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

INSTITUTE OF AIR AND SPACE LAW COURSES

ASPL 613 GOVERNMENT REGULATION OF AIR TRANSPORT. (3) Economic regulation of air transport and navigation, deregulation, liberalization, open skies. Economic and regulatory theories, competition, anti-trust regulation. Status, negotiation, and implementation of international agreements on air services.

ASPL 632 COMPARATIVE AIR LAW. (3) Comparative approaches to air law. Selected problems of private law not codified by international conventions including product liability; government liability for certification and inspection of aircraft; ATC liability; aviation insurance; fleet financing; leasing.

ASPL 633 PUBLIC INTERNATIONAL AIR LAW. (3) Sources of public international law relating to the air space and its aeronautical uses. International aviation organizations and their law-making functions. Legal responses to aviation terrorism.

ASPL 636 PRIVATE INTERNATIONAL AIR LAW. (3) Sources of private international air law. Conflicts of laws. Unification of law of liability. Liability for damage on the surface, liability of the ATC and CNS/ATM providers. Rights in aircraft and their international recognition.

ASPL 637 SPACE LAW: GENERAL PRINCIPLES. (3) Examination of the role of international law in the regulation of outer space activities.

ASPL 638 LAW OF SPACE APPLICATIONS. (3) The legal implications of various space applications, such as telecommunications and the role therein of various international organizations; remote sensing by satellites; space stations; commercial and military uses of outer space.

ASPL 639 GOVERNMENT REGULATION OF SPACE ACTIVITIES. (3) (Restriction: Open to undergraduate students with the permission of the Associate Dean.) National public and private law and regulatory regimes governing space activities, particularly those that are carried out by private entities for commercial purposes.

ASPL 690 MASTER'S THESIS 1. (3) Preparation of thesis proposal.

ASPL 691 MASTER'S THESIS 2. (3) Preparation of literature review.

ASPL 692 MASTER'S THESIS 3. (6) Thesis research report.

ASPL 693 MASTER'S THESIS 4. (12) Completion of thesis.

ASPL 694 MASTER'S THESIS 5. (3) Thesis research report.

ASPL 701 COMPREHENSIVE - AIR/SPACE LAW. (0) (Restriction: DCL graduate students in Air and Space Law.) An examination that must be passed by all doctoral candidates in order to continue in the doctoral program.

FACULTY OF LAW 500-700 LEVEL COURSES

Courses open to undergraduate and graduate students

BUS2 500 COPYRIGHT AND TRADEMARK THEORY. (3) (Prerequisite: BUS2 463) (Restriction: Not open to first year students) Various topics in copyright and/or trademark. Copyright: idea-expression dichotomy and the tension between public and private domain. Trademark: embodiment of goodwill; uniqueness versus genericity; the nature of use; the scope of statutory versus common law protection. Regarding both: impact of international norms; impact of technology.

BUS2 501 PATENT THEORY AND POLICY. (3) (Prerequisite: BUS2 463) (Restriction: Not open to first year students) Examination and critical assessment of the justifications of patent law; the tension between the public domain and private monopoly control; examination of international patent protection; international conventions touching on patent law, international trade instruments; examination of patents in relation to new technology: biotechnology, the Internet and business methods.

CMPL 500 ABORIGINAL PEOPLES AND THE LAW. (3) Current legal topics relating to native peoples, including the concept of aboriginal title, and constitutional aspects of contemporary land claims. Aspects of Canadian law relating to native peoples, their constitutional status, and hunting and fishing rights.

CMPL 501 JURISPRUDENCE. (3)

CMPL 504 FEMINIST LEGAL THEORY. (3) Feminist theory and its relevance and application to law, including feminist methodologies in law, the public versus private dichotomy, and changing conceptions of equality.

CMPL 505 ADVANCED JURISPRUDENCE. (2)

CMPL 506 LEGAL THEORY. (3)

CMPL 507 LINGUISTIC AND LITERARY APPROACHES TO LAW. (2) The techniques of linguistic and literary analysis and their contribution to the interpretation and evaluation of legal texts.

CMPL 508 RESEARCH SEMINAR 1. (2) Research seminar to be offered by members of the Faculty or visiting professors, to permit research in legal traditions and legal theory in areas not covered by other courses in the program.

CMPL 509 RESEARCH SEMINAR 2. (2) Research seminar to be offered by members of the Faculty or visiting professors, to permit research in legal traditions and legal theory in areas not covered by other courses in the program.

CMPL 510 ROMAN LAW. (3) An examination of the contemporary relevance of principles of Roman law, in both civil and common law jurisdictions.

CMPL 511 SOCIAL DIVERSITY AND LAW. (3) The interaction of law and cultural diversity. Through the use of a number of case studies, we will examine: 1. The empirical effect of cultural diversity on legal systems. 2. Institutional structures to accommodate diversity. 3. Theoretical perspectives.

CMPL 512 THEORIES OF JUSTICE. (3)

CMPL 513 TALMUDIC LAW. (3)

CMPL 515 INTERNATIONAL CARRIAGE OF GOODS BY SEA. (3) A comparative study of private international maritime law.

CMPL 516 INTERNATIONAL DEVELOPMENT LAW. (3) The law and economics of development, including the role of agencies of the United Nations in development, the role of UNCTAD in formulating uniform rules of international trade, and the World Bank and the International Monetary Fund and their role in financing development.

CMPL 517 COMPARATIVE LEGAL INSTITUTIONS. (3) The changing legal institutions in selected civil and common law jurisdictions of Europe and North America, with attention paid to the adequacy of institutional response to the growing role of law in western societies.

CMPL 518 POLICIES, POLITICS AND LEGISLATIVE PROCESS. (3)

CMPL 521 TRADE REGULATION. (3) (Prerequisite: CMPL 543 (Recommended)) (Restriction: Not open to first year students.)

CMPL 524 ENTERTAINMENT LAW. (3)

CMPL 533 RESOLUTION OF INTERNATIONAL DISPUTES. (3) Conflict of jurisdictions and recognition of foreign judgments, as well as arbitration between parties to international contracts, with particular reference to international conventions.

CMPL 534 COMPARATIVE PRIVATE INTERNATIONAL LAW 1. (2)

CMPL 536 EUROPEAN COMMUNITY LAW 1. (3) The Treaty of Rome establishing the European Community and current efforts to create a homogenous structure for commerce and competition in Europe.

CMPL 537 EUROPEAN COMMUNITY LAW 2. (2) The provisions of the Treaty of Rome dealing with the regulation of domestic and international commerce by the Community authorities, with particular emphasis on articles 85 and 86.

CMPL 539 INTERNATIONAL TAXATION. (3) Canadian tax treatment of subjects, including the export of goods and services, carrying on business in other countries, international employee transfers, international re-organizations, and international joint ventures and partnerships.

CMPL 541 INTERNATIONAL BUSINESS ENTERPRISES. (3)

CMPL 543 LAW AND PRACTICE OF INTERNATIONAL TRADE. (3) The fundamental aspects of international law governing international trade, and governmental regulation of international trade in Canada and Canada's major trading partners.

CMPL 544 INTERNATIONAL AND DOMESTIC DOCUMENTARY SALES. (3)

CMPL 546 INTERNATIONAL ENVIRONMENTAL LAW. (3) Introduction to this continuously expanding and evolving branch of international law. It will focus on the particularities of the international legal system and their implications for environmental protection; economic and ethical dimensions of international environmental policy; selected environmental problems; and, discussion of new approaches to solving existing problems.

CMPL 547 CANADIAN LEGAL HISTORY. (3)**CMPL 550 COMPARATIVE CIVIL LIABILITY.** (2)

CMPL 551 COMPARATIVE MEDICAL LAW. (2) A comparative study of selected medicolegal problems, including civil and criminal liability of doctors and hospitals, consent, emergency services, organ transplants, and euthanasia.

CMPL 553 INTERNATIONAL MARITIME CONVENTIONS. (3) International maritime conventions in respect of collisions, jurisdiction, limitation of liability, and their domestic interpretation, maritime liens and mortgages, marine insurance, and salvage.

CMPL 556 COMPARATIVE CONSTITUTIONAL PROTECTION HUMAN RIGHTS. (2)

CMPL 558 CONTEMPORARY PRIVATE LAW PROBLEMS 2. (2)

CMPL 565 INTERNATIONAL HUMANITARIAN LAW. (3) (Prerequisite: PUB2 105) (Restriction: Not open to first year students.) Rules governing international and internal armed conflicts; historical and philosophical foundations; constraints on means to wage war; treatment of protected individuals, including prisoners of war, civilians and peacekeepers; enforcement, including belligerent reprisals and criminal prosecution; links with norms protecting human rights, the environment and cultural property; impact of cultural diversity.

CMPL 570 PROTECTION OF MINORITIES' RIGHTS. (2)

CMPL 571 INTERNATIONAL LAW OF HUMAN RIGHTS. (3) International protection of human rights, particularly by the United Nations, its specialized agencies, and the Council of Europe.

CMPL 573 CIVIL LIBERTIES. (2) The protection of civil liberties in Canada with particular reference to public and private law remedies and emphasis on discrimination, race relations, language rights outside the Charter, and police powers.

CMPL 574 GOVERNMENT CONTROL OF BUSINESS. (3) Selected topics in government control and regulation of business with emphasis on competition law and policy.

CMPL 575 DISCRIMINATION AND THE LAW. (3) Equality rights and legal protections against discrimination under the Charter of

Rights and Freedoms, the Quebec Charter of Human Rights and Freedoms, and human rights legislation.

CMPL 576 SCIENCE TECHNOLOGY AND LAW. (3) Introduction to the philosophy of science and the history of technology, reciprocal influences of science and law and their parallel development, concepts common to law and science, and legal and ethical problems common to technological change.

CMPL 577 COMMUNICATIONS LAW. (3) Regulation of common communication carriers and mass media in Canada, including legal developments initiated by foreign market competition, and the regulatory authority of the C.R.T.C.

CMPL 578 COMPUTERS AND THE LAW. (3) Analysis of the legal issues raised by computer technology, including computer crime, protection of information, copyright, and patent and trade secret law.

CMPL 579 CURRENT PROBLEMS OF INTERNATIONAL LEGAL ORDER. (2)

CMPL 580 ENVIRONMENT AND THE LAW. (3)

CMPL 600 LEGAL TRADITIONS. (4) (Restrictions: Restricted to students in the Institute of Comparative Law. Other students by permission only.) Examination of the concept of a legal tradition, including elements of particular legal traditions, their philosophical foundations, their implementation through institutions, and their influence on one another.

LAWG 500 COMPLEX LEGAL TRANSACTIONS 1. (3)**LAWG 501 COMPLEX LEGAL TRANSACTIONS 2.** (3)

LAWG 515 SPECIALIZED TOPICS IN LAW 5.(2) (Restriction: Must have completed first year Law.) An intensive study of a particular topic in public or private law.

LAWG 516 SPECIALIZED TOPICS IN LAW 6.(2) (Restriction: Must have completed first year Law.) An intensive study of a particular topic in public or private law.

LAWG 517 SPECIALIZED TOPICS IN LAW 7.(3) (Restriction: Must have completed first year Law.) An intensive study of a particular topic in public or private law.

COURSES OPEN ONLY TO GRADUATE STUDENTS

CMPL 601 CIVIL LAW PERSPECTIVES. (4) (Open only to students who do not have a first degree in the civil law.) Provides students from the common law tradition with a graduate-level perspective on the civil law tradition.

CMPL 602 COMMON LAW PERSPECTIVES. (4) (Open only to students who do not have a first degree in the common law.) Provides students from the civil law tradition with a graduate-level perspective on the common law tradition.

CMPL 603 HUMAN RIGHTS & CULTURAL DIVERSITY. (4)**CMPL 604 INTERNATIONAL BUSINESS LAW.** (4)**CMPL 605 REGULATION TECHNOLOGY/SOCIETY.** (4)

CMPL 610 LEGAL RESEARCH METHODOLOGY. (4) (Restriction: Open only to graduate law students registered in a Master's program or permission of instructor.) A programme of instruction in legal research methodology, including electronic legal research and the formulation of research plans.

CMPL 612 MASTER'S THESIS 1. (3) Preparation of thesis proposal.

CMPL 613 MASTER'S THESIS 2. (3) Preparation of literature review.

CMPL 614 MASTER'S THESIS 3. (3) Thesis Seminar. A seminar bearing on thesis research in progress.

CMPL 615 MASTER'S THESIS 4. (6) Thesis research report.

CMPL 615D1 (3), CMPL 615D2 (3) MASTER'S THESIS 4. (Students must register for both CMPL 615D1 and CMPL 615D2) (No credit will be given for this course unless both CMPL 615D1 and CMPL 615D2 are successfully completed in consecutive terms) (CMPL 615D1 and CMPL 615D2 together are equivalent to CMPL 615) Thesis research report.

CMPL 616 MASTER'S THESIS 5. (12) Completion of thesis.

CMPL 616D1 (6), CMPL 616D2 (6) MASTER'S THESIS 5. (Students must register for both CMPL 616D1 and CMPL 616D2) (No credit will be given for this course unless both CMPL 616D1 and CMPL 616D2 are successfully completed in consecutive terms) (CMPL 616D1 and CMPL 616D2 together are equivalent to CMPL 616) Completion of thesis.

CMPL 617 MASTER'S THESIS 6. (3) Thesis research report.

CMPL 618 MASTER'S THESIS 7. (2) Thesis research project.

CMPL 619 MASTER'S THESIS 8. (1) (Restriction: This course is open only to graduate law students registered in a with-thesis Master's program in the Faculty of Law.) Thesis research project.

CMPL 623 LEGAL INTERNSHIP 1. (6)

CMPL 624 LEGAL INTERNSHIP 2. (6)

CMPL 635 INDEPENDENT STUDY 1. (3)

CMPL 636 INDEPENDENT STUDY 2. (4)

CMPL 637 INDEPENDENT STUDY 3. (3)

CMPL 638 INDEPENDENT STUDY 4. (4)

CMPL 641 THEORETICAL APPROACHES TO LAW. (4) Introduction to a variety of theoretical approaches to legal scholarship.

CMPL 642 LAW AND HEALTH CARE. (3) (Limited enrolment.) Topics in this seminar will include philosophical and ethical foundations of law as applied in medicine, legal structures and their impact on health care, law and ethics of the health care professions, administrative and legal control of health care systems and other selected issues.

CMPL 650 INDEPENDENT STUDY 7. (3)

CMPL 655 RESEARCH PROJECT 1. (15) (Restriction: This course is only open to students registered in a non-thesis Master's program in the Faculty of Law.) A major research paper on a current topic.

CMPL 656 RESEARCH PROJECT 2. (2) (Prerequisite: CMPL 655.) (Restriction: This course is open only to students registered in a non-thesis Master's program in the Faculty of Law.) Continuation of a major research paper on a current topic.

CMPL 657 RESEARCH PROJECT 3. (1) (Prerequisite: CMPL 655 and/or CMPL 656.) (Restriction: This course is open only to students registered in a non-thesis Master's program in the Faculty of Law.) Continuation of a major research paper on a current topic.

CMPL 701 COMPREHENSIVE EXAMINATION-COMPARATIVE LAW. (0) (Restriction: DCL graduate students in Comparative Law.) An examination that must be passed by all doctoral candidates in order to continue in the doctoral program.

ISLA 706D1 (3), ISLA 706D2 (3) ISLAMIC LAW. (Students must register for both ISLA 706D1 and ISLA 706D2) (No credit will be given for this course unless both ISLA 706D1 and ISLA 706D2 are successfully completed in consecutive terms) The nature of the law, its origins and historical development, the medieval schools of law, modern evolution of the law, and its roles in Islamic religious and political thought.

LAWG 701 COMPREHENSIVE EXAM - LAW.(0) (Restriction: DCL graduate students in Law.) An examination that must be passed by all doctoral candidates in order to continue in the doctoral program.

43 Library and Information Studies

43.1 Staff

Emeritus Professor

Effie C. Astbury; B.A., B.L.S.(McG.), M.L.S.(Tor.)

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.(Que.), M.B.S.I.(Montr.), Ph.D.(Tor.)

John E. Leide; B.S.(M.I.T.), M.S.(Wis.), Ph.D.(Rutg.)

Diane Mittermeyer; B.A., B.L.S.(Montr.), M.L.S., Ph.D.(Tor.)

Assistant Professor

Kimiz Dalkir; B.Sc., M.B.A.(McG.), Ph.D.(C'odia)

Eun Park; B.A.(Pusan), M.L.I.S.(Illinois), M.B.A.(Pitts.),

Ph.D.(UCLA)

Professional Associate

Eric Bungay; B.Sc., B.A., B.Ed.(Mem.), M.L.I.S.(McG.)

Faculty Lecturers

Erica Burnham; B.A., M.L.I.S.(McG.)

Gordon Burr; B.A., M.L.I.S.(McG.); Senior Archivist, Records Management, McGill

Martin Cohen; B.A.(McG.), Ph.D.(Exeter), M.L.S.(McG.);

Bibliographer, Collections, Humanities and Social Sciences Library, McGill

Joanne Cournoyer; B.A., M.L.S.(Montr.)

Jerry Fielden; B.A., M.L.I.S.(McG.)

Jocelyn Godolphin; B.A.(Manit.), M.A.(Oregon), M.L.S.(U.B.C.)

Jim Henderson; B.Sc.(Victoria), M.Sc.(Queen's), M.L.S.(U.B.C.)

Lorie Kloda; B.A., M.L.I.S.(McG.); Instruction Technology

Librarian, Health Sciences Library, McGill

Johanne Lessard; B.Ed.(Que.), M.L.I.S.(McG.)

Valerie Nessel; B.A.(Queen's), M.L.I.S.(McG.)

Ruth Noble; B.Sc., M.L.I.S.(McG.); Information Services Librarian, Concordia

Chukwemeka Nwakanma; B.Sc.(Abia State), M.L.I.S.(Ibadan)

Phyllis Rudin; B.A.(Pitts.), B.Ed.(Tor.), M.L.S.(McG.)

Richard Virr; B.A.(Tulane), M.A.(Queen's), Ph.D.(McG.); Curator of Manuscripts, Rare Books and Special Collections Division, McGill

43.2 Programs Offered

Master of Library and Information Studies (M.L.I.S.)

The M.L.I.S. degree is awarded after successful completion of the equivalent of two academic years of graduate study (48 credits). Four courses in each of the fall and winter terms constitute a full load. Although the program is normally taken full-time, it may be pursued part-time but must be completed within five years of initial registration.

Graduate Certificate in Library and Information Studies

The Graduate Certificate program assists library and information professionals, from this country and elsewhere, in updating their knowledge for advanced responsibility.

The 15-credit program may be completed in one or possibly two academic terms. The program may also be completed on a part-time basis to a maximum of five years.

Graduate Diploma in Library and Information Studies

The Graduate Diploma program provides professional librarians and information specialists with formal, for credit continuing education opportunities to update, specialize, and redirect their careers for advanced responsibility. For those considering admission into the doctoral program, it will provide an opportunity to develop further their research interests.

The 30-credit program may be completed in one calendar year. The program may also be completed on a part-time basis to a maximum of five years.

Ph.D. (*Ad Hoc*)

The Ph.D. program provides an opportunity for exceptional candidates to study interdisciplinary research topics within library and information studies at the doctoral level. The candidate is attached to the Graduate School of Library and Information Studies and develops the usual working relationships with research supervisors.

43.3 Facilities

The School is located on the street level of the McLennan Library Building. Within easy access of each other are the administrative offices, faculty offices, lecture and seminar rooms, and cataloguing and information technology laboratories. Student amenities include a well-equipped lounge and lockers.

The facilities of the School, combined with its downtown location close to public transportation, make it an attractive and convenient site for study.

Information Technology Laboratory

The hub of activity at GSLIS is the Information Technology Laboratory. The IT Lab is used to support, both on a formal and informal basis, the various courses taught at GSLIS. The IT Lab has access to a state-of-the-art local area network delivering Internet access using a 100 Mbps connection to the University 1 Gbps fibreoptic backbone. Students will notice a significant difference in speed over the typical dial-up modem. The IT Lab contains 24 Windows-based PC workstations and a network printer available for student use. The Cataloguing Laboratory adjacent to the IT Lab has eight PCs, all equipped with CD-R/RWs.

Several courses, including the required courses GLIS 616 and GLIS 617, have formal laboratory sessions that require use of the IT Lab's hardware and software. On an informal basis, many students use the IT Lab for researching online information, typing and printing papers, developing databases, and creating multimedia presentations for various classes.

E-mail plays an important role in the School's daily activities and students are encouraged to use this facility to communicate with colleagues, faculty and staff. In addition, students maintain an open electronic mailing list called MLISSA (McGill Library and Information Studies Student's Association) and GSLIS maintains a list called MCLIS-L (McGill Library and Information Studies List).

Library Facilities

McGill Library System

Students have access to one of the continent's major research resources in the McGill Library System, which consists of fourteen libraries organized into five administrative units: Humanities and Social Sciences Library, Branch Libraries, Law Area Library, Life Sciences Area Libraries, and the Physical Sciences and Engineering Area Libraries. Altogether these libraries house over two million volumes providing a valuable collection for research and study. Additionally, a number of important electronic journal repositories can be accessed via the Library. Further information is available in the *General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05*, and on the Library Web site at www.library.mcgill.ca.

Library and Information Studies Collection

The Library and Information Studies collection includes approximately 40,000 monographs and 700 periodical titles. The bulk of the collection is in the Humanities and Social Sciences Area Library, located in the same building as the School.

Archives

Located on the same floor of the McLennan Library Building as the School, the McGill University Archives preserves and makes available to researchers of all disciplines more than 4500 m of primary documentation of permanent value generated over the past 180 years. It offers laboratory conditions for students doing independent studies, practical projects for the Archival Science course and serves as a Practicum site. The Archives also possesses a working library of materials relating to archival science and records management.

43.4 Admission Requirements

Master of Library and Information Studies (M.L.I.S.)

1. Applicants must have a bachelor's degree from a recognized university. Academic standing of at least B, or second class, upper division, or a CGPA of 3.0 out of 4.0 is required.

The School will take into account the character of the appli-

cants' undergraduate studies and their suitability for a career in library and information services.

Courses in library and/or information studies taken before or as part of a B.A., or such courses taken in a school with a program not accredited by the American Library Association, cannot be accepted as credit toward the McGill M.L.I.S.

2. Applicants with a Bachelor's degree completed solely or primarily in a language other than English or French are required to submit documented proof of competency in oral and written English prior to admission. Such proof normally comprises the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based test) or 250 (computer-based test) with a written score of at least 5.0 for either test, or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5. Applicants whose mother tongue is not English may be asked to demonstrate an English-language competency beyond the submission of the TOEFL or IELTS scores.
3. Competency in the use of computers is expected. Applicants should have a thorough knowledge of the Windows operating system, particularly file management and word processing, and presentation software such as PowerPoint.
4. Previous library experience, while not essential, will be given consideration in assessing an application, but this experience cannot replace academic criteria.

Graduate Certificate in Library and Information Studies

1. Applicants should have a Master's degree in Library and Information Studies from a program accredited by the American Library Association (or equivalent). Admission of students with overseas degrees will be guided by the M.L.I.S. equivalency standards of A.L.A. Candidates will normally have at least three years' professional experience following completion of the M.L.I.S.
2. Applicants with a Bachelor's degree completed solely or primarily in a language other than English or French are required to submit documented proof of competency in oral and written English prior to admission. Such proof normally comprises the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based test) or 250 (computer-based test) with a written score of at least 5.0 for either test, or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5. Applicants whose mother tongue is not English may be asked to demonstrate an English-language competency beyond the submission of the TOEFL or IELTS scores.

Graduate Diploma in Library and Information Studies

1. Applicants should have a Master's degree in Library and Information Studies from a program accredited by the American Library Association (or equivalent). Admission of students with overseas degrees will be guided by the M.L.I.S. equivalency standards of A.L.A. Applicants will normally have at least three years' professional experience following completion of the M.L.I.S.
2. Applicants with a Bachelor's degree completed solely or primarily in a language other than English or French are required to submit documented proof of competency in oral and written English prior to admission. Such proof normally comprises the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based test) or 250 (computer-based test) with a written score of at least 5.0 for either test, or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5. Applicants whose mother tongue is not English may be asked to demonstrate an English-language competency beyond the submission of the TOEFL or IELTS scores.

Ph.D. (Ad Hoc)

1. Applicants should normally have a Master's degree in Library and Information Studies (or equivalent). Master's degrees in other fields will be considered in relation to the proposed research.

An applicant with a Master's degree in Library and Information Studies (or equivalent) will normally be admitted into Ph.D.1.

An applicant with a master's degree in another field may be considered for admission as a Ph.D. 1 but will need to register for courses to upgrade background knowledge in library and information studies.

- Applicants with a Bachelor's degree completed solely or primarily in a language other than English or French are required to submit documented proof of competency in oral and written English prior to admission. Such proof normally comprises the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based test) or 250 (computer-based test) with a written score of at least 5.0 for either test, or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5. Applicants whose mother tongue is not English may be asked to demonstrate an English-language competency beyond the submission of the TOEFL or IELTS scores.

43.5 Application Procedures

All applicants must submit, or arrange for the submission of, the following documents, directly to the School:

- A completed application form, available on the Web at www.mcgill.ca/applying/graduate. If Internet access is not possible, the application form may be obtained from the School by mail.
- Official transcripts of the applicant's university record showing degree(s) awarded.
- A non-refundable application fee of \$60 in Canadian funds, payable by credit card when applying on-line. Payment for a paper application may be made by credit card, bank draft, money order or certified cheque (payable to McGill University).
- A non-refundable deposit of \$200 is required for the MLIS program. Applicants must access MINERVA within 30 days of receipt of the official decision from the Office of Graduate and Postdoctoral Studies to confirm acceptance and pay the deposit. Payment is to be made by credit card or in certain circumstances, by special arrangement with the office of the Graduate School of Library and Information Studies. This amount will be credited towards the tuition fee. If payment is not received within the 30 days, the acceptance will be rescinded. The deposit will be forfeited if the student does not start the MLIS program.
 - A curriculum vitae.
- Two letters of recommendation, on letterhead.
- A covering letter outlining the reasons for wishing to undertake the program of study.

Master of Library and Information Studies (M.L.I.S.)

Deadline for receipt of application forms for entrance into the first year of the M.L.I.S. program is April 1 (March 1 for overseas students), but as enrolment is limited, early application is strongly recommended.

Applicants may be interviewed by a member of the Admissions Committee or a delegate.

The Admissions Committee will begin reviewing complete applications on November 1, and offers will be made on a rolling basis from that date.

Graduate Certificate in Library and Information Studies

Applicants must also provide a statement of areas of professional interest.

Applications will be accepted for the Fall, Winter and Summer sessions. The application deadline is four months prior to commencement of the session but earlier applications are encouraged.

Graduate Diploma in Library and Information Studies

Applicants must also provide a statement of areas of academic/research interest.

Applications will be accepted for the Fall, Winter and Summer sessions. The application deadline is four months prior to commencement but earlier applications are encouraged.

Ph.D. (*Ad Hoc*)

Applicants must also provide a brief outline (2-3 pages) of the proposed research.

The applicant's file will be considered by the Advanced Studies Committee within the School. If approved, the applicant will normally enroll as a Ph.D.I student.

A person interested in pursuing a program of study leading to the Ph.D. degree should contact the Chairperson of the Advanced Studies Committee in the Graduate School of Library and Information Studies.

43.6 Program Requirements

43.6.1 Master of Library and Information Studies (M.L.I.S.)

The M.L.I.S. degree is awarded after successful completion of the equivalent of two academic years of graduate study (48 credits). Twelve credits in each of the fall and winter terms constitute a full load. Although the program is normally taken full-time, it may be pursued part-time but must be completed within five years of initial registration.

Goals of the M.L.I.S. Program

- To provide the intellectual foundation for careers in library and information service.
- To foster adaptability and competence in managing information resources.
- To promote appropriate use of technologies to meet the needs of a changing world.
- To emphasize the role of research in the advancement of knowledge.
- To promote commitment to professional service for individuals, organizations and society.

Objectives of the M.L.I.S. Program

Students graduating from the program will be able to:

- Demonstrate an understanding of the history and intellectual foundations of librarianship and information science.
- Articulate the issues concerning access to information, privacy, censorship, and intellectual freedom.
- Analyze the flow of information through society, and the roles of libraries and information agencies in this process.
- Analyze the role of the librarian or information specialist as a mediator between users and information resources.
- Assess and respond to diverse users' information needs and wants.
- Apply principles of selection, acquisition, organization, storage, retrieval and dissemination of information resources.
- Undertake the design, the management and the evaluation of information systems and services.
- Apply management theory, principles and techniques in libraries and information agencies.
- Understand and apply research principles and techniques.
- Understand the nature of professional ethics and the role of professional associations.

Categories of Students

Full-time M.L.I.S. students: Those students who are proceeding to the M.L.I.S. degree and who are registered in at least 12 credits per term.

Part-time M.L.I.S. students: Those students who are proceeding to the M.L.I.S. degree and who are registered in fewer than 12 credits per term.

Graduate Students in other McGill programs: Students enrolled in graduate programs at McGill other than the M.L.I.S.

may register for M.L.I.S. courses with the approval of the course instructor.

Special students: Individuals who already hold a graduate degree in library and information studies from an accredited program and who are not proceeding to a degree may register for up to 6 credits per term to a total maximum of 12 credits, for which they fulfill the necessary prerequisites. At the discretion of the Director, work experience may be substituted for such prerequisites. Enrolment is subject to the condition that regular students have priority in cases of class size restrictions.

Registration – M.L.I.S.

All returning and new graduate students must register on-line at www.mcgill.ca/minerva, after completing a Minerva Course Selection Form and obtaining departmental approval.

Information concerning registration for incoming M.L.I.S. students will be sent to them prior to July of each year.

A deposit of \$200 is required when confirming an offer of acceptance. Failure to pay the deposit by the specified deadline will result in the acceptance being rescinded.

Introductory Program – M.L.I.S.

All incoming M.L.I.S. students are required to participate in an introductory program designed to acquaint them with the many-faceted world of information and the forward-looking leadership of the library and information professions.

The program begins in the week prior to classes with follow-up activities throughout the year. It introduces students to the profession, to information technology and to the historical, social and cultural issues associated with library and information studies. The introductory program consists of panel discussions, lectures, and tours. A number of guests from McGill and from the broader Canadian information community participate in the program. The information technology sessions include hands-on activities in the School's Information Technology Laboratory. Students have an opportunity to meet with their faculty advisors and with second-year students. A further series of seminars held throughout the year supplements the initial program.

Overseas students should plan to arrive well before the beginning of the fall term.

43.6.2 M.L.I.S. Program Requirements

Required Courses (24 credits)

GLIS601	(3)	Information and Society
GLIS607	(3)	Organization of Information
GLIS611	(3)	Research Principles and Analysis
GLIS615	(3)	Bibliographic and Factual Sources
GLIS616	(3)	Online Information Retrieval
GLIS617	(3)	Information System Design
GLIS618	(3)	Information Users and Services
GLIS620	(3)	Information Agency Management

It is strongly recommended that students complete the required courses in the program as soon as possible.

Complementary Courses (24 credits)

Students, in consultation with their advisors, design individualized programs of instruction that take advantage of their backgrounds and interests to prepare them for specialized careers. During their first term of study while they are following the required courses, students should start to investigate their options and discuss their plans with their faculty advisors.

Many courses include visits to libraries and information centres, as well as a variety of other information-related organizations.

Courses outside the School

Courses in other McGill Departments McGill University offers a large number and variety of graduate-level courses. Students interested in taking a course outside the School must complete the following steps:

- contact the relevant instructional unit to establish any prerequisites and to ascertain how the unit handles outside registrants;

- obtain a current course outline;
- demonstrate in writing the value of the selected course within the context of an integrated program of study leading to the M.L.I.S. degree;
- gain the approval of their faculty advisor and the School's Director.

Courses in other Quebec Universities Students may take up to six credits at any other Quebec university provided the courses are not available at McGill University. Steps a) to d) outlined above should be followed by any student wishing to pursue this option. For more information, see section 7.1.13 "Quebec Inter-University Transfer Agreement (IUT)".

Transfer Credits – Advanced Standing

Students may not count credits for courses taken toward another degree as credits towards the M.L.I.S. degree. In special cases credits for appropriate courses previously taken outside the School may be transferred to the M.L.I.S. program, but only with the approval of the Director, and only if negotiated at the time of admission to the program. As a rule, no more than one-third of the McGill program course work (normally not thesis or project) can be credited with courses from another university.

Transfer credits must be approved by the Director of the School and the Director of the Graduate and Postdoctoral Studies Office. Requests for transfer credits will only be considered at the time of admission to the M.L.I.S. program.

In special cases, students may be excused from taking a required course if they have already completed an equivalent course. In such cases, however, they must obtain the permission of the instructor and the Director and will be required to substitute an additional complementary course bringing the total of their earned credits in the M.L.I.S. program to the normal 48.

Research Colloquia

Research Colloquia presented by guest speakers from Canada and, on occasion, other countries are open to students, as well as university staff and the Montreal information community, at various intervals throughout the year. Although not a formal part of the M.L.I.S. program, the Colloquia offer an opportunity for students to learn of current research preoccupations and developments in the field of library and information studies.

43.6.3 Graduate Certificate in Library and Information Studies

The program may be completed full-time in one academic term, or part-time within a maximum of five years.

Each certificate student will be assigned a faculty advisor in conjunction with whom an individualized program of study will be designed.

Program Requirements (15 credits)

At least 3 courses (9 credits) and as many as 5 courses (15 credits) to be chosen, in consultation with the student's advisor, from the MLIS courses listed in section 43.7 "Courses", with the exception of GLIS646, GLIS647, GLIS689, GLIS695, GLIS696 and GLIS697. NB: Students who wish to register for GLIS694 Certificate Project must first have their research proposal approved by the Committee on Student Standing and Academic Affairs.

Up to 6 credits may be taken outside the School, 3 credits of which may be taken outside McGill. All such courses must be at a graduate level and receive the prior approval of the student's advisor(s) and the School's Director.

43.6.4 Graduate Diploma in Library and Information Studies

The program may be completed in one calendar year. The program may also be completed on a part-time basis to a maximum of five years.

Each diploma student will be assigned a faculty advisor in conjunction with whom an individualized program of study will be designed.

Program Requirements (30 credits)

Research (maximum of 18 credits)

at least one of:

GLIS695 (6) Research Paper 1

GLIS696 (12) Research Paper 2

All research proposals require approval of the Committee on Student Standing and Academic Affairs.

The remaining credits (12 - 24) are to be chosen in consultation with the student's advisor(s) from any of the GSLIS courses (except GLIS646, GLIS647, GLIS689, and GLIS694).

Up to 15 credits may be taken outside the School in other McGill graduate programs that students are qualified to enter.

Students may take no more than one-third of the course credits in another university, subject to the approval of their advisors and the Director.

43.6.5 Ph.D. (Ad Hoc)

The Ph.D. program provides an opportunity to study interdisciplinary research topics within the field of library and information studies at the doctoral level. The candidate is attached to the Graduate School of Library and Information Studies and develops the usual working relationships with research supervisors. In addition to a supervisor from the School, three faculty must sit on the Advisory Committee, one of whom must be external to the School.

Admission, program planning and research progress in the Ph.D. (*Ad Hoc*) program is the responsibility of the Graduate and Postdoctoral Studies Office.

The residency is 3 years (6 terms).

Admission to the Ph.D. (Ad Hoc) program involves a number of steps.

1. The applicant normally is admitted as a Ph.D.1 student.
2. The applicant must provide a brief outline of the proposed research (2-3 pages) specifying as clearly as possible the research area to be investigated.
3. The Director of the Graduate and Postdoctoral Studies Office is notified that an application to enter the Ph.D. (*Ad Hoc*) program has been completed.
4. The submission includes an application form, updated curriculum vitae, the research proposal and the report of the School's Admissions Committee. The form "Requirements for Graduation of *Ad Hoc* Ph.D. Candidates" will be completed providing information on the candidate, required courses, required examinations (comprehensive, language, etc.) and the signatures of the Admissions Committee members.
5. The Graduate and Postdoctoral Studies Office endorses or rejects the recommendation of the Admissions Committee. If the applicant is accepted for admission, an Advisory Committee will be appointed which may include members of the Admissions Committee or new members as deemed necessary.

43.7 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Not all courses can be offered in any academic year. In addition, courses which have a registration of fewer than five will not normally be taught. Some courses have a maximum enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses which may not be offered in 2004-05.

For more information on Multi-term Courses, Course Terminology, Class Schedule and Course Catalog, see the

General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05.

GLIS 601 INFORMATION AND SOCIETY. (3) Introduction to our world of information, documents and information agencies with historical and social approach. A look at how information is generated and at the role played by libraries and of all kinds and other relevant agencies. This course should provide a broad framework within which other required or elective courses could be understood.

GLIS 607 ORGANIZATION OF INFORMATION. (3) Theory and techniques of bibliographic control for information. Basic cataloguing and indexing principles and practices incorporating the concepts of main entry, subject analysis, and classification according to standard codes. Introduction to ISBD and MARC formats for description and automated support applications. Practical assignments in the organization of materials laboratory.

GLIS 608 CLASSIFICATION AND CATALOGUING. (3) (Prerequisite: GLIS 607) Cataloguing in depth with a view to such specialties as original cataloguing, catalogue maintenance, and administration of the cataloguing department. Investigation of alternative methods of library documentation. The study of developments in international cataloguing standards, codes, and formats. Includes laboratory sessions.

GLIS 611 RESEARCH PRINCIPLES AND ANALYSIS. (3) Fundamental aspects of reflective thinking and the methods and techniques of research appropriate to the investigation of library/information problems. Criteria helpful in evaluating published research in library/information studies by analyzing the various steps of the research process, thereby providing guidelines for planning, conducting, and reporting research.

GLIS 612 HISTORY OF BOOKS AND PRINTING. (3) (Prerequisite: GLIS 615 or consent of instructor.)

GLIS 613 HISTORY OF LIBRARIES. (3) (Prerequisite: GLIS 601 or consent of instructor)

GLIS 614 PUBLIC LIBRARIES. (3) A review of the Public Library Movement in English and French Canada. The development of public libraries in North America over the last twenty years with an emphasis on the library's role and responsibilities for the future. The impact of information technologies on the definition and delivery of services.

GLIS 615 BIBLIOGRAPHIC AND FACTUAL SOURCES. (3) Introduces students to the theory, principles, and practice of bibliographical control as a foundation for reference service and information retrieval. Paper-based, microform, and electronic bibliographies are introduced. The creation and use of bibliographies, within various context, are discussed.

GLIS 616 ONLINE INFORMATION RETRIEVAL. (3) Focuses on the principles and methods of information retrieval from full-text and bibliographic databases. Includes information-seeking behaviour, database organisation and characteristics, search and browsing strategies, and search and system evaluation, as applied to online databases, CD-ROMs, OPACs, and internet resources.

GLIS 617 INFORMATION SYSTEM DESIGN. (3) Fundamental concepts of computer technology and its application to the storage and retrieval of information. Includes hardware and software choices, user requirement analysis, information structure analysis, data modelling and interface design as applied to textual information. Students design and construct a small-scale information system.

GLIS 618 INFORMATION USERS AND SERVICES. (3) Exploration of the principles and practices of information transfer. Investigation of information needs, information users and use, and information use environments. The development of information services and collections to meet needs. The evaluation of information services in light of information needs.

GLIS 620 INFORMATION AGENCY MANAGEMENT. (3) Introduction to management theory and decision making in the context of information agencies and services. Emphasis is placed on strategic planning, organizing, quality management, organizational behaviour, human resource management, leadership and communication, management of change, legal issues in information agencies, and information use in decision making.

GLIS 622 INFORMATION SERVICE PERSONNEL. (3) (Corequisite: GLIS 620) An examination of key issues in human resource management for service provision in libraries and information centres. Topics include reengineering for service quality, human resource planning, hiring policies and human rights, staff training and development, performance

appraisal supervision, staff motivation, occupational health and safety, negotiation and conflict management.

GLIS 623 FINANCIAL MANAGEMENT. (3) (Corequisite: GLIS 620)

GLIS 624 MARKETING INFORMATION SERVICES. (3)

GLIS 631 SYSTEMS THINKING. (3) (Prerequisite: Consent of the instructor) Introduction to general systems thinking and the use of the systems approach as an aid to problem solving and decision making. Subjective and objective factors in modelling for the definition, analysis, design, implementation and evaluation of alternative solutions.

GLIS 632 LIBRARY SYSTEMS. (3) (Prerequisite: GLIS 617)

GLIS 633 MULTIMEDIA SYSTEMS. (3) (Prerequisites: GLIS 617 and consent of instructor)

GLIS 634 WEB SYSTEM DESIGN AND MANAGEMENT. (3) (Prerequisites: GLIS 616, GLIS 617) Principles and practices of designing websites in the context of libraries and information centres. The course focuses on a conceptual approach to organizing information for the World Wide Web including design, implementation and management issues. Topics include Web development tools, markup languages, Internet security and Web server administration.

GLIS 636 GOVERNMENT INFORMATION. (3) (Prerequisites: GLIS 615, GLIS 616) An introduction to the structure of governments, and the nature and variety of government information. Emphasis is placed on the governments of Canada, the provinces, the United States and selected international governmental organizations. Topics include the acquisition, organization, bibliographic control and use of government information.

GLIS 637 SCIENTIFIC/TECHNICAL INFORMATION. (3) (Corequisites: GLIS 615, GLIS 616) Examination of the process of communication and information requirements (of/in) the scientific community; study of primary, secondary, and tertiary sources of information in the physical, biological, and applied sciences. Study and application of new information technologies, and in particular the World Wide Web, as used in scientific and technical communication.

GLIS 638 BUSINESS INFORMATION. (3) (Corequisites: GLIS 615, GLIS 616) A survey of the literature used in business including bibliographic and non-bibliographic data bases. Various aspects of business set the scene for a study of the literature. Students examine key publications, and learn to select a basic business bibliography and to do reference work in the field.

GLIS 639 CORPORATE INFORMATION CENTRES. (3) (Prerequisite: GLIS 601)

GLIS 644 DESCRIPTIVE BIBLIOGRAPHY. (3) (Prerequisite: GLIS 615) A practical course on the history, description and care of rare books and antiquarian material. The principles of descriptive bibliography will be presented in the context of book culture. The place of rare book collections in research libraries and the practical administration of a rare book department will be examined.

GLIS 645 ARCHIVAL STUDIES. (3) (Advanced work in archival science is available to a few students who do well in the introductory course.) Introduction to the principles and practices of archival studies. The course exposes students to basic problems and solutions involved in dealing with archival resources. Main subjects include descriptive studies, acquisition, appraisal, arrangement, finding aids, preservation, public service and electronic records.

GLIS 646 RESEARCH PROJECT. (12) (Prerequisite: GLIS 611) A two-term in-depth research study leading to the preparation of a research paper with potential for publication. The subject of the study will vary according to the student's interests and pre-supposes some detailed background knowledge in the area to be researched. Working with a faculty supervisor, the student will plan, conduct and document a piece of research.

GLIS 646D1 (6), GLIS 646D2 (6) RESEARCH PROJECT. (Students must register for both GLIS 646D1 and GLIS 646D2) (No credit will be given for this course unless both GLIS 646D1 and GLIS 646D2 are successfully completed in consecutive terms) (GLIS 646D1 and GLIS 646D2 together are equivalent to GLIS 646) A two-term in-depth research study leading to the preparation of a research paper with potential for publication. The subject of the study will vary according to the student's interests and pre-supposes some detailed background knowledge in the area to be researched. Working with a faculty supervisor, the student will plan, conduct and document a piece of research.

GLIS 647 INDEPENDENT STUDY. (6) (Prerequisite: GLIS 611) An in-depth exploration of a topic in library and information studies which is not emphasized or elaborated in any other part of the curriculum. The subject will vary according to the student's interests. It may be a work of synthesis, a research paper of limited scope, a state-of-the-art paper or a project which is an outgrowth of course work or in an area not covered in the curriculum. The student will work with a faculty supervisor to plan and pursue an individualised program of study.

GLIS 647D1 (3), GLIS 647D2 (3) INDEPENDENT STUDY. (Students must register for both GLIS 647D1 and GLIS 647D2) (No credit will be given for this course unless both GLIS 647D1 and GLIS 647D2 are successfully completed in consecutive terms) (GLIS 647D1 and GLIS 647D2 together are equivalent to GLIS 647) An in-depth exploration of a topic in library and information studies which is not emphasized or elaborated in any other part of the curriculum. The subject will vary according to the student's interests. It may be a work of synthesis, a research paper of limited scope, a state-of-the-art paper or a project which is an outgrowth of course work or in an area not covered in the curriculum. The student will work with a faculty supervisor to plan and pursue an individualised program of study.

GLIS 651 HUMANITIES AND SOCIAL SCIENCE INFORMATION. (3) (Prerequisites: GLIS 615, GLIS 616) This course investigates the structure of knowledge in the humanities and social sciences and their constituent disciplines in order to understand how information and knowledge in these fields is created, organized, communicated and retrieved.

GLIS 655 LANGUAGE AND INFORMATION. (3) (Prerequisite: GLIS 616) An explanation of the relationship between language and information science through consideration of: document representations for information retrieval; bilingual/multilingual systems; natural language processing; language barriers to information transfer.

GLIS 656 ABSTRACTING AND INDEXING. (3) (Prerequisite: 405-607) Principles and practical methods of abstracting and indexing. Topics include pre- and post-coordinate indexing, concept analysis, vocabulary control, construction and evaluation of thesauri and of indexes for books, periodicals, and series; emphasis on the role of the computer in indexing.

GLIS 658 ONLINE INFORMATION INDUSTRY. (3) (Prerequisite: GLIS 616)

GLIS 660 INFORMATION RESOURCE MANAGEMENT. (3) (Prerequisite: GLIS 607) Concepts and practices of managing information resources in organizations; management of records in all media; information inventories and information flow analysis; life-cycle management; application of information resource technologies for storage, retrieval and management; evaluation of information resource policies and practices; managing information resources for ISO 9000 compliance.

GLIS 661 KNOWLEDGE MANAGEMENT. (3) (Prerequisite: GLIS 601.) An introduction to knowledge management and its links to information systems and information professionals. A broad overview of the creation, capture, codification, sharing and application of knowledge in both tacit and explicit forms. Emphasis is placed on the tools and techniques as well as the role of organizational culture.

GLIS 662 INTELLECTUAL CAPITAL. (3) (Prerequisite: GLIS 661.) Understanding the strategic role of intellectual assets: how individuals, communities and organizations can identify and leverage their knowledge, experience, expertise and innovations more systematically to create value for the organization. Emphasis is placed on understanding the links between individuals and the organization in the sharing of intellectual assets.

GLIS 663 KNOWLEDGE TAXONOMIES. (3) (Prerequisites: GLIS 607, GLIS 661.) Basic classification and categorization methods, major taxonomy tools and technologies and practice in knowledge mapping and modeling. Theory and techniques of organization of both tacit and explicit knowledge at three levels: individual, community and the organization. Emphasis will be placed on the social nature of knowledge codification.

GLIS 664 COMMUNITIES OF PRACTICE. (3) (Prerequisite: GLIS 661.) Stages in the development of informal knowledge sharing groups and the roles and responsibilities of information professionals are examined. Focus is on the analysis of knowledge flow, knowledge creation and dissemination within and between different networks of knowledge.

GLIS 671 HEALTH SCIENCES INFORMATION. (3) (Prerequisite: GLIS 615, Corequisite: GLIS 616) A survey of information services and sources

(both electronic and print) for health care professionals and the general public. An exploration of the information needs of health professionals and scientists; the role of health libraries and librarians; principles of health and biomedical library practice, functions, and management.

GLIS 672 LAW INFORMATION. (3) (Prerequisite: GLIS 615. Corequisite: GLIS 616)

GLIS 689 SELECTED TOPICS IN LIBRARY AND INFORMATION STUDIES. (3) (Corequisite: GLIS 601) To explore a topic in library and information studies which elaborates or augments the curriculum; to pursue an individualized program of directed study which will vary according to the student's interests.

GLIS 690 INFORMATION POLICY. (3) (Prerequisite: GLIS 601)

GLIS 691 SPECIAL TOPICS 1. (3) Seminar to explore topics of particular interest to library and information studies. Topics vary from year to year.

GLIS 692 SPECIAL TOPICS 2. (3) Seminar to explore topics of particular interest to library and information studies. Topics vary from year to year.

GLIS 693 SPECIAL TOPICS 3. (3) Seminar to explore topics of particular interest to library and information studies. Topics vary from year to year.

GLIS 694 CERTIFICATE PROJECT. (3) This course permits a Graduate Certificate student to pursue an individualized program of directed study, in library and information studies, which will vary with personal interest but will elaborate or augment the curriculum.

GLIS 695 RESEARCH PAPER 1. (6) Explores a minor topic relevant to the Graduate Diploma student's program of study and results in a scholarly paper with potential for publication.

GLIS 696D1 (6), GLIS 696D2 (6) RESEARCH PAPER 2. (Students must register for both GLIS 696D1 and GLIS 696D2) (No credit will be given for this course unless both GLIS 696D1 and GLIS 696D2 are successfully completed in consecutive terms) Explores a minor topic relevant to the Graduate Diploma student's program of study and results in a scholarly paper with potential for publication.

GLIS 699 PRACTICUM IN INFORMATION SERVICES. (3) (Prerequisites: Successful completion of 36 credits of course work, including all required courses, and permission of Practicum coordinator.) Allows students to apply their theoretical knowledge base in an information environment and to learn basic professional skills. Each practicum is planned to ensure that the student has an overview of information processes. The precise nature of each practicum will vary to the type of site and student's interests.

44 Linguistics

Department of Linguistics
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Canada

Telephone: (514) 398-4222

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E-mail: gradprogram.linguistics@mcgill.ca

Web site: www.arts.mcgill.ca/programs/linguistics

Chair — Lydia White

44.1 Staff

Emeritus Professors

C. D. Ellis; B.A.(Cantab. & McG.), M.A.(Tor. & Yale), Ph.D.(McG.)

M. Gopnik; M.A., Ph.D.(Penn.)

M. Paradis; B.A.(Montr.), M.A., Ph.D.(McG.), Ph.D.(Montr.)

Professors

Y. Grodzinsky; B.Sc.(Hebrew University of Jerusalem),

Ph.D.(Brandeis) (*Canada Research Chair*)

G.L. Piggott; B.A.(W.I.), M.A., Ph.D.(Tor.)

L. White; M.A.(Cantab.), Ph.D.(McG.) (*James McGill Professor*)

Associate Professors

N.G. Duffield; M.A.(Cantab.), M.A.(Lond.), Ph.D.(USC)

B. Gillon; B.A., M.A., (Mich.), M.A.(Tor.), Ph.D.(M.I.T.)

H.M. Goad; B.A.(Br.Col.), M.A., Ph.D.(U.S.C.)

K. Johnson; B.A. (U.C., Irvine), Ph.D.(M.I.T.)

L. de M. Travis; B.A.(Yale), Ph.D.(M.I.T.)

Assistant Professors

C. Boberg; B.A.(Alta.), Ph.D.(Penn.)

J. Nissenbaum; B.A. (Oberlin College), Ph.D. (M.I.T.)

44.2 Programs Offered

M.A. (non-thesis) and Ph.D.

Ph.D. Option in Language Acquisition (LAP)

Information about this option is available from the Department and on the following Web site: www.ego.psych.mcgill.ca/lap.html.

44.3 Admission Requirements

Applicants to the M.A. or Ph.D. should have completed a B.A. with a specialization in linguistics. Applications are also invited from students with a background in other disciplines. Strong candidates who do not satisfy all requirements may be required to take additional undergraduate courses or may be admitted to a Qualifying Program which permits them to make up the gaps in their background.

44.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. letters of reference;
4. statement of purpose;
5. test results for international students: TOEFL;
6. application fee of \$60.00 (money order or certified cheque in Canadian funds).

Applications should be submitted to the Department of Linguistics not later than January 15th.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

44.5 Program Requirements

Degree of Master of Arts

The M.A. degree (without thesis) requires the completion of 45 credits, 30 credits of course work and a 15-credit research paper.

Degree of Doctor of Philosophy

Candidates holding a B.A. degree will follow a program of at least three years. This will include 30 credits of approved course work, a research seminar and a Comprehensive Evaluation to be completed before beginning work on the doctoral thesis.

Candidates holding an M.A. in Linguistics will follow a program of at least two years. This will include a minimum of 12 credits of course work, a research seminar and a Comprehensive Evaluation, to be completed before beginning work on the doctoral thesis.

44.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be

given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Undergraduate courses

Students deficient in certain areas may be required to take some of the following undergraduate courses in addition to graduate courses.

- LING 230 Phonetics
- LING 331 Phonology 1
- LING 370 Introduction to Semantics
- LING 371 Syntax 1
- LING 440 Morphology

Graduate courses currently scheduled for 2004-05:

LING 520 SOCIOLOGICAL LINGUISTICS 2. (3)

LING 521 DIALECTOLOGY. (3) (Fall) (Prerequisite: LING 230 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 525 TOPICS IN HISTORICAL LINGUISTICS. (3)

LING 531 PHONOLOGY 2. (3) (Winter) (Not open to students who have taken LING 530.) (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) (Prerequisite: LING 370 and permission of instructor) (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)

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 590 LANGUAGE ACQUISITION AND BREAKDOWN. (3) (Prerequisites: LING 371 and either LING 355 or LING 390)

LING 600 M.A. RESEARCH SEMINAR 1. (3)

LING 601 M.A. RESEARCH SEMINAR 2. (3)

LING 607 M.A. RESEARCH PAPER. (15)

LING 607D1 (7.5), LING 607D2 (7.5) M.A. RESEARCH PAPER. (Not open to students who have taken LING 697.) (Students must register for both LING 607D1 and LING 607D2) (No credit will be given for this course unless both LING 607D1 and LING 607D2 are successfully completed in consecutive terms)

LING 631 PHONOLOGY 3. (3) (Fall) (Prerequisite: LING 531 or permission of instructor.) Foundations of phonological theory, focusing on issues in segmental and prosodic structure.

LING 635 PHONOLOGY 4. (3) (Winter) (Prerequisite: LING 631) Exploration of current topics in phonological theory.

LING 640 FUNDAMENTALS OF MORPHOLOGY. (3) (Fall) (Not open to students who have taken LING 440) Introduction to current theoretical notions that seek to define a well-formed word structure, including headedness, morphological subcategorization, feature percolation and cyclicity.

LING 645 MORPHOLOGY: THEORY AND ANALYSIS. (3) (Prerequisite: LING 571 or equivalents) (Corequisite: LING 530 or equivalent)

LING 651 TOPICS IN ACQUISITION OF PHONOLOGY. (3) (Prerequisites: LING 331 or LING 631 or permission of instructor. A course in language acquisition is highly recommended.)

LING 655 THEORY OF L2 ACQUISITION. (3) (Prerequisite: LING 571 or permission of instructor)

LING 660 FORMAL SEMANTICS. (3) (Winter) (Prerequisite: LING 370 and LING 560 or permission of instructor. At least one course in logic strongly recommended.) This course presents the tools of formal semantics, and instruction in Montague Semantics, discourse representation theory, or linguistic theories with comparable semantic capabilities, such as Head-driven Phrase Structure Grammar.

LING 671 SYNTAX 3. (3) (Fall) (Prerequisite: LING 371) In-depth overview of current issues in theoretical syntax. Emphasis will be placed on the logic and development of argumentation in syntactic theory.

LING 675 SYNTAX 4. (3) (Winter) (Prerequisite: LING 671) Continuation of LING 671.

LING 682 SELECTED TOPICS 1. (3)

LING 683 SELECTED TOPICS 2. (3) (Fall)

LING 688 TUTORIAL 1. (3) (Permission of instructor.)

LING 690 SEMINAR IN NEUROLINGUISTICS. (3) (Winter) (Prerequisite: LING 671 or permission of instructor) Survey of methods and results relevant to cerebral representation of grammatical systems.

LING 700 PH.D. RESEARCH SEMINAR 1. (3) (Fall) (Not open to students who have taken 104-700D.)

LING 702 PH.D. RESEARCH SEMINAR 2. (3) (Winter) (Not open to students who have taken 104-700D.)

LING 706 PH.D. EVALUATION 1. (6) (Not open to students who have taken LING 701.)

LING 707 PH.D. EVALUATION 2. (6) (Not open to students who have taken LING 701.)

LING 710 LANGUAGE ACQUISITION ISSUES 2. (2)

LING 719 LINGUISTIC THEORY 2. (3) (Not open to students who have taken LING 750.)

LING 720 ADVANCED SEMINAR IN SOCIOLOGICAL LINGUISTICS. (3) (Prerequisite(s): LING 520 or permission of instructor.)

LING 731 ADVANCED SEMINAR IN PHONOLOGY. (3) (Prerequisite: LING 631)

LING 740 ADVANCED SEMINAR IN MORPHOLOGY. (3) (Prerequisites: LING 640 and LING 571)

LING 755 ADVANCED SEMINAR: LANGUAGE ACQUISITION. (3) (Prerequisites: LING 571 and LING 555 or LING 655, or permission of instructor)

LING 760 ADVANCED SEMINAR IN SEMANTICS. (3) (Prerequisite: LING 660)

LING 771 ADVANCED SEMINAR IN SYNTAX. (3) (Not open to students who have taken LING 775.) (Prerequisite(s): LING 671 or LING 675.)

LING 782 SELECTED TOPICS 3. (3)

LING 783 SELECTED TOPICS 4. (3)

LING 788 TUTORIAL 2. (3) (Permission of instructor.) Independent study of a selected field or topic.

LING 789 TUTORIAL 3. (3) (Permission of instructor.) Independent study of a selected field or topic.

LING 790 ADVANCED SEMINAR IN NEUROLINGUISTICS. (3) (Prerequisite: LING 671 or permission of instructor.)

45 Management

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Web site: www.management.mcgill.ca

Dean — Gerald Ross

Associate Dean, Master Programs; Director, M.B.A. — Alfred M. Jaeger

Associate Dean (Academic) and Director, Ph.D. Program — Jan Jörgensen

Program Chair, International Masters Program in Practicing Management (IMPM) — Henry Mintzberg

Program Director, Master of Management (Manufacturing) — Tamer Boyaci

Program Director, McGill/McConnell Voluntary Sector — Frances Westley

Director, C.A. Program — Philippe Levy

Associate Director, M.B.A. — Eva Shepherd

45.1 Staff

Emeritus Professors

D. Armstrong; B.A., B.Com.(Alta.), Ph.D.(McG.)
R.N. Kanungo; B.A., M.A.(Patna), Ph.D.(McG.)
R.J. Loulou; M.Sc., Ph.D.(Calif.); Management Science

Professors

N.J. Adler; B.A., M.B.A., Ph.D.(U.C.L.A.); Organizational Behaviour
R. Brenner; B.Sc., M.A., Ph.D.(Hebrew Univ.) (*Repap Professor of Economics*)
U. Böckenholt; Diploma(Oldenburg, Germany), Ph.D.(Chic.), Ph.D.(Oldenburg, Germany); Marketing (*Bell Professor in E-Marketing*)
D.H. Drury; B.Com., M.B.A.(McM.), Ph.D.(Northwestern), R.I.A.(S.I.A.); Accounting
V.R. Errunza; B.Sc.(Tech.)(Bombay), M.Sc., Ph.D.(Calif.); Finance
J.L. Goffin; B.Eng., M.S.(Brussels), M.Sc., Ph.D.(Calif.); Management Science
H. Mintzberg; B.Eng.(McG.), B.A.(Sir G.Wms.), S.M., Ph.D.(M.I.T.); Strategy and Organization (*John Cleghorn Professor of Management Studies*)
F. Westley; B.A.(Vt.), M.A., Ph.D.(McG.); Strategy and Organization (*James McGill Professor*)
G.A. Whitmore; B.Sc.(Man.), M.Sc., Ph.D.(Minn.); Management Science (*Samuel Bronfman Professor of Management Science*)

Associate Professors

L. Dubé; B.Sc.(Laval), M.B.A.(HEC), M.P.S., Ph.D.(C'nell); Marketing (*James McGill Professor*)
H. Etemad; B.S.C.; M.Eng.(Tehran), M.S., M.B.A., Ph.D.(Calif.); International Business
K. Jacobs; B.A., M.A.(Cath. U. of Louvain), Ph.D.(Pitts.); Finance
A.M. Jaeger; B.Sc.(Northwestern), M.B.A., Ph.D.(Stan.); Organizational Behaviour
J. Jörgensen; B.A., M.A.(N.C.), Ph.D.(McG.); International Business, Strategy and Organization
M. Graham; M.A., M.B.A., Ph.D.(Harv.); Strategy and Organization
R. Hebdon; B.A., M.A., Ph.D.(Tor.); General Management-Industrial Relations
M.D. Lee; B.A.(Eckerd), M.Ed.(Temple), M.A.(S.Florida), Ph.D.(Yale); Organizational Behaviour
S. Li; M.S.(Georgia), Ph.D.(Tex.); Management Science
M. Mendonça; B.A., B.Com., M.A.(Bombay), M.B.A.(McG.); Organizational Behaviour (Part-time)

K. Moore; B.Sc.(Ambassadour U.); M.B.A. (U.S.C.); Ph.D. (York); Marketing/Strategy & Organization (Part-time)
A. Pinsonneault; B.C.(C'dia); M.Sc.(H.E.C.); Ph.D.(Calif.); Information Systems
E. Sarigöllü; B.A., M.B.A.(Bogazici), M.A., Ph.D.(Penn.); Marketing
V. Verter; B.A., M.S.(Bogaziçi), Ph.D.(Bilkent); Management Science/Operations Management
G. Vit; B.Com.(McG.), M.B.A.(C'dia), Ph.D.(Bradford-UK); Strategy and Organization (Part-time)
M. Yalovsky; B.Sc., M.Sc., Ph.D.(McG.); Management Science

Assistant Professors

S. Banerji; B.A., M.A.(Calc.), Ph.D.(SUNY, Buffalo); Finance
S. Barlas; B.S.(Hacettepe U., Turkey); M.S.(Illinois-Champaign); Ph.D.(Chic.); Marketing
G. Basselier; B.Com., M.Sc.(HEC); Information Systems
T. Boyaci; B.S.(Middle-East Tech., Turkey), M.S., Ph.D.(Col.); Management Science
F. Carrieri; Laurea-Law(Universita'di Bari), M.A., Ph.D.(U.S.C.); Finance
J.N. Choi; B.A. M.A.(Seoul Nat'l), M.A., Ph.D.(Mich.); Organizational Behaviour
P. Christofferson; B.A.(Copenhagen), M.A., Ph.D.(Penn.); Finance
S. Christofferson; B.A.(Queen's), M.A.(Br.Col.), Ph.D.(Penn.); Finance
B. Croitoru, DIAF(Institute de Statistique de l'Universite Pierre and Marie Curie-Paris); Ph.D.(Wharton); Finance
R. David; B.Eng., M.B.A.(McG.); Strategy and Organization
A. de Motta; B.A.(Universidad De Valencia, Spain); Finance
J. Ericsson; M.Sc., Ph.D.(Stockholm Sch. of Econ.); Finance
S. Fortin; Acct. Sci.(Quebec); Accounting
K. Harlos; B.A., M.A., Ph.D.(Br.Col.); Organizational Behaviour
M-S. Jo; B.Com.(Hankuyk U., Korea), M.B.A.(Mich.), M.S.(Ill.), Ph.D.(Colo.); Marketing
L. Lapointe; B.A., M.Sc.(Montr.), Ph.D.(HEC); Information Systems
D. Leisen; B.S.(Mainz), M.S., Ph.D.(Bonn); Finance
S. Maguire; B.Sc.(Queen's), M.B.A.(Br.Col.); Strategy and Organization
M. Mortensen; B.A. (Colby Coll.); M.Sc., Ph.D., Stanford; Organizational Behaviour
A. Mukherjee; B.Eng.(Jadavpur-India), M.B.A.(Indian Inst. of Mgmt), Ph.D.(Texas-Austin); Marketing
W. Oh; B.A.(SUNY), M.B.A.(Geo.Wash. U.), M.Phil.(Stern); Information Systems
P. Perez-Aleman; B.Sc.(Berkeley), Ph.D.(M.I.T.); Strategy and Organization
S. Ray; B.E.(Jadavpur), M.E.(Asian I.T.), Ph.D.(Wat.); Management Science
S. Sarkissian; M.S.(Berkeley), Ph.D.(Wash.); Finance
O. Toulan; B.Sc.(Georgetown), Ph.D.(M.I.T.); Strategy and Organization
D. Vakratsas; B.Sc.(Aristotle U.) M.Sc., Ph.D.(Texas, Dallas); Marketing

Assistant Professor (Special Category)

P. Ruiz; M.S.(Claude Bernard U.); Finance

Faculty Lecturers

S. Basu; B.Sc.(Calc.), M.A.(Tufts), Ph.D.(Pitt.); General Management
R. Cecere; B.Com., G.D.P.A.(McG.); Accounting
M. Chaudhury; B.A., M.A.(Dhaka), M.A.(Wat.), Ph.D.(S. Fraser); Finance
L. Chauvin; B.A.(Ott.), M.A.(C'dia); Strategy and Organization
R. Donovan; B.Com.(McG.), GDIT(C'dia); Information Systems
W. Elali; M.A.(Northeastern), M.B.A., Ph.D.(Belgrade); Finance
S. Gagnon; B.A.(Br.Col.), M.Sc.(Oxford)
L. Gialloreti; B.A.(UWO), M.B.A.(McG.), B.A. Law(Carleton), LL.M.(McG.); Marketing
L. Goldsman; B.Com.(C'dia), Dip-P.Acc'ting(McG.), C.A.; Accounting

L. Hammami; B.Com., M.B.A. (Laval); Finance
 D. Hart; B.Sc., M.B.A. (McG.), M.Sc. (C'dia); Management Science
 K. Leitch; B.A. (McG.); Information Systems
 P. Levy; B.Com. (C'dia), D.P.A., M.B.A. (McG.); Accounting
 F. Liu; B.Eng., M.Eng. (Tianjin, China), Ph.D. (C'dia); Finance
 B. Smith; B.A., M.A. (Dublin) M.Sc. (Alta.), M.Sc.A. (McG.)
 Ph.D. (Queen's); Management Science
 L. Taylor; B.Sc., M.B.A., Ph.D. (Alta.); Organizational Behaviour
 V. Vaupshas; B.Sc., M.B.A. (McG.); Marketing
 G. Zabowski; B.Com., M.B.A. (McG.); Management Science

Adjunct Professor

P. Johnson; B.A. (Sir G. Wms.), C.M.C.; Entrepreneurial Studies

Visiting Professor

T. Kang; B.B.A. (Korea Univ.); M.B.A. (McG.); Ph.D. (pending-Illinois); Accounting

45.2 Programs Offered

McGill University offers eight programs which provide graduate level education in management. All programs have been tailored to meet the special needs and demands of different groups of people. Before embarking on a graduate management education, students should, therefore, be aware of the different and unique features of each program, and select the one which best suits their aspirations and abilities.

- 1) Master of Business Administration (M.B.A.)
 may be taken on either a full-time basis (see section 45.5 "M.B.A. Program Requirements", page 252) or a part-time basis (see section 45.5.4 "M.B.A. Part-time Studies", page 253).
- 2) M.B.A./Law Program
 offered in cooperation with the Faculty of Law (see section 45.5.12 "M.B.A./Law Program", page 254).
- 3) M.D./M.B.A.
 offered in cooperation with the Faculty of Medicine (see section 45.5.10 "M.D./M.B.A. Program", page 254).
- 4) Post-M.B.A. Certificate
 intended for professional managers who wish to update their skills and/or broaden the base of their education. The certificate may be taken on a full-time or part-time basis. (see section 45.7 "Post-M.B.A. Certificate", page 259)
- 5) Ph.D. in Administration
 offered jointly by the four Montreal universities: Concordia University, École des Hautes Études Commerciales (affiliated with the Université de Montréal), McGill University, and Université du Québec à Montréal (see section 45.9 "Joint Ph.D. in Administration", page 262).
- 6) Master of Management – Manufacturing Management
 a 12-month academic program followed by a four-month industrial internship, offered in collaboration with the Faculty of Engineering (see section "Master in Manufacturing Management", page 259).
- 7) Master of Management – International Masters Program in Practising Management (see section 45.8.2 "International Masters Programs in Practising Management (IMPM)", page 260).
- 8) Graduate Diploma in Public Accountancy (see section 45.8.3 "Diploma in Public Accountancy (Chartered Accountancy)", page 260).

45.3 Admission Requirements

45.3.1 M.B.A. Program – Admission Requirements

Applicants with strong indications of managerial potential are desired. Given below are the minimum entrance criteria. Owing to the large number of applicants to the McGill M.B.A., merely meeting the minimum requirements will not guarantee acceptance.

- a) An undergraduate degree, from an approved college or university, with a Grade Point Average of at least 3.0 out of a possible 4.0, or a B average.
- b) A score of at least 570 on the Graduate Management Admission Test (GMAT), written within the past five years.
- c) Applicants who earned a Bachelor degree outside Canada, the United States, Australia, New Zealand or the United Kingdom, are required to take the Test of English as a Foreign Language. The TOEFL is **not** waived for graduates of four-year university programs whose language of instruction is English if the university is located in a non-English speaking country. Canadian citizens or applicants with at least three years Permanent Resident status may request a TOEFL waiver. Applicants who are not Canadian citizens and whose mother tongue is not English may be asked to demonstrate an English language competency beyond the submission of the TOEFL score. A minimum score of 600 for paper-based test or 250 for computer-based test is required.

Applicants may write the IELTS (International English Language Testing Systems) instead. A minimum overall band of 7.0 is required.

- d) A minimum of two years of full-time work experience, following completion of an undergraduate degree.
- e) Two letters of reference.

45.3.2 M.B.A. Part-time Studies – Admission

The McGill M.B.A. Program may also be completed on a part-time basis. This is meant to accommodate persons with full-time employment. Admission as an M.B.A. part-time student may be made twice a year, in September and in January. Admission requirements are the same as in section 45.3.1 "M.B.A. Program – Admission Requirements".

Note: Students studying on a part-time basis may transfer to full-time at various stages during their studies. Students wishing to do this must meet with the Associate Director to review their schedule; see section 45.5.5 "Combined Full-time and Part-time Studies", page 253.

45.3.3 M.B.A. Admission – Transfer of Credits

OPTION 1

Candidates who have completed some portion of the first year of an M.B.A. program at another recognized institution may be granted CREDIT for equivalent courses up to a maximum of 15 credits. In most cases candidates would be admitted to the first year of the program and will complete the remaining first year courses on a part-time basis.

OPTION 2

Candidates who have completed the entire first year of an M.B.A. program at another recognized institution may be exempt from the entire first year and required to take 15 second-year courses.

Note: In both options, candidates must submit a completed application and meet the competitive entrance requirements of the M.B.A. program.

In order to be awarded an M.B.A. from McGill a minimum of 45 credits must be completed at McGill.

45.3.4 M.B.A. Admission – Advanced Standing

OPTION 1

Candidates who hold a Bachelor of Commerce degree from a recognized North American institution with a minimum cumulative grade point average of 3.2 on a four (4) point scale and possess three or more consecutive years of full-time work experience, following completion of their undergraduate degree, in a position that has allowed for interaction across a number of areas in the enterprise may be considered for advanced standing. Candidates will be required to take 15 second-year M.B.A. courses (45 credits). Applicants applying for advanced standing must complete and return the advanced standing application, accompanied by a document detailing management responsibilities and the M.B.A. application form.

OPTION 2

Students who have a B.Com. and subsequently complete the requirements for the McGill Graduate Diploma in Public Accountancy may choose not to receive the Diploma but instead to use those 30 credits towards the M.B.A. (with an option in Accounting). They would enter the second year of the program and complete 30 credits of M.B.A. II courses. To be accepted into the M.B.A. program such students must meet the advanced standing admission requirements as outlined above.

Note: Students accepted with Advanced Standing may apply for the International Exchange Program. However, the term of study spent abroad will be IN ADDITION to the 45 credits required for their M.B.A.

45.3.5 Visiting Student Admission

Visiting students are graduate students registered at another university taking a course in the Faculty of Management for credit at their home university.

Quebec students may apply on-line by going to www.crepuq.qc.ca. Visiting students from outside the province of Quebec must forward an application form and \$100 fee, as well as a letter of permission from their school indicating the course(s) they are permitted to follow. The letter must also confirm that they are in good standing at their home university.

The deadlines for submission of applications are the same as admission deadlines.

45.4 Application Procedures**45.4.1 M.B.A. Application Procedure**

The McGill M.B.A. program begins in September of each year. **The deadline for receipt of application, \$100 fee and all supporting documents is February 15.**

Applications are reviewed on a rolling basis so that the earlier a file is complete, the sooner the applicant may expect to receive an answer. The undergraduate record, GMAT and TOEFL scores (where applicable), work experience, essay and letters of reference are the criteria used in making admission decisions. With the exception of a few select cases, a personal interview is not mandatory.

An on-line application form is available at www.mcgill.ca/apply/graduate for use by those who wish to apply for entry to graduate studies at McGill. Applicants may also download the Application from the Faculty of Management Web site. Further information on using the paper application to apply is available on the Web at www.management.mcgill.ca, however applicants to graduate programs in Management are strongly encouraged to apply on-line.

All other documents are to be submitted directly to:

Admissions Office
McGill M.B.A. Program
Faculty of Management
McGill University
1001 Sherbrooke Street West
Montreal, Quebec H3A 1G5
E-mail: mba@management.mcgill.ca
Web site: www.management.mcgill.ca

Applicants must submit the on-line application, or the completed paper Application Form, and arrange for the submission of:

- 1) a completed Personal Background Sheet;
- 2) duplicate official transcripts of undergraduate marks (and graduate, if any) **FORWARDED DIRECTLY BY THE APPLICANT'S UNIVERSITY**. For international applicants, the academic records must include: transcripts in the original language with official translations (into English), listing courses and grades for each year of study, verifying conferral of degree. These documents must bear the actual signature of the registrar and the official seal or stamp of the institution.

- 3) the \$100 application fee (see section 45.4.3 "Application Fee Information");
- 4) two letters of reference forwarded directly from individuals who have been responsible for evaluating the applicant's academic and/or managerial performance and potential.
- 5) the GMAT score (written within the past five years) and the TOEFL score (where applicable) forwarded directly from the Educational Testing Service (see section 45.4.4 "GMAT and TOEFL Information").

Please note that entrance to the McGill M.B.A. is highly competitive. It is in the applicant's interest to apply as early as possible. Applicants will be notified when their file is complete and a decision will follow within 4 to 6 weeks.

No documents submitted as part of the application package will be returned to the applicant.

Note: Students who are not admitted to the program may request a Reconsideration of Application for a fee of \$40. If the decision following the Reconsideration is not favourable, the student may then request an Admissions Appeal for a fee of \$100. The fee(s) will be credited to the student fee account if the initial admission decision is overturned. Payment must be made as per section 45.4.3 "Application Fee Information".

45.4.2 M.B.A. Part-time Application Procedures

Admission as an M.B.A. part-time student may be made twice a year. Deadlines for receipt of application, \$100 fee and all supporting documents are:

- February 15 for September
- October 1 for January

The application procedure is the same as that for full-time studies; see section 45.4.1 "M.B.A. Application Procedure".

45.4.3 Application Fee Information

The \$100 application fee must be paid using one of the following methods:

- Credit card (on-line applications must be paid for by credit card).
- Certified Personal cheque in Canadian dollars drawn on a Canadian Bank.
- Certified Personal cheque in U.S. dollars drawn on a U.S. Bank.
- Canadian Money Order in Canadian dollars.
- Money Order in U.S. dollars.
- Bank draft in Canadian dollars drawn on a Canadian Bank.
- Bank draft in U.S. dollars drawn on a U.S. Bank.

In all cases the cheque/money order should be made payable to McGill University.

Please note that a file will not be opened until an official application with the \$100 fee is received.

45.4.4 GMAT and TOEFL Information**Graduate Management Admission Test (GMAT)**

The GMAT is administered by the Educational Testing Service (ETS). It is required of all M.B.A. applicants. The McGill ETS Code Number is 0935. Only a GMAT written within the last five years will be considered valid. GMAT test results must be sent to McGill directly from the ETS; photocopies will not be accepted.

All inquiries concerning testing arrangements should be addressed to: Graduate Management Admission Test, Educational Testing Service, P.O. Box 6103, Princeton, N.J. 08541-6103 U.S.A. Telephone: (609) 771-7330.

There is a learning book available to the students entitled "GMAT". This book may be obtained from many bookstores, including the McGill University Bookstore, located at 3420 McTavish Street and students may wish to buy this book prior to writing the GMAT examination.

Test of English as a Foreign Language (TOEFL)

The purpose of this test is to determine the English proficiency of non-Canadian individuals whose native language is not English.

For a copy of the Bulletin of Information, write directly to the Educational Testing Service, Box 6152, Princeton, New Jersey, USA 08541-6151. Copies can also be obtained from the Admissions, Recruitment and Registrar's Office in the James Administration Building.

45.4.5 Application Procedures for other Programs

Application procedures can be found in each program's section, as follows:

- M.B.A./Law Program, see section 45.5.12.
- M.D./M.B.A. Program, see section 45.5.10.
- Master in Manufacturing Management, see section .
- Post-M.B.A. Certificate, see section 45.7.
- Joint Ph.D. in Administration, see section 45.9.
- International Masters Programs in Practising Management (IMPM), see section 45.8.2.
- Diploma in Public Accountancy (Chartered Accountancy), see section 45.8.3.

45.4.6 Procedure for accepting an Offer of Admission to the M.B.A. Program

Those students admitted to the first year of the M.B.A. Program should forward a registration deposit fee of \$500 (Canadian or U.S. funds; certified cheque or money order) payable to McGill University. Two passport size photographs must also be supplied along with the deposit fee.

- a) This fee is payable immediately upon receipt of the letter of acceptance and a place is reserved.
- b) If this fee is not paid by the date specified in the letter of acceptance, no reservation will be made.
- c) The fee is applied against tuition fees provided that the candidate informs the Faculty of Management by the specified date that he/she will be joining the program and if he/she registers by the given date of registration.
- d) The \$500 fee is refundable provided the candidate informs the Faculty by the specified date that he/she does not intend to join the program for the coming academic year.
- e) The \$500 fee is forfeited if the candidate fails to inform the Faculty by the specified date that he/she will not be attending the program.
- f) Students who are unable to begin attending classes in the first week of the first trimester will be required to defer their admission until the next admission period.

Note: International Students should carefully follow all instructions sent to them re applying for their Certificate of Acceptance which is required of all students who wish to study in the Province of Quebec (see section 45.4.10 "Certificat d'acceptation (C.A.Q.)/ (Certificate of Acceptance)").

All of the above is clearly outlined in the letter of acceptance.

45.4.7 Registration

All accepted candidates will receive a package outlining registration procedures as well as deadline dates for fee payment.

Candidates who fail to register during the specified registration period may do so later but will be charged a late registration fee by the University.

For more information on registration, please refer to the see the General Information section of the Graduate and Postdoctoral Studies Calendar for more information.

45.4.8 Orientation

Orientation for all new M.B.A. I students is held during the week before classes begin. **This activity is a mandatory part of M.B.A.I.** During this orientation, students get acquainted with other students and may form initial study groups. There is also an opportunity to meet with professors and to have various facets of

the program outlined and clarified. An orientation fee of approximately \$80 is assessed to each student.

45.4.9 International Applicants

The University is unable to waive or defer the application fee for international students. Applications received without the application fee will not be processed.

There is no financial aid to bring international students to study in Canada. If an international applicant has been selected to receive an entrance award, it will be credited to the student fee account after registration in September. International applicants must, therefore, rely on their own financial resources to enter Canada.

The regulations governing international students working in Canada should be checked with the nearest Canadian Embassy or Consulate. Visas must be checked also.

45.4.10 Certificat d'acceptation (C.A.Q.)/ (Certificate of Acceptance)

International Students should carefully follow all instructions sent to them when applying for their Certificate of Acceptance (CAQ) which is required of all students who wish to study in the Province of Quebec. **The M.B.A. Office is unable to help students obtain this document.**

All students who are not citizens or Permanent Residents of Canada are required to obtain the necessary Visa and/or Student Authorization documents **prior to entering the country. Do not leave home without proper documentation. You cannot change your status from Visitor to Student in Canada.**

Certificate of Acceptance from Quebec (CAQ) – The process to come to Canada begins with an application for a Certificate of Acceptance from Quebec (CAQ). There is a \$100 processing fee for this document. Details on how and where to apply for the CAQ are provided with the McGill Admissions package.

Student Authorization – Issued by Canada Immigration through a Canadian Embassy or Consulate. (There is a processing fee of \$125 on all applications for Student Authorizations.)

A citizen of the United States, Greenland and/or St.Pierre-Miquelon is permitted to obtain the Student Authorization at a Port of Entry, if in possession of the CAQ.

Applying to McGill from within Canada (outside Quebec) – Students transferring from another Canadian institution outside Quebec to McGill should send their documents and CAQ application to the Montreal address of Immigration Quebec.

Students must normalize their status with Quebec and Canada Immigration prior to attending any classes at McGill.

For further information, or if there is an emergency, contact International Student Services by telephone at (514) 398-4349 during regular office hours, 09:00 to 17:00, or by e-mail at international.students@mcgill.ca.

45.5 M.B.A. Program Requirements

Students studying on a full-time basis must complete this 60-credit program in three years; part-time students have a five-year time limit.

The first year of the program is designed to provide students with the basic managerial techniques and skills. The second year allows the student to concentrate in a particular field. Students will take both day and evening classes from September to April for two years.

45.5.1 First Year (M.B.A. I)

Students must have a thorough understanding of Word, Excel and basic management statistics prior to entry.

Three highly integrative **9-Week Modules** have been developed to provide the skills essential to the entire organization. Emphasis is on team work and team building. MGCR628 is a year-long project course which integrates material across the three modules.

The first year will run on a Trimester basis.

First Trimester	Module 1	September to November
Second Trimester	Module 2	November to February
Third Trimester	Module 3	February to April

		Credit Weight
MODULE I (September to November)		
MGCR611	Financial Accounting	2
MGCR612	Organizational Behaviour	2
MGCR613	Managerial Economics	2
MGCR614	Management Statistics	2
MGCR628	Integrative Course	2
Module II (November to February)		
MGCR616	Marketing	2
MGCR617	Operations Management	2
MGCR620	Information Systems	2
MGCR641	Elements of Modern Finance 1	2
MGCR628	Integrative Course (continues)	2
Module III (February to April)		
MGCR618	Human Resource Management	1
MGCR621	International Environment	2
MGCR622	Organizational Strategy	2
MGCR629	Ethics in Business	1
MGCR640	Management Accounting or	2
MGCR642	Elements of Modern Finance 2	2
MGCR628	Integrative Course (concludes)	2

The Integrative Course, MGCR628, runs from September to April. Students completing the M.B.A. part-time will register for the Integrative Course while in the process of completing the last M.B.A. I courses.

Courses with a credit weight of 2 run for 9 weeks with 1 week for exams. Courses with a credit weight of 1 have 4½ weeks of class each.

45.5.2 Second Year (M.B.A. II)

The second year of the M.B.A. allows students to focus on a particular area of interest and to develop some specialization, or to create their own general management curriculum. Courses are offered both during the day and the evening. Students choose one of the following options to earn the 30 credits:

- Five courses (15 credits) from the concentration in which the student wishes to specialize, and five elective courses (15 credits). It is not necessary to select the area of concentration until completion of the first year.

A Research Paper is an optional part of the M.B.A. which may be included as part of a concentration or replace free electives. The research paper is worth 6 credits. The Research Paper is designed to familiarize students with the process and the problems of independent research. The student is given considerable freedom in choosing research topics. Students have the opportunity to work on a one-to-one basis with a Faculty Member.

or

- Ten courses (30 credits) selected as part of a General Management program.

45.5.3 M.B.A. II Year Concentrations

The M.B.A. II Concentrations are geared to the needs and demands of the employment market. They have been designed with considerable thought and attention to provide meaningful and useful packages of courses which will be an advantage upon graduation.

Concentrations include:

- Entrepreneurial Studies
- Finance
- Information Systems
- International Business
- Management for Development
- Marketing
- Operations Management
- Strategic Management

M.B.A. students may select a concentration or create their own General Management Curriculum.

A Concentration consists of five courses within an area. Support courses from accounting, human resource management, management science, and managerial economics are also offered to supplement the five courses within each concentration.

Double Concentrations

Students wishing to do a Double Concentration must take five courses in each area.

45.5.4 M.B.A. Part-time Studies

The course requirements for students completing their degree on a part-time basis are identical to those studying full-time; see section 45.5.1 "First Year (M.B.A. I)" and section 45.5.2 "Second Year (M.B.A. II)".

The usual course load for a student studying part-time is two courses per Trimester. This would permit students to complete the first year course requirements in 2½ to 3 years. However, this is simply a guide and students may elect to take the number of courses which best suits their schedule. In the second year (M.B.A. II) courses are given in the more traditional semester (term) schedule, i.e., September to December and January to April. Students may also take second-year courses in the summer terms provided they have the necessary prerequisites.

A limit of 5 years is permitted to complete the degree requirements.

45.5.5 Combined Full-time and Part-time Studies

There are two options by which students may combine full-time and part-time studies.

Option 1

Upon completion of the entire first year (M.B.A. I) on a part-time basis, students may request a status change to full-time to complete the second year (M.B.A. II) as full-time students.

Option 2

Upon completion of some portion of the first year (M.B.A. I) on a part-time basis, students may request a status change to full-time to complete the degree requirements. This may require some complex scheduling of courses and will require a meeting with the Associate Director to make the necessary program arrangements.

Students wishing to change their status to full-time must make a written request at least 6 weeks prior to the beginning of the relevant term. These requests should be sent to the Coordinator, Student Advising. It should also be noted that acceptance to any one of these options is not automatic. In all cases the student's record in the completed courses as well as availability of space in the program will be considered.

45.5.6 M.B.A.³ (M.B.A. Cubed)

The McGill M.B.A.³ (Cubed) program has been designed specifically for the Montreal business community. By combining evening courses, offered from September to June, with two intensive July sessions, participants can earn an M.B.A. in two years while continuing to work full-time.

Year 1 (30 credits)

Summer 1a – July:

Three 2-credit core courses delivered in a 5 day/week three-week session. Total credits: 6

Trimesters 1, 2 and 3 – September to April:

Two 2-credit courses each term, and 6-credit Integrative Course started. Total credits: 15

Summer 1b – May and June:

Three 2-credit courses plus remaining half of Integrative Course (students will be working on the integrative course project and in touch with their advisors throughout the first year).

Total credits: 9

Year 2 (30 credits)

Summer 2a – July:

Two 3-credit core courses delivered in a 5 day/week two-week session. Total credits: 6

Fall and Winter Terms – September to April:

Five 3-credit elective courses. Total credits: 15

Summer 2b – May and June:

One 3-credit elective course and one 6-credit independent study course. Total credits: 9

The entrance and course requirements for the M.B.A.³ program are identical to those of the full-time program.

For further information, contact the M.B.A.³ staff at (514) 398-1539.

45.5.7 Additional M.B.A. Programs

The following special programs are also available:

M.B.A. International Exchange, M.B.A. *Stage*, M.D./M.B.A., M.B.A./Japan, M.B.A./Law.

45.5.8 M.B.A. International Exchange Program

Through the McGill M.B.A. Exchange Program there are exciting opportunities to study abroad.

Participation in the program gives McGill students the opportunity to spend part of the second year of the M.B.A. studying at a business school abroad. Students successfully completing the program's requirements receive both the Master's Degree from their home university and an International Management Certificate from the foreign institution which they attended. McGill is part of the Program in International Management (PIM), a consortium of the leading business schools in North America, South America, Europe, and Asia. There are exchanges with both PIM and non-PIM schools.

The following schools may exchange students with McGill in 2003-2004:

PIM members:

- Asian Institute of Management, Manila, Philippines
- Copenhagen Business School, Denmark
- Erasmus University, Rotterdam, The Netherlands
- ESADE (Escuela Superior de Administracion y Direccion de Empresas), Barcelona, Spain
- Fundacao Getulio Vargas, Sao Paulo, Brazil
- HEC (Hautes Études Commerciales), Jouy-en-Josas, France
- Institut Supérieur des Affaires (I.S.A.), France
- ITAM, Mexico
- ITESM, Mexico
- Luigi Bocconi, Milan, Italy
- Manchester Business School, England
- Norwegian School of Economics, Norway
- Stockholm School of Economics, Sweden
- Thammasat University, Bangkok, Thailand
- University of Cologne, West Germany
- University of Louvain, Louvain-La-Neuve, Belgium
- University of Melbourne, Australia
- University of New South Wales, Australia
- University of St. Gallen, Switzerland
- University of Texas at Austin, U.S.A.
- University of Witwatersrand, South Africa

Non-PIM members:

- Bilkent University, Turkey
- Solvay Business School, Brussels, Belgium

45.5.9 M.B.A. Stage Program

The M.B.A. *Stage* program has been designed to provide students the opportunity to integrate their studies in a practical work situation. This program will be most appealing for students with little work experience in their field of specialization. The work experience is an essential part of the *Stage* program and students who opt for this will be required to:

1. Secure an offer from a prospective employer – the offer must be made in writing and should include the job/*Stage* description, duration and remuneration.
2. Obtain approval for this *Stage* by the M.B.A. Director.
3. Upon completion of the *Stage* and in order to obtain credit, submit a paper on the integration of the applied and academic aspects of the first year courses and the *Stage* experience

Note: International students will also require a work-authorization for employment from Citizenship and Immigration Canada.

45.5.10 M.D./M.B.A. Program

The M.D./M.B.A. program recognizes that physicians will be increasingly involved in the growing partnership between business and health/sickness care. The program will graduate a group of doctors with skills uniquely directed towards management in the health care sector. This will provide opportunity to compete for positions in a growing niche of physician-managers who will be found in all facilities from the smallest clinic to the largest tertiary health care facility, from research laboratory to university or hospital medical departments.

This is a five-year program in which the first year from September to the following July is spent in the Faculty of Management. In August the students will begin their medical studies with the first year class and elements of health management and practicums will be integrated into the elective opportunities in the regular four-year medical curriculum. At graduation, graduates will receive an M.B.A. from the Faculty of Management and an M.D., C.M. from the Faculty of Medicine.

Applicants to this program must apply separately to each program and meet the admission requirements of both the Faculty of Medicine and the Faculty of Management. Applications and all supporting documents for both M.B.A. and Medicine must be received by the respective Admissions Offices by **November 15**. Further information and application forms for the Faculty of Medicine can be obtained from:

Program Administrator M.D./M.B.A. Program,
McIntyre Medical Sciences Building,
3655 Promenade Sir William Osler,
Montreal, QC H3G 1Y6
Telephone: (514) 398-3521 Fax: (514) 398-3595

45.5.11 M.B.A./Japan

This two-year M.B.A. program – delivered by McGill faculty at the campus of the prestigious Sophia University in downtown Tokyo, Japan – provides local students with a world-class North American style graduate business education in International Business. For more information visit our Web site at www.management.mcgill.ca (Programs).

45.5.12 M.B.A./Law Program

The Faculty of Management, in cooperation with the Faculty of Law, offers a joint M.B.A./Law degree. This program prepares students for admission to the Quebec legal profession as well as for admission to the Bars of the Common Law Provinces.

The combined degree program has been designed for those students who are interested in both the legal and administrative aspects of business and will help prepare them for careers in private and public enterprises as well as government service. The joint program may be completed in 4½ years.

Students who are interested in applying for the joint program must apply to both the Faculty of Law and the Faculty of Management. They must meet the admission requirements for both Faculties. A minimum of one year of full-time work experience is required for admission to the M.B.A. For Law, students must demonstrate a substantial fluency in both the French and English languages.

If accepted, students will begin their first year in the M.B.A. program with a guarantee of admission to Law the following year, providing they successfully complete the first year M.B.A. program requirements.

The application deadline for Law is January 15th. Students wishing information on the Law program should contact:

Faculty of Law, Admissions Office,
3544 Peel Street, Montreal, Quebec H3A 1W9
Telephone: (514) 398-6666
E-mail: undergradadmissions.law@mcgill.ca

45.5.13 Policies and Regulations of the M.B.A. (Full-time)

The following is a brief overview of the rules and regulations of the M.B.A. program. All attending students will be given a copy of the "Official Rules and Regulations" from the M.B.A. office. Students are responsible for reading and abiding by these rules and regulations.

The McGill M.B.A. (Full-time) is designed as a two-year program. The academic year begins in September and ends in May. Students admitted with advanced standing may complete the program in 15 months.

45.5.14 Withdrawal from the M.B.A. Program

Students wishing to withdraw from the McGill M.B.A. program must complete a "Withdrawal Form" available from the M.B.A. office. Students will not be considered as officially withdrawn until this form is completed. Students who drop out of the program but do not complete this form will be billed for the full tuition. Refer to the General Information section of the *Graduate and Postdoctoral Studies Calendar* for further information.

45.5.15 Exemptions

M.B.A. I students may be exempted up to a maximum of 15 credits excluding the Integrative Course, based on academic proof and contingent on professors' and M.B.A. Program approval. Each credit must be replaced by a second-year credit.

45.5.16 Grading and Promotion Standards

The pass mark for each course is B- (65%).

Failures

Students are permitted one failure in the M.B.A. Program. Any subsequent failure, including an unsuccessful supplemental examination, will result in the student being asked to withdraw from the M.B.A. Program.

Promotion into M.B.A. II

Students must have obtained an overall average of at least B (70%) to be permitted to continue into second year and in order to graduate.

45.5.17 Outside Elective Courses

An outside elective is any course which is not part of the M.B.A. program. This includes courses in other faculties within McGill University or outside McGill University.

Students wishing to take an elective offered in another department at McGill must first obtain approval from the Associate Director. Once approval is obtained, students must obtain permission from the department offering the course before registering for the elective with their Faculty.

All Quebec Universities have agreed to permit transfer of academic credit and fees among themselves up to a maximum of two courses (6 credits) in any one year. However, this agreement (for Canadians and Permanent Residents) includes only those courses not offered at the home university and which fit into the student's program. Authorization for an M.B.A. student to transfer courses must be obtained from the Associate Director.

There are, however, limitations to the number of courses an M.B.A. student can take outside the Faculty of Management during the M.B.A. Program:

- Students completing a 60-credit program may take 15 credits maximum outside the Faculty of Management. This does not include courses offered by other faculties at McGill.
- Students may not take courses outside the Faculty if they are offered within the Faculty unless there are exceptional circumstances.
- Students may not take language courses as credit toward the M.B.A.

45.6 M.B.A. Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Single term and Multi-term Courses (D1/D2, N1/N2, J1/J2/J3)

The same course may be available as a single term offering and also as a multi-term offering. The course content and credit weight is equivalent in all modes; the only difference being the scheduling. The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

For more information on Multi-term Courses, Course Terminology, Class Schedule and Course Catalog, see the *General Information, Regulations and Research Guidelines, Graduate and Postdoctoral Studies Calendar for 2004-05*.

45.6.1 M.B.A. I Year: Course Descriptions

MGCR 610 RESEARCH PAPER. (6) The process and problems of independent research. Choice of topic may be a normative or descriptive study based on primary or secondary data. Opportunity to work on a one-to-one basis with a faculty member. Members of the Montreal business community may act as resource consultants.

MGCR 610D1 (3), MGCR 610D2 (3) RESEARCH PAPER. (Students must register for both MGCR 610D1 and MGCR 610D2) (No credit will be given for this course unless both MGCR 610D1 and MGCR 610D2 are successfully completed in consecutive terms) (MGCR 610D1 and MGCR 610D2 together are equivalent to MGCR 610)

MGCR 610J1 RESEARCH PAPER. (2) (Students must also register for MGCR 610J2 and MGCR 610J3) (No credit will be given for this course unless MGCR 610J1, MGCR 610J2 and MGCR 610J3 are all successfully completed in consecutive terms) (MGCR 610J1, MGCR 610J2 and MGCR 610J3 together are equivalent to MGCR 610)

MGCR 610J2 RESEARCH PAPER. (2) (Prerequisite: MGCR 610J1) (Students must also register for MGCR 610J3) (No credit will be given for this course unless MGCR 610J1, MGCR 610J2 and MGCR 610J3 are all successfully completed in consecutive terms) (MGCR 610J1, MGCR 610J2 and MGCR 610J3 together are equivalent to MGCR 610) See MGCR 610J1 for course description.

MGCR 610J3 RESEARCH PAPER. (2) (Prerequisite: MGCR 610J2) (No credit will be given for this course unless MGCR 610J1, MGCR 610J2 and MGCR 610J3 are all successfully completed in consecutive terms) (MGCR 610J1, MGCR 610J2 and MGCR 610J3 together are equivalent to MGCR 610) See MGCR 610J1 for course description.

MGCR 611 FINANCIAL ACCOUNTING. (2) The understanding and use of published financial statements as a primary source of accounting information. The concepts, conventions and techniques involved in the preparation of financial statements leading to the analysis and interpretation of this information.

MGCR 612 ORGANIZATIONAL BEHAVIOUR. (2) Overview of the many issues that influence the management of complex organizations. Understanding of individual and group attitudes, cognitions, and behaviours, providing the essential core knowledge for day-to-day managerial activity.

MGCR 613 MANAGERIAL ECONOMICS. (2) The course provides an understanding of how economic systems and markets work, a command of how concepts and models developed by economists can be used in managerial decisions, a familiarity with the more practical aspects of competitive behaviour and the structure of competition, and a good appreciation of issues arising in the development of corporate goals and strategies. The emphasis of the course is on the use of economic analysis in strategy formulation.

MGCR 614 MANAGEMENT STATISTICS. (2) The course aims to provide students with the appropriate skills that will allow them to use up-to-date statistical analysis to extract information from a set of data. The emphasis will be placed on the application and interpretation of results rather than on formal statistical theory; the challenge will be in the selection of the appropriate statistical methodology to address the problem and an understanding of the limitations of this answer. The course will fully integrate the use of statistical software with statistical analysis.

MGCR 615 FINANCE. (2)

MGCR 616 MARKETING. (2) The course concentrates on what may be the most scarce resource for most corporations today - the customer. The course examines how organizations research what the customer wants and needs. The course also looks at the social and psychological backgrounds of consumer choice and looks at the methods for grouping consumers into segments according to the heterogeneity of their desires. The firm's response to consumers is then considered. First, the need satisfying item is considered - the product. Following this, the elements of the marketing mix, distribution, pricing and promotion, are considered.

MGCR 617 OPERATIONS MANAGEMENT. (2) (Change in description awaiting University approval.) A comprehensive introduction to the fundamental decisions and tradeoffs associated with the management of a firm's production and service activities will be examined. It is a study of how production and service systems can be effectively designed, utilized and managed in order for them to compete successfully on the basis of different parameters.

MGCR 618 HUMAN RESOURCE MANAGEMENT. (1) (Change in description awaiting University approval.) This course investigates current theory and practice for effective people management in an increasingly competitive, international and technologically sophisticated environment. The course objective is two-fold; to develop an understanding of the relationship between managing human resources and organizational effectiveness; and to gain the knowledge and diagnostic tools needed to engage in high quality people management in a variety of business and organizational settings.

MGCR 619 RESEARCH, DEVELOPMENT AND ENGINEERING. (1)

MGCR 620 INFORMATION SYSTEMS. (2) Overview of the information systems issues that influence the management of organizations. Understanding (as opposed to computation) of the impact of information technology on firm operations and benefits and limitations of information technology, as it relates to the essential core knowledge needed for day-to-day managerial activity.

MGCR 621 INTERNATIONAL ENVIRONMENT. (2) Overview of the international issues that influence the management of organizations. Understanding of the international environment as it relates to the essential core knowledge needed for day-to-day managerial activity.

MGCR 622 ORGANIZATIONAL STRATEGY. (2) Organizational strategy concerns the process through which managers position their business or unit favorably against competitors, with customers, and in accordance with societal needs. This course emphasizes the skills that managers need to assess strategic threats and opportunities, match them with internal competencies to develop a strategy, devise action plans to realize the strategy, and continually develop capabilities to keep the organization viable.

MGCR 623 TOPICAL COURSE 1. (1)

MGCR 628 INTEGRATIVE COURSE. (6) This course provides an integrative perspective to the topics in the first year core, building on progressive stages of integrative understanding from basic management skills looking inward to basic and specialized management skills looking both inward and outward. The emphasis is on pedagogic tools which focus on a holistic view of the organization, forcing an understanding of the management of the enterprise from multiple perspectives and the resolution of conflicting viewpoints.

MGCR 640 MANAGEMENT ACCOUNTING. (2) The use of internally generated accounting information for decision making, planning and control purposes. The concepts and techniques involved in

developing and interpreting accounting information that is relevant and useful for managers.

MGCR 641 ELEMENTS OF MODERN FINANCE 1. (2) Topics: appropriate evaluation criteria for projects, risk and return; how to construct efficient portfolios; rigorous techniques for valuing financial assets. Corporate financing strategies, efficient market theories and investment banking; principles of debt financing and Modigliani-Miller propositions.

MGCR 642 ELEMENTS OF MODERN FINANCE 2. (2) Topics: asset pricing theories; organization and structure of bond markets; yield curves, term structure of interest rates; boot-strapping techniques, bond pricing; concepts of duration; corporate debt market; structure and covenant features; tax effects; innovations and project finance; derivative markets; futures and forward pricing; options trading strategies.

45.6.2 M.B.A. II Course Descriptions

ACCT 614 TAXATION SEMINAR. (3) Impact of Federal Income Tax on individuals and corporations.

ACCT 618 FINANCIAL REPORTING: STRUCTURE & ANALYSIS. (3) An in-depth analysis of corporate financial reporting principles and practices, with emphasis on developing the abilities of the student to discriminate between the form and substance of corporate financial reports. Analysis of all components of the financial statements with the effect of reference to alternative practices on financial reports.

ACCT 619 FINANCIAL REPORTING: VALUATION. (3) Analysis of financial statements and their uses. A financial statement analysis framework will be developed and applied to: (1) development of business and securities valuations, (2) the prediction of bankruptcy, (3) the strategic planning process, (4) the interpretation of consolidated financial statements.

ACCT 690 TOPICS IN ACCOUNTING. (3) A learning cell in which one or more students work with a faculty member.

BUSA 615 GLOBAL COMPETITIVENESS. (3)

BUSA 625 ASIA/PACIFIC MANAGEMENT. (3)

BUSA 626 INTERNATIONAL BUSINESS LAW. (3) Introduction to the law regulating international business. The world's three main legal systems and procedure of civil trials before their courts. The main business organizations used in world trade. Forms and documentation of various types of foreign trade contracts. Conflict avoidance, arbitration and international transaction litigation. Specific analysis of trade terms, international commercial transactions (export sales, marketing through distributors, licensing) and international conventions (tax treaties, industrial and intellectual property, GATT, etc.).

BUSA 627 NORTH AMERICA: GLOBAL MARKETS. (3) As trade barriers diminish and worldwide communications expand, North America can no longer consider itself an isolated haven of prosperity. But it is still one of the current "triad" of economic powers, centered on the dominating strength of the United States. This course focuses on how the other two North American nations, Canada and Mexico, are adjusting to the realities of global competitiveness and to the often overwhelming regional role of the United States. The evolution of NAFTA and the possible next steps in trade accords are examined, as are continuing efforts to preserve elements of meaningful national autonomy in a rapidly changing global marketplace.

BUSA 629 SERVICE INDUSTRIES. (3)

BUSA 630 STAGE PAPER. (1) After completing their stage, (minimum 80 hours in an organization) students in the M.B.A program must submit a paper which integrates the applied and academic aspects of the first year courses and stage. This paper involves the equivalent of 15 academic hours.

BUSA 635 BUSINESS LAW 1. (3) An introduction to law with special emphasis on how it affects business. Topics include: court systems and their organization; practical aspects of procedural law; general nature of contracts and delicts; legal requisites for the

validity of contracts; special contracts - sale, lease and hire, agency, bailment, loans, etc.

BUSA 640 LAUNCHING NEW VENTURES. (3) (Restriction: Not open to students who have taken MRKT 640.) Application of the knowledge acquired in graduate business education to the launching of a new product or service through venture capital funding.

BUSA 664 CREATING THE SMALL BUSINESS. (3) Focusing on the strategies and operating policies of small business enterprises, the course is designed for individuals who are considering entrepreneurial careers either as owners or managers. Provides a practical approach to the many problems likely to be encountered in the evolving life cycle of the small business.

BUSA 665 MANAGING THE SMALL ENTERPRISE. (3) The course is designed to teach students the concepts of entrepreneurship and the fundamentals of managing small businesses. It will explore, within the context of small entrepreneurial companies, the various interactions between financing, accounting, marketing, strategic planning, operations and human resources.

BUSA 690 TOPICS IN MANAGEMENT. (3)

BUSA 697 EUROPEAN ECONOMY AND MANAGEMENT. (3) Overview of current social, economic and business developments in Europe; examination of cultures, practices and institutional arrangements underpinning business in both the EU and Eastern Europe; opportunities and challenges in conducting business in Europe.

BUSA 698 HEALTH CARE SYSTEMS. (3) Overview and study of the Quebec, Canadian and international health care systems within the Canadian context. Brief historical overview and analysis of its major elements: Quebec Ministry of Social Affaires, Regional Health Councils, Social Service Centres, hospitals, etc. Critical issues examined: planning health care needs and resources, financing health care, labour relations, patterns of power and assessing quality of care.

BUSA 699 HEALTH CARE MANAGEMENT. (3) Course is divided into hospital goals and priorities; the basic elements and functioning of administrative and medical organization structure; the complexity of hospital management; assessment of overall as well as departmental performance. Course material, approach and assignments are strongly practice-oriented.

FINE 630 (3) Fixed income securities and their uses for financial engineering as well as risk management at both the trading desk and the aggregate firm level. This will involve a treatment of basic fixed income mathematics, risk management concepts, term structure modeling, derivatives valuation theory and credit risk analysis.

FINE 635 MANAGING MARKET VOLATILITY. (3) (Prerequisite: FINE 639) Latest techniques of volatility estimation and option pricing, including the use of real option pricing techniques for valuation of resource investments, R & D projects, and high tech stocks.

FINE 638 FINANCIAL MANAGEMENT FOR POLICY. (3)

FINE 639 DERIVATIVES AND RISK MANAGEMENT. (3) (Prerequisite: FINE 646) This course studies the field of investments related to options and futures. The course will concentrate on trading strategies and analytical models for valuing options and futures contracts.

FINE 644 CANADIAN FINANCIAL INSTITUTIONS. (3)

FINE 645 MONEY AND CAPITAL MARKETS. (3) (Undergraduate Prerequisite: MGCR 341) Demand for and supply of money and other financial instruments by and to banks and near banks. Simple analytical models integrating the Canadian Institutional aspects. The role of the banking sector in the money creation process. International aspects of monetary policy.

FINE 646 INVESTMENTS AND PORTFOLIO MANAGEMENT. (3) The prime objective is to provide the student with a rational framework for investment. The portfolio and capital market theory of FINE 650 is extended and the empirical evidence supporting these and competing hypotheses is investigated for both individual securities and portfolios.

FINE 647 ADVANCED FINANCE SEMINAR. (3) (Undergraduate Prerequisite: FINE 441 and FINE 443, or FINE 646) (Lectures for this

course span both the fall and winter semesters) (Graduate Prerequisites: must have completed at least 4 finance courses and/or be taking last courses in concentration concurrently.) 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.

FINE 648 APPLIED CORPORATE FINANCE. (3) Concepts and techniques developed in earlier courses are extended and/or applied to problems faced by managers in Corporate Finance. Such problems include: working capital management, capital budgeting, capital structure, dividend policy, cost of capital and mergers and acquisitions. Stresses the application of theory and techniques and extensive use is made of case studies.

FINE 650 FINANCE 2. (3)

FINE 652 MANAGEMENT FINANCE. (3) (for non-Finance Concentration)

FINE 660 GLOBAL INVESTMENT MANAGEMENT. (3) Primary focus will be on global investments. The course will deal with the theoretical foundations of modern international portfolio theory and empirical evidence in a real world setting. It will span the developed markets of Europe and Japan, NICs of the Pacific rim and emerging markets. The primary objective is to prepare a new generation of managers who can operate effectively in the new global investment environment.

FINE 676 INTERNATIONAL FINANCIAL MANAGEMENT. (3) (For non-Finance concentration)

FINE 690 TOPICS IN FINANCE 1. (3)

FINE 691 TOPICS IN FINANCE 2. (3) Current topics in finance.

FINE 692 TOPICS IN FINANCE 3. (3) Topics in finance.

FINE 693 INTERNATIONAL FINANCE 1. (3) The international financial environment as it affects the multinational manager. In-depth study of the various balance of payments concepts, adjustment of the external balance, and the international monetary system will be followed by a review of theory and institutional aspects of the foreign exchange and the international (Eurodollar) markets.

FINE 694 INTERNATIONAL FINANCE 2. (3) (Prerequisite: MGMT 693) Focus on the operational problems of financial management in the multinational enterprise: financing of international trade, determining the firm's exposure to foreign exchange rate changes, protection against exchange losses, international capital budgeting, multinational cost of capital, working capital management and international portfolio diversification.

INDR 603 INDUSTRIAL RELATIONS. (3) The goal of this course is to develop student's understanding of law, institutions, current practices, and power relations affecting the workplace. Topics include: regulation of employment, relationships in the unionized and non-unionized sectors, managerial approaches to labour relations, collective bargaining, union organizing, negotiation of collective agreements, dispute resolution and grievance procedures.

INDR 604 COLLECTIVE BARGAINING IN THEORY AND PRACTICE. (3) Theory, structure and activity of collective bargaining and arbitration as practiced in Canada and the Western industrial societies in general: how collective bargaining works; why it does or sometimes doesn't work. Emphasis on the realities of actual practice. Contract structure, grievance and arbitration procedures and bargaining practices, including costing of contracts.

INDR 605 ROLE OF GOVERNMENT: LABOUR RELATIONS. (3) Role of government, both as legislator and as employer. Development of public policy toward industrial relations and collective bargaining in the private and public sectors as well as other government policies that affect employment and industrial relations. The private sector model of collective bargaining and the peculiarities of public employment.

INDR 633 CREATING WEALTH AND PROSPERITY. (3) The objective of the course is to show the similarities and differences between the ways governments can create prosperity, and the ways companies can create wealth. The first part of the course covers topics in economic policy (what makes some countries, regions prosper and others fall behind), the second part covers financial, manage-

rial and strategic topics companies face (what makes their market value increase and what makes this value diminish).

INDR 695 TOPICS IN MANAGERIAL ECONOMICS. (3)

INSY 605 SYSTEMS ANALYSIS AND MODELING. (3) Techniques for conducting systems requirements analysis and project management using structured analysis for specifying both manual and automated systems. Focuses on the role of the analyst in investigating the current organizational environment, defining information system requirements, working with technical and non-technical staff, and making recommendations for system improvement. Analysis project.

INSY 635 TELECOMMUNICATIONS MANAGEMENT. (3)

INSY 636 INFORMATION SYSTEMS ADMINISTRATION. (3) This course covers the issues relating to managing information systems resources. A combination of lecture and class discussions covers topics such as the role of the Information Systems department within the corporation, staff organization and leadership, strategic systems, planning, end user computing, and other areas of importance to information systems managers.

INSY 637 INFORMATION SYSTEMS DESIGN. (3)

INSY 638 DATA & DATABASE MANAGEMENT. (3) Focus on the management of organizational data and database management systems. Practice in database design. Examination of different models of representing data with emphasis on the relational model.

INSY 645 MANAGING ELECTRONIC COMMERCE. (3) This course will provide students with an understanding of e-commerce. The most important concepts, models, tools and applications related to e-commerce will be studied. The primary objective of the course is to explore the knowledge and the skills that an IS professional should develop to face this new reality in business organizations.

INSY 690 TOPICS IN MANAGEMENT INFORMATION SYSTEMS. (3)

MGCR 610 RESEARCH PAPER. (6)

MGPO 630 MANAGING STRATEGY. (3) This course examines the organizational issues associated with strategic change. It focuses on how managers can orchestrate organizational changes in order to realize strategic intentions and exploit environmental opportunities. Students examine how the strategic change in process works and how to tackle key strategic transitions faced by organizations.

MGPO 637 CASES IN COMPETITIVE STRATEGY. (3) The course applies the techniques for analyzing industries to a number of industries (electronics, photocopy, bicycles, chain saws, securities, fibre optics) through the use of specific company cases. The objective is to develop skills and techniques in a competitive environment and define competitive strategies through practical application.

MGPO 638 MANAGING ORGANIZATIONAL POLITICS. (3) The course examines how organization politics impacts on the individual and how the individual can impact on the political system. We draw on some of the classic works on power, politics, decision making, and bureaucracy. We then apply the concepts derived from the theory to explicit organizational situations, to develop practical frameworks that will help and benefit the student.

MGPO 639 MANAGING CORPORATE STRATEGY. (3)

MGPO 640 STRATEGIES FOR SUSTAINABLE DEVELOPMENT. (3) This course aims to produce new knowledge about the multidimensional nature of sustainable development; develop skills required to formulate and implement policies that integrate economic progress with quality of life and the preservation of the biosphere.

MGPO 650 MANAGING INNOVATION. (3) To survive competitively, many organizations need to develop new products successfully and consistently, yet established firms often face difficulties responding to new opportunities. This course examines the strategic, organizational, and interdepartmental aspects of the new product development process to understand why problems occur and what managers can do about them. Topic areas include (1) the creative synthesis of market possibilities with technological

potential; (2) the collaborative coordination of diverse functions in the firm; and (3) the strategic connection between the project and the firm's strategy and structure.

MGPO 651 STRATEGIC MANAGEMENT: DEVELOPING COUNTRIES.

(3) The course examines strategic management challenges in developing countries using lectures and discussion of readings and cases. Topics include economic policy management (national development strategies, structural adjustment, privatization), economic cost/benefit analysis, technology choice and transfer, negotiations between multinational firms and host governments, and strategic management for public enterprise, family-owned firms, economic groups, and developmental organizations.

MGPO 652 ETHICS IN MANAGEMENT. (3)

MGPO 669 MANAGING GLOBALIZATION. (3) MBAs need to understand international competitive issues, such as: forces for industry globalization, a firm's international expansion process, and international competitive strategies. Many types of firms will be analyzed, from small U.S. and Canadian firms beginning to explore internationally to large multinationals that are managing investments around the world.

MGPO 680 STRATEGY, COMMITMENT AND CHOICE. (3)

MGPO 683 INTERNATIONAL BUSINESS POLICY. (3) Development and application of conceptual approaches to general management policy and strategy formulation in multinational enterprises. Alternative forms of international business involvement (licenses, contractual arrangements, turnkey projects, joint ventures, full direct investment); formulation and implementation of international, multinational and transnational competitive strategies; technology transfer; ownership strategy; international collaborative arrangements. A combination of conceptual readings and applied case analyses.

MGPO 690 TOPICS: STRATEGIC MANAGEMENT 1. (3)

MGSC 601 MANAGEMENT OF TECHNOLOGY IN MANUFACTURING. (3)

MGSC 602 MANUFACTURING STRATEGY. (3)

MGSC 603 LOGISTICS MANAGEMENT. (3) The management of the logistics functions in a manufacturing firm. Internal logistics includes the design and operation of a production-distribution system, with emphasis on the management of supply chains in global manufacturing companies. External logistics includes an analysis of the prevailing sourcing strategies and alternative means of customer satisfaction. Important tools such as forecasting techniques and information technology are also covered.

MGSC 605 TOTAL QUALITY MANAGEMENT. (3) The topics include: Top Management Commitment, Leadership Style, Bench Marking, Employee Involvement, Human Resource Utilization, Employee Motivation, Quality Function Deployment, Statistical Techniques for Quality Improvement including the seven tools of quality and statistical process control. New topics of ISO9000, Just-in-Time, "Kaizen" and Return-of Quality are also discussed. Students are encouraged to do industry projects on TQM.

MGSC 608 DATA DECISIONS AND MODELS. (3) The goal is to evaluate quantitative information and to make sound decisions in complex situations. The course provides a foundation for various models of uncertainty, techniques for interpreting data and many decision making approaches in both deterministic and stochastic environments.

MGSC 615 THE INTERNET AND MANUFACTURING. (3)

MGSC 631 ANALYSIS: PRODUCTION OPERATIONS. (3) This course presents a framework for design and control of modern production and inventory systems, and bridges the gap between theory and practice of production and inventory management. The course develops analytical concepts in the area and highlights their applications in manufacturing industry. The course is divided into three segments. The first segment looks at the production planning process and discusses in detail the resource allocation issues. The second segment deals with analysis and operation of inventory systems. The third segment integrates production planning

and inventory control and looks at various integrated models for determining replenishment quantities and production lots.

MGSC 632 SAMPLE SURVEY METHODS AND ANALYSIS. (3)

MGSC 671 STATISTICS FOR BUSINESS DECISIONS. (3)

MGSC 675 APPLIED TIME SERIES ANALYSIS MANAGERIAL FORECASTING. (3)

MGSC 676 APPLIED MULTIVARIATE DATA ANALYSIS. (3)

MGSC 678 SIMULATION OF MANAGEMENT SYSTEMS. (3) 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.

MGSC 679 APPLIED DETERMINISTIC OPTIMIZATION. (3) Methodological topics include linear, nonlinear and integer programming. Emphasis on modelling discrete or continuous decision problems that arise in business or industry, using the modern software tools of algebraic modelling (GAMS) that let the user concentrate on the model and on its implementation rather than on solution techniques. Management cases involving energy systems, production and inventory scheduling, logistics and portfolio selection, will be used extensively.

MGSC 690 TOPICS IN MANAGEMENT SCIENCE. (3)

MRKT 620 SERVICE MARKETING MANAGEMENT. (3)

MRKT 630 MARKETING: DEVELOPING COUNTRIES. (3)

MRKT 652 MARKETING MANAGEMENT 2. (3) Its orientation is one of decision making and problem solving. Focuses on the decision areas of marketing management. Emphasizes the application of marketing theory, concepts and methods to the solution of real life marketing problems.

MRKT 654 MARKETING COMMUNICATIONS. (3) The design and implementation of advertising and promotions. Draws on theories of persuasion to develop a managerially oriented decision making framework. Links the framework to decisions pertaining to creative strategy, media planning, consumer promotions and trade promotions.

MRKT 655 MARKETING PLANNING. (3) The design and implementation of marketing plans. Emphasis on management decision-making; approaches and techniques for formulating marketing objectives; identifying alternate strategies; preparing the marketing plan; implementing and controlling the plan.

MRKT 657 BUYER BEHAVIOUR. (3) Research approaches focusing on the behaviour of the consumer in the market place. Intended to sensitize the students to human behaviour in general so they may carry their understanding of basic processes over to the more specific area of the consumer.

MRKT 658 MARKETING RESEARCH. (3) The basic problems of searching for additional information for better marketing decisions. Designed from the marketing manager's point of view. Placed in a cost-benefit perspective. All steps of the research process (problem definition, data collection methods, sample design, etc.) are covered.

MRKT 659 ADVANCED BUSINESS MARKETING. (3) Advanced decision-making and management of the marketing effort in a business to business (b-to-b) context, including the b-to-b marketing system; segmentation; customer relationship management; products, services, price, distribution, selling and advertising decisions; strategies for business markets and both electronic and traditional approaches to each.

MRKT 690 TOPICS IN MARKETING. (3)

MRKT 698 INTERNATIONAL MARKETING MANAGEMENT. (3)

ORGB 624 HUMAN RESOURCE MANAGEMENT. (3)

ORGB 625 MANAGING ORGANIZATIONAL CHANGE. (3) Examine strategies of organizational development (OD) that enhance the organization's capacity to respond to change, maximize productivity and allow employees to experience dignity and meaning in their work. Explores the strategic, techno-structural, human process, and human resource management types of OD interventions. In addition, the course will provide opportunities for the practice of

various OD skills (process consultation, feedback, observation) which enable managers to identify dysfunctional policies or behaviours. The fundamental theoretical framework of the course will draw upon developments in the behavioural and socio-technical systems approaches to organizational change.

ORGB 628 WOMEN: GLOBAL LEADERS/MANAGERS. (3)

ORGB 632 MANAGING TEAMS IN ORGANIZATIONS. (3) The dynamics of group and interpersonal behaviour. As well as learning conceptual frameworks, participants will examine their own interpersonal style and behaviour in group processes.

ORGB 633 MANAGERIAL NEGOTIATIONS. (3) Negotiating is a critical managerial skill. The purpose of this course is to allow students to learn to be more effective negotiators. The class environment used to accomplish this goal includes many exercises, personality inventories, and cases. The focus of the course will be on the processes of bargaining and the emphasis is "hands on" learning, although theories of negotiation and research examining negotiation will also be covered. Each student will have a great deal of control over how much he or she will develop into a better negotiator as a result of participating in this course.

ORGB 640 THE ART OF LEADERSHIP. (3) Influence of personality, situational and cultural factors on strategic decision making. The role of power and political behaviour in organizational life. Topics include: managerial style, superior-subordinate relationships, organizational stress, entrepreneurial behaviour patterns, power and politics in decision making.

ORGB 685 CROSS CULTURAL MANAGEMENT. (3) (.) Cross-cultural awareness and communication skills necessary to manage in multicultural organizations. The focus of the course is on the relationship between cultural values and communication styles as they affect inter-and-intra cultural communication of managers, personnel and clients of multinational and multicultural corporations and organizations.

ORGB 690 TOPICS: ORGANIZATIONAL BEHAVIOR. (3)

45.7 Post-M.B.A. Certificate

The Post-M.B.A. Certificate will be awarded after the equivalent of one term of residence and the successful completion of 15 credits of M.B.A. courses.

The certificate meets the needs of two groups of professional managers: (1) managers who graduated from an M.B.A. program several years ago and would like to take a series of courses to update their skills; and, (2) managers who graduated from an M.B.A. program recently and who would like to broaden the base of their education with a selection of courses that complement their major field of studies. The certificate may be taken on a full-time or part-time basis.

The entrance requirement is an M.B.A. degree from a recognized university with a CGPA that meets the minimum requirements of the Graduate and Postdoctoral Studies Office (a TOEFL to determine the English proficiency of non-Canadians may also be required) as well as two years of full-time work experience.

For more information visit our Web site at www.management.mcgill.ca or call the Master Programs Office at (514) 398-4066.

45.8 Other Master and Graduate Diploma Programs

45.8.1 Master of Management Programs (M.M.)

Master in Manufacturing Management

The Master in Manufacturing Management program (MMM) is offered to students who wish to have a career as manufacturing managers. The curriculum is a balance between manufacturing and management subjects and provides exposure to industry through case studies, seminars, tours and a paid industry internship. The MMM program is a 12-month academic program starting in September followed by a 4-month industrial internship. The program is a collaboration between the Faculties of Engineering and Management, which jointly grant the Master of Management degree.

Students should hold an undergraduate degree in engineering or science. Two or more years of industrial experience is preferred, but not mandatory. Students with other academic backgrounds and appropriate industrial experience will be considered, but may have to take one or two qualifying courses. The program is intended for full-time as well as part-time students. Enrolment is limited.

The MMM program is a self-funded program. Tuition is \$25,000.

General Business and Management – Required Courses

(11 credits)

MGCR611	(2)	Financial Accounting
MGCR612	(2)	Organizational Behaviour
MGCR616	(2)	Marketing
MGCR641	(2)	Elements of Modern Finance 1
MGSC608	(3)	Data Decisions and Models

General Business and Management – Complementary Courses (6 credits)

Two of the following courses:

INDR603	(3)	Industrial Relations
ORGB625	(3)	Managing Organizational Change
ORGB632	(3)	Managing Teams in Organizations
ORGB633	(3)	Managerial Negotiations
ORGB640	(3)	The Art of Leadership
ORGB685	(3)	Cross Cultural Management

Manufacturing and Supply Chain – Required Courses

(15 credits)

MECH524	(3)	Computer Integrated Manufacturing
MGSC602	(3)	Manufacturing Strategy
MGSC603	(3)	Logistics Management
MGSC605	(3)	Total Quality Management
MGSC631	(3)	Analysis of Manufacturing Systems

Manufacturing and Supply Chain – Complementary Courses

(12 credits)

Two of the following four courses (6 credits):

MECH526	(3)	Manufacturing and the Environment
MGSC601	(3)	Management of Technology in Manufacturing
MGSC615	(3)	The Internet and Manufacturing
MGSC675	(3)	Applied Time Series Analysis Managerial Forecasting

and one of the following two options (6 credits):

Discrete Manufacturing Option

MECH528	(3)	Product Design
MECH529	(3)	Discrete Manufacturing Systems

Process Manufacturing Option

CHEE571	(4)	Chemical Reaction Engineering
CHEE641	(3)	Small Computer Applications: Chemical Engineering

Industry – Required Courses (12 credits)

MECH627	(9)	Manufacturing Industrial Stage
MECH628	(2)	Manufacturing Case Studies
MECH629	(1)	Manufacturing Industrial Seminar

For more information, contact:

Program Coordinator, Mechanical Engineering

Telephone: (514) 398-7201

E-mail: mmm@mecheng.mcgill.ca

Web site: www.mcgill.ca/mecheng/

or the Masters Program Office, Faculty of Management

Telephone: (514)398-4648

45.8.2 International Masters Programs in Practising Management (IMPM)

Functioning within an authentically international context, this cooperative venture of business schools located in five different countries allows mid-career executives to study topical international business problems on site at universities in France, England, India, Japan and Canada.

For more information visit our Web site at www.impm.com.

45.8.3 Diploma in Public Accountancy (Chartered Accountancy)

The Diploma in Public Accountancy Program is under the academic supervision of the Graduate and Postdoctoral Studies Office, and is administered by the Faculty of Management.

The faculty is made up of professionally active C.A.s with specific areas of expertise. Students benefit from a program of academic counseling, tutoring and monitoring as they progress through a program in which they are exposed to the latest concepts and practice-related issues.

Chartered Accountants play leadership roles in public practice, business, industry, government and education.

Admission Requirements

Option 1:

Students completing a Bachelor's degree from a recognized institution are required to obtain a minimum CGPA of 3.0 out of 4.0*, and successfully complete the 14 qualifying courses listed below, or their equivalent:

ACCT351	Intermediate Financial Accounting 1
ACCT352	Intermediate Financial Accounting 2
ACCT361	Intermediate Management Accounting 1
ACCT362	Intermediate Management Accounting 2
ACCT385	Principles of Taxation
ACCT453	Advanced Financial Accounting
ACCT455	Development of Accounting Thought
ACCT475	Principles of Auditing
ACCT486	Business Taxation 2
INSY332	Accounting Information Systems
MGCR272	Statistics 2
MGCR293	Managerial Economics
MGCR341	Finance 1

* Admission to the program is very competitive and meeting the minimum requirement does not secure admission.

Option 2:

Graduates of programs other than Bachelor of Commerce or graduates with foreign degrees must complete the following courses through the Centre for Continuing Education's Diploma in Accounting prior to admission to the Graduate Diploma program.

CCAU511	Auditing 1
CCFC511	Financial Accounting 1
CCFC512	Financial Accounting 2
CCFC513	Financial Accounting 3
CCFC514	Accounting Theory and Practice
CCTX511	Taxation 1
CCTX532	Taxation 2
CCMA511	Management Accounting 1
CCMA522	Management Accounting 2
CEC2532	Business Economics
CFIN512	Introduction to Corporate Finance
CMS2521	Applied Management Statistics

For more information, the Centre for Continuing Education can be contacted by telephone at (514) 398-6161, or by e-mail at info@conted.lan.mcgill.ca.

Language Requirement for Admission

Applicants whose mother tongue is not English, and who have not completed a university program in the province of Quebec, must submit evidence of their facility in English before they can be considered for admission. Acceptable evidence would be the successful completion of one of the following:

- 1) a university program in English;
- 2) the G.C.E. Ordinary and Advanced Level Examinations in English Literature or Composition;
- 3) the University of Michigan English Language Test (Level V);
- 4) the Test of English as a Foreign Language (TOEFL) (Score: 550 on paper-based test or 213 on computer-based test);
- 5) Certificate of Proficiency in English. Arrangements for the McGill Placement Test may be made through the Department of Languages and Translation at 398-6150. Intensive English

courses are available through the Department of Languages and Translation in the Centre for Continuing Education.

Admission Procedures

Application forms are available on-line from our Web site. The deadline dates for admissions are as follows:

- February 1 for May (Summer term)
 - June 1 for September (Fall term)
 - October 1 for January (Winter term)
- 1) Applicants must have a university degree from a recognized institution.
 - 2) All students wishing to take courses in the Diploma in Public Accountancy must complete the Application for Admission form available on the Web at www.mcgill.ca/applying/graduate.
 - 3) Due to audit and government requirements, all students must provide proof of Canadian citizenship and/or Permanent Residency in order to maintain eligibility for Canadian fees (see section 10.4 "Documentation", page 34.)
 - 4) All students must make arrangements to have two official transcripts confirming the awarding of a degree sent to the Department before their application can be considered.
 - 5) An evaluation will be made granting credits in the program for equivalent courses completed (B- required) within the last five years. Academic advising is available to assist the student.
 - 6) Applicants who have been accepted to the program are required to make a \$250 (certified cheque or money order) deposit. This fee is non-refundable and will be applied to the student's fee account.

A deferral of admission may be considered in exceptional cases upon evidence of extenuating circumstances for one year only. A written request should be submitted to the Director of the CA Program. If approved, students wishing to defer their admission will be required to submit a confirmation deposit of \$500 Canadian to secure a place for the following year/term.

Time Limits

The program must be completed within three years of admission. Time limits will be adjusted accordingly for those students who are granted advanced standing or who transfer from one program to another. Students exceeding the time limits may request an extension, in writing, which may be granted under special circumstances with the approval of the Department. Where appropriate a revised program of study may be recommended.

Professional Requirements for Admission to l'ordre des comptables agréés du Québec (C.A.)

Membership in the l'Ordre des comptables agréés du Québec and the Canadian Institute of Chartered Accountants entitles Chartered Accountants to practice the profession of Chartered Accountancy.

Admission is based upon meeting the following requirements as indicated in the Chartered Accountants Act (Bill 264).

- 1) possession of a university degree from a recognized institution;
- 2) possession of the Graduate Diploma in Public Accountancy;
- 3) passing of the national Uniform Final Examination given by the Ordre and the CICA;
- 4) completion of an articling period with a firm of Chartered Accountants which is registered with the Order (minimum of two years), this can be done while registered in the CA Program;
- 5) a working knowledge of French;
- 6) Canadian citizenship or Permanent Resident status.

Further information can be obtained from: Ordre des comptables agréés du Québec, 680 Sherbrooke West, 18th floor, Montreal, Quebec, H3A 2S3. Tel: (514) 288-3256. E-mail: info@ocqa.qc.ca.

ADVANCED STANDING

Credit / Exemptions

An official course outline of the courses taken elsewhere, and the marks obtained, must be submitted. Students who have been granted credits and/or exemptions are not permitted to register for the courses for which they have been granted credits and/or exemptions. Credits or exemptions will NOT be granted for courses taken more than five years before the date of application.

Program Requirements

The program requires completion of 10 courses (eight 3-credit courses, and two 4-credit courses). It is composed of the courses, which cover the theoretical and technical knowledge for entry-level Chartered Accountancy practitioners, and the Uniform Final Examination (C.A. exam).

Level I

ACCT651	Financial Accounting 4
ACCT655	Auditing 2
ACCT657	Systems Audit
ACCT659	Business Communications
ACCT671	C.A. Law

Level II

ACCT679	Business Advisory Services - Core
ACCT681	Financial Accounting 5
ACCT683	Tax Planning and Decision Making
ACCT685	Auditing 3 (4 credits)
ACCT689	Business Advisory Services - Cases (4 credits)

Level I must be completed prior to Level II. Flexibility exists where minimal course work is required in a prior level. Students must complete Level II courses in the 12 months prior to the Uniform Final Examination.

Students are reminded that the courses in the Diploma in Accounting are prerequisites to the Diploma Program in Public Accountancy courses, and knowledge of prerequisite course content is presumed.

Course Descriptions

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05

ACCT 614 TAXATION SEMINAR. (3)

ACCT 618 FINANCIAL REPORTING: STRUCTURE & ANALYSIS. (3) An in-depth analysis of corporate financial reporting principles and practices, with emphasis on developing the abilities of the student to discriminate between the form and substance of corporate financial reports. Analysis of all components of the financial statements with the effect of reference to alternative practices on financial reports.

ACCT 619 FINANCIAL REPORTING: VALUATION. (3) Analysis of financial statements and their uses. A financial statement analysis framework will be developed and applied to: (1) development of business and securities valuations, (2) the prediction of bankruptcy, (3) the strategic planning process, (4) the interpretation of consolidated financial statements.

ACCT 635 ACCOUNTING WORKSHOP. (3)

ACCT 651 FINANCIAL ACCOUNTING 4. (3) (Prerequisites: Entry to Program Financial Accounting 3) Advanced topics in financial and reporting, including the relevant CICA Handbook pronouncements, exposure drafts, accounting guidelines and research studies. International pronouncements are discussed where no Canadian recommendation exist. The use of professional judgement in the application of accounting recommendations will be discussed.

ACCT 655 AUDITING 2. (3) (Prerequisite: ACCT 413) The role of the attest auditor. The topics covered include professional practice environment, engagement management, internal control, audit evidence, testing, reporting and general coverage of the professional services. Detailed study of the CICA Auditing recommendations, exposure drafts and guidelines. Research studies and current literature will be reviewed.

ACCT 657 SYSTEMS AUDIT. (3) (Prerequisites: INSY 332 and ACCT 655)

ACCT 659 BUSINESS COMMUNICATIONS. (3) (Prerequisite: ACCT 651 or ACCT 655) Professionals use written and oral communication to inform and persuade other people. This course prepares students to deal with a broad range of practical situations in which communication plays a crucial role. Effective business communication skills are taught through lectures, discussions and presentations which emphasize and enhance writing and speaking skills. Students prepare written and oral presentations which are subsequently evaluated for structure, organization and presentation.

ACCT 671 C.A. LAW. (3) (Prerequisite: Entry to Program) Legal issues affecting professional conduct and business decisions. Professional ethics, liability and litigation support are addressed in the context of professional accounting practice. Business issues related to legislation governing corporations, securities, bankruptcy and insolvency contract law are examined as well.

ACCT 679 BUSINESS ADVISORY SERVICES - CORE. (3) (Prerequisite: ACCT 415) The objective of this course is to explore topics in management accounting, finance and litigation support in the context of business advisory services provided by a Chartered Accountant. A multi-discipline approach integrating other accounting related areas; financial accounting, auditing and taxation. The course will examine the role of the Chartered Accountant and skills required to support management decision making from both a financial and operational perspective.

ACCT 681 FINANCIAL ACCOUNTING 5. (3) (Prerequisites: ACCT 651 and ACCT 659) The theoretical basis of current Canadian Accounting Practice. Current Canadian and U.S. exposure drafts; research studies; principles and conventions; emerging issues; and current literature will be used to develop an understanding of the theory and to develop an ability to apply this theory in practical situations. Current issues in Accounting Practice will be discussed.

ACCT 683 TAX PLANNING & DECISION MAKING. (3) (Prerequisites: ACCT 412 and ACCT 415) The theory, techniques and considerations in taxation will be analyzed in a situational context. Tax planning is addressed integrating personal and corporate taxation issues. Topics such as sale of a business, rollovers and personal tax planning will be addressed.

ACCT 685 AUDITING 3. (4) (Prerequisites: ACCT 655, ACCT 657 and ACCT 659) The theoretical basis of current Canadian auditing practice. Current Canadian and International recommendations, exposure drafts, guidelines, research studies, principles and conventions, and current literature will be used to develop an understanding of the theory and to develop the ability to apply this theory in practical situations. Current issues in auditing practice will be discussed.

ACCT 689 BUSINESS ADVISORY SERVICES - CASES. (4) (Prerequisite: completion of the other nine program courses.)

ACCT 690 TOPICS IN ACCOUNTING. (3) A learning cell in which one or more students work with a faculty member.

45.9 Joint Ph.D. in Administration

The Ph.D. Program in Administration is offered jointly by the four Montreal universities: Concordia University, École des Hautes Études Commerciales (affiliated with the Université de Montréal), McGill University, and Université du Québec à Montréal. The program is intended to educate competent researchers and to stimulate research on management problems.

The program represents a number of innovations in doctoral work in the field of administration. First, by cooperating, the four universities are able to make available to the students a diverse

pool of approximately 250 professors qualified to direct doctoral level study and research. Second, the program has been carefully developed to encourage independent, creative work on the part of its students, with close, personal contact with the professors. This program will appeal especially to the mature, experienced candidate with relatively well-defined interests. Across the four member universities, some courses are offered in English and some in French. (All papers may, however, be written in English or French.) This is viewed as a definite advantage of the program for those students who expect to work in Canada or francophone countries after graduation.

The program places considerable emphasis on the theoretical foundations of administration and its underlying disciplines. Graduates of the program are expected to have: (1) some knowledge of all the main areas of administration, (2) a thorough knowledge of one applied area of administration, and one support discipline, (3) a complete command of the research methodologies used in administration, and (4) some familiarity with modern theories and methods of the pedagogy of administration.

The program consists of three phases: preparation, specialization and dissertation.

Phase I Preparation

The preparation phase is intended to give each student some understanding of the range of subject matter that makes up contemporary administrative theory. On entering the program, the background of each student will be assessed. Deficiencies, if any, are to be made up by graduate-level courses, papers, or assigned readings in:

- Behavioural Science
- Economics
- Management Science
- Marketing
- Finance
- Strategy and Organization
- Accounting and Control

Some students – notably those with strong Master's degrees in administration or related disciplines – have a minimum of work in Phase I; others require up to one academic year of work.

Phase II – Specialization

In Phase II, students probe deeply into their chosen area of specialization. With their advisory committee, students work out an individual program of study which takes about 18 months. The phase focuses on a specialization area and a support field. The specialization area could be one of the basic ones listed in Phase I (for example, marketing or management science), a sub-area within one of these (such as organizational development within organizational behaviour), or an interdisciplinary area that combines two or more of these (such as behaviour aspects of accounting or international marketing).

The support field is selected to help the student develop a foundation of knowledge in a fundamental discipline that underlies the theory in administration. For example, a student in marketing might select psychology, sociology, or statistics. One in management policy might select political science or general systems theory or perhaps even philosophy. Many other choices are possible.

Students officially enter Phase II of the program when their advisory committee has been established and, together with the student, formally agrees on a proposal for the work to be done in Phase II. Phase II must be approved by the McGill and the Joint Doctoral Committees. This includes the following:

- Doctoral seminars in the specialization area; minimum four courses.
- Any other existing graduate level courses in the specialization area and support field deemed appropriate by the advisory committee; minimum two courses in support field.
- Seminar on Research Methods (MGMT707, 3 credits) or equivalent course as defined by Program Committee.
- Seminar in Pedagogy (MGMT706, 3 credits), or Teaching and Learning in Higher Education (EDPH 689, 3 credits).

- Comprehensive Examination (MGMT701, 0 credits).
 - A publishable research paper (MGMT720, 3 credits)*, equivalent to about 3 months of full-time work.
- * Subject to approval.

The advisory committee will normally consist of three or four persons; a chair and others decided upon jointly by the chair and the student. One of these members will typically come from the support field. Every student's advisory committee must have representation from at least two universities in the joint program.

Phase III – Dissertation

The third phase of the program consists of the dissertation in the course of which the student probes deeply into a well-defined research topic. The topic is developed with the thesis committee (at least three members), which may be the same as the Phase II advisory committee or may be reconstituted, again with representation from at least one of the other participating universities. The topic is approved formally by the thesis committee and, once the research is completed and the dissertation written, the student publicly defends the completed thesis.

Admission – Joint Ph.D.

Candidates normally hold a Master's level degree, with a strong academic record from a recognized university. In rare cases, North American candidates without a related Master's degree but with exceptional backgrounds may be considered for the program.

GMAT (or GRE-General Test) results are required for applications to the Doctoral Program; this includes McGill Master's students applying to the Ph.D. The minimum score required is 600, earned within the past five years.

Non-Canadian students from countries where English is not the first language who have not studied at a university in which teaching is conducted in English must submit TOEFL scores. A minimum score of 550 on the paper-based test (250 on the computer-based test) is required for admission. Tests must have been written within the past two years.

Files will not be considered unless GMAT (or GRE-General Test) and TOEFL scores are received by the application deadline.

Students may apply for admission to one or more of the participating universities. These applications will be processed by both the individual university and the joint committee of the four schools. Students' preferences will prevail when more than one participating university is prepared to accept them. The Ph.D. degree will be granted by the university that admits the student. The program requires a minimum full-time residency of six terms.

Applications will be considered upon the receipt of:

1. On-line application form or completed paper application form;
2. Two copies of official transcripts of all undergraduate and graduate degrees forwarded directly by originating universities;
3. Two letters of reference (free format and submitted on original letterhead);
4. Test results: TOEFL (where applicable) written within the last two years, and, GMAT (or GRE-General Test) written within the last five years) - Test scores must be forwarded directly from the Educational Testing Service (PhD in Administration code: 0535);
5. Personal background form (questions); and
6. c.v.

No documents submitted as part of the application package will be returned to the applicant.

Applications and all supporting documents must be submitted by February 1st for September admission. January admissions are rarely allowed.

All documents are to be submitted directly to:

Ph.D. Program Office
Faculty of Management
McGill University
1001 Sherbrooke Street West
Montreal, QC H3A 1G5

Telephone: (514) 398-4074
Fax: (514) 398-3876
E-mail: phd.mgmt@mcgill.ca
Web site: www.management.mcgill.ca

The addresses of the three other institutions are:

Concordia University,
John Molson School of Business,
1455 de Maisonneuve Blvd West, Montreal, QC H3G 1M8
École des Hautes Études Commerciales,
3000 Chemin de la Côte Ste-Catherine,
Montréal, QC H3T 2A7
Université du Québec à Montréal,
Département des Sciences Administratives,
315 Ste-Catherine Est, Montréal, QC H3C4R2

Doctoral Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05

BEHAVIOURAL SCIENCE SPECIALIZATION

ORGB 705 SEMINAR IN BEHAVIOURAL SCIENCE. (3)

FINANCE SPECIALIZATION

FINE 702 CONTINUOUS-TIME FINANCE. (3)

FINE 703 EMPIRICAL RESEARCH IN FINANCE. (3)

FINE 704 OPTIONS AND RISK MANAGEMENT. (3) The course covers topics in derivative pricing and financial risk management. Examples include volatility and correlation models, extreme value distributions, Monte Carlo simulation, option pricing under GARCH and stochastic volatility, option risk management using delta, gamma and full valuation, and risk model backtesting.

FINE 705 SEMINAR IN FINANCE. (3)

FINE 706 INTRODUCTORY FINANCIAL ECONOMICS. (3)

FINE 707 CORPORATE FINANCE. (3) Course will review mainly theoretical foundations, in addition to some empirical contributions to corporate finance and financial intermediation.

FINE 708 MACRO INTERNATIONAL FINANCE. (3)

FINE 709 INTERNATIONAL FINANCE SEMINAR. (3) Recent advances in international finance.

FINE 710 FIXED INCOME SECURITIES THEORY. (3) Theoretical framework to deal with the analysis of fixed income securities and derivatives.

INFORMATION SYSTEMS SPECIALIZATION

INSY 704 ORGANIZATIONAL IMPACTS OF INFORMATION TECHNOLOGY. (3)

MARKETING SPECIALIZATION

MRKT 701 MODELS IN CONSUMER RESEARCH. (3)

MRKT 702 ADVANCES IN CONSUMER BEHAVIOUR. (3)

MRKT 703 ADVANCES IN SERVICES MARKETING. (3)

MRKT 705 SEMINAR IN MARKETING. (3)

MANAGEMENT SCIENCE SPECIALIZATION

MGSC 701 DECOMP.-LRG SCALE OPTIMIZATION. (3)

MGSC 702 OPERATIONS MANAGEMENT SEMINAR. (3)

MGSC 703 STOCHASTIC PROCESSES AND APPLICATIONS. (3)

MGSC 704 BUSINESS SURVEY METHODS. (3)

MGSC 706 MANAGEMENT RESEARCH STATISTICS. (3) (Prerequisite: Permission of instructor.)

MGSC 707 AVANCED RESEARCH STATISTICS. (3) (Prerequisite: MGSC 706 or permission of the instructor.)

MGSC 709 MANUFACTURING SYSTEMS. (3)

MGSC 710 APPLIED OPTIMIZATION. (3) Algorithmic developments in optimization and advanced software applications for modeling.

STRATEGY AND POLICY, POLICY AND SPECIALIZATION

MGPO 701 SEMINAR IN QUALITATIVE METHODS. (3)

MGPO 702 NEW PARADIGMS: STRATEGIC MANAGEMENT. (3)

MGPO 704 ORGANIZATIONAL THEORY SEMINAR. (3)

MGPO 705 SEMINAR IN POLICY. (3)

MGPO 706 PERSPECTIVES ON INNOVATION. (3)

46 Mathematics and Statistics

Department of Mathematics and Statistics
Burnside Hall
805 Sherbrooke Street West
Montreal, QC H3A 2K6
Canada

Telephone: (514) 398-3800

Fax: (514) 398-3899

E-mail: grad.mathstat@mcgill.ca

Web site: www.math.mcgill.ca/index.php

Chair — K. GowriSankaran

Graduate Program Director — V. Jaksic

46.1 Staff

Emeritus Professors

M. Barr; A.B., Ph.D.(Penn.) (*Peter Redpath Emeritus Professor of Pure Mathematics*)

M. Bunge; M.A., Ph.D.(Penn.)

J.R. Choksi; B.A.(Cantab.), Ph.D.(Manc.)

J. Lambek; M.Sc., Ph.D.(McG.), F.R.S.C. (*Peter Redpath Emeritus Professor of Pure Mathematics*)

S. Maslowe; B.Sc.(Wayne St.), M.Sc., Ph.D.(Calif.)

A.M. Mathai; M.Sc.(Kerala), M.A., Ph.D.(Tor.)

W.O.J. Moser; B.Sc.(Man.), M.A.(Minn.), Ph.D.(Tor.)

V. Seshadri; B.Sc., M.Sc.(Madras), Ph.D.(Okla.)

J.C. Taylor; B.Sc.(Acad.), M.A.(Queen's), Ph.D.(McM.)

Professors

W.J. Anderson; B.Eng., Ph.D.(McG.)

W. Brown; B.A.(Tor.), M.A.(Col.), Ph.D.(Tor.)

H. Darmon; B.Sc.(McG.), Ph.D.(Harv.), F.R.S.C.

S. Drury; M.A., Ph.D.(Cantab.)

K. GowriSankaran; B.A., M.A.(Madr.), Ph.D.(Bomb.)

J. Hurtubise; B.Sc.(Montr.), D.Phil.(Oxon)

N. Kamran; B.Sc., M.Sc.(Bruxelles), Ph.D.(Wat.), F.R.S.C. (*James McGill Professor*)

O. Kharlampovich; M.A.(Ural State), Ph.D.(Lenin.), Dr. of Sc., (Steklov Inst.)

M. Makkai; M.A., Ph.D.(Bud.) (*Peter Redpath Professor of Pure Mathematics*)

A. Miasnikov; M.Sc.(Novosibirsk), Ph.D., Dr. of Sc.(Lenin.) (*Canada Research Chair*)

C. Roth; M.Sc.(McG.), Ph.D.(Hebrew)

K.P. Russell; Vor. Dip.(Hamburg), Ph.D.(Calif.)

G. Schmidt; B.Sc.(Natal), M.Sc.(S.A.), Ph.D.(Stan.)

G. Styan; M.A., Ph.D.(Col.)

L. Vinet; B.Sc., M.Sc., Ph.D.(Montr.), Doctorat 3e cycle(Paris VI) (*joint appoint. with Physics*)

D. Wolfson; M.Sc.(Natal), Ph.D.(Purdue)

K.J. Worsley; B.Sc., M.Sc., Ph.D.(Auck.), F.R.S.C., (*James McGill Professor*)

J.J. Xu; B.S.(Beijing), Ph.D.(Ren. Poly.)

S. Zlobec; M.Sc.(Zagreb), Ph.D.(Northwestern)

Associate Professors

P. Bartello; B.Sc.(Tor.), M.Sc., Ph.D.(McG.) (*joint appoint. with Atmospheric and Oceanic Sciences*)

E.Z. Goren; B.A., M.S., Ph.D.(Hebrew)

A. Humphries; B.A., M.A.(Camb.), Ph.D.(Bath)

D. Jakobson; B.Sc.(M.I.T.), Ph.D.(Prin.) (*William Dawson Scholar*)

V. Jaksic; B.S.(Belgrade), Ph.D.(Cal.Tech.)

W. Jonsson; M.Sc.(Man.), Dr.Rer.Nat.(Tubingen)

I. Klemes; B.Sc.(Tor.), Ph.D.(Cal.Tech.)

J. Labute; B.Sc.(Windsor), M.A., Ph.D.(Harv.)

R. Loveys; B.A.(St.Mary's), M.Sc., Ph.D.(S. Fraser)

J. Rigelhof; B.Sc.(Sask.), M.Sc.(Wat.), Ph.D.(McM.)

N. Sancho; B.Sc., Ph.D.(Belf.)

J.A. Toth; B.Sc., M.Sc.(McM.) Ph.D.(M.I.T.) (*William Dawson Scholar*)

Assistant Professors

M. Asgharian; B.Sc.(Shahid Beheshti), M.Sc., Ph.D.(McG)

D. Bryant; B.Sc. Honours, Ph.D.(Canterbury) (*joint appoint. with School of Computer Science*)

M.J. Gander; M.S.(E.T.H.), M.S., Ph.D.(Stan.)

D. Leisen; B.Sc.(Mainz), M.Sc., Ph.D.(Bonn) (*joint appoint. with Management*)

N. Nigam; B.Sc.(I.I.T. - Bombay), M.S., Ph.D.(Delaware)

J. Pila; B.Sc. (Hons.) (Melbourne); Ph.D. (Stan.)

R. Steele; B.S., M.S.(Carnegie Mellon), Ph.D.(Wash.)

A. Vandal; B.Sc., M.Sc.(McG.), Ph.D.(Auck.)

A. Vetta; B.Sc., M.Sc. (London School of Economics), Ph.D. (M.I.T.)

D.T. Wise; B.A.(Yeshiva), Ph.D.(Prin.)

Assistant Professor (Special Category)

V. Rosta; M.Sc., Ph.D.(Lorand Eotvos, Budapest)

Associate Members

L.P. Devroye (*Computer Science*), P.R.L. Dutilleul (*Plant*

Science), L. Glass (*Physiology*), J.-L. Goffin (*Management*),

J. Hanley (*Epidemiology & Biostatistics*), L. Joseph (*Epidemiology*

& Biostatistics), M. Mackey (*Physiology*), L.A. Mysak (*AOS*),

P. Panangaden (*Computer Science*), J.O. Ramsay (*Psychology*),

G.A. Whitmore (*Management*)

Adjunct Professors

D.A. Dawson, R. Murty, R.A. Seely

Faculty Lecturers

J. Correa, A. Hundemer

46.2 Programs Offered

The brochure "Information for Graduate Students in Mathematics and Statistics", available on the Department Web site, supplements the information contained in this Calendar.

The Department offers both a Master's degree (M.A. or M.Sc.) and a Ph.D. degree.

By the choice of courses and thesis (or project topic) these degrees can be focussed in applied mathematics, pure mathematics or statistics.

The Institut des Sciences Mathématiques (ISM), among other activities, coordinates intermediate and advanced level graduate courses among the following universities: Concordia University, Université Laval, McGill University, Université de Montréal, UQAM, Université de Sherbrooke. A list of courses available under the ISM auspices at the other universities can be obtained by consulting the ISM Web site (www.math.uqam.ca/ISM). The ISM also offers fellowships and promotes a variety of joint academic activities greatly enhancing the mathematical environment in Montreal and indeed in the province of Quebec.

46.3 Admission Requirements

In addition to the general Graduate and Postdoctoral Studies Office requirements, the Department requirements are as follows:

Master's Degree

The normal entrance requirement for the Master's programs is a Canadian Honours degree or its equivalent, with high standing, in mathematics, or a closely related discipline in the case of applicants intending to concentrate in statistics or applied mathematics. For applicants intending to continue in a doctoral program, an Honours degree or its equivalent is the preferred background.

Applicants wishing to concentrate in pure mathematics should have a strong background in linear algebra, abstract algebra, and real and complex analysis.

Applicants wishing to concentrate in an applied area of statistics should have a strong background in matrix algebra, advanced calculus and undergraduate statistics; some knowledge of computer programming and numerical analysis is also desirable.

Applicants wishing to concentrate in applied mathematics should have a strong background in linear algebra, real and complex analysis, ordinary differential equations and numerical analysis. Some knowledge of computer programming is also desirable.

Students whose preparation in mathematics is insufficient may have to be admitted to a Qualifying Program.

Ph.D. Degree

Students normally enter the Ph.D. program after completing a Master's degree program with high standing. However, the Department admits interested and excellent students directly into the Ph.D. program.

46.4 Application Procedures

Online application is preferred and is available at www.mcgill.ca/applying/online. Applicants unable to apply online can request a paper or PDF form from the department.

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. two letters of reference;
4. \$60 application fee;
5. TOEFL test results (if applicable).

All information is to be submitted directly to the Graduate Secretary in the Department of Mathematics and Statistics.

Deadline: Applicants are urged to submit complete applications by March 1 for September admission, or by August 1 for January admission.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

46.5 Program Requirements

Master's Degrees

Students must choose between the thesis option, which requires a thesis (24 credits) and 6 approved courses at the 500 and 600 level for a total of at least 22 credits, and the project option, which requires a project (15 credits) and 8 approved courses at the 500 and 600 level for at least 30 credits. Normally students must declare which option they choose to follow after one term. It is expected that the degree be completed in at most four terms.

The choice of courses must be approved by the advisor or thesis supervisor as well as by the Director of the Graduate Program.

Some suggestions for the choice of courses in the Master's programs are:

- Students in applied mathematics (excluding those in the Computational Science and Engineering option): at least two of the following course sequences: MATH 487 and MATH 560; MATH 578 and MATH 579; MATH 580 and MATH 581.

- Students in pure mathematics: at least two of the following course sequences: MATH 564, MATH 565 and MATH 566; MATH 570 and MATH 571; MATH 576 and MATH 577.
- Students in statistics are required to take MATH 556 and MATH 557. If they intend to continue in a doctoral program, they should also take MATH 587 and MATH 589, and are strongly encouraged to take MATH 685.

Master's students who wish to keep open the possibility of continuing in a doctoral program should adhere closely to these suggestions since they will provide the background necessary for the comprehensive examination which all doctoral students are required to pass.

Further courses can be chosen from the departmental list of course offerings. A comprehensive list of courses, from which annual offerings are selected, is given below.

M.Sc. Thesis - Computational Science and Engineering (CSE) Option (minimum 47 credits)

Required Courses (25 credits)

MATH600	(6)	Master's Thesis Research 1
MATH601	(6)	Master's Thesis Research 2
MATH604	(6)	Master's Thesis Research 3
MATH605	(6)	Master's Thesis Research 4
MATH669D1	(.5)	CSE Seminar
MATH669D2	(.5)	CSE Seminar

Complementary Courses (minimum 22 credits)

Two courses from List A, two courses from List B, and the remaining credits to be chosen from graduate (500 or 600-level) courses in the Department of Mathematics and Statistics. Two complementary courses must be taken outside the Department of Mathematics and Statistics.

List A - Scientific Computing Courses:

CIVE602	(4)	Finite Element Analysis
COMP522	(4)	Modelling and Simulation
COMP540	(3)	Matrix Computations
COMP566	(3)	Discrete Optimization 1
MATH578	(4)	Numerical Analysis 1
MATH579	(4)	Numerical Differential Equations

List B - Applications and Specialized methods Courses:

ATOC512	(3)	Atmospheric and Oceanic Dynamics
ATOC513	(3)	Waves and Stability
ATOC515	(3)	Turbulence in Atmosphere and Oceans
CIVE514	(3)	Structural Mechanics
CIVE572	(3)	Computational Hydraulics
CIVE603	(4)	Structural Dynamics
CIVE613	(4)	Numerical Methods: Structural Engineering
COMP505	(3)	Advanced Computer Architecture
COMP557	(3)	Fundamentals of Computer Graphics
COMP558	(3)	Fundamentals of Computer Vision
COMP567	(3)	Discrete Optimization 2
COMP621	(4)	Optimizing Compilers
COMP642	(4)	Numerical Estimation
COMP767	(4)	Advanced Topics: Applications 2
ECSE507	(3)	Optimization and Optimal Control
ECSE532	(3)	Computer Graphics
ECSE547	(3)	Finite Elements in Electrical Engineering
ECSE549	(3)	Expert Systems in Electrical Design
MATH555	(4)	Fluid Dynamics
MATH560	(4)	Optimization
MATH651	(4)	Asymptotic Expansion and Perturbation Methods
MATH761	(4)	Topics in Applied Mathematics 1
MECH533	(3)	Subsonic Aerodynamics
MECH537	(3)	High-Speed Aerodynamics
MECH538	(3)	Unsteady Aerodynamics
MECH539	(3)	Computational Aerodynamics
MECH541	(3)	Kinematic Synthesis
MECH545	(3)	Advanced Stress Analysis
MECH572	(3)	Introduction to Robotics

MECH573	(3)	Mechanics of Robotic Systems
MECH576	(3)	Computer Graphics and Geometrical Modelling
MECH577	(3)	Optimum Design
MECH610	(4)	Fundamentals of Fluid Dynamics
MECH620	(4)	Advanced Computational Aerodynamics
MECH632	(4)	Theory of Elasticity
MECH642	(4)	Advanced Dynamics
MECH650	(4)	Heat Transfer
MECH654	(4)	Compt. Fluid Flow and Heat Transfer

Ph.D. Degree

To complete a Ph.D. program students must:

- pass twelve approved courses beyond the Bachelor's level;
- pass a Comprehensive Examination consisting of a written Part A, which is concerned with their general mathematical background, and an oral Part B concerned with two topics at an advanced graduate level;
- demonstrate a reading knowledge of French;
- submit a thesis judged to be an original contribution to knowledge.

46.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Approximately 15 of the 600- and 700-level courses will be given.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Notes:

All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

With the permission of the instructor, prerequisites and corequisites for courses may be waived in individual cases.

The course credit weight is given in parentheses after the title.

MATH 523 GENERALIZED LINEAR MODELS. (4) (Winter) (Prerequisite: MATH 423 or EPIB 697) (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) (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) (Winter) (Prerequisite: MATH 324 or equivalent) (Not open to students who have taken MATH 425)

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 555 FLUID DYNAMICS. (4) (Fall) (Undergraduate prerequisites: 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) (Winter) (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 561 ANALYTICAL MECHANICS. (4) (Prerequisites: MATH 354 and MATH 380 or instructor's approval)

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; L_p 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 \mathbb{R}^n , Fourier series and integrals, additional topics.

MATH 566 ADVANCED COMPLEX ANALYSIS. (4) (Winter) (Prerequisites: MATH 466, MATH 564)

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 ORDINARY DIFFERENTIAL EQUATIONS. (4) (Prerequisites: MATH 325, MATH 354)

MATH 575 PARTIAL DIFFERENTIAL EQUATIONS. (4) (Prerequisite: MATH 375) A continuation of topics introduced in MATH 375.

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.

MATH 578 NUMERICAL ANALYSIS 1. (4) (Fall) (Prerequisites: MATH 223 or MATH 247 or MATH 251 or MATH 270; MATH 248 or MATH 265 or MATH 314; MATH 315 or MATH 261 or MATH 325; MATH 317 or MATH 387; or the instructor's approval.) Development, analysis and effective use of numerical methods to solve problems arising in applications. Topics include linear and nonlinear systems of equations, fast Fourier transform, eigenvalue prob-

lems, interpolation, approximation, quadrature, solution of ordinary differential equations.

MATH 579 NUMERICAL DIFFERENTIAL EQUATIONS. (4) (Winter) (Prerequisites: MATH 266 or MATH 375, MATH 317, MATH 319, MATH 387 or MATH 578; or the instructor's approval.) 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, preconditioning and fast solvers.

MATH 580 APPLIED PARTIAL DIFFERENTIAL EQUATIONS 1. (4) (Fall) (Prerequisites: MATH 316, MATH 375 or equivalent.) (Restrictions: Not open to students who have taken MATH 586.) Linear and nonlinear partial differential equations of applied mathematics. Uniqueness, regularity, well posedness and classification for elliptic, parabolic and hyperbolic equations. Method of characteristics, conservation laws, shocks. Fundamental solutions, weak and strong maximum principles, representation formulae, Green's functions.

MATH 581 APPLIED PARTIAL DIFFERENTIAL EQUATIONS 2. (4) (Winter) (Prerequisite: MATH 580.) Continuation of topics from MATH 580. Transform methods. Weak solutions. Advanced topics in partial differential equations.

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 L_p . 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 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)

MATH 600 MASTER'S THESIS RESEARCH 1. (6) (Not open to students who have taken or are taking MATH 640) Thesis research under supervision.

MATH 601 MASTER'S THESIS RESEARCH 2. (6) Thesis research under supervision.

MATH 604 MASTER'S THESIS RESEARCH 3. (6) Thesis research under supervision.

MATH 605 MASTER'S THESIS RESEARCH 4. (6) Thesis research under supervision.

MATH 606 ALGEBRAIC TOPOLOGY. (4) (Prerequisite: MATH 577)

MATH 612 ALGEBRAIC CURVES. (4)

MATH 622 CATEGORIES 1. (4)

MATH 626 ADVANCED GROUP THEORY 1. (4)

MATH 627 ADVANCED GROUP THEORY 2. (4)

MATH 628 MATHEMATICAL LINGUISTICS. (4) (Given in collaboration with the Department of Linguistics. Prerequisites: MATH 328 or LING 360, or equivalent)

MATH 633 HARMONIC ANALYSIS 1. (4) (Prerequisite: MATH 564, MATH 565, and MATH 566)

MATH 635 FUNCTIONAL ANALYSIS 1. (4) (Prerequisite: MATH 564, MATH 565, and MATH 566)

MATH 636 FUNCTIONAL ANALYSIS 2. (4) (Prerequisites: MATH 564, MATH 565, MATH 635)

MATH 640 PROJECT 1. (6) (Not open to students who have taken or are taking MATH 600) Project research under supervision.

MATH 641 PROJECT 2. (9) Project research under supervision.

MATH 651 ASYMPTOTIC EXPANSION AND PERTURBATION METHODS. (4)

MATH 666 SEMINAR MATHEMATICS AND STATISTICS 1. (2) (Departmental approval required.) Study on an advanced topic in mathematics or statistics.

MATH 667 SEMINAR MATHEMATICS AND STATISTICS 2. (2) (Departmental approval required.) Study on an advanced topic in mathematics or statistics.

MATH 669D1 (0.5), MATH 669D2 (0.5) CSE SEMINAR. (No credit will be given for this course unless both MATH 669D1 and MATH 669D2 are successfully completed in consecutive terms) (Students must register for both MATH 669D1 and MATH 669D2) Intended for students in the Master's Program Option in Computational Science and Engineering. This seminar will expose students to a wide range of techniques and applications.

MATH 669N1 CSE SEMINAR. (0.5) (Students must also register for MATH 669N2) (No credit will be given for this course unless both MATH 669N1 and MATH 669N2 are successfully completed in a twelve month period)

MATH 669N2 CSE SEMINAR. (0.5) (Prerequisite: MATH 669N1) (No credit will be given for this course unless both MATH 669N1 and MATH 669N2 are successfully completed in a twelve month period) See MATH 669N1 for course description.)

MATH 671 APPLIED STOCHASTIC PROCESSES. (4) Discrete parameter Markov chains, including branching processes and random walks. Limit theorems and ergodic properties of Markov chains. Continuous parameter Markov chains, including birth and death process. Topics selected from the following areas: renewal processes, Brownian motion, statistical inference for stochastic processes.

MATH 674 EXPERIMENTAL DESIGN. (4)

MATH 676 MULTIVARIATE ANALYSIS. (4)

MATH 678 APPLIED STATISTICAL METHODS 1. (4) Statistical data analysis, with special reference to applications of the main statistical methods to problems in medicine, biology, chemistry, etc. Extensive use of computer methods, especially subroutine packages for statistical data description, display and analysis.

MATH 680 COMPUTATION INTENSIVE STATISTICS. (4) (Prerequisites: MATH 556, MATH 557 or permission of instructor) (Not open to students who have taken or are taking EPIB 680) Introduction to a statistical computing language, such as S-PLUS; random number generation and simulations; EM algorithm; bootstrap, cross-validation and other resampling schemes; Gibbs sampler. Other topics: numerical methods; importance sampling; permutation tests.

MATH 681 TIME SERIES ANALYSIS. (4)

MATH 682 MATRIX THEORY - STATISTICAL AND OTHER APPLICATIONS. (4)

MATH 683 LINEAR MODELS. (4)

MATH 685D1 (2), MATH 685D2 (2) STATISTICAL CONSULTING. (Prerequisites: MATH 423, MATH 523, MATH 556, MATH 557. Equivalents may be substituted at instructor's discretion) (Password required) (Students must register for both MATH 685D1 and MATH 685D2) (No credit will be given for this course unless both MATH 685D1 and MATH 685D2 are successfully completed in consecutive terms) Statistical consultation skills; overview of widely used statistical techniques; understanding the client's problem; suggesting designs and statistical analyses; performing statistical analyses; communicating with clients orally and in writing. Format: Simulated and real consultations with clients.

MATH 686 SURVIVAL ANALYSIS. (4) (Prerequisites: MATH 556, MATH 557 or permission of instructor) (Not open to students who have taken or are taking EPIB 686) Parametric survival models.

Nonparametric analysis: Kaplan-Meier estimator and its properties. Covariates with emphasis on Cox's proportional hazards model. Marginal and partial likelihood. Logrank tests. Residual analysis. Homework assignments a mixture of theory and applications. In-class discussion of data tests.

MATH 687 READING COURSE MATHEMATICAL LOGIC 1. (4)

MATH 689 READING COURSE ALGEBRA 1. (4)

MATH 691 READING COURSE GEOMETRY AND TOPOLOGY 1. (4)

MATH 692 READING COURSE GEOMETRY AND TOPOLOGY 2. (4)

MATH 693 READING COURSE IN ANALYSIS 1. (4)

MATH 695 READING COURSE APPLIED MATHEMATICS 1. (4)

MATH 696 READING COURSE APPLIED MATHEMATICS 2. (4)

MATH 697 READING COURSE STATISTICS AND PROBABILITY 1. (4)

MATH 698 READING COURSE STATISTICS AND PROBABILITY 2. (4)

MATH 699 READING COURSE IN OPTIMIZATION. (4)

MATH 700 PH.D. PRELIMINARY EXAMINATION PART A. (0)

MATH 701 PH.D. PRELIMINARY EXAMINATION PART B. (0)

MATH 704 TOPICS IN MATHEMATICAL LOGIC 1. (4)

MATH 706 TOPICS IN GEOMETRY AND TOPOLOGY 1. (4)

MATH 707 TOPICS IN GEOMETRY AND TOPOLOGY 2. (4)

MATH 708 TOPICS IN GEOMETRY AND TOPOLOGY 3. (4)

MATH 709 TOPICS IN GEOMETRY AND TOPOLOGY 4. (4)

MATH 721 TOPICS IN ALGEBRA 2. (4)

MATH 722 TOPICS IN ALGEBRA 3. (4)

MATH 723 TOPICS IN ALGEBRA 4. (4)

MATH 723D1 (2), MATH 723D2 (2) TOPICS IN ALGEBRA 4. (Students must register for both MATH 723D1 and MATH 723D2) (No credit will be given for this course unless both MATH 723D1 and MATH 723D2 are successfully completed in consecutive terms) (MATH 723D1 and MATH 723D2 together are equivalent to MATH 723)

MATH 724 TOPICS IN ALGEBRA 5. (4)

MATH 725 TOPICS IN ALGEBRA 6. (4)

MATH 726 TOPICS IN NUMBER THEORY 1. (4)

MATH 726D1 (2), MATH 726D2 (2) TOPICS IN NUMBER THEORY 1. (Students must register for both MATH 726D1 and MATH 726D2) (No credit will be given for this course unless both MATH 726D1 and MATH 726D2 are successfully completed in consecutive terms) (MATH 726D1 and MATH 726D2 together are equivalent to MATH 726)

MATH 727 TOPICS IN NUMBER THEORY 2. (4)

MATH 728 TOPICS IN NUMBER THEORY 3. (4)

MATH 729 TOPICS IN NUMBER THEORY 4. (4) This course covers an advanced topic in number theory.

MATH 729D1 (2), MATH 729D2 (2) TOPICS IN NUMBER THEORY 4. (Students must register for both MATH 729D1 and MATH 729D2) (No credit will be given for this course unless both MATH 729D1 and MATH 729D2 are successfully completed in consecutive terms) (MATH 729D1 and MATH 729D2 together are equivalent to MATH 729)

MATH 740 TOPICS IN ANALYSIS 1. (4) This course covers an advanced topic in some branch of analysis.

MATH 742 TOPICS IN ANALYSIS 3. (4) This course covers an advanced topic in some branch of analysis.

MATH 743 TOPICS IN ANALYSIS 4. (4) This course covers an advanced topic in some branch of analysis.

MATH 744 TOPICS IN ANALYSIS 5. (4)

MATH 745 TOPICS IN ANALYSIS 6. (4)

MATH 761 TOPICS IN APPLIED MATHEMATICS 1. (4)

MATH 762 TOPICS IN APPLIED MATHEMATICS 2. (4)

MATH 763 TOPICS IN APPLIED MATHEMATICS 3. (4)

MATH 764 TOPICS IN APPLIED MATHEMATICS 4. (4)

MATH 771 THEORY OF STOCHASTIC PROCESSES. (4)

MATH 782 TOPICS IN STATISTICS AND PROBABILITY 1. (4)

MATH 783 TOPICS IN STATISTICS AND PROBABILITY 2. (4)

MATH 784 TOPICS IN STATISTICS AND PROBABILITY 3. (4)

MATH 785 TOPICS IN STATISTICS AND PROBABILITY 4. (4)

47 Mechanical Engineering

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Chair — A.K. Misra

Graduate Program Director — M. Nahon

47.1 Staff

Emeritus Professors

R. Knystautas; B.Eng., M.Eng., Ph.D.(McG.), Eng.
M.P. Paidoussis; 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

G. Bach; B.Sc.(Alta), M.Sc.(Birm), Ph.D.(McG.)
L. Kops; B.Eng., M.Eng., D.Sc., Eng.(Krakow Tech U.), Eng.,
M.C.I.R.P., F.A.S.M.E., F.C.S.M.E., M.S.M.E.

Professors

A.M. Ahmed; B.Sc.(Dhaka), Ph.D.(McG.), Eng. (*Thomas
Workman Professor of Mechanical Engineering*)
J. Angeles; B.Sc., M.Sc.(UNAM Mexico), Ph.D.(Stan.), Eng.
F.A.S.M.E., F.C.S.M.E., F.R.S.C., (*James McGill Professor*)
B.R. Baliga; B.Tech.(I.I.T. Kanpur), M.Sc.(Case), Ph.D.(Minn.)
W.G. Habashi; B.Eng., M.Eng.(McG.), Ph.D.(C'nell), P.Eng.,
F.A.S.M.E. (*NSERC-Bombardier Industrial Research Chair*)
J.H.S. Lee; B.Eng.(McG.), M.Sc.(M.I.T.), Ph.D.(McG.), Eng.
D.F. Mateescu; M.Eng.(Poli. U. Buch.), Ph.D.(Rom. Acad. Sci.),
Doctor Honoris Causa (Poli. U. Buch.), AFAIAA, FCASI
A.K. Misra; B.Tech.(I.I.T., Kgp.), Ph.D.(Br.Col.), P.Eng.
M. Ostoja-Starzewski; Eng. (Krakow Tech.U.), M.Eng.,
Ph.D.(McG.), F.A.S.M.E. (*Canada Research Chair*)
S.J. Price; B.Sc., Ph.D.(Brist.), P.Eng.

Associate Professors

M. Buehler; M.Sc., Ph.D.(Yale) (*William Dawson Scholar*)
L. Cortelezzi; M.Sc., Ph.D.(Cal.Tech.)
D.L. Frost; B.A.Sc.(Br.Col.), M.S., Ph.D.(Cal.Tech.), P.Eng.
T. Lee; M.S.(Portland St.), Ph.D.(Idaho)
L. Lessard; B.Eng.(McG.), M.Sc., Ph.D.(Stan.), P.Eng.
M. Nahon; B.Sc.(Queen's), M.Sc.(Tor.), Ph.D.(McG.), Eng.
J.A. Nemes; B.Sc.(Maryland), M.Sc., D.Sc.(GWU) (*William
Dawson Scholar*)
P. Radziszewski; B.Sc.(U.B.C.), M.Sc., Ph.D.(Laval)
I. Sharf, B.A.Sc., Ph.D.(Tor.)
V. Thomson; B.Sc.(Windsor), Ph.D.(McM.), (*Werner Graupe
Professor of Manufacturing Automation*)
P.J. Zsombor-Murray; B.Eng., M.Eng., Ph.D.(McG.), Eng.,
F.C.S.M.E.

Assistant Professors

A.J. Higgins; B.Sc.(Ill.), M.S., Ph.D.(Wash.)
P. Hubert; B.Eng., M.A.Sc.(École Poly.), Ph.D.(U.B.C.), Eng.
(*Canada Research Chair*)
J. Kövecses; M.Sc. (U. Miskolc), Ph.D. (Hung. Acad. Sci.), P.Eng.
R. Mongrain; B.Sc., M.Sc.(Montr.), Ph.D.(École Poly.) Eng.
L. Mydlarski; B.Sc.(Wat.), Ph.D.(C'nell)

S. Nadarajah; B.Sc.(Kansas), M.S., Ph.D.(Stan.)
E.V. Timofeev; M.Sc., Ph.D. (S.T.U. St. Petersburg)
S. Vengallatore; B.Tech. (B.H.U), Ph.D. (MIT)

Associate Members

R.E. Kearney (Biomedical Engineering Unit), B.H.K. Lee,
M. Tanzer

Adjunct Professors

H. Attia, R. Edwards, S. Girgis, A. Hemami, Z. Liu, K. MacKenzie,
W.D. May, C.A. Rabbath, R. Sumner, G.A. Wagner, T. Yee,
D. Zorbas

47.2 Programs Offered

M.Eng., M.Sc. and Ph.D. degrees in Mechanical Engineering.

Advanced courses and laboratory facilities are available for graduate study leading to the M.Eng. and Ph.D. degrees in Mechanical Engineering. Some of the specific areas of research are as follows:

Aerodynamics: experimental and computational studies in subsonic, transonic and supersonic, steady and unsteady flows.

Bioengineering: design of joint prostheses and cardiovascular devices.

Combustion, shock wave physics and vapour explosions: dust combustion, solid and liquid propellants, explosion hazard, and nuclear reactor safety.

Computational fluid dynamics and heat transfer: turbulent, reacting and multiphase flows in engineering equipment and in the environment, turbomachinery, in-flight icing, multidisciplinary optimisation.

Fluid-structure interactions and dynamics: vibrations and instabilities of cylindrical bodies, fluidelasticity, aeroelasticity, dynamics of shells containing axial and annular flows.

Manufacturing and industrial engineering: thermoelastic effects in machine tools, functional behaviour of machined surfaces, optimization in production systems, mineral processing, comminution.

Robotics and automation: design optimization of manipulators, geometric modelling, system dynamics and control systems.

Solid mechanics: composite materials, structural analysis, composite manufacturing, fracture, fatigue and reliability, microscopic and macroscopic approaches.

Space dynamics: orbital analysis, large space structures, space robots and tethered satellites, dynamics modelling.

47.3 Admission Requirements

The general rules of the Graduate and Postdoctoral Studies Office apply. Candidates who come from other institutions are expected to have an academic background equivalent to the undergraduate curriculum in mechanical engineering at McGill or to make up any deficiencies in a qualifying year. Applicants are requested to state in as much detail as possible their particular field of interest for graduate study.

Applicants to the M.Eng. (Thesis) program, including the CSE Option, must hold an undergraduate engineering degree (or equivalent). Applicants who hold an undergraduate degree in a non-engineering discipline---typically the Physical Sciences---may apply for the M.Sc. (Thesis) program which is governed by the same regulations as the M.Eng. (Thesis) program.

Applicants to the M.Eng. (non-Thesis) program must hold an undergraduate degree in Mechanical Engineering (or equivalent). Applicants to the M.Eng. (Aerospace) program must be citizens or permanent residents of Canada and hold an undergraduate engineering degree (or equivalent). In addition, applicants should be fluent in French, or commit themselves to become so prior to the start of their Industrial Stage.

Applicants to the Ph.D. program must have successfully completed a Master's degree program (or equivalent) in Engineering

or the Physical Sciences. Students are not admitted directly from an undergraduate program.

In the case of all programs, applicants must have successfully completed their prior degree with a minimum CGPA equivalent to 3.3 on a scale of 4.0 (or an average not lower than 75%). Satisfaction of these minimum requirements does not guarantee admission.

47.4 Application Procedures

Applications will be considered upon receipt of:

1. application form
2. transcripts
3. letters of reference
4. \$60 application fee
5. test results (TOEFL or IELTS)

The application form for graduate program candidates is available at www.mcgill.ca/applying/graduate/physical. All additional information is to be submitted directly to the Graduate Program Secretary in the Mechanical Engineering Department

Deadlines:

Fall Admission:

- February 1st for International candidates;
- May 1st for Canadian and landed immigrant candidates.

Winter Admission:

- May 15th for International candidates;
- August 1st for Canadian and landed immigrant candidates.

47.5 Program Requirements

The minimum residence requirement for the M.Eng. degree is three terms of full-time study, one of which may be a Summer term. In the case of M.Eng. (non-Thesis) a part-time program is available.

M.Eng. (Thesis) Degree (minimum 45 credits)

Thesis Component – Required (29 credits)

MECH609	(1)	Seminar
MECH691	(3)	M.Eng. Thesis Literature Review
MECH692	(4)	M.Eng. Thesis Research Proposal
MECH693	(3)	M.Eng. Thesis Progress Report 1
MECH694	(6)	M.Eng. Thesis Progress Report 2
MECH695	(12)	M.Eng. Thesis

MECH691 is to be completed in the first term of the student's program.

Complementary Courses (16 credits)

A minimum of 16 credits at the graduate level (500 or above), at least eight of which must be from within the Faculty of Engineering. In special cases (e.g., interdisciplinary research), one undergraduate course from outside the Department may be used to fulfill the requirement, provided there is no overlap in the content of the course with that of any offered in the Department.

A thesis describing the candidate's research is to be submitted in accordance with the regulations of the Graduate and Postdoctoral Studies Office and is the major requirement for the degree.

M.Eng. (Thesis) Degree - Computational Science and Engineering (CSE) Option (46 credits)

Required Courses (30 credits)

MECH609	(1)	Seminar
MECH669D1	(.5)	CSE Seminar
MECH669D2	(.5)	CSE Seminar
MECH691	(3)	M.Eng. Thesis Literature Review
MECH692	(4)	M.Eng. Thesis Research Proposal
MECH693	(3)	M.Eng. Thesis Progress Report 1
MECH694	(6)	M.Eng. Thesis Progress Report 2
MECH695	(12)	M.Eng. Thesis

Complementary Courses (16 credits)

A minimum of 16 credits at the graduate level (500 or above), at least 8 of which must be from within the Faculty of Engineering. Two courses (minimum 6 credits) from List A, and two courses (minimum 6 credits) from List B. At least two of the courses taken from Lists A and B must be from outside the Department of Mechanical Engineering.

List A - Scientific Computing Courses:

CIVE602	(4)	Finite Element Analysis
COMP522	(4)	Modelling and Simulation
COMP540	(3)	Matrix Computations
COMP566	(3)	Discrete Optimization 1
MATH578	(4)	Numerical Analysis 1
MATH579	(4)	Numerical Differential Equations

List B - Applications and Specialized methods Courses:

ATOC512	(3)	Atmospheric and Oceanic Dynamics
ATOC513	(3)	Waves and Stability
ATOC515	(3)	Turbulence in Atmosphere and Oceans
CIVE514	(3)	Structural Mechanics
CIVE572	(3)	Computational Hydraulics
CIVE603	(4)	Structural Dynamics
CIVE613	(4)	Numerical Methods: Structural Engineering
COMP505	(3)	Advanced Computer Architecture
COMP557	(3)	Fundamentals of Computer Graphics
COMP558	(3)	Fundamentals of Computer Vision
COMP567	(3)	Discrete Optimization 2
COMP621	(4)	Optimizing Compilers
COMP642	(4)	Numerical Estimation
COMP767	(3)	Advanced Topics: Applications 2
ECSE507	(3)	Optimization and Optimal Control
ECSE532	(3)	Computer Graphics
ECSE547	(3)	Finite Elements in Electrical Engineering
ECSE549	(3)	Expert Systems in Electrical Design
MATH555	(4)	Fluid Dynamics
MATH560	(4)	Optimization
MATH651	(4)	Asymptotic Expansion and Perturbation Methods
MATH761	(4)	Topics in Applied Mathematics 1
MECH533	(3)	Subsonic Aerodynamics
MECH537	(3)	High-Speed Aerodynamics
MECH538	(3)	Unsteady Aerodynamics
MECH539	(3)	Computational Aerodynamics
MECH541	(3)	Kinematic Synthesis
MECH545	(3)	Advanced Stress Analysis
MECH572	(3)	Introduction to Robotics
MECH573	(3)	Mechanics of Robotic Systems
MECH576	(3)	Computer Graphics and Geometrical Modelling
MECH577	(3)	Optimum Design
MECH610	(4)	Fundamentals of Fluid Dynamics
MECH620	(4)	Advanced Computational Aerodynamics
MECH632	(4)	Theory of Elasticity
MECH642	(4)	Advanced Dynamics
MECH650	(4)	Heat Transfer
MECH654	(4)	Compt. Fluid Flow and Heat Transfer

M.Eng. (non-Thesis) Degree (minimum 45 credits)

This is a course-type Master's degree which requires 12 graduate courses for completion. All candidates are required to take the following courses:

Required Courses (29 credits)

MECH605	(4)	Applied Mathematics 1
MECH610	(4)	Fundamentals of Fluid Mechanics
MECH632	(4)	Theory of Elasticity
MECH642	(4)	Advanced Dynamics
MECH603*	(6)	Design Project 1
MECH604*	(6)	Design Project 2
MECH609*	(1)	Seminar

* these three courses are taken near the end of the program. In these courses, industrial liaison is encouraged.

Complementary Courses (16 credits)

A minimum of 16 credits at the graduate level (500 or above) from the Faculty of Engineering may be selected by the student, based on interest and the choice of area of concentration. Courses at the graduate level from other faculties may also be taken, with prior approval from the student's project supervisor and the Graduate Program Director.

M.Eng. (Aerospace) Degree (minimum 45 credits)

The M.Eng. Aerospace Degree is offered to the students who wish to specialize in the general area of aerospace engineering. This degree is given in conjunction with Concordia University, École Polytechnique, Université Laval, Université de Sherbrooke, and École de Technologie Supérieure. Students registered at McGill are required to take two courses from two other institutions.

Depending on their background, students would specialize in one of the three areas:

1. Aeronautics and Space Engineering;
2. Avionics and Control;
3. Aerospace Materials and Structures.

Required Courses (9 credits)

MECH687	(3)	Aerospace Case Studies
MECH688	(6)	Industrial Stage

Complementary Courses (36 credits)

The other courses, depending on the area of concentration, will be chosen in consultation with an Aerospace Engineering Advisor.

Master in Management (Manufacturing) (56 credits)

The Master in Manufacturing Management program (MMM) is offered to students who wish to have a career as manufacturing managers. The curriculum is a balance between manufacturing and management subjects and provides exposure to industry through case studies, seminars, tours and a paid industry internship. The MMM program is a 12-month academic program starting in September followed by a 4-month industrial internship. The program is a collaboration between the Faculties of Engineering and Management, which jointly grant the Master of Management degree.

Students should hold an undergraduate degree in engineering or science. Two or more years of industrial experience is preferred, but not mandatory. Students with other academic backgrounds and appropriate industrial experience will be considered, but may have to take one or two qualifying courses. The program is intended for full-time as well as part-time students. Enrolment is limited.

The MMM program is a self-funded program. Tuition is \$25,000.

General Business and Management – Required Courses (11 credits)

MGCR611	(2)	Financial Accounting
MGCR612	(2)	Organizational Behaviour
MGCR616	(2)	Marketing
MGCR641	(2)	Elements of Modern Finance 1
MGSC608	(3)	Data Decisions and Models

General Business and Management – Complementary Courses (6 credits)

Two of the following courses:

INDR603	(3)	Industrial Relations
ORGB625	(3)	Managing Organizational Change
ORGB632	(3)	Managing Teams in Organizations
ORGB633	(3)	Managerial Negotiations
ORGB640	(3)	The Art of Leadership
ORGB685	(3)	Cross Cultural Management

Manufacturing and Supply Chain – Required Courses (15 credits)

MECH524	(3)	Computer Integrated Manufacturing
MGSC602	(3)	Manufacturing Strategy

MGSC603 (3) Logistics Management
 MGSC605 (3) Total Quality Management
 MGSC631 (3) Analysis of Manufacturing Systems

Manufacturing and Supply Chain – Complementary Courses
 (12 credits)

Two of the following four courses (6 credits):

MECH526 (3) Manufacturing and the Environment
 MGSC601 (3) Management of Technology in Manufacturing
 MGSC615 (3) The Internet and Manufacturing
 MGSC675 (3) Applied Time Series Analysis Managerial
 Forecasting

and one of the following two options (6 credits):

Discrete Manufacturing Option

MECH528 (3) Product Design
 MECH529 (3) Discrete Manufacturing Systems

Process Manufacturing Option

CHEE571 (4) Chemical Reaction Engineering
 CHEE641 (3) Small Computer Applications: Chemical
 Engineering

Industry – Required Courses (12 credits)

MECH627 (9) Manufacturing Industrial Stage
 MECH628 (2) Manufacturing Case Studies
 MECH629 (1) Manufacturing Industrial Seminar

For more information, contact:

Program Coordinator, Mechanical Engineering

Telephone: (514) 398-7201

E-mail: mmm@mecheng.mcgill.ca

Web site: www.mecheng.mcgill.ca/mmm

or the Masters Program Office, Faculty of Management

Telephone: (514)398-4648

Ph.D. Degree Candidates normally register for the M.Eng. degree in the first instance. However, in exceptional cases where the research work is proceeding very satisfactorily, or where the equivalent of the M.Eng. degree has been completed at another university, candidates may be permitted to proceed directly to the Ph.D. degree without submitting a Master's thesis as long as they have satisfied the course requirements for the M.Eng. degree.

Courses of study selected for a Ph.D. program will depend upon the existing academic qualifications of the candidate and those needed for effective research.

Candidates are required to pass a preliminary oral examination within twelve months of their initial registration for the Ph.D. degree.

The residence requirement for Ph.D. candidates is outlined in the General Information section of the *Graduate and Postdoctoral Studies Calendar*.

47.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

☐ Denotes limited enrolment.

Denotes courses not offered in 2004-05.

Undergraduate Courses Approved for Higher Degrees

The following courses, available in the undergraduate curriculum of the Mechanical Engineering Department, may be selected for graduate credit provided that both of the following conditions are met: the course is recommended by the candidate's supervisor, and no equivalent course was taken during the candidate's undergraduate program.

MECH 413 CONTROL SYSTEMS. (3) (3-1-5) (Prerequisite: MECH 412) Stability of Linear Systems. Controller design based on root-

locus and frequency response methods. Tuning of PID controllers. State-space representation of dynamic systems. Concepts of controllability and observability. Design of state feedback controller and state observer based on state-space and polynomial methods. Introduction to digital control.

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.

Courses Open to Graduate and Qualified Undergraduate Students

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 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 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) (3-0-6) (Undergraduate Prerequisite: Permission of the instructor)

☐ **MECH 528 PRODUCT DESIGN.** (3) (3-0-6) (Undergraduate Prerequisite: 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) (3-0-6) (Undergraduate Prerequisite: Permission of the instructor)

MECH 530 MECHANICS OF COMPOSITE MATERIALS. (3) (3-0-6) (Corerequisite: 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) (Undergraduate Prerequisites: MECH 419 or MECH 315 and MECH 533) (Graduate Prerequisite: MECH 533)

MECH 532 AIRCRAFT PERFORMANCE, STABILITY AND CONTROL. (3) (3-1-5) (Undergraduate Prerequisites: (MECH 412 or MECH 419), MECH 533) (Graduate Prerequisite: 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) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisites: MECH 331, MECH 341.)

MECH 537 HIGH-SPEED AERODYNAMICS. (3) (3-0-6) (Undergraduate Pre-/Co-requisite: 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) (Undergraduate Prerequisite: MECH 533)

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 540 DESIGN: MODELLING AND DECISION. (3) (3-3-3)

MECH 541 KINEMATIC SYNTHESIS. (3) (3-0-6) (Prerequisite: MECH 309 or MATH 317 or permission of the instructor.)

MECH 542 SPACECRAFT DYNAMICS. (3) (3-0-6) (Undergraduate Prerequisite: 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 manoeuvres; large space structures.

MECH 543 DESIGN WITH COMPOSITE MATERIALS. (3) (3-3-3) (Prerequisite: MECH 530)

MECH 545 ADVANCED STRESS ANALYSIS. (3) (3-1-5) (Undergraduate Prerequisites: 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) (Prerequisites: MECH 315 or MECH 419, and MECH 321, or Instructor's permission.) (Restriction: Not open to students who have taken MECH 645.)

MECH 552 ADVANCED APPLIED MATHEMATICS. (3) (3-1-5) (Undergraduate Prerequisite: MECH 452) (Graduate Prerequisite: Permission of instructor.)

MECH 553 DESIGN AND MANUFACTURE OF MICRODEVICES. (3) (3-0-6) (Prerequisite: Instructors' Permission.)

MECH 554 MICROPROCESSORS FOR MECHANICAL SYSTEMS. (3) (2-3-4) (Undergraduate Prerequisites: 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) (Undergraduate Prerequisites: 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) (Undergraduate Prerequisites: 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: MECH 452 or permission of the 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 565 FLUID FLOW AND HEAT TRANSFER EQUIPMENT. (3) (3-1-5) (Undergraduate Prerequisites: 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 572 INTRODUCTION TO ROBOTICS. (3) (3-0-6) (Undergraduate Prerequisites: (MATH 266 or MATH 271) and MECH 220 or permission of the instructor) (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.)

MECH 576 COMPUTER GRAPHICS AND GEOMETRICAL MODELLING. (3) (2-3-4) (Undergraduate Prerequisites: (MATH 266 or MATH 271) and MECH 290 or MECH 291 and (MECH 309 or MATH 317) or permission of the instructor)

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.

Courses for Graduate Students Only

MECH 603 DESIGN PROJECT 1. (6) A design project undertaken under the direct supervision of at least one staff member. Examination entails the writing of a report which is examined internally by the supervisor and another staff member appointed by the Mechanical Engineering Department.

MECH 604 DESIGN PROJECT 2. (6) A continuation of MECH 603.

MECH 605 APPLIED MATHEMATICS 1. (4) A brief treatment of tensor analysis. A review of complex variables. Analytical methods of

solution for partial differential equations occurring with great frequency in engineering. Perturbation methods, integral methods, asymptotic methods and variational techniques. Numerical methods of solution.

MECH 609 SEMINAR. (1) All candidates for a Master's degree (except those in the Aerospace Program) are required to participate and to deliver one paper dealing with their particular area of research or interest.

MECH 610 FUNDAMENTALS OF FLUID DYNAMICS. (4) (Prerequisite: MECH 605 or permission of instructor) Conservation laws control volume analysis, Navier Stokes Equations and some exact solutions, dimensional analysis and limiting forms of Navier Stokes Equations. Vorticity, Potential flow and lift, boundary layer theory, drag, turbulence.

MECH 617 UNSTEADY GASDYNAMICS 2. (4)

MECH 620 ADVANCED COMPUTATIONAL AERODYNAMICS. (4) (Evening course) Explicit and implicit time-integration methods; 2D and 3D finite-difference and finite-volume formulations for subsonic, transonic and supersonic rotational flows. Shock-fitting versus shock-capturing methods. Solution of the Navier-Stokes equations using artificial compressibility. Spectral methods. Lagrangian formulation. Time-accurate methods for unsteady flows with oscillating boundaries.

MECH 627 MANUFACTURING INDUSTRIAL STAGE. (9) (Restricted to students in the M.M.M. Program) An industrial work term is an integral component of the M.M.M. program which is to be completed under the supervision of an experienced engineer in the facilities of a sponsoring company.

MECH 628 MANUFACTURING CASE STUDIES. (2) (Restricted to students in the M.M.M. Program)

MECH 628D1 (1), MECH 628D2 (1) MANUFACTURING CASE STUDIES. (Students must register for both MECH 628D1 and MECH 628D2) (No credit will be given for this course unless both MECH 628D1 and MECH 628D2 are successfully completed in consecutive terms) (MECH 628D1 and MECH 628D2 together are equivalent to MECH 628) Case studies on a variety of manufacturing topics are given by industry experts. To be attended by all students in the M.M.M. program.

MECH 629 MANUFACTURING INDUSTRIAL SEMINAR. (1) (Restricted to students in the M.M.M. Program)

MECH 629D1 (0.5), MECH 629D2 (0.5) MANUFACTURING INDUSTRIAL SEMINAR. (Students must register for both MECH 629D1 and MECH 629D2) (No credit will be given for this course unless both MECH 629D1 and MECH 629D2 are successfully completed in consecutive terms) (MECH 629D1 and MECH 629D2 together are equivalent to MECH 629) A series of presentations by industry experts and manufacturing managers. To be attended by all students in the M.M.M. program.

MECH 632 THEORY OF ELASTICITY. (4) (Evening course) The continuum concepts of stress, stress boundary conditions, principal stresses and the equations of equilibrium. Small strain theory and principal strains. The elastic constitutive relations. The extension, torsion and flexure of mechanical components. Plane stress and plane strain. Variational principals and the finite element method. Computer techniques are utilized.

MECH 634 NONLINEAR CONTINUUM MECHANICS. (4)

MECH 635 FRACTURE AND FATIGUE. (4) (Evening course) (Prerequisite: MECH 632)

MECH 636 MECHANICS OF RANDOM/MULTISCALE MATERIALS. (4) (3-0-9) (Prerequisite: MECH 632 or Instructors' Permission.)

MECH 642 ADVANCED DYNAMICS. (4) (Evening course) Variational methods. Hamilton's principle and equations of motion of engineering systems. Lagrangian formulations for discrete systems. Methods of discretizing continuous systems. Rigid body dynamics. Dynamic behaviour of linear and nonlinear systems. Response of engineering systems to deterministic inputs by classical methods. Stability of linear and nonlinear systems.

MECH 650 HEAT TRANSFER. (4) (Evening course) Heat conduction: analytical solutions; integral solutions; solid-liquid phase-

change. Forced and natural convection: nondimensionalization; boundary layer theory; design correlations for external and internal flows; basic ideas of turbulence modelling. Mixed convection. Boiling and condensation. Radiation heat transfer: basic concepts; black-body enclosure theory; gray-body enclosure theory; participating media.

MECH 652 DYNAMICS OF COMBUSTION. (4) Chemical thermodynamics and chemical kinetics, Hugoniot analysis of reacting flows, conservation equation for reactive mixtures, Reacting couette flows, boundary layers and shear layers. Laminar premixed flames, Detonation theory and ZND structure. Stability of flames and detonations, limits, ignition energies and quenching distance, dynamic parameters of detonations.

MECH 654 COMPT. FLUID FLOW AND HEAT TRANSFER. (4) (Evening course)

MECH 661 FINITE ELEMENT IN COMPUTATIONAL FLUID DYNAMICS. (4) (Prerequisite: MECH 610.)

MECH 687 AEROSPACE CASE STUDIES. (3) (Restricted to students in the Aerospace Engineering Option/Programs at McGill, Concordia, Ecole Polytechnique or Ecole de Technologie Superieure) This course covers topical case studies drawn from aerospace industrial experience. It is conducted in a modular form by experienced engineers from industry. It is given in collaboration with the other two institutions participating in this joint option/program, and may be conducted at any of the three locations in the language of convenience to the instructors.

MECH 688 INDUSTRIAL STAGE. (6) (Restricted to students in the Aerospace Engineering Option/Program) An integral component of the program that is to be completed under the supervision of an experienced engineer in the facilities of a participating company. The topic is to be decided by a mutual agreement between the candidate, the participating company and the Liaison Committee on Aerospace Engineering. An evaluation of the candidate's performance during the work period becomes a part of the student's record.

MECH 691 M.ENG. THESIS LITERATURE REVIEW. (3) A comprehensive literature review in the general area of the thesis topic, to be completed in the first semester.

MECH 692 M.ENG. THESIS RESEARCH PROPOSAL. (4) Initiation of research with particular emphasis on the definition of the thesis topic.

MECH 693 M.ENG. THESIS PROGRESS REPORT 1. (3) A first status report on the progress in the thesis research.

MECH 694 M.ENG. THESIS PROGRESS REPORT 2. (6) A second status report on the progress in the thesis research.

MECH 695 M.ENG. THESIS. (12) Submission of the M.Eng. thesis for examination.

MECH 701 PH.D. COMPREHENSIVE PRELIMINARY ORAL EXAMINATION. (0) Presentation of the Ph.D. thesis proposal by the student and oral examination of the student's background in related areas.

48 Medical Physics

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Director — E.B. Podgorsak

48.1 Staff

Professors

S.M. Lehnert; B.Sc.(Nott.), M.Sc., Ph.D.(Lond.)
 E.B. Podgorsak; Dipl. Ing.(Ljubljana), M.Sc., Ph.D.(Wis.),
 F.C.C.P.M.
 C.J. Thompson; B.Sc., M.Sc., D.Sc.(Otago), F.C.C.P.M.

Associate Professors

G.W. Dean; B.Sc.(Salf.), M.Sc.(Man.), Ph.D.(E. Anglia),
 F.C.C.P.M.
 G.B. Pike; B.Eng.(St.John's), M.Eng., Ph.D.(McG.)
 J.P.F. Seuntjens; M.Sc., Ph.D.(Ghent)
 F. Verhaegen; M.Sc., Ph.D.(Ghent)

Assistant Professors

M.D.C. Evans; B.A.(Queen's), M.Sc.(McG.), F.C.C.P.M.
 M. Olivares; B.Sc.(Madrid), M.Sc.(Sask.), F.C.C.P.M.

Lecturers

R.A. Corns; B.Sc., M.Sc., Ph.D.(Man.), M.Sc.(McG.)
 F. DeBlois; B.Sc., M.Sc., Ph.D.(McG.)
 S. Devic; B.Sc., M.Sc., Ph.D.(Belgrade), M.C.C.P.M.
 G. Durante; B.Eng.(McG.)
 T. Falco; B.Sc., M.Sc., Ph.D.(McG.), M.C.C.P.M.
 G. Hegyi; Ph.D.(Cluj), M.Sc.(McG.)
 C. Janicki; B.Sc., M.Sc., Ph.D.(Montr.)
 P. Léger; B.Eng.(École Poly.) O.I.Q.
 W.A. Parker; B.Sc.(C'dia), M.Sc.(McG.), M.C.C.P.M.
 H.J. Patrocino; B.Sc.(C'dia), M.Sc.(McG.), M.C.C.P.M.
 N. Sharoubim; B.Eng.(Ain Shams)

Associate Member

R.B. Richardson, W. Wierzbicki

48.2 Programs Offered

The Medical Physics Unit offers an M.Sc. in Medical Radiation Physics. Facilities are available for students to undertake a Ph.D. in Medical Physics through the Department of Physics.

The Unit is a teaching and research unit concerned with the application of physics and related sciences in medicine, especially (but not exclusively) in radiation medicine, i.e., radiation oncology, medical imaging and nuclear medicine.

The research interests of members of the Unit include various aspects of medical imaging, including 3D imaging, the development of new imaging modalities and applications of imaging in radiation therapy; radiation dosimetry, especially solid state, electret and NMR systems; nuclear cardiology; and applications of radiation biology to therapy.

The M.Sc. and Ph.D. programs in Medical Physics are accredited by the Commission on Accreditation of Medical Physics Education Programs, Inc., sponsored by the American Association of Physicists in Medicine (AAPM), the American College of Medical Physics (ACMP), the American College of Radiology (ACR), and the Canadian College of Physicists in Medicine (CCPM).

48.3 Admission Requirements

Candidates applying to the M.Sc. program must normally hold a B.Sc. degree (Honours or Major) in Physics or Engineering, with a minimum overall GPA of 3.0/4.0 (minimum of 70%).

48.4 Application Procedures

Students are admitted to the M.Sc. program only at the start of the Fall term in September of a given academic year. Applications for consideration for the Fall term of 2005 must be submitted by March 1, 2005.

Applications being made to McGill University graduate programs for September 2005 should be made on-line via McGill's Web site. For information regarding the application procedure and to access the application form, please go to www.mcgill.ca/applying/graduate.

In exceptional circumstances, a paper application form may be requested from the Medical Physics Unit Graduate Office. Mailed applications for the M.Sc. program in medical physics (September 2005) will be accepted at the Medical Physics Unit Graduate Office from September 2004 until March 1, 2005.

Only complete applications will be considered. Interested candidates should (a) ask their university(ies) to send two originals of each transcript, and (b) request that original confidential letters of recommendation be sent by professors familiar with their work. The application fee of \$60 may be remitted in either Canadian or US funds. If using the preferred on-line application form, the application fee is remitted via a valid credit card; if using a paper application, the fee must be remitted in negotiable form payable to McGill University, such as a bank draft or money order, etc. - personal cheques are not accepted.

Non-Canadian applicants whose mother tongue is not English and who have not completed a degree using the English language must submit documented proof of competency in English by a TOEFL or IELTS. The original test report must be sent by the testing center, i.e., a photocopy sent by the applicant is not acceptable. The test must have been taken within the two years prior to date of application review, i.e. since May 2003.

All supporting application materials should be sent directly to the Graduate Secretary, Medical Physics Unit.

48.5 Program Requirements

M.Sc. in Medical Radiation Physics

This two-year program provides a comprehensive introduction to the academic, research and practical aspects of physics applied to radiation medicine. In addition to the thesis requirement (32 credits) there are 12 mandatory courses (28 credits). The practical and laboratory sections of the program are conducted in various McGill teaching hospitals.

The program comprises:

1. didactic courses in radiation physics, radiation dosimetry, the physics of nuclear medicine and diagnostic radiology, medical imaging, medical electronics and computing, radiation biology and radiation hazards and protection;
2. seminars in radiation oncology, diagnostic radiology and miscellaneous aspects of medical physics, e.g., lasers;
3. laboratory courses in radiation dosimetry and medical imaging;
4. an individual research thesis.

48.6 Graduate Level Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Denotes courses not offered in 2004-05.

The course credit weight is given in parentheses after the title.

MDPH 601 RADIATION PHYSICS. (3)

The production and properties of directly and indirectly ionizing radiations and their interactions with matter; basic theoretical and experimental aspects of radiation dosimetry.

MDPH 602 APPLIED DOSIMETRY. (3) (Prerequisite: MDPH 601)

Theoretical and practical dosimetry of radiation sources, both external and internal with respect to the human body. Equipment used for external beam radiotherapy and brachytherapy.

MDPH 603 LABORATORY PRACTICUM 1. (2) (Prerequisite: MDPH 601. Corequisite: MDPH 602)

This laboratory course gives some experience in practical/clinical aspects as applied to radiation therapy and to the techniques for the measurement of different physical parameters which characterize radiation beams. The student is exposed to the operation of various therapy units, dose measuring devices, 3D treatment planning, virtual simulator units, brachyther-

apy, quality assurance, calibration and thermoluminescent dosimetry.

MDPH 607 INTRODUCTION TO MEDICAL IMAGING. (3) (3 hours lectures/week) (Graduate Prerequisite: MDPH 615) A review of the principles of medical imaging as applied to conventional diagnostic radiography, digital subtraction radiography, computed tomography and magnetic resonance imaging. The course emphasizes a linear system approach to the formation, processing and display of medical images.

MDPH 608 LABORATORY - DIAGNOSTIC RADIOLOGY AND NUCLEAR MEDICINE. (2) (Prerequisite: MDPH 615. Corequisite: MDPH 614) This laboratory course takes place in hospital departments of medical diagnostic imaging and is designed to give the student a working knowledge of the performance parameters of the diagnostic imaging equipment. Laboratory classes will offer the student the practical experience of image quality control, on selected imaging equipment currently used in diagnostic medicine together with practical applications of the concepts studied in MDPH 614 and MDPH 615.

MDPH 609 RADIATION BIOLOGY. (2) Deals with the effects and mode of action of ionizing radiation on biological material from molecular interactions, through sub-cellular and cellular levels of organization, to the response of tissues, organs and the whole body. Includes the application of radiation biology to oncology and the biological aspects of environmental radiation exposure.

MDPH 611 MEDICAL ELECTRONICS. (2) An introductory course on electronics, with emphasis on digital electronics, data acquisition and microprocessors applied to instrumentation. A basic knowledge of electronics is assumed, but the detailed course contents may vary from year to year, depending on the background of the students.

MDPH 612 COMPUTERS IN MEDICAL IMAGING. (2) (Prerequisites: MDPH 607, MDPH 611 or equivalent, MDPH 615) (Corequisite: MDPH 614) The role of computers in the acquisition and storage of data in medical imaging systems, with special reference to computed tomography, gamma cameras, positron emission tomography. Special attention is paid to the interfacing requirements of each device and to image display systems. Demonstrations of some of these systems are included.

MDPH 613 HEALTH PHYSICS. (2) (Prerequisites: MDPH 601, MDPH 609) The hazards of ionizing radiations and the safe handling of radiation sources. Topics covered include basic principles; safety codes, laws and regulations; organization of radiation safety; and practical safety measures and procedures.

MDPH 614 PHYSICS OF DIAGNOSTIC RADIOLOGY. (3) A rigorous treatment of the physical principles and the instrumentation of radiology, computed tomography and ultrasound medical imaging systems. Special attention is paid to the analysis of the relations between imaging system design, image quality, and safety. Measurement techniques for the evaluation of medical imaging systems are reviewed.

MDPH 615 PHYSICS OF NUCLEAR MEDICINE. (3) (Corequisite: MDPH 601) The physics of radioactivity and the applications of radioisotopes and radiopharmaceuticals in medical diagnosis. Topics covered include fundamental nuclear physics, radioactivity, radiation spectrometry, the scintillation camera, image analysis and data processing in nuclear medicine, single photon emission tomography, and positron emission tomography.

MDPH 616 SELECTED TOPICS IN MEDICAL PHYSIC. (1) This course deals with anatomy and physiology, etiology and treatment of cancer and introductory medical statistics, three topics not covered by other courses in the program. Also clinical aspects of radiation oncology physics.

MDPH 616D1 (0.5), MDPH 616D2 (0.5) SELECTED TOPICS IN MEDICAL PHYSICS. (Students must register for both MDPH 616D1 and MDPH 616D2) (No credit will be given for this course unless both MDPH 616D1 and MDPH 616D2 are successfully completed in consecutive terms) (MDPH 616D1 and MDPH 616D2 together are equivalent to MDPH 616) This course deals with anatomy and physiology, etiology and treatment of cancer and introductory

medical statistics, three topics not covered by other courses in the program. Also clinical aspects of radiation oncology physics.

MDPH 625 M.Sc. THESIS RESEARCH. (32)

MDPH 625D1 (16), MDPH 625D2 (16) M.Sc. THESIS RESEARCH. (Students must register for both MDPH 625D1 and MDPH 625D2) (No credit will be given for this course unless both MDPH 625D1 and MDPH 625D2 are successfully completed in consecutive terms) (MDPH 625D1 and MDPH 625D2 together are equivalent to MDPH 625)

MDPH 625N1 M.Sc. THESIS RESEARCH. (16) (Students must also register for MDPH 625N2) (No credit will be given for this course unless both MDPH 625N1 and MDPH 625N2 are successfully completed in a twelve month period) (MDPH 625N1 and MDPH 625N2 together are equivalent to MDPH 625)

MDPH 625N2 M.Sc. THESIS RESEARCH. (16) (Prerequisite: MDPH 625N1) (No credit will be given for this course unless both MDPH 625N1 and MDPH 625N2 are successfully completed in a twelve month period) (MDPH 625N1 and MDPH 625N2 together are equivalent to MDPH 625) See MDPH 625N1 for course description.

49 Medicine, Experimental

Division of Experimental Medicine
Department of Medicine
Lady Meredith House, Room 101
1110 Pine Avenue West
Montreal, QC H3A 1A3
Canada

Telephone: (514) 398-3466
Fax: (514) 398-3425
E-mail: experimental.medicine@mcgill.ca
Web site: www.medcor.mcgill.ca/EXPMED/expmed.html

Chair, Department of Medicine — D. Eidelman

Director, Division of Experimental Medicine — H. Bennett

49.1 Staff

Professors

G. Batist; B.Sc.(Col.), M.D., C.M.(McG.), F.R.C.P.(C)
H. Bennett; B.A.(York, U.K.), Ph.D.(Brun.)
R. Blostein; M.Sc., Ph.D.(McG.)
T.M.S. Chang; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)
M. Cosio; B.Sc.(Oviedo), M.D.(Madrid)
F. Doualla-Bell; B.Sc., M.S., Ph.D.(Paris XI)
A. Fuks; B.Sc., M.D., C.M.(McG.)
J. Genest, Jr.; M.D., C.M.(McG.), F.R.C.P.(C)
H.L. Goldsmith; B.A., B.Sc., M.A.(Oxon), Ph.D.(McG.)
D. Goltzman; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
S.A. Grover; B.A.(Roch.), M.D., C.M.(McG.), M.P.A.(Harv.), F.R.C.P.(C)
G. Hendy; B.Sc.(Sheff.), Ph.D.(Lond.)
A. Herscovics; B.Sc., Ph.D.(McG.)
J. Hiscott; B.Sc., M.Sc.(W.Ont.), Ph.D.(N.Y.)
M. Levy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
B. Leyland-Jones; B.Sc., M.B., B.S.(Lond.), F.R.C.P.(C), F.A.C.P.
P.T. Macklem; B.A.(Queen's), M.D., C.M.(McG.), F.R.C.P.(C)
S. Magder; M.D.(Tor.), F.R.C.P.(C)
O.A. Mamer; B.Sc., Ph.D.(Windsor)
E. Marliss; M.D.(Alta.), F.R.C.P.(C)
J. Martin; B.Sc., M.B., B.Ch., M.D.(Cork), F.R.C.P.(C)
J. Milic-Emili; M.D.(Milan), F.R.S.C.
B.E.P. Murphy; B.A., M.D.(Tor.), M.Sc., Ph.D.(McG.), F.A.C.P.(C)
C.K. Osterland; M.D.(Man.)
L. Panasci; B.Sc., M.D.(Georgetown)
M.N. Pollak; M.D., C.M.(McG.), F.R.C.P.(C)
P. Ponka; M.D., Ph.D.(Prague)
B. Posner; M.D.(Man.), F.R.C.P.(C)
W.S. Powell; B.A.(Sask.), Ph.D.(Dal.)

M. Rasminsky; B.A.(Tor.), M.D.(Harv.), Ph.D.(Lond.)
 E. Silva; M.D.(Chile), F.A.C.P.
 E. Skamene; M.D., (Charles U., Czech.), Ph.D.(Czech. Acad. of Sci.), F.R.C.P.(C), F.A.C.P.
 A.D. Sniderman; M.D.(Tor.)
 C.P. Stanners; B.Sc.(McM.), M.A., Ph.D.(Tor.)
 M. Stevenson; B.A.(Hood), M.Sc., Ph.D.(Catholic U. of Amer.)
 S.L. Tan; M.B.B.S., M.Med.(Sing.)
 D.M.P. Thomson; M.D., (W. Ont.), Ph.D.(Lond.), F.R.C.P.(C)
 C. Tsoukas; B.Sc.(McG.), M.Sc.(Hawaii), M.D.(Athens), F.R.C.P.(C)
 M. Wainberg; B.Sc.(McG.), Ph.D.(Col.)
 M. Zannis-Hadjopoulos; B.Sc., M.Sc., Ph.D.(McG.)
 H. Zingg; M.D.(Basel), Ph.D.(McG.)

Associate Professors

A. Bateman; B.Sc., Ph.D.(Lond.)
 N. Beauchemin; B.A., B.Sc., M.Sc., Ph.D.(Montr.)
 L.F. Congote; B.Sc.(Zür.), Ph.D.(Marburg)
 D. Cournoyer; M.D.(Sher.), F.R.C.P.(C)
 A. Cybulsky; M.D.(Tor.), F.R.C.P.(C)
 D. Eidelman; M.D., C.M.(McG.), F.R.C.P.(C)
 M.S. Featherstone; B.Sc., M.Sc.(Ott.), Ph.D.(McG.)
 R. Gagnon; B.Sc.(Montr.), M.D.(Laval), D.Phil.(Oxon)
 A. Gagnon; M.Sc., Ph.D. (Paul Sabatier)
 R. Germinario; B.A., M.Sc.(Seton Hall U., N.J.), Ph.D.(Dakota)
 V. Giguere; B.Sc., Ph.D.(Laval)
 S.B. Gottfried; M.D.(Penn.)
 Q.A. Hamid; M.D.(Mosul, Iraq), Ph.D.(Lond.)
 L.J. Hoffer; B.Sc., M.D., C.M.(McG.), Ph.D.(M.I.T.)
 N.J. Kabani; B.Sc. (Karachi), M.Sc., Ph.D. (McG.)
 L. Kleiman; B.Sc.(Ill.), Ph.D.(Johns H.)
 R. Kremer; M.D., Ph.D.(Paris)
 P. Laneuville; B.Sc.(McM.), M.D.(Ott.), F.R.C.P.(C)
 M. Laughrea; B.Sc.(Laval), M.Sc., M.Phil., Ph.D.(Yale)
 R. Loertscher; M.D.(Basel)
 M.S. Ludwig; M.D.(Man.), F.R.C.P.(C)
 W.H. Miller; A.B.(Prin.), Ph.D.(Rock.), M.D.(C'neil)
 S. Mulay; M.Sc., Ph.D.(McG.)
 J. Nalbantoglu; B.Sc., Ph.D.(McG.)
 A. Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.)
 M. Newkirk; B.Sc., M.Sc.(Queen's), Ph.D.(Tor.)
 T. Owens; B.Sc., M.Sc.(McG.), Ph.D.(Ott.)
 R. Palfree; B.Sc., M.Sc.(Lond.), Ph.D.(McG.)
 K. Pantopoulos; B.Sc., Ph.D.(Aristotelian, Greece)
 A.C. Peterson; B.Sc.(Vic., B.C.), Ph.D.(Br.Col.)
 S. Rabbani; M.B.B.S.(King Edward Med. Coll., Lahore)
 D. Radzioch; M.Sc., Ph.D.(Jagiellonian, Cracow)
 J. Rauch; B.Sc., Ph.D.(McG.)
 C.P. Rose; B.Sc.(Queen's), M.D., C.M., Ph.D.(McG.)
 E. Schurr; Diplom., Ph.D.(Al. Ludwigs U., Freiburg)
 G. Spurril; B.Sc.(Med.), M.D.(Man.)
 C. Srikant; M.Sc., Ph.D.(Madr.)
 M. Trifiro; B.Sc., M.D., C.M.(McG.)
 B. Turcotte; B.Sc., Ph.D.(Laval)
 B.J. Ward; M.D., C.M.(McG.), M.Sc.(Oxon), F.R.C.P.(C)

Assistant Professors

M. Alaoui-Jamali; D.V.M.(Rabat, Morocco), Ph.D.(René-Descartes, Paris)
 S. Ali; B.Sc.(C'dia), Ph.D.(McG.)
 D. Baran; M.D.C.M.(McG.), F.R.C.P.(C)
 M. Behr; B.Sc.(Tor.), M.D.(Queen's), M.Sc.(McG.)
 N. Bernard; B.Sc.(McG.), Ph.D.(Duke)
 V. Blank; B.Sc., M.Sc.(Konstanz, Germany), Ph.D.(Inst. Pasteur)
 M. Blostein; M.D., C.M.(McG.)
 L. Chalifour; B.Sc., Ph.D.(Man.), M.A.(Harv.)
 K. Cianflone; B.Sc., Ph.D.(C'dia)
 A.E. Clarke; M.D.(Nfld.), M.S.(Stan.), F.R.C.P.(C)
 S.R. Cohen; B.Sc., M.Sc., Ph.D.(McG.)
 C. Couture; B.Sc., M.Sc.(Laval), Ph.D.(McG.)
 W. Cupples; B.Sc.(Vic., B.C.), M.Sc.(Calg.), Ph.D.(Tor.)
 S. Daly; B.Sc.(C'dia), Ph.D.(W. Ont.)
 J.C. Engert; B.A.(Colby), Ph.D.(Boston)

J. Falutz; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
 E. Fixman; B.Sc.(Col.), Ph.D.(Johns H.)
 J. Galipeau; M.D.(Montr.)
 B. Gilfix; B.Sc.(Man.), Ph.D.(W. Ont.), M.D.C.M.(McG.), F.R.C.P.(C)
 M. Götte; B.Sc., Ph.D.(Max-Planck)
 M. Greenwood; B.Sc., M.Sc.(C'dia), Ph.D.(McG.)
 J. Henderson; B.Sc., Ph.D.(McG.)
 A.C. Karaplis; B.Sc., M.D., Ph.D.(McG.) (William Dawson Scholar)
 A.E. Koromilas; B.Sc., Ph.D.(Aristotelian U., Greece)
 S. Laporte; B.Sc., M.Sc., Ph.D.(Sher.)
 L. Larose; B.Sc., Ph.D.(Montr.)
 J.-J. Lebrun; B.Sc., M.Sc., Ph.D.(Rennes, France)
 S. Lemay; M.D.(Montr.), F.R.C.P.(C)
 C. Liang; B.Sc., Ph.D.(Nankai)
 R. Lin; B.Sc., M.Sc.(PRC), Ph.D.(C'dia)
 M. Lipman; M.D., C.M.(McG.), F.R.C.P.(C)
 J.-L. Liu; B.Sc., M.Sc.(Beijing), Ph.D.(McG.)
 D. Malo; D.V.M., M.Sc.(Montr.), Ph.D.(McG.)
 B. Mazer; B.Sc.(Col.); M.D., C.M.(McG.), F.R.C.P.(C)
 A. Moulard; B.A., B.Sc., Ph.D.(McG.)
 W.J. Muller; B.Sc., Ph.D.(McG.)
 M. Park; B.Sc., Ph.D.(Glas.)
 B.J. Petrof; M.D.(Laval)
 S. Richard; B.Sc., Ph.D.(McG.)
 T. Takano; M.D., Ph.D.(Tokyo)
 P. Tonin; B.Sc., M.Sc., Ph.D.(Tor.)
 S. Wing; B.Sc., M.Sc.(McG.)
 X.-J. Yang; B.Sc.(Zhejiang), Ph.D.(Shanghai)

Associate Members, McGill

C. Autexier, D. Boivin, P. Brodt, K. Brown, M.N. Burnier, D.H. Burns, R.-C. Chian, S. Chevalier, M. Chevette, T. Chow, H. Clarke, E. Colle, J. Desbarats, D. Dufort, R. Farookhi, M.M. Frojmovic, C. Gagnon, A. Gaiad, C. Goodyer, P. Goodyer, I. Gupta, B.J. Jean-Claude, M. Kaartinen, W. Lapp, S. Lehnert, R. Massie, M. Nagano, A. Pause, H. Perrault, C. Polychronakos, R. Poole, R.D. Rajan, G. Rouleau, S.-H. Shen, G. Tannenbaum, H. Tenenhouse, M. Tremblay, I. Wainer, J. White, S.N. Young

Associate Members, Université de Montréal

T. Bradley, R. Butterworth, P. Chartrand, J. Davignon, C. Deal, A. Deng, C.F. Deschepper, C. Desrosiers, J. Drouin, J. Gutkowska, P. Hamet, T. Hoang, P. Hugo, P. Jolicœur, C. Lazure, D. Lohnes, S. Mader, M. Nemer, M. Raymond, T. Reudelhuber, M. Sairam, G. Sauvageau, E. Schiffrin, N. Seidah, R.-P. Sekaly, D. Skup, G. Thibault, M. Trudel, J. Vacher, A. Veillette

*Associate Members, Institut Armand Frappier,**Université du Québec*

S. Lemieux, L. Zamir

49.2 Programs Offered

Ph.D. in Experimental Medicine.
 M.Sc. – Specialization in Bioethics.
 Graduate Diploma in Clinical Research.

49.3 Admission Requirements

For all three programs, candidates educated outside of Canada and the United States must submit GRE (General Examination) scores.

Ph.D.

Admission to graduate studies and research in Experimental Medicine is restricted to students who wish to register for the Ph.D. degree. Candidates must hold a Major or Honours B.Sc. degree, or an M.D. degree.

Admission is based on an evaluation by the Admissions Committee, which looks for evidence of high academic achievement, and on acceptance by a research director. It is the policy of the

Division that all students must be financially supported either by their supervisor or through studentships or fellowships.

In addition to the documentation currently required by the Graduate and Postdoctoral Studies Office, a letter from the candidate's research director outlining the Ph.D. project is necessary.

M.Sc. (Specialization in Bioethics)

Admission to the Master's program in Bioethics, from the base discipline Medicine, shall be limited to students having degrees in Medicine, Nursing, Physical and Occupational Therapy, as well as any other professional health training degree.

For further information regarding this program, please refer to the Bioethics entry.

Graduate Diploma in Clinical Research

The diploma program is open to health care and research professionals, medical residents, pharmacists, nurses, and those with an undergraduate degree in the medical and allied sciences.

49.4 Application Procedures

Applications will be considered upon receipt of:

1. application form
2. transcripts
3. letters of reference
4. \$60 application fee
5. test results (TOEFL and GRE).

All information is to be submitted to the Departmental Office.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

49.5 Program Requirements

Ph.D.

Comprehensive Examination: All students must take and pass the Comprehensive Oral Examination, listed as course EXMD701 in the second year of the Ph.D. Students shall give a 30-minute presentation of their Ph.D. project and then answer questions from the Oral Committee. This examination will test: (i) If the student's work is progressing satisfactorily and is of sufficiently high calibre to warrant continuation in the program, and (ii) If the student has a broad knowledge, not only of his/her own field of research, but also of related areas in her/his discipline.

Course Work: A minimum of 18 course credits is required for students entering the program with a Bachelor's or M.D. degree. Depending on their background, students with a Masters degree may be required to take only 12 course credits. The following courses are highly recommended: EXMD604D1/EXMD604D2 Recent Advances in Cellular and Molecular Biology; EXMD610 Biochemical Methods in Medical Research.

After consultation with their research supervisor and the Director of the Division, students may choose their courses from those offered by Experimental Medicine, Physiology, Biochemistry as well as other graduate and advanced undergraduate courses in the medical and allied sciences. Where necessary, students may enrol for credit in courses offered in the physical and mathematical sciences.

Students in the third year of the Ph.D. must give a 20-minute oral presentation of their work at the Annual Research Seminar.

M.Sc. (Specialization in Bioethics)

The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (3 credit minimum) offered by the base department and any graduate courses required or accepted by the base department for the granting of a Master's degree, for a total of 18 to 21 credits. A minimum of 45 credits is required including the thesis.

For further information please contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3690 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514) 398-6980. Fax: (514) 398-8349. E-mail: kathleen.glass@mcgill.ca.

Graduate Diploma in Clinical Research

The Diploma consists of 30 credits, 24 of which include specific courses. The additional supplemental 6 credits are electives and may be chosen from course work available through the Division of Experimental Medicine, Department of Pharmacology and Therapeutics and Department of Epidemiology and Biostatistics.

The core element of the diploma is the Practicum in Clinical Research (18 credits). It is a six-step program with active 'clerkship' or 'intern-resident-type' participation in each component that is essential to the successful development and evaluation of a clinical trial.

Six 1-credit workshops will be provided by experts in the academic, industrial and government sectors, and cover wide-ranging issues pertinent to the conduct of clinical research.

49.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

EXMD 502 ADVANCED ENDOCRINOLOGY. (3) (Fall) (Undergraduate Prerequisite: EXMD 301 or an equivalent course) 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. (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) (Undergraduate Prerequisite: 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) (Winter) (Undergraduate Prerequisite: 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 biol-

ogy 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.

EXMD 602 TECHNIQUES IN MOLECULAR GENETICS. (3) (Offered in conjunction with the Department of Experimental Medicine.) (Graduate Prerequisites: Admission by permission of instructor.) Precise description of available methods in molecular genetics, and rationales for choosing particular techniques to answer questions posed in research proposals for targeting genes in the mammalian genome. Emphasis placed on analysis of regulation of gene expression and mapping, strategies for gene cloning. Course divided between lectures and student seminars.

EXMD 603 SEMINARS IN ENDOCRINOLOGY. (3) For graduate students to develop skills in critical reading of current literature, interpretation of research data, and seminar organization and presentation. Staff suggest topics. Each student presents two seminars on topics of their choice, supervised by professors responsible for those topics, and one mini-symposium style presentation on any topic.

EXMD 604D1 (3), EXMD 604D2 (3) RECENT ADVANCES IN CELLULAR AND MOLECULAR BIOLOGY. (Students must register for both EXMD 604D1 and EXMD 604D2) (No credit will be given for this course unless both EXMD 604D1 and EXMD 604D2 are successfully completed in consecutive terms) Offered in conjunction with the Université de Montréal: given Thursdays 16:00-18:00 at Institut de Recherches Cliniques de Montréal, 110 Pine West. The course is bilingual with abstracts in the other language supplied; more than half the lectures are in French. Aimed at bringing students up to date on recent aspects of cell and molecular biology including cellular organelle structure and function, molecular genetics, signal transduction, cell growth and development, and immunology.

EXMD 607 MOLECULAR CONTROL OF CELL GROWTH. (3) A course for graduate students in Experimental Medicine, Biology, Biochemistry, Microbiology and Physiology, dealing with molecular control in normal and malignant cell growth, including cell cycle

and physiological controls (nutritional and hormonal), mammalian DNA replication, viral effects on host cell growth for DNA and RNA-tumor viruses and oncogenes, and tissue and organ growth-renewal mechanisms.

EXMD 608 MOLECULAR EMBRYOLOGY. (3) (Offered in conjunction with the Department of Oncology) The course will deal with the structure and function of genes whose products play key roles in the development of vertebrates and invertebrates. Particular emphasis will be paid to the embryonic axes, the action of cell surface molecules in the embryo, and the urogenital system.

EXMD 610 BIOMEDICAL METHODS IN MEDICAL RESEARCH. (3) A course intended to introduce students to a variety of basic techniques used in medical research. Lectures and demonstrations given on the purification of biologically active substances by chromatography, analysis of compounds by spectrophotometry and mass spectrometry, immunological techniques, centrifugation, cell culture, binding of hormones to receptors, molecular biology, tumor biology and electron microscopy.

EXMD 611D1 (3), EXMD 611D2 (3) SEMINARS IN ONCOLOGY. (Students must register for both EXMD 611D1 and EXMD 611D2) (No credit will be given for this course unless both EXMD 611D1 and EXMD 611D2 are successfully completed in consecutive terms) A course in cancer and allied fields aimed at familiarizing students with the current literature relevant to the biology of cancer, developing their critical abilities and providing an opportunity for presenting seminars to their peers.

EXMD 614 ENVIRONMENTAL CARCINOGENESIS. (3) Methods for identification of carcinogens, including epidemiological studies, animal modelling and molecular biomarkers, and characteristics of known environmental carcinogens (viruses, chemical and physical agents and diet). Environmental factors will be placed in the context of overall cancer risk, which involves interaction of genetics, host and environment.

EXMD 615 MEMBRANE CARBOHYDRATES. (3) The structure, function and biosynthesis of glycoproteins, glycolipids and glycoaminoglycans, and the biological role of complex carbohydrates at the cell surface.

EXMD 616 MOLECULAR AND CELL BIOLOGY TOPICS. (3) Structured and instructor-directed student presentations and discussions of recent advances in molecular and cellular biology. The course will reinforce the students' knowledge of currently major areas of investigation, with a focus on human disease and medical applications. Important recent publications will extend material from textbook and review articles.

EXMD 617 WORKSHOP IN CLINICAL TRIALS 1. (1) Intensive day-long workshop discussing Industrial/Academic/Governmental interactions in the design, testing and approval of drugs.

EXMD 618 WORKSHOP IN CLINICAL TRIALS 2. (1) Intensive day-long workshop discussing the role of the physician in drug testing.

EXMD 619 WORKSHOP: CLINICAL TRIALS 3. (1) Intensive day-long workshop discussing the pharmacoconomics of drug design and testing.

EXMD 620 CLINICAL TRIALS AND RESEARCH 1. (1) Intensive day-long workshop discussing a topical subject or recent advance relevant to clinical research and the conduct of clinical trials.

EXMD 621 SEMINARS IN BIOMEDICAL RESEARCH 1. (3)

EXMD 622 SEMINARS IN BIOMEDICAL RESEARCH 2. (3)

EXMD 623 SEMINARS: BIOMEDICAL RESEARCH 3. (3)

EXMD 624 SEMINARS IN BIOMEDICAL RESEARCH 4. (3)

EXMD 625 CLINICAL TRIALS AND RESEARCH 2. (1) Intensive day-long workshop discussing a topical subject or recent advance relevant to clinical research and the conduct of clinical trials.

EXMD 626 CLINICAL TRIALS AND RESEARCH 3. (1) Intensive day-long workshop discussing a topical subject or recent advance relevant to clinical research and the conduct of clinical trials.

EXMD 627 PRACTICUM IN CLINICAL RESEARCH. (18) Six-step program: 1. Identification of the problem; 2. Experimental design; 3.

Protocol development; 4. Execution of the protocol; 5. Data analysis; 6. Generation of final report with active "clerkship" participation in each component with team leaders and experts designated for each stage.

EXMD 627D1 (9), EXMD 627D2 (9) PRACTICUM IN CLINICAL RESEARCH. (Students must register for both EXMD 627D1 and EXMD 627D2) (No credit will be given for this course unless both EXMD 627D1 and EXMD 627D2 are successfully completed in consecutive terms) (EXMD 627D1 and EXMD 627D2 together are equivalent to EXMD 627)

EXMD 628 QUALITATIVE RESEARCH METHODOLOGY. (3) (Restriction: permission of instructor) This course explores both broad and specific theoretical and methodological issues in qualitative research inquiry. It will discuss both traditional and contemporary paradigmatic thought underlying the qualitative enterprise and it will introduce the student to some qualitative techniques and strategies for collecting, analyzing and reporting data.

EXMD 630 ECONOMIC EVALUATION OF MEDICAL TECHNOLOGIES. (3) (Offered in conjunction with the Department of Epidemiology and Biostatistics.)

EXMD 635D1 (3), EXMD 635D2 (3) EXPERIMENTAL/CLINICAL ONCOLOGY. (Students must register for both EXMD 635D1 and EXMD 635D2) (No credit will be given for this course unless both EXMD 635D1 and EXMD 635D2 are successfully completed in consecutive terms) The course will deal, on a site by site basis, with the incidence of cancer, present treatment, treatment outcome, underlying causes, current research and directions for development of new treatments. Chemotherapy, surgery, radiation therapy and nutrition as therapy and treatment of cancer will be included.

EXMD 640 EXPERIMENTAL MEDICINE TOPIC 1. (3)

EXMD 690 MASTER'S THESIS RESEARCH 1. (3)

EXMD 691 MASTER'S THESIS RESEARCH 2. (6)

EXMD 692 MASTER'S THESIS RESEARCH 3. (9)

EXMD 693 MASTER'S THESIS RESEARCH 4. (12)

EXMD 694 MASTER'S THESIS RESEARCH 5. (12)

EXMD 701 COMPREHENSIVE ORAL EXAMINATION. (0)

EXMD 701D1 (0), EXMD 701D2 (0) COMPREHENSIVE ORAL EXAMINATION. (Students must register for both EXMD 701D1 and EXMD 701D2) (No credit will be given for this course unless both EXMD 701D1 and EXMD 701D2 are successfully completed in consecutive terms) (EXMD 701D1 and EXMD 701D2 together are equivalent to EXMD 701)

Department of Physiology

PHGY 508 Advanced Renal Physiology. (3)

PHGY 513 Cellular Immunology. (3)

PHGY 515 Physiology of Blood 1. (3)

PHGY 516 Physiology of Blood 2. (3)

PHGY 517 Artificial Internal Organs. (3)

PHGY 518 Artificial Cells. (3)

Department of Microbiology and Immunology

MIMM 509 Inflammatory Processes. (3)

Scheduled Graduate Seminars

Royal Victoria Hospital (1 hour per week):

Respiratory Research

Immunopathology

Endocrinology and Metabolism

Haematology Research

Renal and Electrolyte Seminar

Transplantation Conference

Gastroenterology Conference

Diabetes Conference

Chest-Cardiac Disease Conference

Clinical Endocrinology Conference

Steroid Biochemistry Research

Haematology Clinical Conference

Endocrinology and Metabolism Research Conference

Clinical Immunology Conference

Arthritis Conference

Internal Medicine

Dermatology Research

University Clinic Seminar

Cardiology Research

Montreal General Hospital (1 hour per week, or in some cases alternate week):

Gastroenterology Conference

Respiratory Diseases

Dermatology

Internal Medicine

Allergy and Immunology

Infectious Diseases

Combined Staff Conference

Haematology

Arthritis

Metabolic Diseases

Cardiac Disease

Neurology – Neurosurgery

University Medical Clinic Seminar

50 Microbiology and Immunology

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Montreal, QC H3A 2B4
Canada

Telephone: (514) 398-3912

Fax: (514) 398-7052

E-mail: office.microimm@mcgill.ca

Web site: www.mcgill.ca/microimm

Chair — G.J. Matlashewski

50.1 Staff

Emeritus Professor

E.C.S. Chan; M.A.(Texas), Ph.D.(Maryland)

Professors

N.H. Acheson; A.B.(Harv.), Ph.D.(Rockefeller)

Z. Ali-Khan; B.Sc.(Bilar), M.Sc.(Karachi), Ph.D.(Tulane)

M.G. Baines; B.Sc., M.Sc., Ph.D.(Queen's)

J.W. Coulton; B.Sc.(Tor.), M.Sc.(Calg.), Ph.D.(W. Ont.)

J. Hiscott; B.Sc., M.Sc., Ph.D.(W. Ont.)

G.J. Matlashewski; B.Sc.(C'dia), Ph.D.(Ohio)

R.A. Murgita; B.Sc.(Maine), M.S.(Vt.), Ph.D.(McG.)

T. Owens; B.Sc., M.Sc.(McG.), Ph.D.(Ont.)

M.A. Wainberg; B.Sc.(McG.), Ph.D.(Col.)

Associate Professors

A. Berghuis; M.Sc.(The Netherl.), Ph.D.(UBC)

D.J. Briedis; B.A., M.D.(Johns H.)

Assistant Professors

B. Cousineau; B.Sc., M.Sc., Ph.D.(Montr.)

S. Fournier; Ph.D.(Montr.)

H. Le Moual; Ph.D.(Montr.)

G.J. Marczyński; B.S., Ph.D.(Ill.)

A. Moulard; Ph.D.(McG.)

M. Olivier; B.Sc.(Montr.), Ph.D.(McG.)

Ciriaco Piccirillo; B.Sc., Ph.D. (McG.)

Associate Members

Institute of Parasitology: G. Faubert, A. Jardim, P.Ribeiro, T.Spithill

Division of Exp. Medicine: C. Couture

Microbiology and Immunology: L. Kleiman

Medicine: M. Behr, A. Dascal, S.Hussain, V.Loo, J. D. Maclean,

J. Mendelson, M. A.Miller, M.Newkirk, R.G.E. Palfree,

K.Pantopoulos, J. E.Rauch, B. Turcotte, B.J.Ward.

Neuroimmunology: A. Bar-Or

Neurology and Neurosurgery: J. Antel
Oncology: A. Gagnon, M. Gotte, A.E. Koromilas, A. Moulard,
 A. Pause, S. Richard
Surgery: N.V. Christou, A.R. Poole

Adjunct Professors

V. Dave, A. Descoteaux, G. Kukolj, T. Jones, P. Lau,
 A. Makrigiannis, A. Matte, C. Rioux, R.-P. Sekaly

50.2 Programs Offered

The Department offers graduate programs leading to the degrees of M.Sc., M.Sc. Applied and Ph.D. Each program is tailored to fit the needs and backgrounds of individual students.

The Department concentrates on four key areas of research: cellular and molecular immunology, microbial physiology and genetics, molecular biology of viruses, and medical microbiology.

50.3 Admission Requirements

Master's and Master's Applied

Candidates are required to hold a B.Sc. degree in microbiology and immunology, biology, biochemistry or another related discipline; those with the M.D., D.D.S. or D.V.M. degrees are also eligible to apply. The minimum grade point average for acceptance into the program is 3.2 (out of 4.0). All international applicants whose language of instruction is not English must have a TOEFL score of 575 on the paper-based test (230 on the computer-based test).

Ph.D.

Students who have satisfactorily completed a M.Sc. degree in microbiology and immunology, a biological science, or biochemistry, or highly qualified students enrolled in the departmental M.Sc. program, may be accepted into the Ph.D. program provided they meet its standards.

50.4 Application Procedures

Applications will be considered upon receipt of:

1. application form
2. two official transcripts
3. two letters of reference
4. \$60 application fee
5. TOEFL test (GRE not required but recommended)

All information is to be submitted directly to the Student Affairs Officer in the Department of Microbiology and Immunology.

All applicants are encouraged to approach academic staff members during or before the application process since no applicants are accepted without a supervisor.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

Deadline(s)

All applications and documents must be submitted by the following dates:

Canadian Applicants

October 1	for the Winter term (January)
February 1	for the Summer term (May)
May 15	for the Fall term (September)

International Applicants

July 1	for the Winter Term (January)
November 1	for the Summer term (May)
February 15	for the Fall term (September)

Intra-departmental transfers

November 1	for the Winter Term (January)
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50.5 Program Requirements

M.Sc. Degree (45 credits)

The following requirements must be satisfied:

1. Students must register for and satisfactorily complete the requirements of courses MIMM611, MIMM612, MIMM613, MIMM614, MIMM615 and two of the following courses: MIMM616, MIMM617, MIMM618 and MIMM619 (see list below).
2. Other courses may be required to strengthen the student's background.
3. A satisfactory M.Sc. thesis (24 credits) must be presented.

M.Sc.A. Degree (non-thesis degree) (45 credits)

The principal aim is to provide specialized training in Applied Medical Microbiology and Immunology.

Candidates must satisfy requirements (1) and (2) above. In addition, applied laboratory research projects must be pursued as a major part of the overall program. The results of each project form the basis of a formal report that is reviewed by the Department staff.

Ph.D.

Candidates will be judged principally on their research ability and on the presentation of a satisfactory thesis.

Students must also register for and satisfactorily complete the requirements of courses MIMM701, MIMM711, MIMM712, MIMM713, MIMM714, MIMM715 and MIMM716 and three or the following courses: MIMM704, MIMM705, MIMM706, MIMM707 (see list below). Other courses may be required to strengthen the student's background.

Each Ph.D. student has an advisory committee (three professors including research advisor) that meets yearly to consider the student's progress.

50.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

MIMM 611 GRADUATE SEMINARS 1. (3)

MIMM 612 GRADUATE SEMINARS 2. (3) (M.Sc. students - presentation of two seminar topics throughout the course of their degree program)

MIMM 613 CURRENT TOPICS 1. (3)

MIMM 614 CURRENT TOPICS 2. (3)

MIMM 615 CURRENT TOPICS 3. (3) M.Sc. Students (discussion groups with guest speakers).

MIMM 616 READING AND CONFERENCE 1. (3) (M.Sc. students - two of these courses required throughout the course of their degree program) Student presentations, taken from current literature, are concerned with aspects of a central topic. Presentations are designed to be informal and to generate student discussions. Topic will change from term to term.

MIMM 617 READING AND CONFERENCE 2. (3) (M.Sc. students - two of these courses required throughout the course of their degree program) Student presentations, taken from current literature, are concerned with aspects of a central topic. Presentations are designed to be informal and to generate student discussions. Topic will change from term to term.

MIMM 618 READING AND CONFERENCE 3. (3) (M.Sc. students - two of these courses required throughout the course of their degree program) Student presentations, taken from current literature, are concerned with aspects of a central topic. Presentations are designed to be informal and to generate student discussions. Topic will change from term to term.

MIMM 619 READING AND CONFERENCE 4. (3) (M.Sc. students - two of these courses required throughout the course of their degree program) Student presentations, taken from current literature, are concerned with aspects of a central topic. Presentations are

designed to be informal and to generate student discussions. Topic will change from term to term.

MIMM 697 MASTER'S RESEARCH 1. (8) (M.Sc. students) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

MIMM 698 MASTER'S RESEARCH 2. (8) (M.Sc. students) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

MIMM 699 MASTER'S RESEARCH 3. (8) (M.Sc. students) Independent work under the direction of a supervisor on a research problem in the student's designated area of research.

MIMM 701 COMPREHENSIVE EXAMINATION-PH.D. CANDIDATE. (0)

MIMM 701D1 (0), MIMM 701D2 (0) COMPREHENSIVE EXAMINATION-PH.D. CANDIDATE. (Students must also register for MIMM 701D2) (No credit will be given for this course unless both MIMM 701D1 and MIMM 701D2 are successfully completed in consecutive terms) (MIMM 701D1 and MIMM 701D2 together are equivalent to MIMM 701)

MIMM 704 READING AND CONFERENCE. (3) (Ph.D. students - three of these courses required throughout the course of their degree program.) Description as for M.Sc. students.

MIMM 705 READING AND CONFERENCE. (3) (Ph.D. students - three of these courses required throughout the course of their degree program.) Description as for M.Sc. students.

MIMM 706 READING AND CONFERENCE. (3) (Ph.D. students - three of these courses required throughout the course of their degree program.) Description as for M.Sc. students.

MIMM 707 READING AND CONFERENCE. (3) (Ph.D. students - three of these courses required throughout the course of their degree program.) Description as for M.Sc. students.

MIMM 711 GRADUATE SEMINARS 3. (3) (Ph.D. students) Presentation of a maximum of three seminars topics throughout the course of their degree program.

MIMM 712 GRADUATE SEMINARS 4. (3) (Ph.D. students) Presentation of a maximum of three seminars topics throughout the course of their degree program.

MIMM 713 GRADUATE SEMINARS 5. (3) (Ph.D. students) Presentation of a maximum of three seminars topics throughout the course of their degree program.

MIMM 714 CURRENT TOPICS 4. (3) (Ph.D. students) Discussion groups with guest speakers.

MIMM 715 CURRENT TOPICS 5. (3) (Ph.D. students) Discussion groups with guest speakers.

MIMM 716 CURRENT TOPICS 6. (3) (Ph.D. students) Discussion groups with guest speakers.

MIMM 721 PH.D. RESEARCH PROGRESS REPORT 1. (1)

MIMM 721D1 (0.5), MIMM 721D2 (0.5) PH.D. RESEARCH PROGRESS REPORT 1. (Students must also register for MIMM 721D2) (No credit will be given for this course unless both MIMM 721D1 and MIMM 721D2 are successfully completed in consecutive terms) (MIMM 721D1 and MIMM 721D2 together are equivalent to MIMM 721) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 722 PH.D. RESEARCH PROGRESS REPORT 2. (1) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 722D1 (0.5), MIMM 722D2 (0.5) PH.D. RESEARCH PROGRESS REPORT 2. (Students must also register for MIMM 722D2) (No credit will be given for this course unless both MIMM

722D1 and MIMM 722D2 are successfully completed in consecutive terms) (MIMM 722D1 and MIMM 722D2 together are equivalent to MIMM 722) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 723 PH.D. RESEARCH PROGRESS REPORT 3. (1) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 723D1 (0.5), MIMM 723D2 (0.5) PH.D. RESEARCH PROGRESS REPORT 3. (Students must also register for MIMM 723D2) (No credit will be given for this course unless both MIMM 723D1 and MIMM 723D2 are successfully completed in consecutive terms) (MIMM 723D1 and MIMM 723D2 together are equivalent to MIMM 723) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 724 PH.D. RESEARCH PROGRESS REPORT 4. (1) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

MIMM 724D1 (0.5), MIMM 724D2 (0.5) PH.D. RESEARCH PROGRESS REPORT 4. (Students must also register for MIMM 724D2) (No credit will be given for this course unless both MIMM 724D1 and MIMM 724D2 are successfully completed in consecutive terms) (MIMM 724D1 and MIMM 724D2 together are equivalent to MIMM 724) Each Ph.D. student has an advisory committee (3 professors including research advisor) that meets yearly to consider student's progress. Students submit a 6-page progress report to the committee and give a 20-minute oral presentation, discussing data obtained and future research plans. Committee gives advice on progress and fine-tuning the research project.

51 Mining, Metals and Materials Engineering

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Fax: (514) 398-4492

Department Chair — R.A.L. Drew

Director, Graduate Program — G.P. Demopoulos

Graduate Program Secretary — B. Hanley

51.1 Staff

Emeritus Professors

G.W. Smith, B.Eng., M.Eng., Ph.D.(McG.), Eng.
W.M. Williams; B.Sc., M.Sc.(Brist.), Ph.D.(Tor.), Eng.

Professors

G.P. Demopoulos; Dipl.Eng.(NTU Athens), M.Sc., Ph.D.(McG.), Eng.
R.A.L. Drew; B.Tech.(Brad.), Ph.D.(N'cle)
R. Gauvin; B.Eng., Ph.D.(Montr.), Eng.
J.A. Finch; B.Sc.(Birm.), M.Eng., Ph.D.(McG.), Eng., F.C.I.M., F.R.S.C.
J.E. Gruzleski; B.Sc., M.Sc.(Queen's), Ph.D.(Tor.), Eng., F.C.I.M., F.A.S.M.
R.I.L. Guthrie; B.Sc., Ph.D.(Lond.), D.I.C., Eng., A.R.S.M., F.C.I.M., R.R.S.C.
R. Harris; B.Sc. (Qld), M.Eng., Ph.D.(McG.)
F.P. Hassani; B.Sc., Ph.D.(Nott.), C.Eng.(U.K. Reg.)
J.J. Jonas; B.Eng.(McG.), Ph.D.(Cantab.), Eng., F.A.S.M., F.R.S.C.
H.S. Mitri; B.Sc.(Cairo), M.Eng., Ph.D.(McM.), Eng.
J. Szpunar; B.Sc., M.Sc., Ph.D., D.Sc.(Krakow)
S. Yue; B.Sc., Ph.D.(Leeds)

Associate Professors

M.L. Bilodeau; B.A.Sc.(Montr.), M.Sc.A., Ph.D.(McG.), Eng.
M. Hasan; B.Eng.(Dhaka), M.Eng.(Dhahran), Ph.D.(McG.)
J.A. Kozinski; B.A., M.Eng., D.Sc.(Krakow) (William Dawson Scholar)
A. Laplante; B.A.Sc., M.A.Sc.(Montr.), Ph.D.(Tor.), Eng.
F. Mucciardi; B.Eng., M.Eng., Ph.D.(McG.), Eng.
J. Ouellet; B.Sc.A.(Laval), M.Sc.A., Ph.D.(École Poly.), Eng.

Lecturers

J. Mossop, F. Paray

Adjunct Professors

W. Caley, R. Dimitrakopoulos, E. Essadiqi, B. Harris, A. Hemami, M. Jahazi, J. Kapusta, E. Lifshin, M. Pugh, J.H. Root

51.2 Programs Offered

Graduate programs leading to M.Eng., M.Sc. and Ph.D. research degrees are available in Rock Mechanics, Mining Environments, Mining Automation and Robotics, Operations Research, Ground Fragmentation, Mineral Economics, Materials Handling, Chemical and Process Metallurgy, Hydrometallurgy, Effluent and Waste Treatment, Mineral Processing, Metal Casting, Materials Engineering, Composites, Ceramics, Mechanical Metallurgy and Electron Microscopy.

Course programs leading to the M.Eng. (Project) degree in Mining or Materials Engineering and the Graduate Diploma in Mining Engineering are also available.

Special programs are available for those holding degrees in subjects other than Metals and Materials or Mining Engineering (e.g., Chemical or Mechanical Engineering, Chemistry, Physics, Engineering Geology).

51.3 Admission Requirements

The Graduate Diploma in Mining Engineering is open to graduates with suitable academic standing in any branch of engineering or science. It is designed to provide a sound technical mining engineering background to candidates intending to work in the minerals industry.

The M.Eng. (thesis) degree is open to graduates holding the B.Eng. degree or its equivalent in Metals and Materials Engineering, Mining Engineering, or other related engineering fields.

The M.Sc. (thesis) degree is open to graduates holding the B.Sc. degree or its equivalent in Metallurgy, Geology or related fields. A high academic standing at the undergraduate level is required for admission to these programs.

The Master of Engineering (Project) program (Metals and Materials Option) is primarily designed to train people with appropriate engineering or scientific backgrounds to allow them to work effectively in the metals and materials industries. Industrial experience is favourably viewed for entrance into the program, but is not considered a necessity.

The Master of Engineering (Project) program (Mining Option) is primarily designed for graduates from mining engineering programs who have received adequate academic training in modern mining technology, mineral economics, computer programming and probabilities and statistics. Students without this academic training must follow a qualifying term of courses established by the Mining Program Director. Industrial experience is favourably viewed for entrance into the program, but is not considered a necessity.

Ph.D. degree applicants may either be "directly transferred" from the M.Eng. or M.Sc. program (see below) or hold an acceptable Master's degree in Metals and Materials Engineering, Mining Engineering or other related fields. The Ph.D. degree is awarded in the appropriate field.

51.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two official copies of transcripts;
3. letters of reference;
4. \$60 CDN application fee;
5. TOEFL test results.

All information is to be submitted directly to the Graduate Secretary in the Department of Mining, Metals and Materials Engineering.

Deadlines:

- March 1 – Fall admission
- July 1 – Winter admission
- November 1 – Summer admission

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

51.5 Program Requirements

Graduate Diploma in Mining Engineering

This program consists of 30 credits of course work, and normally requires one academic year of full-time study to complete. Candidates are required to take an integrated group of courses (including MIME673 Mining Engineering Seminar), selected in consultation with the Program Advisor and based on their academic background.

M.Eng. and M.Sc. (Thesis) Degrees

The programs consist of 45 credits of course work, seminars and research. The candidate must pass a minimum number of courses, normally equivalent to 12 credits, chosen in consultation with a supervisor and based on his/her academic background and research interests. One 400-level course can be substituted for one graduate level course.

In addition, the candidate must participate in an appropriate Research Seminar course and submit an acceptable thesis based on a series of successfully completed research courses.

Direct Transfer from a Master's to a Ph.D. – Students enrolled in a Master's program (thesis) may transfer into the Ph.D. program without obtaining a Master's degree if they have satisfied the following:

1. they have a minimum CGPA of 3.3 at the undergraduate level;
2. they have been in the Master's program for less than 16 months;
3. they have passed with the minimum CGPA of 3.3 at least three of the required Master's courses, and given one seminar;

4. they have obtained a letter of recommendation from their supervisor;
5. they have passed a preliminary examination (as per the Ph.D. program).

M.Eng. (Project) Degree Metals and Materials Option

The M.Eng. (Project) program (Metals/Materials Option) consists of 45 credits of course work and projects. The package of courses undertaken will provide any necessary basic training and will be selected in consultation with the Program Advisor to satisfy the desired specialization of the candidate. The project courses may be undertaken in an industrial environment as a 4- to 8-month work term.

The program consists of a minimum of 12 credits of Departmental graduate level courses, 6 to 15 credits of M.Eng Materials Engineering Project courses, the Research Seminar (MIME670) and enough additional courses chosen from within or outside the Department to complete the 45 credit requirement. The external courses and project courses undertaken in an industrial environment are subject to Departmental approval. The program is established in consultation with the Program Advisor.

M.Eng. (Project) Degree Mining Option

The M.Eng. (Project) program (Mining Option) consists of 45 credits of course work and projects. It is primarily designed for graduates from mining engineering programs who have received adequate academic training in modern mining technology, mineral economics, computer programming and probabilities and statistics. Students without this academic training must follow a qualifying term of courses (including MIME420 Feasibility Study) established by the Mining Program Director.

The program consists of a minimum 12 credits of Departmental graduate-level courses, 6 to 15 credits of M.Eng Mining Engineering Project courses, the Mining Engineering Seminar (MIME673) and enough additional courses chosen from within or outside the Department to complete the 45 credit requirement. The program is established in consultation with the Program Director. The external courses are subject to Departmental approval.

Ph.D. Degree

A candidate for this degree must pass courses assigned by the Department. These are selected on the basis of the student's previous academic training and research interests. The candidate is required to participate in an appropriate Research Seminar course and is expected to take a preliminary examination within the first year of his/her Ph.D. registration.

The candidate must submit an acceptable thesis based upon successfully completed research and must satisfy the examiners in an oral examination of the thesis and related topics.

51.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Courses with numbers ending N1 and N2 are taught in two non-consecutive terms. Students must register for both the N1 and N2 components. No credit will be given unless both components (N1 and N2) are successfully completed in a twelve-month period.

The courses in this Department have been numbered to conform with the following classification system. The first digit represents the level of instruction. The last two digits are classified as follows:

01 to 19 technical courses

- 20 to 39 mining courses
- 40 to 49 mineral processing courses
- 50 to 59 extractive and process metallurgy courses
- 60 to 69 physical metallurgy and materials courses
- 70 to 79 seminars

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

Undergraduate Courses

The following undergraduate courses are available to graduate students who have not taken an equivalent course. Please consult Class Schedule or *Undergraduate Programs Calendar* for descriptions.

- MIME 200 Introduction to the Minerals Industry
- MIME 320 Extraction of Energy Resources
- MIME 322 Rock Fragmentation
- MIME 323 Rock and Soil Mass Characterization
- MIME 341 Introduction to Mineral Processing
- MIME 419 Surface Mining
- MIME 420 Feasibility Study
- MIME 426 Development and Services

Graduate Courses

MIME 515 ADVANCED METALLURGICAL AND MATERIALS THERMODYNAMICS. (3) (2-2-5) (Prerequisite: MIME 212)

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) (3-3-3) (Prerequisite: permission of instructor) 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 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)

MIME 544 ANALYSIS: MINERAL PROCESSING SYSTEMS 1. (3) (2-3-4) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: MIME 341)

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 553 IMPACT OF MATERIALS PRODUCTION. (3) (3-0-6) (Prerequisite: Permission of instructor.)

MIME 555 THERMAL REMEDIATION OF WASTES. (3) (3-0-6) (Prerequisites: CHEM 111 and MIME 212 or equivalent) Process technology and environmental concerns in thermal remediation of wastes. Design of thermal remediation systems. Waste combust-

tion. Nature and pathways of pollutant streams during thermal treatment of wastes. Reduction and control of harmful products. Toxic metal encapsulation. Particulate removal. Destruction of gaseous contaminants. Use of models in system design.

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 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)

MIME 563 HOT DEFORMATION OF METALS. (3) (2-2-5) (Undergraduate Prerequisite: MIME 360 and MIME 362) (Graduate Prerequisite: MIME 362 or equivalent.)

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)

MIME 567 ALUMINUM CASTING ALLOYS. (3) (3-0-6) (Prerequisite: MIME 361 or equivalent) The family of aluminum foundry alloys; alloy systems, intermetallic phases and their formation, heat treatment processes, mechanical and physical properties of aluminum casting alloys, foundry properties, eutectic modification, porosity formation, gassing and degassing, refinement of hypereutectic alloys, grain refinement, filtration; non destructive control of microstructure.

MIME 568 TOPICS IN ADVANCED MATERIALS. (3) (Prerequisite: MIME 362 or equivalent)

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.

Courses at the 600 and 700 level require about 3 contact hours per week per term or equivalent.

MIME 606 MINERAL/METAL PRODUCTION AND MARKETING 1. (3) (Prerequisite: permission of instructor) Introduction of new topics in Mining, Metals and Materials Engineering.

MIME 608 MINERAL/METAL PRODUCTION AND MARKETING 2. (3) (Prerequisite: permission of instructor) Introduction of new topics in Mining, Metals and Materials Engineering.

MIME 620 ROCK MECHANICS 1. (3) A study of the effects of rock properties and ground stresses on problems in mine design.

MIME 621 ROCK MECHANICS 2. (3) The application of the principles of strength of materials to the analysis of problems in ground control.

MIME 623 GROUND FRAGMENTATION. (3) (Prerequisite: permission of instructor) (Course given once per academic year) A comprehensive review of principles and theory of explosives; rock information systems, cratering concepts and applications to mining.

MIME 624D1 (3), MIME 624D2 (3) MATERIALS HANDLING IN MINES. (Prerequisite: permission of instructor) (Students must register for both MIME 624D1 and MIME 624D2) (No credit will be given for this course unless both MIME 624D1 and MIME 624D2 are successfully completed in consecutive terms)

MIME 624N1 MATERIALS HANDLING IN MINES. (3) (Students must also register for MIME 624N2) (No credit will be given for this course unless both MIME 624N1 and MIME 624N2 are successfully completed in a twelve month period) A comprehensive review of materials handling systems used in open pit and underground mines. Review of system selection criteria, and analysis of the impact of particular systems on mine design.

MIME 624N2 MATERIALS HANDLING IN MINES. (3) (Prerequisite: MIME 624N1) (No credit will be given for this course unless both MIME 624N1 and MIME 624N2 are successfully completed in a twelve month period) See MIME 624N1 for description.

MIME 625 APPLIED MINERAL ECONOMICS 1. (3) (Prerequisite: permission of instructor) A study of analytical techniques employed for project evaluation and decision-making in the mineral industry.

MIME 626 APPLIED GEOSTATISTICS. (3)

MIME 627 APPLIED MINERAL ECONOMICS 2. (3) (Prerequisite: permission of instructor) A study of the techniques employed in the analysis of government policy and the financing of projects in the mineral industry.

MIME 628 MINERAL ENGINEERING PROJECT 1. (6) A project of the student's choice, undertaken under the direct supervision of at least one staff member. The final mark is assessed on the basis of a final report that is examined internally, by the supervisor and at least one other staff member.

MIME 628D1 (3), MIME 628D2 (3) MINERAL ENGINEERING PROJECT 1. (Students must register for both MIME 628D1 and MIME 628D2) (No credit will be given for this course unless both MIME 628D1 and MIME 628D2 are successfully completed in consecutive terms) (MIME 628D1 and MIME 628D2 together are equivalent to MIME 628)

MIME 628N1 MINERAL ENGINEERING PROJECT 1. (3) (Students must also register for MIME 628N2) (No credit will be given for this course unless both MIME 628N1 and MIME 628N2 are successfully completed in a twelve month period) (MIME 628N1 and MIME 628N2 together are equivalent to MIME 628)

MIME 628N2 MINERAL ENGINEERING PROJECT 1. (3) (Prerequisite: MIME 628N1) (No credit will be given for this course unless both MIME 628N1 and MIME 628N2 are successfully completed in a twelve month period) (MIME 628N1 and MIME 628N2 together are equivalent to MIME 628) See MIME 628N1 for course description.

MIME 629 MINERAL ENGINEERING PROJECT 2. (6) Continuation of Mining Engineering Project.

MIME 629D1 (3), MIME 629D2 (3) MINERAL ENGINEERING PROJECT 2. (Students must register for both MIME 629D1 and MIME 629D2) (No credit will be given for this course unless both MIME 629D1 and MIME 629D2 are successfully completed in consecutive terms) (MIME 629D1 and MIME 629D2 together are equivalent to MIME 629) Continuation of Mining Engineering Project.

MIME 629N1 MINERAL ENGINEERING PROJECT 2. (3) (Students must also register for MIME 629N2) (No credit will be given for this course unless both MIME 629N1 and MIME 629N2 are successfully completed in a twelve month period) (MIME 629N1 and MIME 629N2 together are equivalent to MIME 629) Continuation of Mining Engineering Project.

MIME 629N2 MINERAL ENGINEERING PROJECT 2. (3) (Prerequisite: MIME 629N1) (No credit will be given for this course unless both MIME 629N1 and MIME 629N2 are successfully completed in a twelve month period) (MIME 629N1 and MIME 629N2 together are equivalent to MIME 629) See MIME 629N1 for course description.

MIME 634 MINERAL ENGINEERING PROJECT 3. (3) Continuation of Mining Engineering Project 1.

MIME 634D1 (1.5), MIME 634D2 (1.5) MINERAL ENGINEERING PROJECT 3. (Students must register for both MIME 634D1 and MIME 634D2) (No credit will be given for this course unless both MIME 634D1 and MIME 634D2 are successfully completed in consecutive terms) (MIME 634D1 and MIME 634D2 together are equivalent to MIME 634) Continuation of Mining Engineering Project 1.

MIME 634N1 MINERAL ENGINEERING PROJECT 3. (1.5) (Students must also register for MIME 634N2) (No credit will be given for this course unless both MIME 634N1 and MIME 634N2 are successfully completed in a twelve month period) (MIME 634N1 and MIME 634N2 together are equivalent to MIME 634) Continuation of Mining Engineering Project 1.

MIME 634N2 MINERAL ENGINEERING PROJECT 3. (1.5) (Prerequisite: MIME 634N1) (No credit will be given for this course unless both MIME 634N1 and MIME 634N2 are successfully completed in a twelve month period) (MIME 634N1 and MIME 634N2 together are equivalent to MIME 634) See MIME 634N1 for course description.

MIME 635 FINITE ELEMENT METHOD - ROCK MECHANICS. (4) (Prerequisites: MIME 521 and/or permission of instructor) Equilibrium equation solvers; elasticity theory; finite element formulative procedures; convergence and accuracy; 2-D and 3-D isoparametric elements; rock failure criteria; applications to rock/mining engineering; computer programming using available software library (FELIBS) and packages.

MIME 636 BOUNDARY ELEMENTS: GEOMECHANICS. (4) (Prerequisite: COMP 208 or equivalent, and MIME 521 or permission of instructor) Applications of boundary element methods in geomechanics. Elasticity relations. Coordinate transformations. Kelvin's problem, constant tractions, fictitious stress method, symmetry conditions. Displacement discontinuity method. Yield and deformation joint models. Stress and displacement analysis of underground openings in faulted rock. Initial joint deformation technique. Introduction to nonlinear analysis.

MIME 638 MINE WASTE MANAGEMENT. (4) Nature and generation of mine waste. Characteristics of mine waste material. Surface and underground disposal methods. Surface impoundment. Tailing embankment design and stability analysis. Seepage and containment transport. Seepage control methods. Site reclamation. Computer applications in design and monitoring. Case histories.

MIME 640 ADVANCED MINERAL PROCESSING. (6) Modern advances in mineral processing techniques. The student will prepare a series of reports covering developments in mineral processing.

MIME 640D1 (3), MIME 640D2 (3) ADVANCED MINERAL PROCESSING. (Students must register for both MIME 640D1 and MIME 640D2) (No credit will be given for this course unless both MIME 640D1 and MIME 640D2 are successfully completed in consecutive terms) (MIME 640D1 and MIME 640D2 together are equivalent to MIME 640)

MIME 650D1 (3), MIME 650D2 (3) ADVANCED EXTRACTIVE METALLURGY. (Students must register for both MIME 650D1 and MIME 650D2) (No credit will be given for this course unless both MIME 650D1 and MIME 650D2 are successfully completed in consecutive terms)

MIME 652 AQUEOUS PROCESSING. (3)

MIME 653 TRANSPORT PHENOMENA - PROCESS METALLURGY. (3) Process metallurgical applications of heat, mass and momentum transport theories. Methods of numerical solution in the analysis of: continuous casting, ingot solidification, soaking pits, hot mill operations, alloy addition methods in steel-making, etc. Students are assigned individual computer projects and present a report plus a seminar on their findings.

MIME 657 ADVANCED EXTRACTIVE METALLURGY. (3)

MIME 670 RESEARCH SEMINAR. (6) (For students registered for a Master's degree in Mining and or Materials Engineering.)

MIME 672D1 (3), MIME 672D2 (3) ROCK MECHANICS SEMINAR. (Students must register for both MIME 672D1 and MIME 672D2) (No credit will be given for this course unless both MIME 672D1 and MIME 672D2 are successfully completed in consecutive terms) Theoretical and practical aspects of ground control practice using the case study method.

MIME 673 MINING ENGINEERING SEMINAR. (6) For students registered in the Graduate Diploma or Master's programs in Mining.

MIME 681D1 (3), MIME 681D2 (3) METALLURGICAL/MATERIALS ENGINEERING PROJECT 2. (Students must register for both MIME 681D1 and MIME 681D2) (No credit will be given for this course unless both MIME 681D1 and MIME 681D2 are successfully completed in consecutive terms)

MIME 682 METALLURGICAL/MATERIALS ENGINEERING PROJECT 3. (3)

MIME 690 THESIS RESEARCH 1. (6) (For Master's students only.)

MIME 690D1 (3), MIME 690D2 (3) THESIS RESEARCH 1. (For Master's students only.) (Students must register for both MIME 690D1 and MIME 690D2) (No credit will be given for this course unless both MIME 690D1 and MIME 690D2 are successfully completed in consecutive terms) (MIME 690D1 and MIME 690D2 together are equivalent to MIME 690)

MIME 690N1 THESIS RESEARCH 1. (3) (Students must also register for MIME 690N2) (No credit will be given for this course unless both MIME 690N1 and MIME 690N2 are successfully completed in a twelve month period) (MIME 690N1 and MIME 690N2 together are equivalent to MIME 690)

MIME 690N2 THESIS RESEARCH 1. (3) (Prerequisite: MIME 690N1) (No credit will be given for this course unless both MIME 690N1 and MIME 690N2 are successfully completed in a twelve month period) (MIME 690N1 and MIME 690N2 together are equivalent to MIME 690) See MIME 690N1 for course description.

MIME 691 THESIS RESEARCH 2. (3) (For Master's students only.)

MIME 692 THESIS RESEARCH 3. (6) (For Master's students only.)

MIME 692D1 (3), MIME 692D2 (3) THESIS RESEARCH 3. (For Master's students only.) (Students must register for both MIME 692D1 and MIME 692D2) (No credit will be given for this course unless both MIME 692D1 and MIME 692D2 are successfully completed in consecutive terms) (MIME 692D1 and MIME 692D2 together are equivalent to MIME 692)

MIME 692N1 THESIS RESEARCH 3. (3) (For Master's students only.) (Students must also register for MIME 692N2) (No credit will be given for this course unless both MIME 692N1 and MIME 692N2 are successfully completed in a twelve month period) (MIME 692N1 and MIME 692N2 together are equivalent to MIME 692)

MIME 692N2 THESIS RESEARCH 3. (3) (For Master's students only.) (Prerequisite: MIME 692N1) (No credit will be given for this course unless both MIME 692N1 and MIME 692N2 are successfully completed in a twelve month period) (MIME 692N1 and MIME 692N2 together are equivalent to MIME 692) See MIME 692N1 for course description.

MIME 693 THESIS RESEARCH 4. (3) (For Master's students only.)

MIME 693D1 (1.5), MIME 693D2 (1.5) THESIS RESEARCH 4. (For Master's students only.) (Students must register for both MIME 693D1 and MIME 693D2) (No credit will be given for this course unless both MIME 693D1 and MIME 693D2 are success-

fully completed in consecutive terms) (MIME 693D1 and MIME 693D2 together are equivalent to MIME 693)

MIME 694 THESIS RESEARCH 5. (6) (For Master's students only.)

MIME 694D1 (3), MIME 694D2 (3) THESIS RESEARCH 5. (For Master's students only.) (Students must register for both MIME 694D1 and MIME 694D2) (No credit will be given for this course unless both MIME 694D1 and MIME 694D2 are successfully completed in consecutive terms) (MIME 694D1 and MIME 694D2 together are equivalent to MIME 694)

MIME 694N1 THESIS RESEARCH 5. (3) (For Master's students only.) (Students must also register for MIME 694N2) (No credit will be given for this course unless both MIME 694N1 and MIME 694N2 are successfully completed in a twelve month period) (MIME 694N1 and MIME 694N2 together are equivalent to MIME 694)

MIME 694N2 THESIS RESEARCH 5. (3) (For Master's students only.) (Prerequisite: MIME 694N1) (No credit will be given for this course unless both MIME 694N1 and MIME 694N2 are successfully completed in a twelve month period) (MIME 694N1 and MIME 694N2 together are equivalent to MIME 694) See MIME 694N1 for course description.

MIME 695 THESIS RESEARCH 6. (3) (For Master's students only.)

MIME 695D1 (1.5), MIME 695D2 (1.5) THESIS RESEARCH 6. (For Master's students only.) (Students must register for both MIME 695D1 and MIME 695D2) (No credit will be given for this course unless both MIME 695D1 and MIME 695D2 are successfully completed in consecutive terms) (MIME 695D1 and MIME 695D2 together are equivalent to MIME 695)

MIME 701 PH.D. THESIS RESEARCH PROPOSAL. (0) For students registered in a Ph.D. program in Mining or Materials Engineering. Student submits a document and takes an oral examination to demonstrate familiarity with relevant literature, define a methodology and describe a work plan.

MIME 771 RESEARCH SEMINAR. (6) (For students registered in a Ph.D. program in Materials Engineering.)

MIME 776 RESEARCH SEMINAR. (6) For students registered in a Ph.D. program in Mining.

52 Music

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Dean, Faculty of Music — Don McLean

Director, Graduate Studies — Peter Schubert

Chair, Department of Theory — Brian Cherney

Chair, Department of Performance — Douglas McNabney

Associate Dean (Administration) — Bruce Minorgan

52.1 Staff

Emeritus Professors

Kelsey Jones; L.Mus., B.Mus.(Mt.All.), B.Mus., Mus.Dc.(Tor.)
Dorothy Morton; Graduate, Conservatoire de Musique de Québec

Professors

William Caplin; B.M.(S.Calif.), M.A., Ph.D.(Chic.)
Brian Cherney; Mus.Bac., Mus.M., Ph.D.(Tor.)
Robert Gibson; B.S., M.F.A., Ph.D.(Minn.)
John Grew; L.T.C.L.(Lond.), B.Mus.(Mt. All.), M.Mus.(Mich.)
D.D.(U.T.C.); LL.D.(Mt.All.); University Organist

Steven Huebner; B.A., B.Mus., L.Mus.(McG.), M.F.A., Ph.D.(Prin.)
(*James McGill Professor*)

Alcides Lanza; Graduate, Instituto Torcuato Di Tella(Buenos Aires)

John Rea; B.Mus.(Wayne St.), M.Mus.(Tor.), M.F.A., Ph.D.(Prin.)
Wieslaw Woszczyk; M.A., Ph.D.(F. Chopin Academy of Music, Warsaw)

Associate Professors

Theodore Baskin; B.Mus.(Curtis), M.Mus.(Auck.); Principal Oboe, Montreal Symphony

Tom Beghin; D.M.A.(C'neil.)

Denys Bouliane; B.Mus., M.Mus.(Laval)

David Brackett; D.M.A.(C'neil.)

Julie Cumming; B.A.(Col.), M.A., Ph.D.(Berkeley)

Kevin Dean; B.M.E.(Iowa), M.Mus.(Miami)

Martha de Francisco; Diploma(Musikkhochschule, Detmold)

Philippe Depalle; B.Sc.(Paris XI and ENS Cachan), D.E.A.(Le Mans and ENS Cachan), Ph.D.(Le Mans & IRCAM)

Lucile Evans; Dip.(Vincent d'Indy)

Gordon Foote; B.Sc., M.A.(Minn.)

Kyoko Hashimoto; B.A.(Tokyo)

Alexis Hauser

Timothy Hutchins; Dip. L.G.S.M.(Guildhall), B.A.Hons.Mus.(Dal.),
Principal Flute, Montreal Symphony

Jan Jarczyk; B.A., M.A.(Academy of Music, Cracow),
Dip.(Berklee)

Abe Kestenberg

Hank Knox; B.Mus., M.Mus.(McG.)

Sara Laimon; B.Mus.(U.B.C.), M.Mus.(Yale), D.M.A.(SUNY,
Stony Brook)

Richard Lawton; B.Mus.(McG.), M.Mus.(Ind.)

William Martens; B.A.(Miami), Ph.D.(Northwestern)

Don McLean; Mus.Bac., M.A., Ph.D.(Tor.)

Michael McMahon; B.Mus.(McG.), Graduate, Hochschule für
Musik(Vienna)

Douglas McNabney; B.Mus.(Tor.), M.M.(W.Ont.),
Mus.Doc.(Montr.)

Marina Mdivani; Post-graduate Dip.(Moscow Cons.)

Bruce Minorgan; B.Mus.(Br.Col.), M.A.(Tor.)

William Neill; B.Mus., M.Mus.(Texas at Austin)

Tom Plaunt; B.A.(Tor.), Graduate, Nordwestdeutsche
Musikakademie (Detmold, Germany)

Richard Raymond; Premier Prix (Conservatoire de Montreal),
M.Mus.(Montr.)

Marcel Saint-Cyr; B.A.(Laval), Premier Prix(Cons.de Mus. de
Qué.), Concert Dip.(Hochschule für Musik, Karlsruhe)

Peter Schubert; B.A., M.A., Ph.D.(Col.)

Thérèse Sevadjian; B.Mus., M.Mus.(Montr.)

Jan Simons

Eleanor Stuble; B.Mus.(Tor.), M.Mus.(Bran.), Ph.D.(Ill.)

Julian Wachner; B.Mus., Mus.Doc.(Boston)

Joel Wapnick; B.A.(N.Y.), M.A.(S.U.N.Y.), M.F.A.(Sarah L.),
Ed.D.(Syr.)

Thomas Williams; B.Mus.(Bran.)

John Zirbel; B.Mus.(Wis.), Principal Horn, Montreal Symphony

Luba Zuk; L.Mus.(McG.), Graduate, Con. de Mus. de Qué.

Assistant Professors

James Box; B.M.(Southern Methodist U.), M.M.(Cleveland Inst.
Music)

Alain Cazes; Premier Prix (Conservatoire de Montréal)

Carolyn Christie; B.Mus.(McG.); Montreal Symphony

Robert Crowley; B.M.(Eastman), M.M.(Cleveland); Principal
Clarinet, Montreal Symphony

Russell DeVuyst; B.Mus.Ed.(Boston Cons.), M.M.(New England
Cons.); Associate Principal Trumpet, Montreal Symphony

Sean Ferguson; B.Mus.(Alta.), M.Mus., D.Mus.(McG.)

Ichiro Fujinaga; B.Mus., B.Sc.(Alta.), M.Mus., D. Mus. (McG.)

Jean Gaudreault; LL.L.(Montr.), Graduate, Conservatoire de
Musique de Québec, Montreal Symphony.

D'Arcy Gray; B.Mus., M.Mus.(McG.)

Valerie Kinslow; B.A.(McG.)

John Klepko; B.F.A.(C'dia.), M.Mus., Ph.D.(McG.)

Denise Lupien; B.M., M.M.(Juilliard)
 Dennis Miller; Principal Tuba, Montreal Symphony
 Christoph Neidhöfer; Graduate, Hochschule für Musik(Basel),
 Ph.D.(Harv.)
 Rene Quesnel; B.Mus., M.Mus., Ph.D.(McG.)
 Richard Roberts; B.Mus.(Ind.); Concertmaster, Montreal
 Symphony
 Dixie Ross-Neill; B.Mus.(N. Carolina), M.Mus.(Texas)
 André Roy; Montreal Symphony
 Gary Scavone; B.Sc., B.A. (Syr.); M.Sc., Ph.D.(Stan.)
 Joe Sullivan; B.A.(Ott.), M.M.(New England Cons.)
 Marcelo Wanderley; B.Eng.(UFPR), M.Eng.(UFSC), Ph.D.(Paris
 VI and IRCAM)
 André White; B.A.(C'dia.), M.Mus.(McG.)
 Lloyd Whitesell; B.A.(Minn.), M.A., Ph.D.(SUNY, Stony Brook)
Adjunct Professor
 Kenneth Gilbert; D.Mus.honoris causa(McG.), O.C., F.R.S.C., Hon
 RAM

52.2 Programs Offered

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.

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.

The Doctor of Music degree (D.Mus.) is offered in Composition and Performance Studies while the Doctor of Philosophy degree (Ph.D.) is available in Music Education, Musicology, Music Technology, Sound Recording and Theory. Interdisciplinary studies are encouraged.

There are opportunities for graduate students to obtain funding by being hired as assistants through the Faculty of Music. Positions are available as: teaching assistants, apprentice writers for program notes, sound recording technicians, dubbing technicians, correctors, and invigilators. Inquiries should be directed to the Chair of the Department of Theory or the Chair of the Department of Performance, as appropriate.

52.3 Admission Requirements

Masters' Degrees

Applicants for the Master's degree must hold a B.Mus. or a B.A. degree with a Major or Honours in Music including considerable work done in the area of specialization.

All applicants (except those for performance and sound recording) will be required to take placement examinations. Applicants found to be deficient in their background preparation may be required to take certain additional undergraduate courses.

Applicants to the Composition, Music Education, Music Technology, Musicology, Sound Recording, and Theory programs are requested to submit samples of work done in their special area.

Applicants to the Music Education program should normally have had two years of teaching experience.

All applicants to the Performance program will be required to pass an entrance audition. Only those applicants who clearly demonstrate the potential to become professional performers on their instruments will be admitted.

Applicants to the Vocal Pedagogy option should have a minimum of three to four years experience in studio teaching.

A reading knowledge of German is strongly recommended as a prerequisite for graduate work in Music Education, Musicology, and Theory.

Prerequisite Undergraduate Courses for M.Mus. – Sound Recording

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 courses listed below and must have a B.Mus. degree.

Faculty of Music

MUCO260 Instruments of the Orchestra
 MUMT202 Fundamentals of New Media
 MUMT203 Introduction to Digital Audio
 MUMT232 Introduction to Electronics
 MUMT300D1/MUMT300D2 Introduction to Music Recording
 MUMT339 Introduction to Electroacoustics

One of (Complementary):

MUMT302 New Music Production 1
 MUMT306 Music and Audio Computing 1

Faculty of Science

PHYS224 Physics and Psychophysics of Music
 PHYS225 Musical Acoustics

Prerequisite Undergraduate Courses for M.Mus. – Performance

Piano Accompaniment

An undergraduate major in Piano.

MUHL570 Research Methods in Music

One of:

MUHL372 Solo Song outside Germany and Austria
 MUHL390 The German Lied

Two of:

MUPG210 Italian Diction (or equivalent)
 MUPG211 French Diction (or equivalent)
 MUPG212 English Diction (or equivalent)
 MUPG213 German Diction (or equivalent)

Orchestral Conducting

MUCO260 Instruments of the Orchestra
 MUCO261 Elementary Orchestration
 MUCO460D1/MUCO460D2 Advanced Orchestration
 MUHL389 Orchestral Literature
 MUHL570 Research Methods in Music
 MUIT201 String Techniques
 MUIT202 Woodwind Techniques
 MUIT203 Brass Techniques
 MUIT204 Percussion Techniques
 MUPG315D1/MUPG315D2 Introduction to Orchestral Conducting (or equivalent)

Choral Conducting

GERM202 German Language, Beginners
 MUCO260 Instruments of the Orchestra
 MUCO261 Elementary Orchestration
 MUCT415 Choral Conducting 2 (or equivalent)
 MUHL397 Choral Literature after 1750
 MUHL570 Research Methods in Music
 MUIN220 Practical Instruction 3

Wind Band Conducting

An undergraduate major in Wind or Percussion instruments.

MUCO260 Instruments of the Orchestra
 MUCO261 Elementary Orchestration
 MUHL398 Wind Ensemble Literature after 1750
 MUHL570 Research Methods in Music
 MUIT202 Woodwind Techniques
 MUIT203 Brass Techniques
 MUIT204 Percussion Techniques
 MUIT415 Advanced Instrumental Conducting (or equivalent)

Jazz Performance

MUHL393 History of Jazz
 MUJZ440D1/MUJZ440D2 Advanced Jazz Composition
 MUJZ461D1/MUJZ461D2 Advanced Jazz Arranging
 MUJZ493 Jazz Performance Practice

Early Music

MUHL570 Research Methods in Music
 MUPP381 Topics: Performance Practice before 1800
 Plus 6 credits from the following with a least one course from each group:

Group 1:

- MUHL380 Medieval Music
- MUHL381 Renaissance Music
- MUHL382 Baroque Music
- MUHL383 Classical Music

Group 2:

- MUHL398 Keyboard Literature before 1750
- MUHL 591D1/MUHL 591D2 Paleography

Organ/Harpsicord:

MUPG 272D1/MUPG 272D2 Continuo

Voice

Two of:

- MUPG210 Italian Diction (or equivalent)
- MUPG211 French Diction (or equivalent)
- MUPG212 English Diction (or equivalent)
- MUPG213 German Diction (or equivalent)

Orchestral Training

MUHL389 Orchestral Literature

MUHL570 Research Methods in Music

Piano (Solo and Chamber Music)

MUHL570 Research Methods in Music

One of:

- MUHL366 The Era of the Fortepiano
- MUHL396 Era of the Modern Piano

Voice (Vocal Opera Coach, Opera Performance, Vocal Pedagogy and Vocal Performance)

MUHL570 Research Methods in Music

MUPG210 Italian Diction

MUPG211 French Diction

MUPG212 English Diction

MUPG213 German Diction

Two of:

- MUHL372 Solo Song outside Germany and Austria
- MUHL377 Baroque Opera
- MUHL387 Opera from Mozart to Puccini
- MUHL388 Twentieth-Century Opera
- MUHL390 The German Lied

D.Mus. Degree

Applicants for the D.Mus. degree in Composition must hold an M.Mus. degree in Composition, or its equivalent, and must submit scores and/or tapes of their compositions at the time of application.

Applicants for the D.Mus. degree in Performance Studies must hold an M.Mus. degree in Performance, or its equivalent; are required to pass an entrance audition and interview; and must submit samples of written work and a statement of research interests.

Ph.D. Degree

Applicants for the Ph.D. degree must hold an M.A., or a Bachelor's degree equivalent to a McGill Honours degree, in Music Technology, Music Education, Music History, or Theory. Applicants with a Bachelor's degree will normally be admitted to the M.A. program for the first year and may apply for admittance to the Ph.D. program after the completion of one full year of graduate course work. Qualified applicants who have already completed an appropriate Master's degree will be admitted to the second year of the program.

52.4 Application Procedures

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate. The web application process will automatically charge a \$60 application fee and, for Performance degrees, a \$60 audition fee.

Deadline date for application and accompanying documentation is December 15.

Application will be considered upon receipt of:

1. on-line web application;

2. two official copies of transcripts, sent directly by the registrars of universities attended;
3. two signed original letters of reference, on official letterhead;
4. submissions appropriate to area of specialization;
5. TOEFL test results, where applicable.

All supporting documentation is to be submitted to Veronica Slobodian, Admissions Officer, Faculty of Music.

52.5 Program Requirements**MASTERS' DEGREES**

The minimum residence requirement for Masters' programs is 3 full-time terms; for Sound Recording, 4 full-time terms. In all programs a minimum number of formal courses are prescribed. The student's major work is expected to be thesis, research, composition or performance which will be done under the supervision of an adviser. This work, as well as any additional courses and/or individual study which the Department considers necessary, constitutes the central part of each program.

Applicants who hold the equivalent of a McGill B.Mus. with Honours in the area of specialization may be able to complete the Master's degree in less than two years.

Master of Music – Composition (thesis) (48 credits)

MUCO622D1/MUCO622D2 Composition Tutorial.

Two of MUCO631, MUCO632, MUCO633, MUCO634,

MUCO635, MUCO636 Seminars in Composition.

Two approved 3-credit graduate electives or the equivalent.

Language reading examination in one of: French, German, or Italian. Students whose mother tongue is French are exempt from the French Language Reading examination.

Thesis (30 credits). The thesis is a composition, accompanied by an analytical essay of approximately 20 to 30 pages.

M.A. in Music – Music Education (thesis) (48 credits)

Five 3-credit graduate courses approved by the Department, normally three of these will be Seminars in Music Education.

Thesis (33 credits). The candidate will undertake supervised research leading to a thesis which will be an in-depth investigation in some specialized field of music education.

M.A. in Music – Music Technology (thesis) (48 credits)

MUMT605 Digital Sound Synthesis & Audio Processing.

Two of MUMT610, MUMT611, MUMT612, MUMT613,

MUMT614, MUMT615 Computer Music Seminars.

Two 3-credit graduate electives, approved by the Department.

Thesis (33 credits). The candidate will undertake supervised research leading to a thesis which will utilize or investigate computer applications in one of the following areas of music study and practice: performance, jazz, sound recording, theory, composition, music education, musicology.

M.A. in Music – Musicology (thesis) (48 credits)

Four 3-credit graduate courses approved by the Department, normally at least two of these will be Seminars in Musicology.

MUHL529 Proseminar in Musicology.

Thesis (33 credits). The candidate will undertake supervised research leading to a thesis which will be an in-depth investigation in some specialized field of musicology.

Master of Music – Sound Recording (non-thesis) (60 credits)

MUSR629D1/ MUSR629D2 Technical Ear Training

MUSR667 Digital Studio Technology,

MUSR668 Digital/Analog Audio Editing,

MUSR669D1/MUSR669D2 Topics: Classical Music Recording,

MUSR670D1/MUSR670D2 and MUSR671D1/MUSR671D2

Recording Theory and Practice,

MUSR672D1/MUSR672D2 Analysis of Recordings,

MUSR674 Electronic and Electroacoustic Measurement,

MUSR677D1/MUSR677D2 Audio for Video Post-Production,

MUSR678 Advanced Digital Editing and Post-Production

Electives:

Three 3-credit graduate electives.

M.A. in Music – Theory (thesis) (48 credits)

Five 3-credit graduate courses approved by the Department, normally three will be Seminars in Music Theory and either MUTH658 History of Music Theory 1 or MUTH659 History of Music Theory 2.

Thesis (33 credits). The candidate will undertake supervised research leading to a thesis which will be an in-depth investigation in some specialized field of music theory.

Non-thesis M.A. in Music (options in Music Education, Musicology, and Theory) (45 credits)

Seven 3-credit graduate courses approved by the appropriate Area, four of which must be in the Area itself.

For students in the Musicology Area, one of the courses must be MUHL529 Proseminar in Musicology.

For students in the Theory Area, one of the courses must be MUTH658 History of Music Theory 1 or MUTH659 History of Music Theory 2.

For students in Music Education, and with the approval of the Music Education Area, two of the seven 3-credit courses may be taken in the Faculty of Education.

MUGS614 Reading Course 1 and MUGS615 Reading Course 2.
MUGS635 Research Paper 1 and MUGS636 Research Paper 2.

Master of Music – Performance: Solo – Guitar, Orchestral Instruments, Organ, Conducting (45 credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recitals:

MUPG660 Solo Recital Project 1 and MUPG667 Solo Recital 2 (one of these could optionally include some chamber music).

Master of Music – Performance: Chamber Music (48 credits)

(All instruments except Piano, Early Music Instruments, Organ, Harp and Double Bass.)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recitals:

MUPG661 Chamber Recital Project 1 and MUPG668 Chamber Music Recital 2 (one of these could optionally include some solo music).

Ensembles:

Three terms of MUEN660 Chamber Music Ensemble.

Master of Music – Performance: Solo Piano (49 credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

MUPG 681 and MUPG 682 Piano Seminars.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar at the 500- or 600-level with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

Recitals:

MUPG660 Solo Recital Project 1 and MUPG667 Solo Recital 2 (one of these could optionally include some chamber music).

Ensembles:

Three credits from the following: MUEN579 Song Interpretation before 1800, MUEN660 Chamber Music Ensemble,

MUEN679 Advanced Song Interpretation, MUEN684 Studio Accompanying, MUEN694 Contemporary Music Ensemble, MUEN697 Orchestra.

Master of Music – Performance: Chamber Music - Piano (49credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

MUPG 681 and MUPG 682 Piano Seminars.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar at the 500- or 600-level with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

Recitals:

MUPG661 Chamber Recital Project 1 and MUPG668 Chamber Music Recital 2 (one of these could optionally include some solo music).

Ensembles:

Three credits from the following: MUEN579 Song Interpretation before 1800, MUEN660 Chamber Music Ensemble, MUEN679 Advanced Song Interpretation, MUEN684 Studio Accompanying, MUEN694 Contemporary Music Ensemble, MUEN697 Orchestra.

Master of Music – Performance Piano Accompaniment (45 credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar or MUPG690 Vocal Styles and Conventions.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recital/Exam:

MUPG665D1/MUPG665D2 Accompanying Recital Project and MUPG663 Quick Study Examination (to be successfully completed before the first recital is performed).

Ensembles:

Two terms of MUEN679 Advanced Song Interpretation and MUEN684 Studio Accompanying.
or **three terms** of MUEN596 Opera Repetiteur.

Master of Music – Performance: Orchestral Training

(45credits) (All orchestral instruments except Harp.)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recital/Exam:

MUPG660 Solo Recital Project 1
MUPG664 Repertoire Examination.

Ensembles:

Three terms of MUEN697 Orchestra.

Master of Music – Performance: Opera Performance (45credits)

MUPG620, MUPG621 and MUPG622 Performance Tutorials.

MUIN600, MUIN601 and MUIN602 Vocal Repertoire Coaching.

One of MUPP690, MUPP691, MUPP692, MUPP693, MUPP694, or MUPP695 Performance Practice Seminar, or MUPG690 Vocal Styles and Conventions

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar (this must be one of MUPG690, MUPG691, MUPG692, MUPG693, or MUPG694).

Recitals:

MUPG656 Vocal Quick Study
MUPG657 Opera Performance Project
MUPG658 Opera Performance

Master of Music – Performance: Vocal Opera Coach
(45credits)

MUPG620, MUPG621 and MUPG622 Performance Tutorials.
MUPG646 and MUPG647 Score- and Sight-Reading.
MUPG670 and MUPG671 Advanced Continuo.

One of MUPP690, MUPP691, MUPP692, MUPP693,
MUPP694, or MUPP695 Performance Practice Seminar,
or MUPG690 Vocal Styles and Conventions

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS,
MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar (this must be one of
MUPG690, MUPG691, MUPG692, MUPG693, or
MUPG694).

Recitals:

MUPG653 Opera Coach Project
MUPG654 Opera Coach Performance
MUPG655 Opera Coach Quick Study

Master of Music – Performance: Vocal Performance
(49credits)

MUPG620, MUPG621 and MUPG622 Performance Tutorials.
MUIN600 and MUIN601 Vocal Repertoire Coaching.

One of MUPP690, MUPP691, MUPP692, MUPP693,
MUPP694, or MUPP695 Performance Practice Seminar,
or MUPG690 Vocal Styles and Conventions.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS,
MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar (this must be one of
MUPG690, MUPG691, MUPG692, MUPG693, or
MUPG694).

Recitals:

MUPG660 Solo Recital Project 1*
MUPG667 Solo Recital 2*
* **One** of MUPG660 or MUPG667 may be replaced by
MUPG657 Opera Performance Project or MUPG658 Opera
Performance and MUPG656 Vocal Quick Study.

Master of Music – Performance: Vocal Pedagogy (47 credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.
MUPG693 Vocal Treatises and Methods
MUPG694 Vocal Physiology for Singers

One of MUPP690, MUPP691, MUPP692, MUPP693,
MUPP694 or MUPP695 Performance Practice Seminar **or**
MUPG690 Vocal Styles and Conventions.

One of MUIN600 or MUIN601 Vocal Repertoire Coaching.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS,
MUGT, MUHL, MUPP, MUTH.

Recitals:

MUPG650 Voice Lecture - Demonstration
MUPG660 Solo Recital Project 1
MUPG611 Directed Voice Teaching 1
MUPG612 Directed Voice Teaching 2

Master of Music – Performance: Early Music (48 credits)

(Voice, baroque flute, recorder, baroque oboe, baroque violin,
baroque viola, baroque cello, viola da gamba, harpsichord)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693,
MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS,
MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recitals:

MUPG660 Solo Recital Project 1 and MUPG662 Solo and
Chamber Music Recital.

Ensembles:

Three terms of MUEN661 Early Chamber Music Ensemble
(harpsichord players must satisfy the corequisite of
MUPG372D1/MUPG372D2 Continuo).

Master of Music – Performance: Church Music - Organ
(45credits)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

One of MUPP690, MUPP691, MUPP692, MUPP693,
MUPP694 or MUPP695 Performance Practice Seminar.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS,
MUGT, MUHL, MUPP, MUTH.

One additional graduate 3-credit seminar.

Recital:

MUPG660 Solo Recital Project 1.

Courses:

MUPG676D1/MUPG676D2 Special Project in Performance 2

Ensembles:

Three terms of MUEN693 Choral Ensemble.

Master of Music – Performance: Jazz Performance

(47credits) (Saxophone, Trumpet, Trombone, Drums, Piano,
Guitar, Bass, Voice)

MUPG620, MUPG621, MUPG622 Performance Tutorials.

Recital:

MUPG660 Solo Recital Project 1
MUPG659 Performance in Recording Media

Ensemble:

Two terms of MUEN695 Jazz Ensemble

Courses:

MUJZ601 Jazz Pedagogy
MUJZ640D1/MUJZ640D2 Jazz Composition and Arranging

**Courses approved as electives for M.Mus. students in
Performance:**

MUCO623 Electronic Music Seminar 1
MUCO624 Electronic Music Seminar 2
MUCO631 Seminar in Composition 1
MUCO632 Seminar in Composition 2
MUCO633 Seminar in Composition 3
MUCO634 Seminar in Composition 4
MUCO635 Seminar in Composition 5
MUCO636 Seminar in Composition 6
MUGT610 Seminar - Music Education 1
MUGT611 Seminar - Music Education 2
MUGT612 Seminar - Music Education 3
MUGT613 Seminar - Music Education 4
MUHL591D1/MUHL591D2 Paleography
MUHL653 Music Aesthetics and Criticism
MUHL680 Seminar in Musicology 1
MUHL681 Seminar in Musicology 2
MUHL682 Seminar in Musicology 3
MUHL683 Seminar in Musicology 4
MUHL684 Seminar in Musicology 5
MUHL685 Seminar in Musicology 6
MUHL692 Seminar in Music Literature 1
MUHL693 Seminar in Music Literature 2
MUHL694 Seminar in Music Literature 3
MUHL695 Seminar in Music Literature 4
MUHL696 Seminar in Music Literature 5
MUHL697 Seminar in Music Literature 6
MUPP690 Performance Practice Seminar 1
MUPP691 Performance Practice Seminar 2
MUPP692 Performance Practice Seminar 3
MUPP693 Performance Practice Seminar 4
MUPP694 Performance Practice Seminar 5
MUPP695 Performance Practice Seminar 6
MUTH652 Seminar in Music Theory 1
MUTH653 Seminar in Music Theory 2

MUTH654 Seminar in Music Theory 3
 MUTH655 Seminar in Music Theory 4
 MUTH656 Seminar in Music Theory 5
 MUTH657 Seminar in Music Theory 6
 MUTH658 History of Music Theory 1
 MUTH659 History of Music Theory 2

Doctor of Music (D.Mus.) Degree Requirements - Composition

A minimum of two years' residence is required beyond the M.Mus. in Composition, or its equivalent.

MUCO722D1/MUCO722D2 Doctoral Composition Tutorial (for two years).

Four approved 3-credit graduate electives or the equivalent.

MUGS701 Comprehensive Examination Part 1 and MUGS702 Comprehensive Examination Part 2.

Composition Performance. The candidate must present a concert of his/her compositions. With the permission of the Committee on Graduate Studies, the compositions may be presented as parts of two or three concerts.

Thesis. A musical composition of major dimensions together with a written analysis of the work. The thesis must be defended in an oral examination.

Details concerning the comprehensive examinations, composition performance, thesis and academic regulations are available from the Admissions Officer, Faculty of Music or the Secretary for Graduate Studies, Faculty of Music.

Doctor of Music (D.Mus.) Degree Requirements - Performance

A minimum of two years' residence is required beyond the M.Mus. in Performance, or its equivalent.

Performance Tutorial

(6 terms of 1 hour per week, or 4 terms of 1.5 hours per week):
 MUPG720, MUPG721, MUPG722, MUPG723, MUPG724,
 MUPG725

OR MUPG730, MUPG731, MUPG732, MUPG733

Vocal Repertoire Coaching (4 terms, voice candidates only):

MUIN700, MUIN701, MUIN702, MUIN703

Four graduate level courses (3 credits each) to be chosen from among the Faculty's course offerings in consultation with the advisory committee. Three of the four courses should be in the Department of Theory; one of the four may be replaced with a supervised special project approved by the advisory committee and the performance graduate subcommittee.

MUGS701 Comprehensive Examination Part 1 and
 MUGS702 Comprehensive Examination Part 2.

Recitals:

MUPG760 Doctoral Recital 1

MUPG767 Doctoral Recital 2

MUPG770 Doctoral Lecture - Recital Project

The lecture-recital includes the presentation and submission of a research paper on its subject.

Details concerning the comprehensive examinations, composition performance, thesis and academic regulations are available from the Admissions Officer, Faculty of Music or the Secretary for Graduate Studies, Faculty of Music.

PH.D. DEGREE REQUIREMENTS

The Ph.D. requires a minimum of three years of full-time resident study (6 full-time terms) beyond a Bachelor's degree. A candidate who holds a Master's degree in the area of specialization may, on the recommendation of the Department, be permitted to count the work done for the Master's degree as the first year of resident study.

Ten 3-credit graduate courses approved by the Department (the Doctoral Tutorial will be considered a course for purposes of this requirement). Applicants who have completed an M.A. degree before entering the Ph.D. program will be required to complete at least five approved 3-credit graduate courses beyond the M.A. requirements.

Language reading examinations in two foreign languages (one foreign language for students in music education; none required for students in sound recording and music technol-

ogy). Normally, one of these will be German and the other related to the candidate's field of research. A third language may be required if considered necessary for the candidate's research. Students whose mother tongue is French are exempt from the French Language Reading examination.

Comprehensive examinations, MUGS701 Comprehensive Examination Part 1 and MUGS702 Comprehensive Examination Part 2. The language reading examinations must be passed before a candidate will be permitted to sit the Comprehensive Examinations.

Participation in MUGS705 Colloquium. Ph.D. students are required to attend four terms of the Doctoral Colloquium. Regular attendance and at least one presentation on their thesis research in the Colloquium during the course of their doctoral studies is required.

Doctoral Dissertation. All courses and language requirements and the comprehensive examinations must be successfully completed before the dissertation is submitted.

52.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

SEMINARS

Enrolment in seminars will normally be limited to 10. Each year a selection of the following courses are offered:

MUCO 631 Seminar in Composition 1. (3) (3 hours)

MUCO 632 Seminar in Composition 2. (3) (3 hours)

MUCO 633 Seminar in Composition 3. (3) (3 hours)

MUCO 634 Seminar in Composition 4. (3) (3 hours)

MUCO 635 Seminar in Composition 5. (3) (3 hours)

MUCO 636 Seminar in Composition 6. (3) (3 hours)

MUGT 610 Seminar - Music Education 1. (3) (3 hours)

MUGT 611 Seminar - Music Education 2. (3) (3 hours)

MUGT 612 Seminar - Music Education 3. (3) (3 hours)

MUGT 613 Seminar - Music Education 4. (3) (3 hours)

MUHL 680 Seminar in Musicology 1. (3) (3 hours)

MUHL 681 Seminar in Musicology 2. (3) (3 hours)

MUHL 682 Seminar in Musicology 3. (3) (3 hours)

MUHL 683 Seminar in Musicology 4. (3) (3 hours)

MUHL 684 Seminar in Musicology 5. (3) (3 hours)

MUHL 685 Seminar in Musicology 6. (3) (3 hours)

MUHL 692 Seminar in Music Literature 1. (3) (3 hours)

MUHL 693 Seminar in Music Literature 2. (3) (3 hours)

MUHL 694 Seminar in Music Literature 3. (3) (3 hours)

MUHL 695 Seminar in Music Literature 4. (3) (3 hours)

MUHL 696 Seminar in Music Literature 5. (3) (3 hours)

MUHL 697 Seminar in Music Literature 6. (3) (3 hours)

MUMT 610 Computer Music Seminar 1. (3) (3 hours)

MUMT 611 Computer Music Seminar 2. (3) (3 hours)

MUMT 612 Computer Music Seminar 3. (3) (3 hours)

MUMT 613 Computer Music Seminar 4. (3) (3 hours)

MUMT 614 Computer Music Seminar 5. (3) (3 hours)

MUMT 615 Computer Music Seminar 6. (3) (3 hours)

MUPP 690 Performance Practice Seminar 1. (3) (3 hours)

MUPP 691 Performance Practice Seminar 2. (3) (3 hours)

MUPP 692 Performance Practice Seminar 3. (3) (3 hours)

MUPP 693 Performance Practice Seminar 4. (3) (3 hours)

MUPP 694 Performance Practice Seminar 5. (3) (3 hours)
 MUPP 695 Performance Practice Seminar 6. (3) (3 hours)
 MUSR 690 Media Theory and Practice Seminar 1. (3) (3 hours)
 MUSR 691 Media Theory and Practice Seminar 2. (3) (3 hours)
 MUSR 692 Media Theory and Practice Seminar 3. (3) (3 hours)
 MUSR 693 Media Theory and Practice Seminar 4. (3) (3 hours)
 MUSR 694 Media Theory and Practice Seminar 5. (3) (3 hours)
 MUSR 695 Media Theory and Practice Seminar 6. (3) (3 hours)
 MUTH 652 Seminar in Music Theory 1. (3) (3 hours)
 MUTH 653 Seminar in Music Theory 2. (3) (3 hours)
 MUTH 654 Seminar in Music Theory 3. (3) (3 hours)
 MUTH 655 Seminar in Music Theory 4. (3) (3 hours)
 MUTH 656 Seminar in Music Theory 5. (3) (3 hours)
 MUTH 657 Seminar in Music Theory 6. (3) (3 hours)

Topics for graduate seminars vary from year to year and are normally chosen according to the individual instructor's areas of research expertise. A list of detailed seminar descriptions can be found on the Faculty of Music Web site prior to Fall registration. The following indicates the scope of offerings with some sample topics. **Note: Topics listed will not necessarily be offered in the upcoming year.**

Composition Seminar: Music After 1945; The Symphony in the Twentieth Century; The Music of Olivier Messiaen.

Computer Music Seminar: Advanced topics in computer applications in music will be examined. Students will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

Media Theory and Practice Seminar: Media Technology, Digital Restoration of Archival Recordings, Communications Systems and Standards, Audio Aesthetics of Video Musicals, Classical Music and the Television Medium.

Music Education Seminar: Music Criticism and Music Education; Musical Ability; Aesthetics, Music, and Music Education.

Music Literature Seminar: The Music of Bela Bartok; The Symphonies of Beethoven; The Nineteenth-century French Symphony; The Choral Music of Johannes Brahms; French opera from Carmen to Pelléas; The Music of Ockeghem and Busnoys.

Musicology Seminar: Beethoven Style Periods; The "Roman de Fauvel"; The German Lied; Problems in Verdi Studies; Studies in the Wagner Operas.

Music Theory Seminar: Theory and Analysis of Classical Form; Mathematical Set and Group Theory Models; Theories of Musical Rhythm and Meter; The Late Music of Igor Stravinsky.

Performance Practice Seminar: Performance Practice of the Beethoven Piano Sonatas; Performance Practice and the Standard Repertoire (18th and early 19th century); 20th-century Performance Practice.

OTHER COURSES

MUCO 622D1 (3), MUCO 622D2 (3) COMPOSITION TUTORIAL. (Students must register for both MUCO 622D1 and MUCO 622D2) (No credit will be given for this course unless both MUCO 622D1 and MUCO 622D2 are successfully completed in consecutive terms)

MUCO 722D1 (3), MUCO 722D2 (3) DOCTORAL COMPOSITION TUTORIAL. (Students must register for both MUCO 722D1 and MUCO 722D2) (No credit will be given for this course unless both MUCO 722D1 and MUCO 722D2 are successfully completed in consecutive terms)

MUCT 602 SEMINAR IN CHORAL TECHNIQUES. (3) (3 hours)

MUCT 603 SEMINAR IN CHORAL TECHNIQUES. (3) (3 hours)

MUEN 596 OPERA REPETITEUR. (2) (6 hours) (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)

MUEN 660 CHAMBER MUSIC ENSEMBLE. (1)

MUEN 661 EARLY CHAMBER MUSIC ENSEMBLE. (1) (1 hour) (Prerequisite: Audition) Chamber music of the Medieval, Renaissance and Baroque periods.

MUEN 672 CAPPELLA ANTICA. (2) (4 hours) (Prerequisite: Audition) An ensemble of 8 to 12 voices specializing in early music.

MUEN 673 COLLEGIUM MUSICUM. (2) (4 hours) (Prerequisites: Audition AND MUEN 480 AND 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 679 ADVANCED SONG INTERPRETATION. (1) (Open to Performance and/or Artist Diploma piano and voice students or permission of instructor.) Study of advanced standard and non-standard song repertoire emphasizing the partnership between singers and pianists.

MUEN 680 EARLY MUSIC ENSEMBLE. (1) (2 hours) (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 684 STUDIO ACCOMPANYING. (2) (Prerequisite: Audition; 2 hours) Students will be assigned to work as accompanists with performance teachers and their students.

MUEN 688 MULTIPLE ENSEMBLES. (2) Student participation in more than one ensemble in different concert periods over the course of a term.

MUEN 690 MCGILL WINDS. (2) (4 - 6 hours) (Prerequisite: Audition)

MUEN 692 ADVANCED CHAMBER JAZZ ENSEMBLE. (2) (Prerequisite: Audition) An opportunity for graduate students to perform original compositions for a 9-13 piece jazz ensemble and students will also transcribe recorded music.

MUEN 693 CHORAL ENSEMBLE. (2) (4 hours) (Prerequisite: Audition) (Chamber Singers: a group of approximately 24 mixed voices which explores the capella repertoire of all periods as well as works with chamber accompaniment. Section 01) (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 02) (University Chorus: a mixed chorus of approximately 100 which performs a variety of choral material including both traditional and popular selections. Section 03) (Women's Chorale: an ensemble of approximately 40 women stressing the fundamentals of singing and ensemble participation. Works are chosen from the substantial repertoire available for women's voices. Section 04) Students enrolling in Choral Ensembles will be assigned to one of the above groups.

MUEN 694 CONTEMPORARY MUSIC ENSEMBLE. (2) (4 hours) (Prerequisite: Audition) An ensemble of approximately 15 performers which will explore 20th-century ensemble repertoire.

MUEN 695 JAZZ ENSEMBLE. (2) (3-4 hours) (Prerequisite: Audition)

MUEN 696 OPERA THEATRE. (2) (3-6 hours) (Prerequisite: open to all Graduate Performance and Artist Diploma students who have completed MUEN 496 or its equivalent.) Individual coaching in acting, movement and role preparation; possibility for roles in Opera McGill productions (by audition).

MUEN 697 ORCHESTRA. (2) (Prerequisite: Audition. Corequisite for wind players: MUEN 678.) (6-7 hours) A full orchestra of approximately 90 which performs the symphonic repertoire. N.B. Woodwind and brass players will take one hour per week of Repertoire Class as a part of Orchestra.

MUGS 614 READING COURSE 1. (3) Independent study of an approved topic or topics under the guidance of a supervisor. Topics will be chosen to suit individual needs and interests. The extent of reading, synthesis, and reporting will be agreed upon by the supervisor and the student at the beginning of the course.

MUGS 615 READING COURSE 2. (3) Independent study of an approved topic or topics under the guidance of a supervisor. Topics will be chosen to suit individual needs and interests. The extent

of reading, synthesis, and reporting will be agreed upon by the supervisor and the student at the beginning of the course.

MUGS 635 RESEARCH PAPER 1. (9)

MUGS 635D1 (4.5), MUGS 635D2 (4.5) RESEARCH PAPER 1. (Students must register for both MUGS 635D1 and MUGS 635D2) (No credit will be given for this course unless both MUGS 635D1 and MUGS 635D2 are successfully completed in consecutive terms) (MUGS 635D1 and MUGS 635D2 together are equivalent to MUGS 635)

MUGS 636 RESEARCH PAPER 2. (9)

MUGS 636D1 (4.5), MUGS 636D2 (4.5) RESEARCH PAPER 2. (Students must register for both MUGS 636D1 and MUGS 636D2) (No credit will be given for this course unless both MUGS 636D1 and MUGS 636D2 are successfully completed in consecutive terms) (MUGS 636D1 and MUGS 636D2 together are equivalent to MUGS 636)

MUGS 675 SPECIAL PROJECT. (3) (Requires Departmental approval)

MUGS 675D1 (1.5), MUGS 675D2 (1.5) SPECIAL PROJECT. (Students must register for both MUGS 675D1 and MUGS 675D2) (No credit will be given for this course unless both MUGS 675D1 and MUGS 675D2 are successfully completed in consecutive terms) (MUGS 675D1 and MUGS 675D2 together are equivalent to MUGS 675)

MUGS 676 SPECIAL PROJECT. (6) (Requires Departmental approval)

MUGS 676D1 (3), MUGS 676D2 (3) SPECIAL PROJECT. (Students must register for both MUGS 676D1 and MUGS 676D2) (No credit will be given for this course unless both MUGS 676D1 and MUGS 676D2 are successfully completed in consecutive terms) (MUGS 676D1 and MUGS 676D2 together are equivalent to MUGS 676)

MUGS 683 MASTER'S THESIS RESEARCH 1. (3)

MUGS 684 MASTER'S THESIS RESEARCH 2. (6)

MUGS 685 MASTER'S THESIS RESEARCH 3. (9)

MUGS 686 MASTER'S THESIS RESEARCH 4. (12)

MUGS 687 MASTER'S THESIS. (12)

MUGS 694 SPECIAL TOPIC SEMINAR. (3) (3 hours)

MUGS 695 SPECIAL TOPIC SEMINAR. (3) (3 hours)

MUGS 701 COMPREHENSIVE EXAMINATION PART 1. (0)

MUGS 701D1 (0), MUGS 701D2 (0) COMPREHENSIVE EXAMINATION PART 1. (Students must register for both MUGS 701D1 and MUGS 701D2) (No credit will be given for this course unless both MUGS 701D1 and MUGS 701D2 are successfully completed in consecutive terms) (MUGS 701D1 and MUGS 701D2 together are equivalent to MUGS 701)

MUGS 702 COMPREHENSIVE EXAMINATION PART 2. (0)

MUGS 702D1 (0), MUGS 702D2 (0) COMPREHENSIVE EXAMINATION PART 2. (Students must register for both MUGS 702D1 and MUGS 702D2) (No credit will be given for this course unless both MUGS 702D1 and MUGS 702D2 are successfully completed in consecutive terms) (MUGS 702D1 and MUGS 702D2 together are equivalent to MUGS 702)

MUGS 705 COLLOQUIUM. (0)

MUGS 705D1 (0), MUGS 705D2 (0) COLLOQUIUM. (Students must register for both MUGS 705D1 and MUGS 705D2) (No credit will be given for this course unless both MUGS 705D1 and MUGS 705D2 are successfully completed in consecutive terms) (MUGS 705D1 and MUGS 705D2 together are equivalent to MUGS 705)

MUGS 749 DOCTORAL TUTORIAL 1. (3)

MUGS 750 DOCTORAL TUTORIAL 2. (3)

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 pro-

grams by permission of instructor) (Normally alternates with MUHL 591)

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) (Restricted to 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)

MUIN 600 VOCAL REPERTOIRE COACHING 1. (2) (1 hour) A course in which the performer will have individual coaching sessions on repertoire, with emphasis on musical and linguistic nuance.

MUIN 601 VOCAL REPERTOIRE COACHING 2. (2) (1 hour)

MUIN 602 VOCAL REPERTOIRE COACHING 3. (2) Individual coaching sessions on advanced vocal repertoire, with emphasis on musical and linguistic nuance.

MUIN 700 DOCTORAL REPERTOIRE COACHING 1. (2) Individual tutorial coaching sessions in repertoire, with emphasis on musical and linguistic nuance.

MUIN 701 DOCTORAL REPERTOIRE COACHING 2. (2) Individual tutorial coaching sessions in repertoire, with emphasis on musical and linguistic nuance.

MUIN 702 DOCTORAL REPERTOIRE COACHING 3. (2) Individual tutorial coaching sessions in repertoire, with emphasis on musical and linguistic nuance.

MUIN 703 DOCTORAL REPERTOIRE COACHING 4. (2) Individual tutorial coaching sessions in repertoire, with emphasis on musical and linguistic nuance.

MUJZ 601 JAZZ PEDAGOGY. (3) (3 hours) A course designed to prepare students to teach jazz-related subjects at the university and professional level, with emphasis on ensemble direction and the instruction of improvisation, as well as course and curriculum development. Various pedagogical methods, philosophies, rehearsal techniques, and materials will be investigated.

MUJZ 640 JAZZ COMPOSITION AND ARRANGING. (4) (2 hours)

MUJZ 640D1 (2), MUJZ 640D2 (2) JAZZ COMPOSITION AND ARRANGING. (Students must register for both MUJZ 640D1 and MUJZ 640D2) (No credit will be given for this course unless both MUJZ 640D1 and MUJZ 640D2 are successfully completed in consecutive terms) (MUJZ 640D1 and MUJZ 640D2 together are equivalent to MUJZ 640) A course intended to guide the student towards an individual musical style. A variety of jazz compositional and arranging techniques will be explored.

MUMT 605 DIGITAL SOUND SYNTHESIS AND AUDIO PROCESS. (3) Basic principles of digital sound synthesis including techniques such as additive synthesis, frequency modulation, tuned resonators, waveshaping and digital audio processing techniques including simple delay systems, filters, reverberators, spatial controllers, etc. will be explored.

MUMT 609 MUSIC, MEDIA AND TECHNOLOGY PROJECT. (3) (3 research/project hours) Independent music technology project. Students will prepare a statement of objectives, a comprehensive project design and a schedule of work, and will undertake the project on appropriate music technology platforms.

MUMT 610 COMPUTER MUSIC SEMINAR 1. (3) (3 hours) Advanced topics in computer applications in music will be examined. Stu-

dents will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

MUMT 611 COMPUTER MUSIC SEMINAR 2. (3) (3 hours) Advanced topics in computer applications in music will be examined. Students will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

MUMT 612 COMPUTER MUSIC SEMINAR 3. (3) (3 hours) Advanced topics in computer applications in music will be examined. Students will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

MUMT 613 COMPUTER MUSIC SEMINAR 4. (3) (3 hours)

MUMT 614 COMPUTER MUSIC SEMINAR 5. (3) (3 hours) Advanced topics in computer applications in music will be examined. Students will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

MUMT 615 COMPUTER MUSIC SEMINAR 6. (3) (3 hours) Advanced topics in computer applications in music will be examined. Students will be expected to 1) present critical analyses of current research and 2) develop and implement software demonstrations.

MUSR 629D1 (2), MUSR 629D2 (2) TECHNICAL EAR TRAINING. (1 hour tutorial, 2 hours laboratory.) (Students must register for both MUSR 629D1 and MUSR 629D2.) (No credit will be given for this course unless both MUSR 629D1 and MUSR 629D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 629D1/D2.) This course will, through a sequence of specific auditory exercises, develop and improve students' aural sensitivity to small changes in sound quality. Students train to identify spectral variables in sound, develop stable reference of sound quality and learn about spectral characteristics of musical instruments.

MUSR 631D1 (2), MUSR 631D2 (2) ADVANCED TECHNICAL EAR TRAINING. (1 hour tutorial, 2 hours laboratory) (Prerequisite: MUMT 629.) (Students must register for both MUSR 631D1 and MUSR 631D2.) (No credit will be given for this course unless both MUSR 631D1 and MUSR 631D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 631D1/D2.) Included in this course are exercises for developing some of the following aural skills: identification and quantification of spatial parameters of sound image, nonlinear and transient distortion audibility, identification of coherent and incoherent noise, sound source identification in complex textures, sound enhancement and reconstruction.

MUSR 667 DIGITAL STUDIO TECHNOLOGY. (3) (3 hours lecture) (Restriction: Not open to students who have taken MUMT 667.) Technical and operational characteristics of different digital recording systems currently employed by the recording industry.

MUSR 668 DIGITAL/ANALOG AUDIO EDITING. (3) (1 hour tutorial, 3 hours studio time.) (Restriction: Not open to students who have taken MUMT 668.) Using analog and digital record/playback equipment, students learn, through practice, the art of replacing, patching, rebalancing, reconstructing, or generally speaking, improving recorded music through editing. Teaching will include cut and splice editing, disk-based editing, and editing by transfer and mixing.

MUSR 669 TOPICS:CLASSICAL MUSIC RECORDING. (3) (3 hours lecture) (Restriction: Not open to students who have taken MUMT 669 or MUMT 669D1/D2.)

MUSR 669D1 (1.5), MUSR 669D2 (1.5) TOPICS:CLASSICAL MUSIC RECORDING. (3 hours lecture) (Students must register for both MUSR 669D1 and MUSR 669D2.) (No credit will be given for this course unless both MUSR 669D1 and MUSR 669D2 are successfully completed in consecutive terms.) (MUSR 669D1 and MUSR 669D2 together are equivalent to MUSR 669.) (Restriction: Not open to students who have taken MUMT 669 or MUMT 669D1/D2.) Issues involving classical music recording. Topics may include: analysis of performance styles, acoustics of concert halls, production of music videos, seminars with recording producers, tonmeisters, classical music in multimedia, and others.

MUSR 670D1 (5), MUSR 670D2 (5) RECORDING THEORY AND PRACTICE 1. (3 hours seminar, 6 hours studio time.) (Prerequisite: MUMT 300.) (Students must register for both MUSR 670D1 and MUSR 670D2.) (No credit will be given for this course unless both MUSR 670D1 and MUSR 670D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 670D1/D2.) Theoretical and practice study of recording equipment, procedures and techniques. Recording sessions and live stereo recording, using the recording studio, concert hall and portable equipment for on-location recording. Also included will be an introduction to the areas of radio drama, broadcast recording and radio commercials.

MUSR 671D1 (5), MUSR 671D2 (5) RECORDING THEORY AND PRACTICE 2. (3 hours seminar, 6 hours studio time.) (Prerequisite: MUSR 670D1/D2 (formerly MUMT 670D1/D2).) (Students must register for both MUSR 671D1 and MUSR 671D2.) (No credit will be given for this course unless both MUSR 671D1 and MUSR 671D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 671D1/D2.) Emphasis on multi-track recording theory and practice. The course will also concentrate on expanded multi-track procedures: signal processing, overdubbing, mixing, editing, and producing.

MUSR 672D1 (3), MUSR 672D2 (3) ANALYSIS OF RECORDINGS. (3 hours.) (Students must register for both MUSR 672D1 and MUSR 672D2.) (No credit will be given for this course unless both MUSR 672D1 and MUSR 672D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 672D1/D2.) The analysis of recording engineering, production, performance, aesthetics and technical quality of selected recordings.

MUSR 674 ELECTRONIC AND ELECTROACOUSTIC MEASUREMENT. (3) (1 1/2 hours lecture, 1 1/2 hours laboratory) This course demonstrates the instruments, measurement procedures, and techniques used in a recording studio to determine the acoustical properties of a room and the transfer functions of devices used in a studio. Theoretical lectures on electronic test instrumentation and measurement methods are combined with practical application.

MUSR 674D1 (1.5), MUSR 674D2 (1.5) ELECTRONIC AND ELECTROACOUSTIC MEASUREMENT. (1 1/2 hours lecture, 1 1/2 hours laboratory) (Students must register for both MUSR 674D1 and MUSR 674D2.) (No credit will be given for this course unless both MUSR 674D1 and MUSR 674D2 are successfully completed in consecutive terms.) (MUSR 674D1 and MUSR 674D2 together are equivalent to MUSR 674.) (Restriction: Not open to students who have taken MUMT 674 or MUMT 674D1/D2.)

MUSR 676 AUDIO INDUSTRY EXPERIENCE. (3) (Restriction: Not open to students who have taken MUMT 676 or MUMT 676D1/D2.)

MUSR 676D1 (1.5), MUSR 676D2 (1.5) (Students must register for both MUSR 676D1 and MUSR 676D2.) (No credit will be given for this course unless both MUSR 676D1 and MUSR 676D2 are successfully completed in consecutive terms.) (MUSR 676D1 and MUSR 676D2 together are equivalent to MUSR 676.) (Restriction: Not open to students who have taken MUMT 676 or MUMT 676D1/D2.)

MUSR 677D1 (3), MUSR 677D2 (3) AUDIO FOR VIDEO POST-PRODUCTION. (3 hours seminar, 4 hours studio time.) (Students must register for both MUSR 677D1 and MUSR 677D2.) (No credit will be given for this course unless both MUSR 677D1 and MUSR 677D2 are successfully completed in consecutive terms.) (Restriction: Not open to students who have taken MUMT 677D1/D2.) Theoretical study includes historical analysis of sound for image, audio post-production process for film and video, aesthetic and technical considerations in sound design, time code and synchronization, and final mix formats. Practical skills include field recording, sound library management, sound design, dialog, effects and music editing, and final mix process.

MUSR 678 ADVANCED DIGITAL EDITING AND POST-PRODUCTION. (3) (3 hours.) (Prerequisite: MUSR 668 (formerly MUMT 668).) (Restriction: Not open to students who have taken MUMT 678.)

This course covers advanced concepts and techniques of audio post-production using digital workstations. Students practise the assembly of raw material into a complete final product through editing, signal processing, mixing, sound restoration and pre-mastering.

MUSR 690 MEDIA THEORY AND PRACTICE SEMINAR 1. (3) (3 hours) (Restriction: Not open to students who have taken MUMT 690.) Topics vary from year to year and are normally chosen according to the individual instructor's area of expertise. Topics to be covered may include the following: Media Technology, Digital Restoration of Archival Recordings, Communications Systems and Standards, Audio Aesthetics of Video Musicals, Classical Music and the Television Medium, etc.

MUSR 691 MEDIA THEORY AND PRACTICE SEMINAR 2. (3) (3 hours.) (Restriction: Not open to students who have taken MUMT 691.) Topics vary from year to year and are normally chosen according to the individual instructor's area of expertise. Topics to be covered may include the following: Media Technology, Digital Restoration of Archival Recordings, Communications Systems and Standards, Audio Aesthetics of Video Musicals, Classical Music and the Television Medium, etc.

MUSR 692 MEDIA THEORY AND PRACTICE SEMINAR 3. (3) (3 hours.) (Restriction: Not open to students who have taken MUMT 692.)

MUSR 693 MEDIA THEORY AND PRACTICE SEMINAR 4. (3) (3 hours) (Restriction: Not open to students who have taken MUMT 693.)

MUSR 694 MEDIA THEORY AND PRACTICE SEMINAR 5. (3) (3 hours) (Restriction: Not open to students who have taken MUMT 694.) Topics vary from year to year and are normally chosen according to the individual instructor's area of expertise. Topics to be covered may include the following: Media Technology, Digital Restoration of Archival Recordings, Communications Systems and Standards, Audio Aesthetics of Video Musicals, Classical Music and the Television Medium, etc.

MUSR 695 MEDIA THEORY AND PRACTICE SEMINAR 6. (3) (3 hours) (Restriction: Not open to students who have taken MUMT 695.) Topics vary from year to year and are normally chosen according to the individual instructor's area of expertise. Topics to be covered may include the following: Media Technology, Digital Restoration of Archival Recordings, Communications Systems and Standards, Audio Aesthetics of Video Musicals, Classical Music and the Television Medium, etc.

MUPG 611 DIRECTED VOICE TEACHING 1. (3) (1 hour) A practical approach to vocal pedagogy through supervised private teaching and the observation of experienced studio voice teachers. The candidate must compile a dossier documenting the progress of his or her own students and observations made during master classes and private lessons by voice faculty.

MUPG 612 DIRECTED VOICE TEACHING 2. (3) (1 hour) A practical approach to advanced vocal pedagogy through supervised private teaching and the observation of experienced studio voice teachers. The candidate must compile a dossier documenting the progress of his or her own students and observations made during master classes and private lessons by voice faculty.

MUPG 613 DIRECTED TEACHING 3. (2) (1 hour)

MUPG 614 DIRECTED TEACHING 4. (2) (1 hour)

MUPG 615 MASTER CLASS-ORCHESTRAL CONDUCTING. (3) (3 hours)

MUPG 616 MASTER CLASS-CHORAL CONDUCTING. (3) (3 hours)

MUPG 620 PERFORMANCE TUTORIAL 1. (4)

MUPG 621 PERFORMANCE TUTORIAL 2. (4)

MUPG 622 PERFORMANCE TUTORIAL 3. (4)

MUPG 623 PERFORMANCE TUTORIAL 4. (4)

MUPG 624 PERFORMANCE TUTORIAL 5. (4)

MUPG 630 PERFORMANCE TUTORIAL 6. (6)

MUPG 631 PERFORMANCE TUTORIAL 7. (6)

MUPG 632 PERFORMANCE TUTORIAL 8. (6)

MUPG 633 PERFORMANCE TUTORIAL 9. (6)

MUPG 646 SCORE- AND SIGHT-READING 1. (1) Playing operatic piano-vocal scores at sight. Realizing at the piano operatic orchestral scores with emphasis on repertoire from before 1800.

MUPG 647 SCORE- AND SIGHT-READING 2. (1) Playing operatic piano-vocal scores at sight. Realizing at the piano operatic orchestral scores with emphasis on repertoire from after 1800.

MUPG 650 VOICE LECTURE - DEMONSTRATION. (3) The candidate is required to present his or her two voice students in a public mini-recital, to discuss their progress and to trace the pedagogical focus and choices that have been made during their two semesters of study.

MUPG 653 OPERA COACH EXAM 1. (6) The candidate must prepare the singers and perform, conducting from the piano, a complete opera or major scene from the standard repertoire.

MUPG 654 OPERA COACH EXAM 2. (6) The candidate must prepare the singers and perform, conducting from the piano, a complete opera or major scene from the specialized repertoire.

MUPG 655 OPERA COACH QUICK STUDY. (6) With one month's notice, the candidate must prepare an assigned operatic score, playing while singing all the parts. Historical research, stylistic performance, musical choices and linguistic command of the score are required.

MUPG 656 VOCAL QUICK STUDY. (6) With one month's notice, the candidate must prepare an assigned group of songs, oratorios or operatic roles. Historical research, stylistic performance practices, musical and dramatic choices (where applicable) and vocal command of the material is required.

MUPG 656D1 (3), MUPG 656D2 (3) VOCAL QUICK STUDY. (Students must register for both MUPG 656D1 and MUPG 656D2) (No credit will be given for this course unless both MUPG 656D1 and MUPG 656D2 are successfully completed in consecutive terms) (MUPG 656D1 and MUPG 656D2 together are equivalent to MUPG 656)

MUPG 657 OPERA PERFORMANCE EXAM 1. (6) Staged performance of a complete operatic role from the standard repertoire, minimum 25-30 minutes of singing plus any extra stage time. Mature musical, dramatic, vocal, linguistic and stylistic elements will be the focus of this exam.

MUPG 657D1 (3), MUPG 657D2 (3) OPERA PERFORMANCE EXAM 1. (Students must register for both MUPG 657D1 and MUPG 657D2) (No credit will be given for this course unless both MUPG 657D1 and MUPG 657D2 are successfully completed in consecutive terms) (MUPG 657D1 and MUPG 657D2 together are equivalent to MUPG 657) Staged performance of a complete operatic role from the standard repertoire, minimum 25-30 minutes of singing plus any extra stage time. Mature musical, dramatic, vocal, linguistic and stylistic elements will be the focus of this exam.

MUPG 658 OPERA PERFORMANCE EXAMINATION 2. (6) Staged performance of a complete operatic role from the specialized repertoire.

MUPG 658D1 (3), MUPG 658D2 (3) OPERA PERFORMANCE EXAMINATION 2. (Students must register for both MUPG 658D1 and MUPG 658D2) (No credit will be given for this course unless both MUPG 658D1 and MUPG 658D2 are successfully completed in consecutive terms) (MUPG 658D1 and MUPG 658D2 together are equivalent to MUPG 658) Staged performance of a complete operatic role from the specialized repertoire.

MUPG 659 PERFORMANCE IN RECORDING MEDIA. (12) The candidate must submit a 60-75 minute audio and/or video document of his or her performances, compiled from various media sources. This might include radio, television, and/or studio recordings. All of the music must be composed and arranged by the candidate.

MUPG 659D1 (6), MUPG 659D2 (6) PERFORMANCE IN RECORDING MEDIA. (Students must register for both MUPG 659D1 and MUPG 659D2) (No credit will be given for this course unless both MUPG 659D1 and MUPG 659D2 are successfully completed in consecu-

tive terms) (MUPG 659D1 and MUPG 659D2 together are equivalent to MUPG 659) The candidate must submit a 60-75 minute audio and/or video document of his or her performances, compiled from various media sources. This might include radio, television, and/or studio recordings. All of the music must be composed and arranged by the candidate.

MUPG 660 SOLO RECITAL 1. (12)

MUPG 660D1 (6), MUPG 660D2 (6) SOLO RECITAL 1. (Students must register for both MUPG 660D1 and MUPG 660D2) (No credit will be given for this course unless both MUPG 660D1 and MUPG 660D2 are successfully completed in consecutive terms) (MUPG 660D1 and MUPG 660D2 together are equivalent to MUPG 660)

MUPG 661 CHAMBER MUSIC RECITAL 1. (12)

MUPG 661D1 (6), MUPG 661D2 (6) CHAMBER MUSIC RECITAL 1. (Students must register for both MUPG 661D1 and MUPG 661D2) (No credit will be given for this course unless both MUPG 661D1 and MUPG 661D2 are successfully completed in consecutive terms) (MUPG 661D1 and MUPG 661D2 together are equivalent to MUPG 661)

MUPG 662 SOLO AND CHAMBER MUSIC RECITAL. (12)

MUPG 662D1 (6), MUPG 662D2 (6) SOLO AND CHAMBER MUSIC RECITAL. (Students must register for both MUPG 662D1 and MUPG 662D2) (No credit will be given for this course unless both MUPG 662D1 and MUPG 662D2 are successfully completed in consecutive terms) (MUPG 662D1 and MUPG 662D2 together are equivalent to MUPG 662)

MUPG 663 QUICK STUDY EXAMINATION. (6) (To be successfully completed before the first recital is performed)

MUPG 663D1 (3), MUPG 663D2 (3) QUICK STUDY EXAMINATION. (Students must register for both MUPG 663D1 and MUPG 663D2) (No credit will be given for this course unless both MUPG 663D1 and MUPG 663D2 are successfully completed in consecutive terms) (MUPG 663D1 and MUPG 663D2 together are equivalent to MUPG 663)

MUPG 664 REPERTOIRE EXAMINATION. (6)

MUPG 664D1 (3), MUPG 664D2 (3) REPERTOIRE EXAMINATION. (Students must register for both MUPG 664D1 and MUPG 664D2) (No credit will be given for this course unless both MUPG 664D1 and MUPG 664D2 are successfully completed in consecutive terms) (MUPG 664D1 and MUPG 664D2 together are equivalent to MUPG 664)

MUPG 665D1 (6), MUPG 665D2 (6) ACCOMPANYING RECITAL 1. (Students must register for both MUPG 665D1 and MUPG 665D2) (No credit will be given for this course unless both MUPG 665D1 and MUPG 665D2 are successfully completed in consecutive terms)

MUPG 666 CONDUCTING CONCERT EXAMINATION. (24)

MUPG 666D1 (12), MUPG 666D2 (12) CONDUCTING CONCERT EXAMINATION. (Students must register for both MUPG 666D1 and MUPG 666D2) (No credit will be given for this course unless both MUPG 666D1 and MUPG 666D2 are successfully completed in consecutive terms) (MUPG 666D1 and MUPG 666D2 together are equivalent to MUPG 666)

MUPG 667 SOLO RECITAL 2. (12)

MUPG 667D1 (6), MUPG 667D2 (6) SOLO RECITAL 2. (Students must register for both MUPG 667D1 and MUPG 667D2) (No credit will be given for this course unless both MUPG 667D1 and MUPG 667D2 are successfully completed in consecutive terms) (MUPG 667D1 and MUPG 667D2 together are equivalent to MUPG 667)

MUPG 668 CHAMBER MUSIC RECITAL 2. (12)

MUPG 668D1 (6), MUPG 668D2 (6) CHAMBER MUSIC RECITAL 2. (Students must register for both MUPG 668D1 and MUPG 668D2) (No credit will be given for this course unless both MUPG 668D1 and MUPG 668D2 are successfully completed in consecutive terms) (MUPG 668D1 and MUPG 668D2 together are equivalent to MUPG 668)

MUPG 669 ACCOMPANYING RECITAL 2. (12)

MUPG 669D1 (6), MUPG 669D2 (6) ACCOMPANYING RECITAL 2. (Students must register for both MUPG 669D1 and MUPG 669D2) (No credit will be given for this course unless both MUPG 669D1 and MUPG 669D2 are successfully completed in consecutive terms) (MUPG 669D1 and MUPG 669D2 together are equivalent to MUPG 669)

MUPG 670 ADVANCED CONTINUO 1. (2) A historically-oriented study of the principles of figured bass. Standard idioms from historical treatises will be introduced. Preparation of operatic excerpts from the standard high Baroque repertory is required.

MUPG 671 ADVANCED CONTINUO 2. (2) (2 hours) (Prerequisite: MUPG 670) A study of the many different styles of figured bass accompaniment as revealed in contemporary sources. The emphasis will be on realization at the keyboard of representative 17th- and 18th- century operatic recitatives and arias.

MUPG 672D1 (1.5), MUPG 672D2 (1.5) LITURGICAL IMPROVISATION. (1 1/2 hours) (Students must register for both MUPG 672D1 and MUPG 672D2) (No credit will be given for this course unless both MUPG 672D1 and MUPG 672D2 are successfully completed in consecutive terms)

MUPG 675 SPECIAL PROJECT IN PERFORMANCE 1. (3) (Requires Departmental approval)

MUPG 675D1 (1.5), MUPG 675D2 (1.5) SPECIAL PROJECT IN PERFORMANCE 1. (Students must register for both MUPG 675D1 and MUPG 675D2) (No credit will be given for this course unless both MUPG 675D1 and MUPG 675D2 are successfully completed in consecutive terms) (MUPG 675D1 and MUPG 675D2 together are equivalent to MUPG 675)

MUPG 676D1 (3), MUPG 676D2 (3) SPECIAL PROJECT IN PERFORMANCE 2. (Students must register for both MUPG 676D1 and MUPG 676D2) (No credit will be given for this course unless both MUPG 676D1 and MUPG 676D2 are successfully completed in consecutive terms)

MUPG 677 SEMINAR IN PERFORMANCE TOPICS 1. (3) (3 hours)

MUPG 678 SEMINAR IN PERFORMANCE TOPICS 2. (3) (3 hours)

MUPG 681 PIANO SEMINAR 1. (2) (3 hours.) Comparative studies of recorded solo and ensemble repertoire, and lecture-recital presentations reflecting knowledge of historical context and performance practice.

MUPG 682 PIANO SEMINAR 2. (2) (3 hours.) Detailed critiques of in-class teaching, and general discussion of preparation for competitions and academic job applications.

MUPG 683 THE PIANIST AS PARTNER. (3) (3 hours)

MUPG 685 MASTER CLASS - 20TH-CENTURY PIANO MUSIC. (3) (3 hours)

MUPG 686 MASTER CLASS - STRING CHAMBER MUSIC. (3) (3 hours)

MUPG 690 VOCAL STYLES AND CONVENTIONS. (3) (3 hours) 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.

MUPG 691 VOCAL SEMINAR 1. (3) (3 hours) (Open to singers, pianists, and conductors with permission of instructor.)

MUPG 692 VOCAL SEMINAR 2. (3) (3 hours) (Open to singers, pianists, and conductors, with permission of instructor.)

MUPG 693 VOCAL TREATISES AND METHODS. (3) (3 hours)

MUPG 694 VOCAL PHYSIOLOGY FOR SINGERS. (3) (3 hours)

MUPG 720 D.MUS. PERFORMANCE TUTORIAL 1. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 721 D.MUS. PERFORMANCE TUTORIAL 2. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 722 D.MUS. PERFORMANCE TUTORIAL 3. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 723 D.MUS. PERFORMANCE TUTORIAL 4. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 724 D.MUS. PERFORMANCE TUTORIAL 5. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 725 D.MUS. PERFORMANCE TUTORIAL 6. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 726 D.MUS. PERFORMANCE TUTORIAL 7. (4) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 730 D.MUS. PERFORMANCE TUTORIAL 8. (6) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 731 D.MUS. PERFORMANCE TUTORIAL 9. (6) Individual instrumental or vocal tutorial. Advanced technical or interpretive training as well as recital preparation.

MUPG 732 D.MUS. PERFORMANCE TUTORIAL 10. (6) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 733 D.MUS. PERFORMANCE TUTORIAL 11. (6) Individual instrumental or vocal tutorial. Advanced technical and interpretive training as well as recital preparation.

MUPG 760 DOCTORAL RECITAL 1. (12) A full-length public recital which includes a minimum of 60 minutes of music.

MUPG 767 DOCTORAL RECITAL 2. (12) A full-length public recital which includes a minimum of 60 minutes of music.

MUPG 770 DOCTORAL LECTURE - RECITAL PROJECT. (12) The lecture-recital comprises a minimum of 35 minutes of music and 25 to 35 minutes of oral presentation. The examiners and audience may question the candidate following the lecture-recital. The subject and repertoire will also be treated in a project paper, submitted within two months of the lecture-recital.

MUPP 690 PERFORMANCE PRACTICE SEMINAR 1. (3) (3 hours)

MUPP 691 PERFORMANCE PRACTICE SEMINAR 2. (3) (3 hours)

MUPP 692 PERFORMANCE PRACTICE SEMINAR 3. (3) (3 hours)

MUPP 693 PERFORMANCE PRACTICE SEMINAR 4. (3) (3 hours)

MUPP 694 PERFORMANCE PRACTICE SEMINAR 5. (3) (3 hours)

MUPP 695 PERFORMANCE PRACTICE SEMINAR 6. (3) (3 hours)

☐ **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)

☐ **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)

☐ **MUTH 523D1 (3), MUTH 523D2 (3) ADVANCED HARMONY.** (3 hours) (Prerequisites: MUTH 304 and MUTH 327 OR MUCO 240) (Students must register for both MUTH 523D1 and MUTH 523D2.) (No credit will be given for this course unless both MUTH 523D1 and MUTH 523D2 are successfully completed in consecutive terms)

☐ **MUTH 528 SCHENKERIAN TECHNIQUES.** (3) (3 hours) (Prerequisite: MUTH 310 or MUCO 240 OR Corequisite: MUTH 327 OR permission of instructor. Limited enrolment with preference given to students in Honours Theory)

☐ **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)

☐ **MUTH 538 MATHEMATICAL MODELS/MUSICAL ANALYSIS.** (3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171)

MUTH 652 SEMINAR IN MUSIC THEORY 1. (3) (3 hours)

MUTH 653 SEMINAR IN MUSIC THEORY 2. (3) (3 hours)

MUTH 654 SEMINAR IN MUSIC THEORY 3. (3) (3 hours)

MUTH 655 SEMINAR IN MUSIC THEORY 4. (3) (3 hours)

MUTH 656 SEMINAR IN MUSIC THEORY 5. (3) (3 hours)

MUTH 657 SEMINAR IN MUSIC THEORY 6. (3) (3 hours)

MUTH 658 HISTORY OF MUSIC THEORY 1. (3) (3 hours)

MUTH 659 HISTORY OF MUSIC THEORY 2. (3) (3 hours) Selected topics in the history of music theory from 1700 to the present through readings of primary and secondary literature.

ADVANCED UNDERGRADUATE COURSES

Students deficient in their background preparation may be required to take some of the following undergraduate courses in addition to their required graduate courses.

With the exception of MUTH501, MUTH502 and MUTH503, all 500-level courses are available as elective courses to graduate students.

MUCT 315 Choral Conducting 1

MUCT 415 Choral Conducting 2

MUGT 402D1/MUGT 402D2 Principles and Processes of Music Education

MUGT 403 Selected Topics in Music Education

MUGT 404 Selected Topics in Music Education

MUHL 366 The Era of the Fortepiano

MUHL 372 Solo Song Outside Germany and Austria

MUHL 377 Baroque Opera

MUHL 380 Medieval Music

MUHL 381 Renaissance Music

MUHL 382 Baroque Music

MUHL 383 Classical Music

MUHL 384 Romantic Music

MUHL 385 Early Twentieth-Century Music

MUHL 387 Opera from Mozart to Puccini

MUHL 570 Research Methods in Music

MUHL 591D1/MUHL 591D2 Paleography

MUIT 315 Instrumental Conducting

MUIT 415 Advanced Instrumental Conducting

MUMT 306 Music and Audio Computing 1

MUMT 307 Music and Audio Computing 2

MUPG 372D1/MUPG 372D2 Continuo

MUPP 381 Topics: Performance Practice before 1800

MUPP 385 Topics: Performance Practice after 1800

MUTH 301 Modal Counterpoint 1

MUTH 302 Modal Counterpoint 2

MUTH 303 Tonal Counterpoint 1

MUTH 304 Tonal Counterpoint 2

MUTH 327D1/MUTH 327D2 19th-Century Analysis

MUTH 427D1/MUTH 427D2 20th-Century Analysis

MUTH 502 Theory Review 2

MUTH 503 Theory Review 3

MUTH 522D1/MUTH 522D2 Advanced Counterpoint

MUTH 523D1/MUTH 523D2 Advanced Harmony

MUTH 528 Schenkerian Techniques

MUTH 529 Proseminar in Music Theory 1

MUTH 538 Mathematical Models/Musical Analysis

53 Natural Resource Sciences

Department of Natural Resource Sciences
Macdonald Campus
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

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E-mail: info@nrs.mcgill.ca
Web site: www.nrs.mcgill.ca

Chair — B. Côté

Graduate Program Director — R.D. Titman

53.1 Staff

Emeritus Professors

A.C. Blackwood; B.Sc., M.Sc.(Alta.), Ph.D.(Wis.), F.R.S.C.;
Microbiology
R. Knowles; B.Sc.(Birm.), Ph.D., D.Sc.(Lond.); F.R.S.C.;
Microbiology
A.F. MacKenzie; B.S.A., M.Sc.(Sask.), Ph.D.(C'nell); Soil Science
R.A. MacLeod; B.A., M.A.(Br.Col.), Ph.D.(Wis.), F.R.S.C.;
Microbiology
P.H. Schuepp; Dipl.Sc.Nat.(Zür.), Ph.D.(Tor.); Agricultural Physics
R.K. Stewart; B.Sc.(Agr.), Ph.D.(Glas.); Entomology

Professors

D.M. Bird; B.Sc.(Guelph), M.Sc., Ph.D.(McG.); Wildlife Biology
P. Brown; B.A.(Haverford), M.A., Ph.D.(Columbia) (*joint appoint.
with Geography and McGill School of Environment*)
J.W. Fyles; B.Sc., M.Sc.(Vic., B.C.), Ph.D.(Alta.); Forest
Resources (*Tomlinson-Fowler Chair in Forestry*)
W.H. Hendershot; B.Sc.(Tor.), M.Sc.(McG.), Ph.D.(Br.Col.); Soil
Science

Associate Professors

B. Côté; B.Sc., Ph.D.(Laval); Forest Resources
M.A. Curtis; B.Sc., M.Sc., Ph.D.(McG.); Wildlife Biology
B.T. Driscoll; B.Sc., Ph.D.(McM.); Microbiology
G.B. Dunphy; B.Sc.(U.N.B.), M.Sc., Ph.D.(Mem.); Entomology
D.J. Lewis; B.Sc., M.Sc., Ph.D.(Mem.); Entomology
G.R. Mehuys; B.Sc., Ing.Agron.(Gembloux), Ph.D.(Calif.); Soil
Science
D.F. Niven; B.Sc., Ph.D.(Aber.); Microbiology
M.E. Rau; B.Sc.(Purdue), M.Sc., Ph.D.(McG.); Entomology
R.D. Titman; B.Sc.(McG.), M.Sc.(Bishop's), Ph.D.(U.N.B.);
Wildlife Biology
T.A. Wheeler; B.Sc.(Mem.), M.Sc., Ph.D.(Guelph); Entomology
L.G. Whyte; B.Sc.(Reg.), Ph.D.(Wat.); Microbiology

Assistant Professors

C. Buddle; B.Sc.(Guelph), Ph.D.(Alta.); Forest Insect Ecology
M. Humphries; B.Sc.(Man.), M.Sc.(Alta.), Ph.D.(McG); Wildlife
Biology
I. Strachan; B.Sc.(Tor), M.Sc., Ph.D.(Queen's); Micrometeorology
J. Whalen; B.Sc.(Agr.)(Dal.), M.Sc.(McG.), Ph.D.(Ohio St.); Soil
Science

Associate Members

L.Chan (*Dietetics and Human Nutrition*), D. Green (*Redpath
Museum*), W.D. Marshall (*Food Science and Agricultural
Chemistry*), G.J. Matlashewski (*Microbiology and Immunology*),
D.Smith (*Plant Science*)

Adjunct Professors

R. Anderson, F. Archibald, S. Beauchemin, D. Berteaux, G. Boivin,
J. Cumming, C. Greer, T. Herman, C. Miguez, P. Mineau, E.
Pattey, H. Sadar, J.P. Savard, A. Scheuhammer, G. Sunahara, C.
Vincent, F.G. Whoriskey

53.2 Programs Offered

The Department of Natural Resource Sciences offers programs leading to M.Sc. and Ph.D. degrees in Entomology, Microbiology, and Renewable Resources (includes Agrometeorology, Forest Science, Neotropical Environment, Soil Science and Wildlife Biology).

The Department possesses, or has access to, excellent facilities for laboratory research and research in the field. Affiliated with the Department are the Lyman Entomological Museum and Research Laboratory, the Molson Nature Reserve, the Morgan Arboretum, the Avian Science and Conservation Centre, and the Ecomuseum of the St. Lawrence Valley Natural History Society.

53.3 Admission Requirements

M.Sc.

Candidates are required to have a Bachelor's degree with an equivalent cumulative grade point average of 3.0/4.0 (second class-upper division) or 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

Ph.D.

Candidates, normally, are required to hold an M.Sc. degree and will be judged primarily on their ability to conduct an original and independent research study.

53.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

Department of Natural Resource Sciences (Graduate Student Office)
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada
Telephone: (514) 398-7941
Fax: (514) 398-7990
E-mail: kubecki@nrs.mcgill.ca

Applications will be considered upon receipt of a signed and completed application form, \$60 application fee, and the following supporting documents.

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted are required for admission. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written Eng-

lish, by appropriate exams, e.g., TOEFL (minimum score 550 on the paper-based test, 213 on the computer-based test) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate Schools), Biological Sciences-Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines – Applications, including all supporting documents must reach the Department of Natural Resource Sciences (Graduate Student Office) no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students – Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

53.5 Program Requirements

M.Sc. in Entomology, Microbiology or Renewable Resources (which includes Agrometeorology, Forest Science, Soil Science and Wildlife Biology)

Candidates must complete a course and research program of a minimum of 45 credits elaborated in consultation with their Super-

visory Committee. Course work (6 credits minimum) will include at least two, normally graduate-level, courses and in most research areas, at least one of these courses must be a graduate-level course in statistics. Students are required to register for three 1-credit seminar courses, the last of which will consist of a formal presentation of the student's final thesis research. Candidates must also register in the three M.Sc. Thesis Research courses (NRSC691, NRSC692, NRSC693; 36 credits) and present a satisfactory thesis based on their research.

M.Sc. in Entomology - Neotropical Environment Option

M.Sc. in Renewable Resources – Neotropical Environment Option

Candidates must complete a course and research program of a minimum of 48 credits elaborated in consultation with their Supervisory Committee. Course work (9 credits minimum) will include both ENVR610 and BIOL640, and one of POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550. Students may also require a graduate-level course in statistics. Participation in the MSE-Panama Symposium Presentation in Montreal is required. Students are required to register for three one-credit seminar courses, the last of which will consist of a formal presentation of the student's final thesis research. Candidates must also register in the three M.Sc. Thesis Research courses (NRSC691, NRSC692, NRSC693; 36 credits) and present a satisfactory thesis based on their research.

Ph.D. in Entomology, Microbiology, or Renewable Resources (which includes Agrometeorology, Forest Science, Soil Science and Wildlife Biology)

Course requirements are specified by the staff in the discipline but are flexible and depend largely on the student's background, immediate interests, and ultimate objectives. Students are required to register for four one-term seminar courses (NRSC751, NRSC752, NRSC753, NRSC754).

Also required are satisfactory performance in the Ph.D. Comprehensive Examination (NRSC701) and the presentation, and subsequent defence, of a satisfactory thesis based on the student's research.

Ph.D. in Entomology - Neotropical Environment Option

Ph.D. in Renewable Resources – Neotropical Environment Option

Course requirements are specified by the staff in the discipline but are flexible and depend largely on the student's background, immediate interests, and ultimate objectives. In this program course work will include both ENVR610 and BIOL640, and one of POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550. Participation in the MSE-Panama Symposium Presentation in Montreal is required. Students are required to register for four seminar courses (NRSC751, NRSC752, NRSC753 and NRSC754).

Also required are satisfactory performance in the Ph.D. Comprehensive Examination (NRSC701) and the presentation, and subsequent defence, of a satisfactory thesis based on the student's research.

53.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

ENTO 515 PARASITOID BEHAVIOURAL ECOLOGY. (3) (Winter) (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) (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)

ENTO 550 VETERINARY AND MEDICAL ENTOMOLOGY. (3) (Winter) (Prerequisite: Permission of instructor) (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.

ENTO 600 INSECT PATHOLOGY. (3)

ENTO 610 INSECT PHYLOGENY AND DIVERSITY. (3) (Winter)

ENTO 615 FOREST ENTOMOLOGY. (3) (Winter) (Prerequisite: Permission of the instructor.) Current topics in forest entomology.

ENTO 726 INSECT POPULATION DYNAMICS. (3)

MICR 772 ADVANCED MICROBIAL GENETICS. (3) (Restriction: Not open to students who have successfully completed NRSC 772)

MICR 773 ADVANCED MICROBIAL PHYSIOLOGY. (3) (Not open to students who have successfully completed NRSC 773)

NRSC 510 AGRICULTURAL MICROMETEOROLOGY. (3) (Fall) (3 lectures) (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 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.

NRSC 643 GRADUATE SEMINAR 2. (1) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Open to students in the M.Sc. Program. Presentation on a selected topic, research proposal, or research results based on progress towards the M.Sc. degree.

NRSC 644 GRADUATE SEMINAR 2. (1) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Open to students in the M.Sc. Program. Presentation on a selected topic, research proposal, or research results based on progress towards the M.Sc. degree.

NRSC 651 GRADUATE SEMINAR 3. (1) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Open to students in the M.Sc. Program. Presentation of an M.Sc. student's final thesis results.

NRSC 680 SPECIAL TOPICS 1. (1) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 681 SPECIAL TOPICS 2. (1) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 682 SPECIAL TOPICS 3. (2) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 683 SPECIAL TOPICS 4. (2) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 684 SPECIAL TOPICS 5. (3) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 685 SPECIAL TOPICS 6. (3) Students pursue topics not otherwise available in formal courses, under staff supervision.

NRSC 691 M.Sc. THESIS RESEARCH 1. (12) Independent research under the direction of a supervisor towards the completion of the M.Sc. degree.

NRSC 692 M.Sc. THESIS RESEARCH 2. (12) Independent research under the direction of a supervisor towards the completion of the M.Sc. degree.

NRSC 693 M.Sc. THESIS RESEARCH 3. (12) Completion of the M.Sc. thesis, its approval by reviewers and acceptance by the Graduate and Postdoctoral Studies Office all required for a pass to be granted.

NRSC 701 PH.D. C COMPREHENSIVE EXAMINATION. (0)

NRSC 751 GRADUATE SEMINAR 4. (0) (Open to students in the Ph.D. Program) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Presentation on a selected topic, research proposal or research results based on progress in the Ph.D. degree.

NRSC 752 GRADUATE SEMINAR 5. (0) (Open to students in the Ph.D. Program.) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Presentation on a selected topic, research proposal or research results based on progress in the Ph.D. degree.

NRSC 753 GRADUATE SEMINAR 6. (0) (Open to students in the Ph.D. Program.) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Presentation on a selected topic, research proposal or research results based on progress in the Ph.D. degree.

NRSC 754 GRADUATE SEMINAR 7. (0) (Open to students in the Ph.D. Program.) (Section 001 Agrometeorology, Forest Science and Soil Science students) (Section 002 Entomology and Wildlife Biology students) (Section 003 Microbiology students) Presentation on a selected topic, research proposal or research results based on progress in the Ph.D. degree.

SOIL 521 SOIL MICROBIOLOGY AND BIOCHEMISTRY. (3) (Not open to students who have taken NRSC 521)

SOIL 602 ADVANCED SOIL ECOLOGY 1. (3) Discussion of significant research in soil ecology including transformations of soil organic matter and nutrients, ecological and pedological functions of soil organisms, soil food webs, plant-soil biota interactions, and analytical techniques for monitoring soil organisms.

SOIL 603 ADVANCED SOIL ECOLOGY 2. (3) Discussion of significant research in soil ecology including the occurrence and activity of soil organisms, methods of monitoring and manipulating soil biota for soil fertility management, and human impacts on soil biota at different scales in the environment.

SOIL 610 PEDOLOGY. (3) Processes of profile development, principles of classification, comparative taxonomy, U.S. and Canadian systems.

SOIL 630 SOIL MINEROLOGY. (3) (2 lectures per week, one term)

SOIL 631 ADVANCED SOIL PHYSICS. (3) (2 lectures per week, one term) State and fluxes of matter and energy in the soil. Applications to movement of water, salts, nutrients; diffusion of gases; heat transfer. Discussion of significant research in soil physics.

WILD 605 WILDLIFE ECOLOGY. (3) (2 class hours per week) Discussion of current topics in wildlife ecology with special reference to the research interests of staff and students involved.

WILD 610 FISH ECOLOGY. (3) (3 class hours per week) A critical examination of current topics in fish ecology; discussion of migra-

tion, reproductive strategies, sex determination mechanisms, competition, communication and predator-prey relationships.

WOOD 640 RECENT ADVANCES: TREE ECOPHYSIOLOGY. (3) (3 lectures per week) Discussion of the effects of environmental factors on the physiology of trees. Both anthropogenic and natural factors will be discussed.

WOOD 660 RECENT ADVANCES: FOREST ECOLOGY. (3) (2 hours seminar) Review and discussion of current literature in forest ecology. Topics covered will depend on the research interests of students and may include population biology of forest plants, forest succession, forest nutrition and nutrient cycling, computer modelling of forest systems.

54 Neurology and Neurosurgery

GRADUATE PROGRAM IN NEUROLOGICAL SCIENCES

Division of Neuroscience
Department of Neurology and Neurosurgery
Departments of Psychiatry, Ophthalmology, and Anesthesia
Montreal Neurological Institute, Room 141
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Montreal, QC H3A 2B4
Canada

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Web site: www.mcgill.ca/gpns

Chair, Graduate Program in Neurological Sciences — H. Durham

Chair, Dept. of Neurology and Neurosurgery — R. Riopelle

54.1 Staff

Professors

A. Aguayo; M.D.(Cordoba Natn.), F.R.C.P.(C)
E. Andermann; M.D., C.M., M.Sc., Ph.D.(McG.)
F. Andermann; B.A.(Paris), B.Sc., (McG.), M.D.(Montr.), F.R.C.P.(C)
J. Antel; M.D., B.Sc.(Man.), F.R.C.P.(C)
D. Arnold; B.Sc., M.D.(C'neil), F.R.C.P.(C) (*James McGill Professor*)
M. Avoli; M.D.(Rome), Ph.D.(McG.)
A. Beaudet; B.A., M.D., Ph.D.(Mont.)
C. Bourque; B.Sc.(Ott.), Ph.D.(McG.)
G. Bray; B.Sc.(Bran.), M.D., B.Sc.(Man.), F.R.C.P.(C)
S. Carbonetto; M.Sc.(Mass.), Ph.D.(N.Carolina)
D. Colman; Ph.D.(SUNY)
S. David; Ph.D.(Man.)
R. Del Maestro; M.D.(W. Ont.), Ph.D.(Uppsala), F.R.C.S.(C), D.A.B.N.S., F.A.C.S.
M. Diksic; B.Sc., Ph.D.(Zagreb)
P. Drapeau; B.Sc., Ph.D.(McG.)
J.R. Dunn; B.Sc., Ph.D.(U.B.C.)
H. Durham; M.Sc.(W. Ont.), Ph.D.(Alta.)
A. Evans; M.Sc.(Sur.), Ph.D.(Leeds)
J.P. Farmer; M.D., M.Sc.(McG.), F.R.C.P.(C)
S.G. Gauthier; B.A., M.D.(Montr.), F.R.C.P.(C)
J. Gotman; M.Eng.(Dart.), Ph.D.(McG.)
D. Guitton; Dipl. IVK(U. Libre de Brux.), B.Eng., M.Eng., Ph.D.Eng., Ph.D.Physiol.(McG.)
E. Hamel; B.Sc.(Sher.), Ph.D.(Montr.)
P.C. Holland; B.A.(Lanc.), Ph.D.(N'cle)
B. Jones; B.A., M.A., Ph.D.(Delaware)
M. Jones-Gotman; B.A.(Calif.), M.A., Ph.D.(McG.)
G. Karpati; M.D.(Dal.), F.R.C.P.(C)
R. Leblanc; M.Sc.(McG.), M.D.(Ott.), F.R.C.S.(C)
B. Milner; B.A., Sc.D.(Cantab.), Ph.D.(McG.)
G. Mohr; M.D.(Stras.)
A. Olivier; M.D.(Montr.), Ph.D.(Laval), F.R.C.S.(C)
T. Owens; M.Sc.(McG.), Ph.D.(Ott.)

M. Petrides; B.Sc., M.Sc.(Lond.), Ph.D.(Cantab.) (*James McGill Professor*)
M. Rasminsky; B.A.(Tor.), M.D.(Harv.), Ph.D.(Lond.), F.R.C.P.(C)
J. Richardson; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)
R.J. Riopelle; M.D.(Ott.), F.R.C.P.(C)
G. Rouleau; M.D.(Ott.), F.R.C.P.(C)
H. Schipper; M.D., Ph.D.(McG.)
E. Shoubridge; M.Sc., Ph.D.(U.B.C.)
J.D. Stewart; B.Sc.(Lond.), M.B., B.S.(W.I.), F.R.C.P.(C)
G. Tannenbaum; M.Sc., Ph.D.(McG.)
C. Thompson; M.Sc., D.Sc.(N.Z.)
G. Watters; B.A.(Minn.), M.D.(Man.), F.R.C.P.(C)
R.J. Zatorre; A.B.(Boston), M.Sc., Ph.D.(Brown)

Associate Professors

A. Alonso; M.S.(Barcelona), Ph.D.(Madrid) M. Aubé; B.A., M.D.(Montr.), F.R.C.P.(C)
P. Barker; Ph.D.(Alta.), B.Sc.(S. Fraser)
S. Bekhor; M.B., Ch.B.(Baghdad), F.R.C.P.(C)
J. Carlton; B.S., M.D.(Johns H.), F.R.C.P.(C)
C. Chalk; B.Sc.(Queen's), M.D., C.M.(McG.) F.R.C.P.(C)
H. Chertkow; M.D.(W. Ont.), F.R.C.P.(C)
R. Cote; M.D.(Montr.), F.R.C.P.(C)
A. Dagher; M.Eng.(McG.), M.D.(Tor.), F.R.C.P.(C)
F. Dubeau; M.D.(Montr.), F.R.C.P.(C)
K. Hastings; B.Sc., Ph.D.(McG.)
T. Kennedy; B.Sc.(McM.), Ph.D.(Col.)
Y. Lapierre; B.A., M.D.(Montr.), F.R.C.P.(C)
A. Leblanc; M.Sc.(Moncton), Ph.D.(Dal.)
I. Libman; B.A., M.D., C.M.(McG.), F.R.C.P.(C)
P. McPherson; M.Sc.(Man.), Ph.D.(Iowa) (*William Dawson Scholar*)
D. Melançon; B.A., M.D.(Montr.)
C. Melmed; B.Sc., M.D.(Man.), F.R.C.P.(C)
J. Minuk; M.D.(Man.), F.R.C.P.(C)
J. Montes; B.Sc.(Inst.Pot.-Mex.), M.D.(Uoio.Auto.de San Luis Pot.-Mex)
J. Nalbantoglu; B.Sc., Ph.D.(McG.)
A. O'Gorman; M.D.(Ireland)
T. Paus; M.D.(Purkyne U./Czechoslovakia), Ph.D.(Czech. Acad. of Sciences/Prague)
A. Peterson; B.Sc.(Vic., B.C.), Ph.D.(U.B.C.)
B. Pike; B.Eng.(Mem.), M.Eng., Ph.D.(McG.) (*William Dawson Scholar*)
A. Ptito; Ph.D.(Montr.)
D. Ragsdale; B.S.(Ill.), Ph.D.(Calif.)
B. Rosenblatt; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
A. Sadikot; M.D., C.M.(McG.), Ph.D.(Laval), F.R.C.S.(C)
G. Savard; M.D.(Montr.), F.R.C.P.(C)
R. Schondorf; M.Sc., Ph.D., M.D., C.M.(McG.), F.R.C.P.(C)
P. Séguéla; Ph.D.(Bord.), Ph.D.(Montr.)
M. Shevell; B.Sc., M.D.(Vanderbilt)
W. Sossin; S.B.(M.I.T.), Ph.D.(Stan.)
S. Stifani; Ph.D.(Rome); Ph.D.(Alta)
D. Tampieri; M.D.(Bologna)
J. Teitelbaum; M.D.(Montr.), F.R.C.P.(C)
J. Woods; M.B., B.Ch.(Dub.), M.Sc.(McG.), F.R.C.P.(C)

Assistant Professors
M. Angle; M.D., C.M.(McG.), F.R.C.P.(C)
J. Atkinson; M.D.,(Tor.) F.R.C.S.C.
A. Bar-Or; M.D., C.M.(McG.); F.R.C.P.(C), D.A.B.N.P.
A. Bernasconi; M.D.(Basel U.)
L. Collins; M.Eng., Ph.D.(McG.)
M.-E. Dilenge; M.D.(Sher.), F.R.C.P.(C)
L. Durcan; M.D.(Man.), F.R.C.P.(C)
E. Fon; M.D.(Montr.), F.R.C.P.(C)
A. Fournier; B.Sc., Ph.D.(McG.)
D. Gendron; M.D.(Laval), F.R.C.P.(C)
A. Genge; B.Sc.(Dal.), B.Med.Sc., M.D.(Mem.), F.R.C.P.(C)
B. Goulet; M.D.(Laval), F.R.C.S.(C)
M.-C. Guiot; B.Sc. (Acad. de Bordeaux), M.D. (U. de Bordeaux II)
L. Jacques; B.Sc.(Laval), M.Sc., M.D.(Montr.), F.R.C.P.(C)
K. Johnston; Ph.D., M.D.(Tor.), F.R.C.S.(C)

D. Klein; B.A., Ph.D.(U. of Witwatersrand/S. Africa)
 A. Koch; M.Sc. (Freiburg), Ph.D. (Basel)
 T. Kolivakis; M.D., C.M. (McG.), F.R.C.P.C.
 A.L. Lafontaine; M.Sc.(McG.), M.D.(McM.), F.R.C.P.(C)
 M. Lechter; B.Sc.(McG.), M.D., Ph.D.(Queen's)
 G. Leonard; Ph.D.(McG.)
 M. Maleki, M.D.(Iran), F.R.C.S.(C)
 E. Meyer; M.Sc.(Montr.), Ph.D.(McG.)
 F. Moore; B.Sc. (Queen's); M.D. (Alta), F.R.C.P.C.
 K. Murai; Ph.D. (Calif.)
 S. Mzengeza; M.Sc.(E. Anglia), Ph.D.(Queen's)
 M. Panisset; M.D.(Montr.)
 H. Paudel; Ph.D.(Okla.), M.Sc.(Nepal)
 L. Pedraza; Ph.D. (Cordoba)
 C. Poulin; M.D.(Laval), F.R.C.P.(C)
 Y. Rao; B.Sc.(China), Ph.D.(Tor.)
 J.-P. Roy; M.D.(Laval), F.R.C.P.(C)
 J. Rubin; B.Sc., M.D.,C.M.(McG.), D.A.M.P.& N.
 F. Salevsky; M.Sc., M.D.(Alta.), F.R.C.P.(C)
 W. Shan; Ph.D. (Beijing Medical U.)
 D. Sinclair; M.D.(Dal.), F.R.C.S.(C)
 C. Sirard; M.Sc.(Montr.), Ph.D.(Tor.)
 D. Sirhan; M.D.(Montr.), F.R.C.S.(C)
 L. Soualmi; Ph.D. (École Poly.)
 A. Strafella; M.D., Ph.D. (Bologna)
 V. Sziklas; Ph.D.(McG.)
 D. Trojan; M.D.(Conn.)
 D. van Meyel; Ph.D. (W. Ont.)
 M. Veilleux; M.D.(Sher.), F.R.C.P.(C)
 L. Viera, B.Sc.(Wat.), M.D.(Ott.) F.R.C.S.(C)
 F. Wein, M.D.,C.M.(McG.) F.R.C.S.(C)
 T. Wein; M.D.(Vt.), F.R.C.P.(C)

Lecturers

S. Antel; M.Sc. (Rensselaer Polytechnic Inst.), Ph.D. (McG.)
 S. Chouinard; M.D.(Montr.), F.R.C.P.(C)
 D. Diorio; M.D.(Tor.), M.Sc.(McG.)
 N. Dupré; M.Sc. (Laval); M.D.,C.M. (McG.), F.R.C.P.C.
 E. Marmor; M.D.,C.M. (McG.), M.Sc. (Tor.), F.R.C.S.C.
 S. Narayanan; Ph.D. (McG.)
 R. Roberts; M.D., Ph.D. (Dal.), F.R.C.P.C.
 T. Stroh; Ph.D.(Max Planck Inst.)
 W. Vanast; M.D.(Tor.), F.R.C.P.(C)
 C. Whatmough; Ph.D. (Montr.)

Associate Members

J. Armony, C. Baker, S. Beaulieu, C. Benkelfat, G. Bennett,
 D.Boivin, P. Boksa, P. Braun, C. Bushnell, N. Cermakian,
 J.Chankowsky, D. Chartrand, T. Coderre, B. Collier, K. Cornish,
 C. Cuello, K. Cullen, G. Debonnel, B. Debruille, C. de Montigny,
 R.Del Carpio, R. Dykes, J.P.A. Gratton, Y. Grodzinsky,
 D.Haegert, R. Hess, R. Joobar, F. Kingdom, P. Lachapelle,
 M.Lepage, M. Leyton, G. Luheshi, S. Lupien, A. Majnemer,
 M.Meaney, K. Mullen, B. Petrof, J. Poirier, R. Quirion, J. Rochford,
 L. Srivastava, G. Turecki, C.D. Walker, S. Williams, C. Wolfson,
 K.Worsley, S. Young

Adjunct Professors

Z. Argov, S. Berkovic, M. Castro Alamancos, F. Cendes, N. De
 Stefano, L. Descarries, J. Doyon, G. Duncan, M. Edwards,
 M.Ferns, R. Gilbert, A. Gjedde, R. Gunn, J. Hardy, C. Holmes,
 J.-P.Julien, S. Kalra, D. Kaplan, P. Matthews, L. McKerracher,
 F.Miller, M. Molnar, M. Pandolfo, T. Peters, M. Ptito,
 L.F.Quesney, Y. Robitaille

54.2 Programs Offered

M.Sc. and Ph.D. in Neurological Sciences.

54.3 Admission Requirements**General**

The applicant must be a university graduate and hold a Bachelor's degree in a field related to the subject selected for graduate work.

The applicant must present evidence of high academic achievement. A standing equivalent to a cumulative grade point average of 3.0 out of a possible 4.0 is required by the Graduate and Postdoctoral Studies Office; however, the program prefers applicants to show a higher academic standing, and requires a minimum GPA of 3.3.

Applicants with degrees from a non-Canadian university must submit results of the GRE exam with their application.

Applicants whose undergraduate studies were carried out in a language other than English must submit results of the TOEFL exam with their application and have a score of 600 on the paper-based test (250 on the computer-based test) or higher.

M.Sc. Degree

Bachelor's degree with adequate background in basic sciences, or an M.D.

Ph.D. Degree

M.Sc. in a related field, or an M.D. with post-graduate training or enrolled in M.D.-Ph.D. program

54.4 Application Procedures

Applications will be considered upon receipt of:

1. application form,
2. transcripts,
3. letters of reference,
4. \$60 application fee,
5. TOEFL test results,
6. GRE test results.

All information is to be submitted to above address.

Deadlines:

September entrance –
 paper and on-line applications (www.mcgill.ca/applying/graduate) available.

- on-line application deadline: May 1
- paper application deadline:
 May 1 (February 1 for International candidates)

January entrance –

September 15 (June 1 for International candidates).

To meet the diversity of individual interests and backgrounds, the graduate program for each student is designed at the time of entry. As part of the admission process each applicant will identify, with the participation of the prospective thesis supervisor and the Graduate Studies Committee, a research thesis topic and the course work necessary to complete the training deemed necessary for the degree sought. These decisions become an integral part of the graduation requirements for the student.

54.5 Program Requirements**GENERAL**

1. Students must select an Advisory Committee, in conjunction with their thesis supervisor. This committee will consist of the thesis supervisor and two other individuals who will participate in discussions with students about their research program.
2. Students are required to submit a written thesis proposal to the Graduate Studies Committee (at the end of their first year for M.Sc. students, and at least one month prior to the Candidacy Examination for Ph.D. students). This document must state the hypothesis being tested, the relevant literature, and a summary of the methods that will be used to address the research question. This proposal will then be orally presented to the student's Advisory Committee which will also review the written

- proposal and communicate its recommendations to the student and the Graduate Studies Committee.
- Students will present a formal seminar on their research work prior to writing their thesis. This presentation will be attended by the student's Advisory Committee and members of the Graduate Studies Committee who will report their impressions and recommendations to the student.
 - An annual oral informal presentation of research work accomplished will be presented to the student's Advisory Committee which in turn presents its report to the Graduate Studies Committee.

M.Sc. DEGREE

Course requirements:

Student with a B.Sc., B.A. or M.D. degree: A minimum of 45 credits distributed as follows:*

- Principles of Neuroscience 1 course: NEUR630 and either Principles of Neuroscience 2: NEUR631 or CNS course: NEUR610;
- 6 credits in other graduate level specialty courses relevant to program;
- 9 credits in Master's project Proposal: NEUR697 (first term of studies)
- 9 credits in Master's Seminar Presentation: NEUR698 (second term of studies)
- 12 credits in Master's Thesis Submission: NEUR699 (third term of studies)

Upon recommendation, depending upon their particular background and needs, students may be requested to take additional selected courses.

Any remaining credits needed to complete the minimum 45 credits required may be chosen from the following: Master's Thesis Research 1: NEUR695 (3 credits); Master's Thesis Research 2: NEUR696 (6 credits).

* Please note that all M.Sc. level students must register for a minimum of 12 credits a term during the first three terms of their Master's program.

Research requirements:

Presentation of a thesis in a subfield of neuroscience. The thesis must be based upon the research of the student. While not necessarily requiring an exhaustive review of work in a particular field, or a great deal of original scholarship, the thesis must show familiarity with previous work in the field and must demonstrate the ability of the candidate to carry out research and to organize results, all of which must be presented in good literary style. The Graduate Studies Committee expects the student's research should be of sufficient quality for publication in a peer-reviewed journal. A seminar on the thesis topic is given prior to writing the thesis, and each year, a report from the student's Advisory Committee is required by the graduate Studies Committee.

Residence requirements:

Three terms of full-time study.

PH.D. DEGREE

Course requirements:

Students with an M.Sc. degree continuing in this Department have no required courses. It may be recommended that they take specialty courses related to their field of study in neuroscience. Students with an M.Sc. degree from another program will be required to take NEUR630 and NEUR631 and/or other courses listed under the M.Sc. degree depending upon their background and field of study.

Students with an M.D. degree proceeding directly into a Ph.D. program will be required to take NEUR630 and NEUR631.

Recently graduated M.D.s should have the equivalent of NEUR610, and may be granted equivalence. They will also be required to take 6 credits of graduate level courses.

Doctoral Candidacy Examination (NEUR700)

All students registering directly into the Ph.D. program on or after September 1998, regardless of prior degrees from McGill or any

other academic institutions, must complete the Doctoral Candidacy Examination within 18 months of initial registration in the Program. This is a qualifying examination consisting of a formal presentation and oral examination of the thesis proposal. The questioning will pertain to the student's knowledge and understanding of his/her field of specialization in neuroscience as well as the research proposal. Its primary purpose is to evaluate the student's ability to carry out original scholarship.

The Candidacy Examination will be conducted in conjunction with the Transfer seminar for all students currently registered in the M.Sc. program who apply for transfer to the Ph.D.

Research requirements:

Presentation of a thesis in a subfield of neuroscience. The thesis must display original scholarship expressed in satisfactory literary style and must be a distinct contribution to knowledge. After the thesis has been submitted to, and approved by the Graduate and Postdoctoral Studies Office, a final oral exam will be held on the subject of the thesis and subjects immediately related to it.

Residence requirements:

Three years of resident study of which one year may be completed in the Master's program.

54.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

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 602 NEUROSCIENCE SEMINAR 1. (3) (Prerequisite: Permission of Unit Instructor) (Offered alternate years - odd numbered years)

NEUR 603 NEUROSCIENCE SEMINAR 2. (3) (Offered alternate years - even numbered years)

NEUR 604 NEUROSCIENCE SEMINAR 3. (3) (Offered alternate years - odd numbered years) (Prerequisites: NEUR 630, NEUR 631 or NEUR 610; and permission of instructor) (Enrolment limited to 12)

NEUR 605 NEUROSCIENCE SEMINAR 4. (3) (Offered alternate years - odd numbered years) This course focuses on neuronal development and maturation from a molecular aspect. We introduce various model organisms and systems that are used to study molecular aspects of development, explore their particular advantages and explore the cellular and molecular events that contribute to the development of the nervous system.

NEUR 610 CENTRAL NERVOUS SYSTEM. (5) An interdisciplinary course including lectures in neuroanatomy and neurophysiology; laboratories in neuroanatomy, and clinical problems and demonstrations in neurology.

NEUR 630 PRINCIPLES OF NEUROSCIENCE 1. (3) (Prerequisites: BIOL 200 and BIOL 201 or equivalent; permission of instructor) An overview of cellular and molecular neuroscience at the graduate level. Topics include: synthesis, processing and intracellular transport of macromolecules; development of the nervous system including neurogenesis, axonal pathfinding, synaptogenesis and myelination; neuronal survival and response to injury; generation and propagation of action potentials; neurotransmitters and synaptic transmission.

NEUR 631 PRINCIPLES OF NEUROSCIENCE 2. (3) (Prerequisite: Permission of instructor; basic knowledge of mechanisms of neu-

rotransmission and signal transduction.) An overview of the structure, function and interaction of neuronal systems of vertebrates. Topics include basic neuroanatomy, coding and processing of sensory information (somatic sensory, visual and auditory systems), control of posture and voluntary movement, learning and memory, processing of language and speech, cerebral blood flow, the neuroendocrine system and neuroimmunology.

NEUR 695 MASTER'S THESIS RESEARCH 1. (3) Independent work under the direction of the student's supervisor.

NEUR 696 MASTER'S THESIS RESEARCH 2. (6) Independent work under the direction of the student's supervisor.

NEUR 696D1 (3), NEUR 696D2 (3) MASTER'S THESIS RESEARCH 2. (Students must register for both NEUR 696D1 and NEUR 696D2) (No credit will be given for this course unless both NEUR 696D1 and NEUR 696D2 are successfully completed in consecutive terms) (NEUR 696D1 and NEUR 696D2 together are equivalent to NEUR 696) Independent work under the direction of the student's supervisor.

NEUR 696N1 MASTER'S THESIS RESEARCH 2. (3) (Students must also register for NEUR 696N2) (No credit will be given for this course unless both NEUR 696N1 and NEUR 696N2 are successfully completed in a twelve month period) (NEUR 696N1 and NEUR 696N2 together are equivalent to NEUR 696) Independent work under the direction of the student's supervisor.

NEUR 696N2 MASTER'S THESIS RESEARCH 2. (3) (Prerequisite: NEUR 696N1) (No credit will be given for this course unless both NEUR 696N1 and NEUR 696N2 are successfully completed in a twelve month period) (NEUR 696N1 and NEUR 696N2 together are equivalent to NEUR 696) See NEUR 696N1 for course description.

NEUR 697 MASTER'S PROJECT PROPOSAL. (9) (M.Sc. students only) Presentation of a written thesis proposal by the end of the first year in the program. This document stating the hypothesis being tested, relevant literature and methodology will be orally presented to the student's Advisory Committee which will also review the written proposal and communicate its recommendations to the student and the Graduate Studies Committee.

NEUR 697D1 (4.5), NEUR 697D2 (4.5) MASTER'S PROJECT PROPOSAL. (Students must register for both NEUR 697D1 and NEUR 697D2) (No credit will be given for this course unless both NEUR 697D1 and NEUR 697D2 are successfully completed in consecutive terms) (NEUR 697D1 and NEUR 697D2 together are equivalent to NEUR 697) Presentation of a written thesis proposal by the end of the first year in the program. This document stating the hypothesis being tested, relevant literature and methodology will be orally presented to the student's Advisory Committee which will also review the written proposal and communicate its recommendations to the student and the Graduate Studies Committee.

NEUR 697N1 MASTER'S PROJECT PROPOSAL. (4.5) (Students must also register for NEUR 697N2) (No credit will be given for this course unless both NEUR 697N1 and NEUR 697N2 are successfully completed in a twelve month period) (NEUR 697N1 and NEUR 697N2 together are equivalent to NEUR 697) Presentation of a written thesis proposal by the end of the first year in the program. This document stating the hypothesis being tested, relevant literature and methodology will be orally presented to the student's Advisory Committee which will also review the written proposal and communicate its recommendations to the student and the Graduate Studies Committee.

NEUR 697N2 MASTER'S PROJECT PROPOSAL. (4.5) (Prerequisite: NEUR 697N1) (No credit will be given for this course unless both NEUR 697N1 and NEUR 697N2 are successfully completed in a twelve month period) (NEUR 697N1 and NEUR 697N2 together are equivalent to NEUR 697) See NEUR 697N1 for course description.

NEUR 698 MASTER'S SEMINAR PRESENTATION. (9) Student's presentation of a thesis research seminar. In this seminar, the student shall explain the direction of his/her research and present his/her findings to date. The presentation shall take approximately 30 to 45 minutes and shall be followed by a question period. This semi-

nar will be attended by the Graduate Studies Committee, the student's Advisory Committee, and interested observers.

NEUR 698D1 (4.5), NEUR 698D2 (4.5) MASTER'S SEMINAR PRESENTATION. (Students must register for both NEUR 698D1 and NEUR 698D2) (No credit will be given for this course unless both NEUR 698D1 and NEUR 698D2 are successfully completed in consecutive terms) (NEUR 698D1 and NEUR 698D2 together are equivalent to NEUR 698) Student's presentation of a thesis research seminar. In this seminar, the student shall explain the direction of his/her research and present his/her findings to date. The presentation shall take approximately 30 to 45 minutes and shall be followed by a question period. This seminar will be attended by the Graduate Studies Committee, the student's Advisory Committee, and interested observers.

NEUR 698N1 MASTER'S SEMINAR PRESENTATION. (4.5) (Students must also register for NEUR 698N2) (No credit will be given for this course unless both NEUR 698N1 and NEUR 698N2 are successfully completed in a twelve month period) (NEUR 698N1 and NEUR 698N2 together are equivalent to NEUR 698) Student's presentation of a thesis research seminar. In this seminar, the student shall explain the direction of his/her research and present his/her findings to date. The presentation shall take approximately 30 to 45 minutes and shall be followed by a question period. This seminar will be attended by the Graduate Studies Committee, the student's Advisory Committee, and interested observers.

NEUR 698N2 MASTER'S SEMINAR PRESENTATION. (4.5) (Prerequisite: NEUR 698N1) (No credit will be given for this course unless both NEUR 698N1 and NEUR 698N2 are successfully completed in a twelve month period) (NEUR 698N1 and NEUR 698N2 together are equivalent to NEUR 698) See NEUR 698N1 for course description.

NEUR 699 MASTER'S THESIS SUBMISSION. (12) Submission of a Master's thesis.

NEUR 699D1 (6), NEUR 699D2 (6) MASTER'S THESIS SUBMISSION. (Students must register for both NEUR 699D1 and NEUR 699D2) (No credit will be given for this course unless both NEUR 699D1 and NEUR 699D2 are successfully completed in consecutive terms) (NEUR 699D1 and NEUR 699D2 together are equivalent to NEUR 699) Submission of a Master's thesis.

NEUR 699N1 MASTER'S THESIS SUBMISSION. (6) (Students must also register for NEUR 699N2) (No credit will be given for this course unless both NEUR 699N1 and NEUR 699N2 are successfully completed in a twelve month period) (NEUR 699N1 and NEUR 699N2 together are equivalent to NEUR 699) Submission of a Master's thesis.

NEUR 699N2 MASTER'S THESIS SUBMISSION. (6) (Prerequisite: NEUR 699N1) (No credit will be given for this course unless both NEUR 699N1 and NEUR 699N2 are successfully completed in a twelve month period) (NEUR 699N1 and NEUR 699N2 together are equivalent to NEUR 699) See NEUR 699N1 for course description.

NEUR 700 DOCTORAL CANDIDACY EXAMINATION. (0) () A qualifying examination consisting of a formal presentation and oral examination of the thesis proposal. The questioning will pertain to the student's knowledge and understanding of his/her field of specialization in neuroscience as well as the research proposal. Its primary purpose is to evaluate the student's ability to carry out original scholarship. (The Candidacy Examination course is also conducted as part of the Transfer seminar for all students currently registered in the M.Sc. program who apply for transfer to the Ph.D.)

NEUR 700D1 (0), NEUR 700D2 (0) DOCTORAL CANDIDACY EXAMINATION. (Students must register for both NEUR 700D1 and NEUR 700D2) (No credit will be given for this course unless both NEUR 700D1 and NEUR 700D2 are successfully completed in consecutive terms) (NEUR 700D1 and NEUR 700D2 together are equivalent to NEUR 700) A qualifying examination consisting of a formal presentation and oral examination of the thesis proposal. The questioning will pertain to the student's knowledge and understanding of his/her field of specialization in neuroscience as well as

the research proposal. Its primary purpose is to evaluate the student's ability to carry out original scholarship. (The Candidacy Examination course is also conducted as part of the Transfer seminar for all students currently registered in the M.Sc. program who apply for transfer to the Ph.D.)

COURSES IN OTHER DEPARTMENTS

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

Biology

BIOL 532 Developmental Neurobiology Seminar. (3)

BIOL 588 Molecular/Cellular Neurobiology. (3)

Dentistry

DENT 654 Mechanisms and Management of Pain. (3)

Physiology

PHGY 520 Ion Channels. (3)

PHGY 556 Topics in Systems Neuroscience. (3)

Psychiatry

PSYT 500 Advances: Neurobiology of Mental Disorders. (3)

PSYT 630 Statistics for Neurosciences. (3)

Psychology

PSYC 526 Advances in Visual Perception. (3)

PSYC 710 Comparative and Physiological Psychology. (3)

55 Nursing

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Web site: www.nursing.mcgill.ca

Associate Dean of Medicine and Director — S.E. French

Associate Director of Research — C.C. Johnston

55.1 Staff

Emeritus Professor

Elizabeth C. Logan; N., B.Sc.(Acadia), M.Sc.(Yale)

Professors

Nancy Frasure-Smith; B.A., Ph.D.(JohnsH.) (part-time)

Susan E. French; N., B.N.(McG.), M.S.(Boston), Ph.D.(Tor.)

LaurieN. Gottlieb; N., B.N., M.Sc.(A.), Ph.D.(McG.)

(ShawProfessor of Nursing)

C. Celeste Johnston; N., M.S.(Boston), B.N., D.Ed.(McG.) (*James McGill Professor*)

Associate Professors

Franco Carnevale; N., B.Sc.(N), M.Sc.(A.), M.Ed., M.Sc., Ph.D.(McG.)

Linda Edgar; N., B.N.Sc.(Queen's), M.Sc.(A), Ph.D.(McG.)

Hélène Ezer; N., B.Sc.(N), M.Sc.(A.)(McG.), Ph.D. (Montr.)

Omaima Mansi; N., B.Sc.N.(Alexandria), M.Sc.(A.)(McG.)

Carolyn J. Pepler; N., B.N.Sc.(Queen's), M.Sc.N.(Wayne St.), Ph.D.(Mich.) (part-time)

Judith Ritchie; N., M.N., Ph.D.(Pitt.)

Assistant Professors

Antonia Arnaert; N., M.P.H.(K.U.L.), M.P.A.(EHSAL), Ph.D.(K.U.L.)

Marcia Beaulieu; N., B.Sc., M.Sc.(A.), Ph.D.(McG.)

Anita J. Gagnon; N., B.Sc.N., M.P.H., Ph.D.(McG.)

Carmen G. Loiselle; N., B.Sc.(N.)(Montr.), M.S., Ph.D.(Wis.-Madison)

Margaret Purden; N., B.Sc.(N), Ph.D.(McG.)

Lecturers

Madeleine M. Buck; N., Kathryn Carnaghan-Sherrard; N., Cindy Dalton; N., Nancy Feeley; N., Shari Patricia Gagné, N., Catherine P. Gros; N.

Associate Member

Robin Cohen

55.2 Programs Offered

Master's Program: Master of Science (Applied)

The objective of this program is to prepare specialists in nursing able to participate in the development, implementation and management of services in all domains of health care. Opportunity is provided for the advanced clinical study of nursing, and for incorporating research and evaluation methods in the investigation of nursing problems.

Program revisions under consideration for September 2004 consist of an increasing emphasis on specialization in areas including family health care, cancer nursing, neuroscience nursing and critical care nursing. Selected nurse practitioner options are also being considered.

Doctoral Studies: Ph.D. in Nursing

The School of Nursing of McGill University and the Faculté des Sciences Infirmières of the Université de Montréal offer a joint doctorate program leading to a Ph.D. in Nursing. This program is offered in English at McGill.

The program is designed to train researchers who will make a contribution to the advancement of knowledge in the field of nursing and assume a leadership role both in the profession and in the health care system.

55.3 Admission Requirements

Master's Programs

Applicants should make arrangements to obtain C.P.R. (Cardio-Pulmonary Resuscitation) certification prior to entry into the Qualifying year (Nurse-applicants may already have C.P.R. certification, if not they must obtain one prior to entry as well). Applicants will be asked to provide proof of certification once registered in the program.

Proficiency in English: The language of instruction at McGill University is English. Students must write term papers, examinations and theses in English or in French. **Non-Canadian applicants** whose mother tongue is not English and who have not completed an undergraduate degree from a recognized institution where English is the language of instruction are required to submit documented proof of competency in oral and written English **prior to submitting an application:** the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based) or 260 (computer-based), or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5

GRE (Graduate Record Examination) general test results may be required in individual circumstances.

Nurse applicants (Nursing Bachelor's entry - NBE)

Applicants for the Master's degree must have completed a bachelor's degree in nursing with a minimum GPA of 3.0 on a scale of 4.0. This preparation must be comparable to that offered in the bachelor's program at McGill. Experience in nursing is suggested. An introductory statistics course (3 credits) is required.

Nurse applicants to the Master's program may complete their studies on a part-time basis, i.e., minimum of 6 credits per term to a maximum of four years.

Nurses with a general B.Sc. or B.A. (comparable to the McGill undergraduate degrees) may be considered on an individual basis.

All nurse applicants are expected to hold current registration in the province or country from which they come. Nurses who are not licensed in Quebec must obtain a special authorization for

graduate nurse students from the Ordre des infirmières et infirmiers du Québec (www.oiiq.org).

B.A./B.Sc. applicants (Direct-Entry - DE)

Applicants holding a general B.Sc. or B.A., including a number of prerequisite courses, may be admitted to a Qualifying Year. A minimum G.P.A. (Grade Point Average) of 3.0 on a scale of 4.0 is required for entry. Upon successful completion of the Qualifying Year, candidates apply to the Master's program.

Direct-Entry applicants must complete their Qualifying Year and the Master's program of study on a full-time basis, i.e., total of three years.

Persons prepared in another professional discipline or in nursing are not eligible for this program.

Ph.D. Program

Applicants admitted to the Doctoral program through McGill University must satisfy the following conditions:

1. hold a Master of Science in Nursing or equivalent;
2. GPA of 3.3 or high B standing;
3. demonstrated research ability;
4. be accepted by a faculty member who has agreed to serve as the thesis adviser;
5. submit a 5-page outline of proposed research including literature review and abbreviated methods sections;
6. submit letters of references from two professors who are familiar with the candidate's work and research aptitude;
7. submit a curriculum vitae;
8. submit two official copies of academic transcripts of undergraduate and graduate records,
9. be eligible to hold nursing registration in Quebec;
10. submit results of the Graduate Record Examination General Test, taken within the past 5 years.
11. Non-Canadian applicants: The language of instruction at McGill University is English. Students must write term papers, examinations and theses in English or in French. Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree from a recognized institution where English is the language of instruction are required to submit documented proof of competency in oral and written English prior to submitting an application: the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (paper-based) or 260 (computer-based), or the International English Language Testing System (IELTS) with a minimum overall band score of 7.5

55.4 Application Procedures

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate. Instructions on submitting applications are available on-line. Applications or Fall (September) 2005.

M.Sc.(A)Program (Nurse Bachelor entry candidates)(Direct-entry applicants apply to the M.Sc.(A) program on-line and if admitted these candidates will be entering the Qualifying Year):

- International deadline: March 1, 2005
- Canadian deadline: March 21, 2005

Ph.D. Program:

- International deadline: March 1, 2005
- Canadian deadline: April 15, 2005

Applications for Winter (January 2006): On-line applications open as of March 15, 2005 - Ph.D Program ONLY:

- International deadline: August 1, 2005
- Canadian deadline: September 15, 2005

55.5 Program Requirements

MASTER'S PROGRAMS

The general rules concerning higher degrees apply. (See the Graduate and Postdoctoral Studies Office General Information and Regulations.) A minimum of two years of study is required for the Masters programs.

M.Sc. (thesis) (50 credits) (not offered 2004-05)

M.Sc. (Applied) Program (48 to 60 credits)

Required Courses (33credits)

NUR2611D1/D2	(6)	Seminar in Nursing
NUR2612	(3)	Research Methods in Nursing 1
NUR2614D1/D2	(6)	Clinical Laboratory - Nursing 1
NUR2626	(3)	Professional Issues in Nursing
NUR2630	(3)	Clinical Project 1
NUR2631	(3)	Clinical Project 2
NUR2642	(3)	Ethics in Advanced Practice
NUR2643	(3)	Role Development

one 3-credit upper-level statistics course

Complementary Courses (15 to 27 credits)

20 credits - Direct Entry students (clinical)

16 credits - Nursing Bachelors Entry students (clinical)

27 credits - Nursing Bachelors Entry students (Nurse Practitioner)

15 credits - Nursing Bachelors Entry students (adjunct)

Students take the appropriate number of credits from the following list of courses:

NUR2615	(3)	Health Care Evaluation
NUR2616	(4)	Advanced Clinical Skills
NUR2624	(4)	Clinical Laboratory in Nursing 2
NUR2627	(3)	Nursing Practicum
NUR2628	(4)	Advanced Assessment
NUR2640	(4)	Clinical Reasoning 1
NUR2641	(4)	Clinical Reasoning 2
NUR2644	(3)	Special Topics 1
or NUR2645	(3)	Special Topics 2
or NUR2646	(3)	Special Topics 3
or NUR2647	(3)	Special Topics 4
NUR2650	(8)	Practitioner Internship

or other graduate level courses in consultation with faculty advisor.

QUALIFYING YEAR (41 credits)

(non-nurse applicants entering with B.A. or B.Sc.)

Fall Term

NUR1222	(1)	McGill Model of Nursing
NUR2511D1	(3)	Practice of Nursing Part 1
NUR2514D1	(5)	Clinical Laboratory in Nursing

2 complementary courses*

Winter Term

NUR1235	(4)	Health and Physical Assessment
NUR2511D2	(3)	Practice of Nursing Part 1
NUR2514D2	(5)	Clinical Laboratory in Nursing

2 complementary courses*

Summer Term

NUR2512	(8)	Practice and Theory in Nursing
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***Complementary Courses:** a total of 12 credits from the physical sciences, social sciences and nursing, are chosen in consultation with faculty to complement the student's previous academic background.

Students must successfully complete the Qualifying Year with a minimum of B- in all courses and be recommended by the Standing and Promotions Committee for entry to the Master of Science (Applied) Program. Students in the Qualifying Year will be required to submit an on-line application to the Master's of Science (Applied) by the application deadline.

Ph.D. PROGRAM

Each student's program is designed with the thesis supervisor, taking into account the student's previous academic preparation, needs and research interests. The requirements for the doctoral degree are:

1. A minimum of 18 credits beyond the Master's level. Courses and seminars in research design, issues of measurement, advanced nursing, development of theory in nursing, advanced statistics and complementary course(s) in the student's major field of study are compulsory. The student's program is decided in consultation with the faculty advisor.
2. Successful completion of the Ph.D. comprehensive examination.
3. Oral defense of the thesis proposal.
4. Dissertation and oral examination.
5. Two years of full-time residence. A student who has obtained a Master's degree at McGill University or at an approved institution elsewhere, and is proceeding in the same subject to a Ph.D. degree, may on the recommendation of the School, be registered in the second year of the Ph.D. program.

55.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Details of the courses to be offered in the current year are also available from the School.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

QUALIFYING PROGRAM

NUR1 222 MCGILL MODEL OF NURSING. (1) This introductory course provides an overview of the history and the philosophical and theoretical tenets underlying the core concepts of the Model. Students are introduced to McGill's perspective on health, family, learning, and collaborative nursing through a study of selected theoretical and research papers.

NUR1 235 HEALTH AND PHYSICAL ASSESSMENT. (4) This course will develop basic knowledge and skills required to do a health history and to carry out basic physical assessment in infants, children, and adults.

NUR2 511D1 (3), NUR2 511D2 (3) PRACTICE OF NURSING PART 1. (Students must register for both NUR2 511D1 and NUR2 511D2.) (No credit will be given for this course unless both NUR2 511D1 and NUR2 511D2 are successfully completed in consecutive terms) A study of selected concepts related to the practice of nursing including health, family, normative life transitions and interpersonal interaction. The major focus is on developing an understanding of human behaviour using the process of scientific inquiry. Special emphasis is placed on the observation of people in their physical and social environments and on the analysis of clinical data as the basis for the development of innovative nursing approaches.

NUR2 512 PRACTICE AND THEORY IN NURSING. (8) Learning to nurse patients in acute care settings, who are experiencing a variety of common illness-related problems.

NUR2 514D1 (5), NUR2 514D2 (5) CLINICAL LABORATORY IN NURSING. (Students must register for both NUR2 514D1 and NUR2 514D2.) (No credit will be given for this course unless both NUR2 514D1 and NUR2 514D2 are successfully completed in

consecutive terms) Learning to nurse through field experiences with individuals and families in the community and in acute care settings. The focus is on the application of knowledge and theory in practice and includes the testing and analysis of nursing approaches. Students work with clients and families experiencing a variety of life events including aging, birth and parenting as well as acute illness and hospitalization.

GRADUATE PROGRAM

NUR2 611D1 (3), NUR2 611D2 (3) SEMINAR IN NURSING. (Students must register for both NUR2 611D1 and NUR2 611D2) (No credit will be given for this course unless both NUR2 611D1 and NUR2 611D2 are successfully completed in consecutive terms) A critical study of selected concepts in nursing and health related to individuals and families. An introduction to the study of concepts and theories relevant to nursing.

NUR2 612 RESEARCH METHODS IN NURSING 1. (3) Basic knowledge and skills needed to conduct research. The philosophy and principles of scientific inquiry, research design, sampling, techniques of data collection, ethics, and incorporating research into practice are discussed with emphasis for nursing.

NUR2 614D1 (3), NUR2 614D2 (3) CLINICAL LABORATORY - NURSING 1. (Students must register for both NUR2 614D1 and NUR2 614D2) (No credit will be given for this course unless both NUR2 614D1 and NUR2 614D2 are successfully completed in consecutive terms) Field experience in nursing to test and develop concepts critical to the health of individuals and families. The examination of theories relevant to nursing practice in the clinical field.

NUR2 615 HEALTH CARE EVALUATION. (3) An evaluation of educational and health care systems with particular reference to the nursing input in problems of health, health care and health care delivery. Evaluative research includes qualitative and quantitative approaches to assessing health status and quality of care.

NUR2 616 ADVANCED CLINICAL SKILLS. (4) Supervised clinical experiences in health care agencies are aimed at developing competence in technical and family nursing skills at an advanced level. Experience is determined on an individual basis according to learning needs and the student's area of interest.

NUR2 620 CURRENT THEORIES OF NURSING. (2) (Prerequisites: NUR2 611, NUR2 614 or equivalent) Current theories of nursing e.g. Orem, Roy, King, Rogers are examined along with their implications for practice, curriculum, administration, and research. The internal and external adequacy of these theories will be evaluated using selected schema. Critical analysis of issues and problems of theories in a practice discipline will be undertaken.

NUR2 621D1 (3), NUR2 621D2 (3) SEMINAR IN NURSING 2. (Students must register for both NUR2 621D1 and NUR2 621D2) (No credit will be given for this course unless both NUR2 621D1 and NUR2 621D2 are successfully completed in consecutive terms) An opportunity for investigation of some of the critical problems in nursing as related to the student's area of inquiry. Particular emphasis is placed on theory development in nursing.

NUR2 623 CLINICAL ASSESSMENT AND THERAPEUTICS. (3) (Prerequisites: PATH 300; PHGY 201, PHGY 202 or equivalent.) Development of skills in the medical-nursing assessment and management of patients and families dealing with chronic and life-threatening illnesses. Includes instruction in history-taking and physical assessment.

NUR2 624 CLINICAL LABORATORY IN NURSING 2. (4) Field experience in nursing, incorporating extensive assessment, experimentation and evaluation of differing nursing approaches.

NUR2 625 CLINICAL LABORATORY IN NURSING 3. (6) Field experience in nursing, incorporating extensive assessment, experimentation and evaluation of differing nursing approaches.

NUR2 626 PROFESSIONAL ISSUES IN NURSING. (3) An examination of theories of learning and organizational behaviour as related to the preparation of nurses for the delivery of health care services. Implications of these theories for the assessment, development, and evaluation of nursing programs will be investigated.

NUR2 627 NURSING PRACTICUM. (3)

NUR2 628 ADVANCED ASSESSMENT. (4) (Prerequisite: NUR1 235 or permission of instructor.) Development of advanced skills in health assessment and physical examination of clients across the life span, including diagnostic tests and interventions, documentation and follow-up.

NUR2 630 CLINICAL PROJECT 1. (3) Identification of a clinical problem and development of a project to test or implement best-practice approaches.

NUR2 635 PAIN MEASUREMENT IN CHILDREN. (3) (Prerequisite: Graduate-level course in inferential statistics and graduate or undergraduate course in child development, or permission of the instructor.) (Restriction: Health Sciences or Psychology graduate students or permission of the instructor.) Research issues surrounding the measurement of pain throughout childhood. Topics include measurement theory, theoretical and conceptual definitions of pain in children, scale construction, format and scaling issues, reliability, validity, clinical unity, developmental considerations, self-report formats, observational formats, physiological indicators of pain.

NUR2 701 COMPREHENSIVE EXAMINATION. (1)

NUR2 702 QUANTITATIVE RESEARCH. (3) Examination of various experimental, quasi-experimental, correlational, and survey designs with particular focus on the use of these designs in nursing research.

NUR2 703 ISSUES OF MEASUREMENT. (3) An examination of the underlying theories of measurement and techniques for assessing the validity and reliability of data collection instruments. Issues related to the development and/or utilization of instruments to measure target variables in nursing and health research are addressed.

NUR2 706 QUALITATIVE NURSING RESEARCH. (3) (Corequisite: NUR2 702) (Restriction: Enrolled in Ph.D. in Nursing or permission of instructor) Advanced examination of the utilization of qualitative research in nursing.

NUR2 720 NURSING WORKFORCE DETERMINANTS. (3) Factors affecting the planning and management of the nursing workforce in the context of forecasting models, demographic changes, public organizational response, models of organizational behavior and determinants of nursing sensitive outcomes, and productivity.

NUR2 730 THEORY DEVELOPMENT IN NURSING. (3) (Prerequisite: NUR2 620 or equivalent) This course surveys the history of nursing theory development with special emphasis placed on the approaches theory development and the factors affecting these approaches. Issues such as the level of theory, where theory derives are examined in light of the needs of a practice discipline. Future directions for theory development in nursing are explored.

NUR2 780 ADVANCED NURSING. (3) (3 hours seminar weekly) (Prerequisite: NUR2 621, NUR2 624, NUR2 625 or equivalent and permission of instructor) An in-depth analysis of selected issues and developments within nursing and health care. Included will be topics relevant to the areas of research and clinical expertise of the student and faculty.

56 Occupational Health

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56.1 Staff

Emeritus Professor

J.C. McDonald; M.D., B.S.(Lond.), M.Sc.(Harv.), F.R.C.P.(C)

Professors

R. Fuhrer; M.Sc., Ph.D.(Calif.), (*Strathcona Chair in Preventative Medicine*)

C. Infante-Rivard; M.D.(Montr.), M.P.H.(UCLA), Ph.D.(McG.), F.R.C.P.(C) (*James McGill Professor*)

G. Thériault; M.D.(Laval), M.I.H., Dr. P.H.(Harv.)

Associate Professors

A. Dufresne; B.Sc., M.Sc.(Que.), Ph.D.(McG.)

P. Héroux; B.Sc.(Laval), M.Sc., Ph.D.(I.N.R.S.)

T. Kosatsky; M.D.(Man.), M.P.H.(Emory)(PT)(on leave)

M. Rossignol; B.Sc., M.D.(Sher.), M.Sc.(McG.), F.R.C.P.(C)

Assistant Professors

S. Martin; B.A., M.D.(Tor.), M.Sc.A.(McG.) (PT)

L. Patry, B.Sc., M.D.(Laval), F.R.C.P.(C) (PT)

Lecturers

B. Pathak, G. Perrault, P. Dubé, J.P. Gauvin, W. Wood

Associate Member

B. Case (*RVH-Pathology*)

Adjunct Professors

I. Arnold (Alcan); S. Arnold (Consultant); M. Baillargeon (Montreal Chest Hospital); L. Drouin, P. Robillard, S. Stock (Direction de la santé publique); A. Dembe (U. of Massachusetts); D. Gautrin (Hôpital Sacré-Coeur)

56.2 Programs Offered

The Department of Occupational Health offers two graduate degree programs: a doctorate (Ph.D.) and Master (M.Sc.A) in occupational health sciences. The Master's program is available on campus or in distance education format.

M.Sc. Applied Program (Full-time) (Resident) (on campus)

The objective of this program is to train and enable competent health and hygiene professionals to work in occupational health programs by evaluating the work environment and work hazards and by proposing appropriate methods of prevention and control.

M.Sc. Applied Program (Distance Education)

A three and one-half year program leading to the degree of Master of Science Applied in Occupational Health Sciences – M.Sc.(A). This program is also offered for professional interest, for details please contact the Coordinator.

Ph.D. Program

The objective of this program is to train independent researchers in the field of work environment and health.

56.3 Admission Requirements

Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams e.g., TOEFL (Test of English as a Foreign Language) with a minimum score of 600, or 250 on the computerized test.

M.Sc. Applied Program (Full-time) (Resident) (on campus)

Candidates should have completed, with high academic standing, a bachelor of science degree or its equivalent in a discipline relevant to occupational health or hygiene such as: chemistry, engineering, environmental sciences, physics; medicine, nursing and other health sciences with a standing equivalent to a minimum Cumulative Grade Point Average (CGPA) of 3.0 out of 4. High grades are expected in courses considered by the Department to be preparatory to the graduate program.

M.Sc. Applied Program (Distance Education)

Candidates must hold an M.D., a bachelor's degree in nursing, or a B.Sc. (any major). They must have maintained at least a 3.0 on 4.0 grade point average.

Those who hold a B.Sc. must be Industrial Hygienists with at least three years of experience in industrial hygiene and/or safety. In the case of medical doctors and nurses, priority will be given to candidates with two or more years of experience in occupational health.

Ph.D. Program

Candidates must hold a M.Sc. degree or its equivalent in occupational health sciences, or in a relevant discipline, such as: community health, environmental health, epidemiology, chemistry, engineering, physics, or health sciences (medicine, nursing, etc.).

56.4 Application Procedures

Application forms are available on-line at www.mcgill.ca/applying/graduate.

M.Sc. Applied Program (Full-time) (Resident) (on campus)

Candidates must submit with their application two official copies of their university transcripts, two letters of reference, a copy of their curriculum vitae and a letter describing their background (occupational health, occupational hygiene, worker safety, etc.) as well as a \$60(Cdn) application fee.

Eligible candidates may be invited for an interview with members of the Admissions Committee of the Department.

Applications are accepted for Fall term only.

M.Sc. Applied Program (Distance Education)

Candidates must submit with their application two official transcripts from their university of graduation, two letters of recommendation, a copy of their résumé, a letter describing their career plan, the reasons for their enrolment, and how they plan to accommodate their study time within their work schedule as well as a \$60(Cdn) application fee.

Ph.D. Program

Candidates must submit with their application two official copies of their university transcripts (undergraduate and graduate), two letters of reference (or completed special forms), a copy of their curriculum vitae and a letter describing their field of interest as well as a \$60(Cdn) application fee.

Candidates must also submit with their application an outline of their scientific interests, indicating the field and the topic of their proposed research. Each student will be assigned to one academic staff member of the Department, who will act as his/her supervisor, who will guide him/her in the preparation of a definite research protocol.

56.5 Program Requirements

It is highly recommended to have access to a computer and the Internet as some of the course material is most readily available by accessing the Web.

M.SC. APPLIED PROGRAM (FULL-TIME) (RESIDENT) (ONCAMPUS)

Teaching is organized in eight 3-credit courses and one 6-credit course totalling 30 credits. Promotion to the following term is

dependent upon passing grade. A comprehensive examination is held at the end of the course program.

After successfully completing the course requirements and passing the comprehensive examination, students must carry out an extended project (15 credits). The project requires students to identify an issue in their area of specialization, to review the present state of knowledge relevant to that issue, and either to carry out a survey to assess a particular work situation and make recommendations, or to devise a research protocol to extend knowledge in the area and to carry out a preliminary study to assess the feasibility of the protocol proposed.

Normally, students extend the duration of their project into the Fall term by registering for an additional session.

Required Courses (30 credits)

OCCH602	(3)	Occupational Health Practice
OCCH603	(3)	Work and Environment Epidemiology 1
OCCH604	(3)	Monitoring Occupational Environment
OCCH605D1	(3)	Physical Health Hazards
OCCH605D2	(3)	Physical Health Hazards
OCCH608	(3)	Biological and Chemical Hazards
OCCH612	(3)	Principles of Toxicology
OCCH614	(3)	Topics in Occupational Health
OCCH615	(3)	Occupational Safety Practice
OCCH616	(3)	Occupational Hygiene
OCCH600		Comprehensive Examination

Project Component – Required (15 credits)

OCCH699	(15)	Project Occupational Health and Safety
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M.SC. APPLIED PROGRAM (DISTANCE EDUCATION)

The Master distance education program takes three and one-half years to complete.

The first part (3 years) consists of 10 three-credit theory courses. Students enrolled in the program must successfully complete ten courses (30 credits). Equivalencies may be granted upon examination of the application by the professors concerned, and the Graduate and Postdoctoral Studies Office.

On-campus Practicums may be held at the discretion of each professor. These sessions are held in Montreal on the McGill University Campus. Their aim is to offer students additional specific learning activities. Each course has a final examination at the end of the term. Participation in the practica is an essential component of the program.

The second part consists of writing an extended project report (15 credits). The project report will be carried out under the supervision of a member of the teaching staff. Note that students must pass the comprehensive exam before writing their report. A total of 45 credits is offered, the number required to complete the M.Sc. program.

Courses

OCCH602	(3)	Occupational Health Practice
OCCH603	(3)	Work and Environment Epidemiology 1
OCCH604	(3)	Monitoring Occupational Environment
OCCH608	(3)	Biological and Chemical Hazards
OCCH612	(3)	Principles of Toxicology
OCCH615	(3)	Occupational Safety Practice
OCCH616	(3)	Occupational Hygiene
OCCH617	(3)	Occupational Diseases
OCCH624	(3)	Social and Behavioural Aspects - Occupational Health
OCCH625	(3)	Work and Environment Epidemiology 2
OCCH626	(3)	Basics: Physical Health Hazards
OCCH627	(3)	Work Physiology and Ergonomics
OCCH630	(3)	Occupational Disease for OHNS
OCCH635	(3)	Environmental Risks to Health
OCCH600		Comprehensive Examination

Each course has a final examination at the end of the term. Students must obtain at least B- (65%) in each course in the program. Students who fail one course will be invited to withdraw from the program. Special circumstances can be examined.

Project Component – Required (15 credits)

OCCH699 (15) Project Occupational Health and Safety

PH.D. PROGRAM

Three years of resident study are required for this program.

Students are required to take course OCCH706 Occupational Health and Hygiene Seminars (2 credits) and are encouraged to take up to 12 credits in areas pertinent to their specialty or in areas necessary to complete their knowledge of occupational health.

All Ph.D. students must take a comprehensive examination within 18 months of registration.

A thesis committee will be established to ensure proper supervision and coverage of the different fields of expertise as required.

56.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

☐ Denotes limited enrolment

Denotes courses not offered in 2004-05.

OCCH 600 COMPREHENSIVE EXAMINATION. (0)

☐ **OCCH 602 OCCUPATIONAL HEALTH PRACTICE. (3)** This course analyzes the functions, structure and organization of occupational health programs and services.

☐ **OCCH 603 WORK AND ENVIRONMENT EPIDEMIOLOGY 1. (3)** This course provides students with basic knowledge of epidemiology and statistics as applied to occupational health.

OCCH 604 MONITORING OCCUPATIONAL ENVIRONMENT. (3) Principles and practices of environmental and biological monitoring of workplace hazards are addressed. Familiarization with instrumentation and calibration procedures is undertaken. Students learn to identify workplace health hazards, develop effective sampling strategies, use industrial hygiene equipment and interpret results of exposure measurements.

OCCH 605D1 (3), OCCH 605D2 (3) PHYSICAL HEALTH HAZARDS. (3) (Students must register for both OCCH 605D1 and OCCH 605D2) (No credit will be given for this course unless both OCCH 605D1 and OCCH 605D2 are successfully completed in consecutive terms) Properties, mechanisms of action and health effects of physical agents in the workplace and in the general environment: electromagnetic risks, noise and vibration, ionizing radiation, ventilation and thermal environment. Administrative, engineering and medical control methods, exposure standards and safety measures for these agents.

☐ **OCCH 608 BIOLOGICAL AND CHEMICAL HAZARDS. (3)** This course will acquaint the student with the physical, chemical, and toxicological properties of common industrial products, important industrial processes and their associated health and safety hazards and the control measures.

☐ **OCCH 612 PRINCIPLES OF TOXICOLOGY. (3)** Selected topics, including acute, subacute and chronic toxicity assessment, pharmacokinetics and pharmacodynamics, mutagenicity, carcinogenicity and teratogenicity.

OCCH 614 TOPICS IN OCCUPATIONAL HEALTH. (3) Using a problem oriented approach, this course aims at integrating all notions seen previously in the program. Advanced learning, lectures, readings, student presentations, written assignments.

☐ **OCCH 615 OCCUPATIONAL SAFETY PRACTICE. (3)** Principles of safety and loss prevention; incident investigations and analyses, occupational safety management tools; loss recognition; safety standards, guidelines and legislation. Selected topics include: fire prevention; workshop, tool and machine safety; fall protection; lab-

oratory safety; confined space entry; safe work permit systems; and materials handling.

☐ **OCCH 616 OCCUPATIONAL HYGIENE. (3)** An introduction to the principles and practices of industrial hygiene designed to provide the students with the knowledge required to identify health and safety hazards in the workplace.

OCCH 617 OCCUPATIONAL DISEASES. (3) Review of occupational health problems structured around target organs: respiratory, musculo-skeletal, skin, cardiovascular, mental disorders and aggressive agents: trauma, physical agents, solvents and metals and infectious agents. Also covered are occupational cancer, conditions associated with hypo- and hyperbaric environments, mutagenicity, teratogenicity and reproduction disorders, pre-employment, period examination and medical activities in the workplace.

OCCH 624 SOCIAL AND BEHAVIOURAL ASPECTS - OCCUPATIONAL HEALTH. (3) This course explores the social science of occupational health practice, and describes influences on that practice of recent political, social and economic changes in the workforce and at the workplace; the theory of health promotion; management skills; and evaluation methods.

OCCH 625 WORK AND ENVIRONMENT EPIDEMIOLOGY 2. (3) Combined with OCCH 608 to prepare students to evaluate the relations between exposure to workplace contaminants and health. The course involves the multidisciplinary analysis of four problems: Work-related cancer; Musculo-skeletal problems; Biological hazards; Chemical intoxication.

OCCH 626 BASICS: PHYSICAL HEALTH HAZARDS. (3) Properties, mechanisms of action and health effects of physical agents in the workplace: thermal environment, noise and vibration, electromagnetic and ionizing radiation. Engineering control methods, exposure standards and safety measures for physical agents. Basics of monitoring workers for health impacts. Control of airborne contaminants using ventilation-based dilution methods.

OCCH 627 WORK PHYSIOLOGY AND ERGONOMICS. (3) Provide students with basic knowledge of physiological and psychological work requirements, ergonomic approach to work-related health problems and application of this type of approach to preventive and corrective measures.

OCCH 630 OCCUPATIONAL DISEASES FOR OHNS. (3) Designed to meet independent and specific needs of occupational health nurses, it examines potential pathologies in the workplace, and subsequent disease outcomes. Focus is on an evidence-based approach to assessment, nursing diagnosis, appropriate interventions in the identification, management of occupational diseases. Worker screening strategies and disease prevention activities are introduced.

OCCH 635 ENVIRONMENTAL RISKS TO HEALTH. (3) Focuses on pathways of exposure from industry to non working populations, on measurement of exposure and observation of effects, modelling and prediction of effects. Identifying, assessing and adapting existing data to predict effects given new exposures is a major theme. Spatial analysis, risk communication and disaster response are covered, too.

OCCH 699 PROJECT OCCUPATIONAL HEALTH AND SAFETY. (15) Under supervision, the student will identify an issue relevant to occupational health and report on work accomplished (i) to review the present state of knowledge and (ii) to conduct a survey and make recommendations or to devise a study proposal and to carry out a preliminary feasibility study.

OCCH 699D1 (7.5), OCCH 699D2 (7.5) PROJECT OCCUPATIONAL HEALTH AND SAFETY. (15) (Students must register for both OCCH 699D1 and OCCH 699D2) (No credit will be given for this course unless both OCCH 699D1 and OCCH 699D2 are successfully completed in consecutive terms) (OCCH 699D1 and OCCH 699D2 together are equivalent to OCCH 699) Under supervision, the student will identify an issue relevant to occupational health and report on work accomplished (i) to review the present state of knowledge and (ii) to conduct a survey and make recommenda-

tions or to devise a study proposal and to carry out a preliminary feasibility study.

PH.D. Courses

OCCH 700 C OMPREHENSIVE EXAMINATION. (0)

OCCH 706 PH.D SEMINAR ON OCCUPATIONAL HEALTH AND HYGIENE. (2) A critical appraisal of the occupational health sciences literature which addresses issues in hygiene, safety, epidemiology and toxicology. Students will develop a critical sense of the literature and increase their understanding of different research paradigms.

OCCH 706D1 (1), OCCH 706D2 (1) PH.D SEMINAR ON OCCUPATIONAL HEALTH AND HYGIENE. (Students must register for both OCCH 706D1 and OCCH 706D2) (No credit will be given for this course unless both OCCH 706D1 and OCCH 706D2 are successfully completed in consecutive terms) (OCCH 706D1 and OCCH 706D2 together are equivalent to OCCH 706) A critical appraisal of the occupational health sciences literature which addresses issues in hygiene, safety, epidemiology and toxicology. Students will develop a critical sense of the literature and increase their understanding of different research paradigms.

57 Otolaryngology

Department of Otolaryngology
Royal Victoria Hospital
687 Pine Ave. West, Room E3-37
Montreal, QC
H3A 1A1

Telephone: (514) 843-2820
Fax: (514) 843-1403
Web site: www.mcgill.ca/ent

Chair — S. Frenkiel

57.1 Staff

Emeritus Professor

J.D. Baxter; M.D.,C.M., M.Sc.(McG.), F.R.C.S.(C)

Professors

S. Frenkiel; B.Sc., M.D.,C.M.(McG.), F.R.C.S.(C)
A. Katsarkas; M.D.(Thess.), M.Sc.(Otol.), F.R.C.S.(C)
H. Galiana; B.Sc., B.eng., M.eng., Ph.D. (McG.)
M.D. Schloss; M.D.(Br.Col.), F.R.C.S.(C)
T.L. Tewfik; M.D.(Alex.), F.R.C.S.(C)

Associate Professors

M.J. Black; M.D.,C.M.(McG.), F.R.C.S.(C)
N. Fanous; M.B., BCH.(Cairo), F.R.C.S.(C)
W.R.J. Funnell; B.Eng., M.Eng., Ph.D.(McG.)
K. Kost; M.D., C.M.(McG.), F.R.C.S.(C)
J. Manoukian; M.B., Ch.B.(Alex.), F.R.C.S.(C)
W.H. Novick; M.D.(Queen's), F.R.C.S.(C)
B. Segal; B.Sc., B.Eng., M.Eng., Ph.D.(McG.)
R.S. Shapiro; M.D., C.M.(McG.), F.R.C.S.(C)
A.G. Zeitouni; M.D.(Sher.), M.Sc.(Otol.), F.R.C.S.(C)

Assistant Professors

F. Chagnon; M.D.C.M.(McG.), F.R.C.S.(C)
S. Daniel; M.D.C.M. (McG.), M.Sc. (Otol), F.R.C.S.C
I. Fried; M.D.(Dal.), F.R.C.S.(C)
M. Hier; M.D.,C.M.(McG.), F.R.C.S.(C)
R. Lafleur; M.D.(Ott.), F.R.C.S.(C)
M.-L. Lessard; M.D.(Laval), F.R.C.S.(C)
J. Rappaport; M.D.(Dal.), F.R.C.S.(C)
L. Rochon; M.D.(Sher.), F.R.C.P.(C)
M. Samaha; M.D.(Queen's), F.R.C.S.(C)
G. Sejean; M.D.(Beirut), F.R.C.S.(C)
R. Sweet; M.D.,C.M.(McG.)
L. Tarantino; M.D.(Naples), F.R.C.S.(C)

Lecturers

A. Finesilver, J. Rothstein

Adjunct Professors

M. Desrosiers, J.-J. Dufour

57.2 Program Offered

The Master of Science degree in Otolaryngology trains otolaryngologists for clinical or basic-science research in Otolaryngology.

57.3 Admission Requirements

Admission to the M.Sc. program requires acceptance by a research supervisor, and the proposed program must be approved by the Departmental Research Committee.

All applicants must be otolaryngologists or they should be currently enrolled in a residency program leading to certification in Otolaryngology.

57.4 Application Procedures

Applications require the following documentation:

1. completed application form and personal statement form;
2. letters of reference from two professors;
3. two official copies of academic transcripts;
4. application fee: \$60;
5. results of Test of English as a Foreign Language (TOEFL) (minimum of 550 on the paper-based test or 213 on the computer-based test) if undergraduate and medical training were carried out in a language other than English or French.

Prospective students should contact research supervisors individually.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

57.5 Program Requirements

The M.Sc. program comprises a minimum of 45 credits as follows:

Required Courses (12 credits)

- OTOL602 (3) Physiology, Histopathology and Clinical Otolaryngology 1
OTOL612 (3) Physiology, Histopathology and Clinical Otolaryngology 2
OTOL603 (3) Advanced Scientific Principles of Otolaryngology1
OTOL613 (3) Advanced Scientific Principles of Otolaryngology2

Complementary Course (3 credits)

- EPIB607 (3) Principles of Inferential Statistics in Medicine or equivalent

Thesis Component – Required (30 credits)

- OTOL690 (3) Thesis 1
OTOL691 (3) Thesis 2
OTOL692 (6) Thesis 3
OTOL693 (6) Thesis 4
OTOL694 (12) Thesis 5

When appropriate, courses OTOL602, OTOL612, OTOL603 or OTOL613 may be replaced by other basic-science or clinical (500-level or higher) courses of relevance to Otolaryngology, as recommended or approved by the Department.

Students aiming to acquire an interdisciplinary background will be expected to take additional elective courses, at the undergraduate level if necessary.

57.6 Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been

added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

OTOL 602 PHYSIOLOGY, HISTOPATHOLOGY AND CLINICAL OTOLARYNGOLOGY 1. (3) (6 hours/week) University and hospital rounds and seminars presenting various topics in Clinical Otolaryngology.

OTOL 603 ADVANCED SCIENTIFIC PRINCIPLES - OTOLARYNGOLOGY 1. (3) (1.5 hours/week)

OTOL 612 PHYSIOLOGY, HISTOPATHOLOGY AND CLINICAL OTOLARYNGOLOGY 2. (3) (6 hours/week)

OTOL 613 ADVANCED SCIENTIFIC PRINCIPLES - OTOLARYNGOLOGY 2. (3) (1.5 hours/week)

OTOL 690 M.Sc. THESIS 1. (3)

OTOL 691 M.Sc. THESIS 2. (3)

OTOL 692 M.Sc. THESIS 3. (6)

OTOL 693 M.Sc. THESIS 4. (6)

OTOL 694 M.Sc. THESIS 5. (12)

58 Parasitology

Institute of Parasitology
Macdonald Campus
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7722

Fax: (514) 398-7857

E-mail: pargrsec@po-box.mcgill.ca

Web site: www.mcgill.ca/parasitology

Director — T.W. Spithill

58.1 Staff

Professors

Gaétan M. Faubert; B.Sc.(Sher.), M.Sc.(Montr.), Ph.D.(McG.)

Roger Pritchard; B.Sc., Ph.D.(N.S.W.) (*CP Professor of Biotechnology*) (*James McGill Professor*)

Terence W. Spithill; B.Sc., Ph.D.(Monash) *Canada Research Chair in Immunoparasitology*)

Associate Professors

Robin N. Beech; B.Sc.(Nott.), Ph.D.(Edin.)

Kris Chadee; B.Sc.(Winn.), M.Sc.(Man.), Ph.D.(McG.)

Elias Georges; B.Sc., Ph.D.(McG.)

Paula Ribeiro; B.Sc., Ph.D.(York)

Marilyn E. Scott; B.Sc.(U.N.B.), Ph.D.(McG.)

Assistant Professor

Armando Jardim; B.Sc., Ph.D.(Vic. B.C.)

Lecturer

James M. Smith, B.Sc.(N.E. London Polytechnic), Ph.D.(McG.)

Associate Members

Mark A. Curtis (*Natural Resource Sciences, Wildlife Biology*);

Gregory J. Matlashewski (*Medicine, Microbiology and Immunology*); Manfred E. Rau (*Natural Resource Sciences, Entomology*); Mary Stevenson (*Medicine, Experimental Medicine*); Brian Ward (*Medicine, Experimental Medicine*)

58.2 Programs Offered

M.Sc. and Ph.D. degrees in Parasitology, and Graduate Certificate and M.Sc.(Applied) degree in Biotechnology.

The Institute of Parasitology teaches and researches the phenomenon of parasitism of man and livestock. Current

research involvement includes the biology, biochemistry, pharmacology, control, ecology, epidemiology, immunology, molecular biology, neurobiology, and population and molecular genetics of parasitic organisms, viruses and cancer cells.

The Institute is housed in its own building adjacent to the Macdonald Campus Library, and has well equipped laboratories. The Institute has its own animal rooms and has access to large animal facilities at Macdonald farm. The Institute is affiliated to the McGill Centre for Tropical Diseases at the Montreal General Hospital.

Staff at the Institute of Parasitology also coordinate a 16-credit Graduate Certificate and M.Sc.(Applied) degree in Biotechnology.

58.3 Admission Requirements

Candidates for either the M.Sc. or the Ph.D. degree should possess a Bachelor's degree in the biological or medical sciences with a minimum cumulative grade point average of 3.2/4.0 (second class-upper division). High grades are expected in courses considered by the academic unit to be preparatory to the graduate program. Previous experience in parasitology is not essential.

Candidates for the Graduate Certificate and the M.Sc.(Applied) in Biotechnology must possess a Bachelor's degree in Biological Sciences or equivalent with a minimum cumulative grade point average of 3.0/4.0 or 3.2/4.0 GPA in the last two full-time years of university study for the Graduate Certificate and a minimum 3.2/4.0 CGPA for the M.Sc.(A), as well as prerequisites or equivalents. Prerequisites or equivalents: Students are required to have sufficient background in Biochemistry, Cellular Biology and Molecular Biology, equivalent to at least a 200-level course (300-level course for Molecular Biology) at McGill University.

58.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

Institute of Parasitology
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7722

Fax: (514) 398-7857

E-mail: graduate.parasitology@mcgill.ca

Applicants for the Biotechnology Programs must forward supporting documents to:

Biotechnology Graduate Programs
Institute of Parasitology
Macdonald Campus of McGill University
21,111 Lakeshore Road
Sainte Anne de Bellevue, QC, H9X 3V9

Telephone: (514) 398-7725

Fax: (514) 398-7857

E-mail: program.biotech@mcgill.ca

Website: www.mcgill.ca/biotechgradprog

Applications will be considered upon receipt of a completed application form, \$60 application fee, and the following supporting documents:

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputa-

tion and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 550 on the paper-based test, 213 on the computer-based test) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate Schools), Biological Sciences - Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

Application Fee (non-refundable)

- A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines - Applications, including all supporting documents must reach the Institute no later than May15 (March1 for International) for the *Fall Term (September)*; October15 (July1 for International) for the *Winter Term (January)*; February15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students - Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to

be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

58.5 Program Requirements

M.Sc. Degree

Candidates are required to write a research proposal in the second term of their registration to fulfill the requirements of PARA600. While in the Institute, all students are required to register and participate in the seminar courses PARA606 and PARA607. Seminar speakers include students, professors and invited guests. Although emphasis in the graduate program is on research, satisfactory completion of two compulsory 3-credit graduate courses (PARA635 and PARA655) is required in the first year of study. Other course work in related subjects may be required, depending upon the candidates' background and research orientation. In total, a minimum of 14 credits of course work is required and a thesis (courses PARA687, PARA688, PARA689). The minimum requirement of the M.Sc. degree is 46credits.

Ph.D. Degree

In the first year of the doctoral program, the candidates must successfully complete a written thesis proposal and make an oral presentation on their proposed research to fulfill PARA700. Satisfactory completion of graduate courses PARA635 and PARA655 is required. While in the Institute, all students are required to participate in the seminar courses (PARA710 and PARA711).

Graduate Certificate in Biotechnology

For the Graduate Certificate in Biotechnology, students are required to complete 15 credits of courses offered within the Faculties of Agricultural and Environmental Sciences, Medicine, and Science.

Required Courses (10 credits)

BIOT505	(3)	Selected Topics in Biotechnology
BTEC620	(4)	Biotechnology Laboratory 1
BTEC621	(3)	Biotechnology Management

Complementary Courses (6 credits)

Two courses chosen from the following:

General Topics

ANSC622	(3)	Selected Topics in Molecular Biology
BIOL468	(3)	Topics in Human Genome
BIOL524	(3)	Topics in Molecular Biology
BIOL551	(3)	Molecular Biology: Cell Cycle
BTEC501	(3)	Bioinformatics
BTEC691	(3)	Biotechnology Practicum
EXMD511	(3)	Joint Venturing with Industry
EXMD602	(3)	Techniques in Molecular Genetics
EXMD610	(3)	Biochemical Methods in Medical Research

Health

MIMM466	(3)	Viral Pathogenesis
PARA635	(3)	Cell Biology and Infection
PHGY518	(3)	Artificial Cells

Environment and Food

ABEN530	(3)	Fermentation Engineering
CELL500	(3)	Techniques Plant Molecular Genetics
FDSC535	(3)	Food Biotechnology
PLNT600	(3)	Plant-Microbe Interactions

M.Sc. (Applied) in Biotechnology (45 credits)

Students enrolled in the M.Sc.A. degree must complete 45 credits. Required courses include science and non-science courses, as well as laboratory courses and a research project involving a four- to six-month internship in a research laboratory. The course load is completed with three complementary courses chosen from a list in conjunction with the academic advisor.

Required Courses (36 credits)

BIOT505	(3)	Selected Topics in Biotechnology
BTEC501	(3)	Bioinformatics
BTEC502	(3)	Biotechnology Ethics & Society
BTEC619	(4)	Biotechnology Laboratory 2
BTEC620	(4)	Biotechnology Laboratory 1
BTEC621	(3)	Biotechnology Management
BTEC622	(2)	Biotechnology Research Project 1
BTEC623	(6)	Biotechnology Research Project 2
BTEC624	(6)	Biotechnology Research Project 3
BTEC625	(2)	Biotechnology Research Project 4

Complementary Courses (9 credits)

Three courses are chosen from a list in conjunction with the academic advisor. For a detailed listing of the courses, please consult the web site.

58.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. The Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Departmental approval required for registration.

Denotes courses not offered in 2004-05.

The following advanced undergraduate courses are offered by Parasitology staff.

AEBI 202 CELLULAR BIOLOGY. (3) (Winter) (3 hours of lectures per week) Organization and function of intercellular organelles in eukaryotic cells. Protein synthesis and control of protein transport within the cell. Cell division and DNA replication. Energy metabolism and electron transport. Signal transduction and transmembrane signalling. Differentiation of cells and cancer. Function and components of the immune system.

AEMA 306 MATHEMATICAL METHODS IN ECOLOGY. (3) (3 hours of lectures per week) (Prerequisite: AEBI 205 or permission. Corequisite: AEMA 310 or permission) An introduction to mathematical and graphical tools for use in ecology. Representation and interpretation of data and associated statistics in graphs and tables; theoretical modelling in plant and animal ecology, including difference and differential equation models. Introduction to stability analysis and probability theory. Emphasis is placed on graphical techniques.

FDSC 211 BIOCHEMISTRY 1. (3) (Fall) (3 lectures) (Corequisite: FDSC 230) Biochemistry of carbohydrates, lipids, proteins, nucleic acids; enzymes and coenzymes. Introduction to intermediary metabolism.

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) (2 lectures per week) (Prerequisite: AEBI 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.

WILD 410 WILDLIFE ECOLOGY. (3) (Winter) (3 hours of lectures per week) (Prerequisite: AEBI 205 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.

Courses for Higher Degrees

BIOT 505 SELECTED TOPICS IN BIOTECHNOLOGY. (3) (Fall) (Restricted to 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.

BTEC 501 BIOINFORMATICS. (3) (2 lectures and 1 laboratory 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.

BTEC 502 BIOTECHNOLOGY ETHICS AND SOCIETY. (3) (Restricted to 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 619 BIOTECHNOLOGY LABORATORY 2.(4) A laboratory-based course in a variety of topics including: proteomics, protein expression and purification, conventional and HPLC chromatography, protein-protein interactions, ELISA, and Western blot analysis and hybridoma techniques.

BTEC 620 BIOTECHNOLOGY LABORATORY 1. (4) (one 8-hour lab per week) Practical training in contemporary methods of molecular and cellular biology. Intended for students with background in molecular biology, biochemistry, or a related area, who are already familiar with theoretical principles of recombinant DNA technologies. Topics include: polymerase chain reaction (PCR), methods for gene cloning and mutagenesis, eukaryotic and prokaryotic gene expression systems, protein purification and methods of eukaryotic cell culture.

BTEC 621 BIOTECHNOLOGY MANAGEMENT. (3) (one 3-hour lecture per week) Topics relevant to the management of research in industry are presented by experts working in industry. This course highlights the differences existing between research done in an academic environment and research done within industry.

BTEC 622 BIOTECHNOLOGY RESEARCH PROJECT 1.(2) (Prerequisite: BTEC 620.) (Restricted to M.Sc.(Applied) in Biotechnology students and is a prerequisite to BTEC 623, BTEC 624 and BTEC 625.) Research project proposal and literature review.

BTEC 623 BIOTECHNOLOGY RESEARCH PROJECT 2.(6) (Corequisite: BTEC 622.) (Restricted to M.Sc.(Applied) Biotechnology students.) Intensive research project, lasting a minimum of 16 weeks in conjunction with course Biotechnology Research Project 3, conducted in a university hospital or industry laboratory involved in biotechnology research or development.

BTEC 624 BIOTECHNOLOGY RESEARCH PROJECT 3.(6) (Prerequisite: BTEC 622.) (Corequisite: BTEC 623.) (Restricted to M.Sc.(Applied) Biotechnology students.) Intensive research project, lasting a minimum of 16 weeks in conjunction with Biotechnology Research Project 2, conducted in a university hospital or industry laboratory involved in biotechnology research or development.

BTEC 625 BIOTECHNOLOGY RESEARCH PROJECT 4.(2) (Prerequisite: BTEC 622.) (Corequisites: BTEC 623, BTEC 624.) (Restricted to M.Sc.(Applied) Biotechnology students.) Student will prepare a report on the research experience and give a presentation.

BTEC 691 BIOTECHNOLOGY PRACTICUM. (3) (Prerequisite: BTEC 620)

BTEC 691D1 (1.5), BTEC 691D2 (1.5) BIOTECHNOLOGY PRACTICUM. (Prerequisite: BTEC 620) (Students must register for both BTEC 691D1 and BTEC 691D2) (No credit will be given for this course unless both BTEC 691D1 and BTEC 691D2 are successfully completed in consecutive terms) (BTEC 691D1 and BTEC 691D2 together are equivalent to BTEC 691) The cooperating

employer and the instructor (or designate) will develop an individualized practicum experience program of at least 12 weeks duration for each student.

PARA 600 THESIS PROPOSAL FOR M.Sc. (4) Comprises a written document outlining the proposed research objectives.

PARA 600D1 (2), PARA 600D2 (2) THESIS PROPOSAL FOR M.Sc. (Students must register for both PARA 600D1 and PARA 600D2) (No credit will be given for this course unless both PARA 600D1 and PARA 600D2 are successfully completed in consecutive terms) (PARA 600D1 and PARA 600D2 together are equivalent to PARA 600) Comprises a written document outlining the proposed research objectives.

PARA 606 PARASITOLOGY SEMINAR. (2) A seminar series in which students present seminars covering topics in parasitology, in areas relevant to their research interests. Students register for the course in their second term of residency. Attendance and participation are compulsory for M.Sc. students.

PARA 607 PARASITOLOGY RESEARCH SEMINAR. (2) This is a required course for M.Sc. students. A seminar course in which students registered at the Institute of Parasitology present seminars on the results of their thesis research. Students register for the course in the final term prior to thesis submission.

PARA 635 CELL BIOLOGY AND INFECTION. (3) (Prerequisite: students with some background in molecular biology) Research articles will be the primary source of information. This course will cover new principles in cell biology. In particular, the mechanisms by which gene expression is regulated through signal transduction pathways initiated at the cell surface will be presented.

PARA 655 HOST-PARASITE INTERACTIONS. (3) Lectures, tutorials and laboratory demonstrations of the principal factors which affect levels of parasite infection and treatment of infections in humans and animals. The integration and management of the host-parasite relationship in terms of transmission, population dynamics, environmental management, behaviour, immune responses, pathology, and pharmacology to decrease parasitic disease.

PARA 665 SPECIAL TOPICS IN PARASITOLOGY. (3)

PARA 687 THESIS RESEARCH 1. (10)

PARA 688 THESIS RESEARCH 2. (10)

PARA 689 THESIS RESEARCH 3. (12)

PARA 700 THESIS PROPOSAL FOR Ph.D. (0) Comprises a written document outlining the proposed research objectives.

PARA 700D1 (0), PARA 700D2 (0) THESIS PROPOSAL FOR Ph.D. (Students must register for both PARA 700D1 and PARA 700D2) (No credit will be given for this course unless both PARA 700D1 and PARA 700D2 are successfully completed in consecutive terms) (PARA 700D1 and PARA 700D2 together are equivalent to PARA 700) See PARA 700 for course description.

PARA 710 PARASITOLOGY Ph.D. SEMINAR 1. (2) This first seminar is a review of the scientific literature in the topic area of the thesis research.

PARA 711 PARASITOLOGY Ph.D. SEMINAR 2. (2) A seminar series in which students present seminars covering topics in parasitology in areas relevant to their research interests. Attendance and participation are compulsory.

59 Pathology

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Fax: (514) 398-7446
E-mail: gradstudies.pathology@mcgill.ca
Web site: www.mcgill.ca/pathology

Chair — C.C. Compton

Director of Graduate Program — E. Zorychta

59.1 Staff

Professors

M.N. Burnier Jr.; M.D., M.Sc., Ph.D.(Brazil)
C.C. Compton; B.A. M.D., Ph.D.(Harv.)
A.M.V. Duncan; B.Sc.(Queen's), Ph.D.(Edin.)
A. Ferenczy; B.A., B.Sc., M.D.(Montr.)
R. Fraser; B.Sc., M.D., C.M.(McG.), M.Sc.(Glas.), F.R.C.P.(C)
D. Haegert; M.D.(Br.Col.), F.R.C.P.(C)
Q.A. Hamid; M.D.(Mosul), Ph.D.(Lond.) (*James McGill Professor*)
(*joint appoint. with Medicine*)
J.R. Jass; M.B.B.S., M.D.(Lond.), F.R.C.Path
R.P. Michel; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
J.B. Richardson; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)

Associate Professors

L. Alpert; M.D., Ph.D.(Tufts)
J. Arseneau; M.D.(Laval), F.R.C.P.(C)
M. Auger; M.D., C.M.(McG.), F.R.C.P.(C)
M.L. Brisson; B.A.(Paris), B.Sc., M.D.(Montr.)
B. Case; B.Sc., M.D., C.M., M.Sc.(McG.), Dipl. Occ. Hyg.,
F.R.C.P.(C)
M.F. Chen; M.B., B.S.(Monash), F.R.C.P.(C)
G. Domanowski; M.D.(N.Y.)
A. Giaid; D.V.M.S.(Baghdad), Ph.D.(Lond.)
R. Onerheim; M.D.(Alta.), F.R.C.P.(C)
L. Rochon; M.D.(Sher.), F.R.C.P.(C)
S. Tange; B.A., M.D.(Minn.)
K. Watters; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
E.A. Zorychta; B.Sc.(St.F.X.), M.Sc., Ph.D.(McG.)

Assistant Professors

S. Albrecht; M.D.(Sher.), F.R.C.P.(C)
C. Bernard; M.D.(Sher.)
M. Blumenkrantz; M.D., C.M.(McG.), F.R.C.P.(C)
C. Catzavelos; M.D.(Cape Town), F.R.C.P.(C)
P.J. Chauvin; M.Sc.(W.Ont.), D.D.S.(McG.)
M.-C. Guiot; B.Sc., M.D.(Bordeaux)
F. Halwani; M.D.(Iran), Ph.D.(McG.), F.R.C.P.(C)
K. Khetani; M.B.B.S.(Aga Khan)
E. Lamoureux; B.Sc., M.D.(Montr.), F.R.C.P.(C)
A.T. Marcus; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
V.A. Marcus; M.D., C.M.(McG.), F.R.C.P.(C)
A.R. Mehio; M.D.(Leb.)
A. Nahal; M.D.(Aleppo)
S.H. Nasr; M.D.(Damascus)
V.-H. Nguyen; M.D.(Montr.), F.R.C.P.(C)
A. Péroquin; M.D.(Sher.), F.R.C.S.(C), F.R.C.P.(C)
D. Pilavdzic; M.D.(Zagreb), F.R.C.P.(C)
L.A. Quenneville; M.Sc., M.D.(Sask.), F.R.C.P.(C)
I. Roy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)
K. Sircar; M.D., C.M.(McG.), F.R.C.P.(C)
H. Srolovitz; B.Sc.(Pitt.), M.D.(Basle)
J. St. Cyr; M.D., C.M.(McG.), F.R.C.P.(C)

59.2 Programs Offered

M.Sc. and Ph.D. degrees in Pathology.

The Pathology Department offers research training in a wide variety of areas such as atherosclerosis, immunology and transplantation, neoplasia, cell biology, pulmonary vascular and airways disease, pulmonary edema, neurodegenerative disorders, and smooth muscle pathophysiology.

Modern techniques and equipment include light, fluorescence and electron microscopy (both transmission and scanning), cell culture, advanced immunological, pharmacological, biochemical and physiological techniques, as well as morphometry and computers.

59.3 Admission Requirements

Applicants must have a B.Sc. or the equivalent degree with an extensive background in the physical and biological sciences. An academic record equivalent to or better than a CGPA of 3.2 out of 4 at McGill is required for at least the two final full-time years of undergraduate training with a minimum CGPA of 3.0 overall.

Non-Canadian students may be required to take the GRE and TOEFL examinations in order to properly evaluate their suitability. Students are normally accepted into the M.Sc. program, and those candidates showing exceptional ability may be permitted to transfer into the Ph.D. program after one year of training.

Applicants who already possess an additional degree (M.Sc., M.D.) and have some research experience may be allowed to register in the Ph.D. program directly.

Prospective students are encouraged to contact the Teaching Office, Department of Pathology, for application forms and a departmental brochure containing the research interests of the academic staff.

59.4 Application Procedures

Applications will be considered upon receipt of:

1. application;
2. transcripts;
3. letters of reference;
4. \$60 application fee;
5. test results (GRE, TOEFL).

All information is to be submitted directly to the Pathology Teaching Office.

All applications will be evaluated by the Graduate Students Committee. Candidates found suitable must then be accepted by a research director, and adequate funding must be obtained for both personal support and research expenses.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

59.5 Program Requirements

All students must take PATH300 plus a course in statistics if they have not completed these requirements before admission.

Candidates with insufficient background in one of the biomedical sciences will be required to take specific courses to remedy the deficiency. These and additional courses which are relevant to the student's area of research will be chosen in consultation with the research director and Graduate Students Committee.

M.Sc. Program Requirements

The program consists of 45 credits, 30 credits obtained by laboratory work and submission of a thesis (PATH690, PATH691, PATH692), with the remaining 15 course credits to be distributed as follows: PATH613 or PATH614, PATH620, PATH622, plus any two graduate level courses offered by the Department. A graduate course in another department may be substituted for one of the Pathology graduate courses upon approval by the research director and Graduate Students Committee.

Ph.D. Program Requirements

Ph.D. candidates are required to complete courses PATH613, PATH614, PATH620, PATH622, PATH701, plus any three graduate level courses offered by the Department, and any additional courses considered necessary by the research director or the Graduate Students Committee.

Candidates will be evaluated primarily on their ability to conduct independent research and submit a thesis, which must be defended orally.

59.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been

added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

Advanced Undergraduate

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.

Graduate Courses

The following courses are given in a variable sequence depending on the interests and requirements of graduate students enrolled in the Department.

PATH 607 BIOCHEMICAL PATHOLOGY. (3)

PATH 613 RESEARCH TOPICS IN PATHOLOGY. (3)

PATH 614 RESEARCH TOPICS IN PATHOLOGY. (3)

PATH 620 RESEARCH SEMINAR 1. (3)

PATH 622 RESEARCH SEMINAR 2. (3)

PATH 650 IMMUNOPATHOLOGY. (3)

PATH 651 PATHOBIOLOGY OF ARTERIAL WALL. (3)

PATH 653 READING AND CONFERENCE. (3) (Offered in conjunction with the Department of Human Genetics.) Cytogenetics is the science and art of making and analyzing chromosome preparations. This course focuses on human chromosomes, although methodologies and principles apply broadly to other species as well. Basic facts and mysteries about chromosomes will be explained and discussed in the light of clinical examples.

PATH 690 M.Sc.THESIS RESEARCH PROJECT 1. (9)

PATH 691 M.Sc.THESIS RESEARCH PROJECT 2. (9)

PATH 692 M.Sc. THESIS RESEARCH PROJECT 3. (12)

PATH 701D1 (0), PATH 701D2 (0) COMPREHENSIVE EXAMINATION - PH.D. CANDIDATES. (Students must register for both PATH 701D1 and PATH 701D2) (No credit will be given for this course unless both PATH 701D1 and PATH 701D2 are successfully completed in consecutive terms)

60 Pharmacology and Therapeutics

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Chair — H.H. Zingg

Chair, Graduate Committee — B. Collier

60.1 Staff

Emeritus Professor

T. Sourkes; Ph.D.(C'nell.)

Professors

G. Almazan; Ph.D. (McG.)

R. Capek; M.D., Ph.D.(Prague)
 P.B.S. Clarke; M.A.(Camb.), Ph.D.(Lond.)
 B. Collier; Ph.D.(Leeds)
 A.C. Cuello; M.D.(Buenos Aires), D.Sc.(Oxon), F.R.S.C.
 B.F. Hales; Ph.D.(McG.)
 P.J. McLeod; M.D.(Man.), F.R.C.P.(C)
 A. Ribeiro-da-Silva; M.D., Ph.D. (Oporto)
 B. Robaire; Ph.D.(McG.)
 M. Szyf; Ph.D.(Hebrew Univ.)
 J. Trasler; M.D., C.M., Ph.D.(McG.)
 D.R. Varma; M.D.(L'now), Ph.D.(McG.)
 H.H. Zingg; M.D., Ph.D.(McG.)

Associate Professors

B. Esplin; M.D.(Warsaw)
 D. Maysinger; Ph.D.(S. Calif.)
 S. Nattel; M.D. C.M.(McG.)
 A.L. Padjen; M.D., Ph.D.(Zagreb)
 H. Saragovi; Ph.D.(Miami)
 B.I. Sasyniuk; Ph.D.(Man.)
 E. Zorychta; Ph.D.(McG.)

Assistant Professor

D. Bowie; B.Sc., Ph.D.(Lond.)

Associate Members

M. Alaoui-Jamali; Ph.D.(Sorbonne)
 G. Batist; M.D., C.M.(McG.)
 G. Di Batista; B.Sc., Ph.D.(Montr.)
 P. Fiset; M.D.(Laval), F.R.C.P.S.(C)
 S. Gauthier; M.D.(Montr.)
 B.J. Jean-Claude; Ph.D.(McG.)
 J.B. Richardson; M.D., C.M., Ph.D.(McG.) F.R.C.P.
 R. Prichard; Ph.D.(N.S.W.)
 R. Quirion; Ph.D.(Sher.)
 A. Tenenhouse; M.D., C.M., Ph.D.(McG.)

Adjunct Professors

S. Chemtob, Y. de Koninck, L. Garofalo, T. Hebert, J.M.A. Laird, J.Mancini, K. Metters

60.2 Programs Offered

The Department of Pharmacology and Therapeutics offers training leading to M.Sc. (thesis), M.Sc. Applied (non-thesis) and Ph.D. degrees.

The Department also offers the Chemical Biology Interdisciplinary Graduate Option, together with the Departments of Biochemistry and Chemistry. Students interested in training in this option must first be accepted for graduate studies by one of the participating departments. Information on this option can be found at the following web address: www.mcgill.ca/biochemistry/chemcalbiology.

Pharmacology is a multi-disciplinary science which deals with all aspects of drugs and their interactions with living organisms. Thus, pharmacologists study the physical and chemical properties of drugs, their biochemical and physiological effects, mechanisms of action, pharmacokinetics and therapeutic and other uses. The Department offers broad exposure and training in both basic and clinical research in areas of specialty ranging from neuropharmacology, reproductive, endocrine, receptor, cardiovascular, cancer, developmental, autonomic, clinical and biochemical pharmacology, molecular biology, to toxicology.

The present 38 full and affiliate members of the Department have research laboratories located in the McIntyre Medical Sciences Building and in a variety of hospitals, institutes and industry including the Douglas Hospital Research Center, Allan Memorial Institute, Montreal Children's Hospital, Montreal General Hospital, Royal Victoria Hospital, Montreal Heart Institute, Lady Davis Research Institute, Pfizer Canada and Merck Frosst Canada Inc. The participation of researchers from both industry and government ensures the relevance of the Department's applications-oriented training programs.

60.3 Admission Requirements

Candidates are required to hold a B.Sc. degree in a discipline relevant to the proposed field of study; those with the M.D., D.D.S. or D.V.M. degrees are also eligible to apply. A background in the health sciences is recommended, but programs in biology, chemistry, mathematics, and physical sciences may be acceptable.

Admission is based on a student's academic record, letters of assessment, and, whenever possible, interviews with staff members. Non-Canadian students are required to take the Graduate Record Examination Aptitude Test (GRE) and the Test of English as a Foreign Language (TOEFL) or the equivalents.

Inquiries relating to all aspects of graduate study should be directed to the Graduate Coordinator, Department of Pharmacology and Therapeutics as early as possible in each academic year.

Admissions Requirements - Chemical Biology Option

As for the regular graduate programs of the participating departments, acceptance into the Chemical Biology Option consists of two steps:

1. Preliminary approval by the Department's Graduate Committee based on the student's transcript, references and other documents submitted with the application. The criteria for assessment at this level are the same as for the regular graduate programs of the participating departments.
2. Acceptance by an individual research director. For students wishing to participate in the Chemical Biology Option, the director must propose a research project for the student that provides training in the methods and philosophy of chemical biology. Project proposals are assessed by the Chemical Biology Program Committee.

60.4 Application Procedures

Applications will be considered upon receipt of:

1. Completed official McGill University application form; available via Internet at www.mcgill.ca/applying/graduate.
2. Curriculum vitae including a statement of research interests.
3. Two copies of official transcripts sent directly from all universities attended.
4. Two confidential letters of recommendation from professors or research-related employers (at least one should be from an academic known to the international scientific community).
5. Application fee (\$60 Canadian or U.S. Funds) payable by credit card for on-line applications; by money order, certified personal cheque, or bank draft enclosed with the official paper application form.
6. Official GRE and TOEFL scores (not required of applicants from Canada).

Applications and all documents should be submitted directly to the Graduate Co-ordinator, Mrs. Pam Moore, in the Department of Pharmacology.

Deadlines

September Admission:

Canadian/Permanent Resident applicants – June 1st
 (including interviews with graduate committee members).

International applicants – March 1st.

January Admission:

Canadian/Permanent Resident applicants – October 1st
 (including interviews with graduate committee members).

International applicants – August 1st.

60.5 Program Requirements

The objective of the M.Sc. (thesis) and Ph.D. degree training programs is to provide in-depth independent research experience in a specific area of pharmacology.

M.Sc. (Thesis) (45 credits)

In addition to a M.Sc. Thesis, the specific requirements are as follows:

1. Complete PHAR601 Comprehensive Examination (6credits)
2. Plus PHAR712 Statistics for Pharmacologists (3 credits)
3. *PHAR562 General Pharmacology 1 and PHAR563 General Pharmacology 2 or their equivalent (6 credits)
*Students who have taken PHAR562 and PHAR563 as part of their undergraduate degree must register for PHAR697 Thesis Preparation 1 (6 credits)
4. Two 700-level graduate courses in Pharmacology (3 credits each)

The M.Sc. program consists of 45 credits, a minimum of 18 credits are required in addition to thesis preparation courses PHAR696, PHAR698 and PHAR699 (3, 9 and 12 credits respectively).

Ph.D. (Thesis)

Students enrolled in the Ph.D. program must successfully complete or be exempted from the same courses as for the M.Sc. degree, plus one additional 700-level graduate course (for total of three), in addition to a Ph.D. thesis.

M.Sc. (Applied) degree

(Not offered during the 2004-05 year.)

The objective of the M.Sc. Applied program is to provide a broad exposure and training in Pharmacology, with two terms of courses and two of research, one of which may be completed during the summer.

The course requirements (45 credits) are as follows: PHAR562 and PHAR563, General Pharmacology 1 and 2, or their equivalents; PHAR712, Statistics for Pharmacologists; PHAR603, Drug Discovery and Development; one 700 level Pharmacology graduate course; PHAR604, Advanced independent research project in pharmacology; PHAR605, Advanced independent research project in applied pharmacology, plus three complementary courses to be chosen from options in Epidemiology, Experimental Medicine, Biotechnology, Bioethics, Biochemistry, Physiology, Microbiology and Immunology, Pathology, and Economics.

Program Requirements - Chemical Biology Option

The curriculum of the Chemical Biology Option is structured so that in completing the option, students also complete the course requirements for the regular graduate programs in their home departments. For this reason, program requirements are listed separately for each department, even though the 'core' content in Chemical Biology (9 lecture credits plus 2 or 4 seminar credits for each program) is the same for each. The course requirements for the Chemical Biology Option taken through the Pharmacology and Therapeutics Department are available at www.mcgill.ca/biochemistry/chemicalbiology.

60.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

The following courses are designed primarily for graduate students in the Department, but may be attended by others under special circumstances. These courses are given in a rotational sequence and students may register according to their specific requirements and interests.

Denotes courses not offered in 2004-05.

PHAR 601D1 (3), PHAR 601D2 (3) COMPREHENSIVE. (Students must register for both PHAR 601D1 and PHAR 601D2) (No credit will be given for this course unless both PHAR 601D1 and PHAR 601D2 are successfully completed in consecutive terms)

PHAR 601N1 COMPREHENSIVE. (3) (Students must also register for PHAR 601N2) (No credit will be given for this course unless both PHAR 601N1 and PHAR 601N2 are successfully completed in a twelve month period) See PHAR 601D1 for course description.

PHAR 601N2 COMPREHENSIVE. (3) (Prerequisite: PHAR 601N1) (No credit will be given for this course unless both PHAR 601N1 and PHAR 601N2 are successfully completed in a twelve month period) See PHAR 601D1 for course description.

PHAR 696 THESIS PREPARATION. (3)

PHAR 697 THESIS PREPARATION 1. (6)

PHAR 698 THESIS PREPARATION 2. (9)

PHAR 699 THESIS PREPARATION 3. (12)

PHAR 702 BIOCHEMICAL PHARMACOLOGY. (3)

PHAR 703 NEUROPHARMACOLOGY. (3)

PHAR 704 DRUG DISTRIBUTION, METABOLISM AND EXCRETION. (3) Mechanisms by which the body handles endogenous and foreign chemicals and the effects of these processes on the characteristics of drug action.

PHAR 705 CARDIOVASCULAR REGULATION AND DRUG ACTION. (3)

PHAR 706 CHEMICAL MEDIATORS AND AUTONOMIC DRUGS. (3)

PHAR 707 MOLECULAR PHARMACOLOGY. (3)

PHAR 712 STATISTICS FOR PHARMACOLOGISTS. (3) Basic theoretical and practical aspects of statistics for pharmacologists.

PHAR 713 DEVELOPMENTAL PHARMACOLOGY. (3)

PHAR 714 ENDOCRINE PHARMACOLOGY. (3) Mechanisms by which drugs interact with and modulate the endocrine system. Examples of drugs for discussion include oral contraceptives, drugs used to treat infertility and for the management of menopause, vitamin D, insulin, adrenal steroids and thyroid hormone.

61 Philosophy

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Chair — R.P. Buckley

61.1 Staff*Emeritus Professors*

R. Klibansky; M.A.(Oxon), D.Phil.(Heidel.), F.R.Hist. F.R.S.C.
(*John Frothingham Emeritus Professor of Logic and Metaphysics*)

A.T. 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*)

D. Norton; M.A.(Claremont), Ph.D.(Calif.), F.R.S.C.
C. Taylor; M.A., D.Phil.(Oxon), F.R.S.C.

Professors

M.A. Bunge; Ph.D.(LaPlata), F.R.S.C. (*John Frothingham Professor of Logic and Metaphysics*)

G. DiGiovanni; B.A., M.A., S.T.B., Ph.D.(Tor.)
S. McCall; B.A.(McG.), B.Phil., D.Phil.(Oxon)

Associate Professors

R.P. Buckley; Ph.D.(Louvain)
D. Davies; B.A.(Oxon), M.A.(Manit.), Ph.D.(W.Ont.)
M. Deslauriers; B.A.(McG.), M.A., Ph.D.(Tor.)
M. Hallett; B.Sc., Ph.D.(Lond.)

A. Laywine; B.A.(Ott.), M.A.(Montr.), Ph.D.(Chic.)
 E. Lewis; B.A.(C'nell), Ph.D.(Ill. at Chic.)
 J. McGilvray; B.A.(Carleton College), Ph.D.(Yale)
 S. Menn; M.A., Ph.D.(Chic.), M.A., Ph.D.(Johns H.)
 S. Stroud; A.B.(Harv.), Ph.D.(Prin.)

Assistant Professors

A. Al-Saji; M.A.(Louvain), Ph.D.(Emory)
 E. Carson; M.A.(McG.), Ph.D.(Harv.)
 Gaëlle Fiasse; B.A., M.A., Ph.D. (Louvain)
 G. Mikkelson; M.S., Ph.D.(Chic.) (*joint appoint. with McGill School of Environment*)
 Jeffrey Speaks; B.A. (Notre Dame), Ph.D. (Prin.)

Adjunct Professors

S. Davis (S. Fraser)
 I. Gold (Monash)

Auxiliary Professor

K. Arvanitakis

Associate Members

C. Fraenkel (Jewish Studies), L.Kaplan (Jewish Studies),
 A.Patten (Political Science)

61.2 Programs Offered

The Department offers courses of study leading to the Ph.D. in Philosophy. It also offers, in conjunction with the Biomedical Ethics Unit, a course of study leading to the M.A. degree in Bioethics.

61.3 Admission Requirements

Ph.D. Students with an Honours B.A. degree in philosophy, or the equivalent, are normally admitted to the Ph.D. program directly at the Ph.D.I level. The Department considers an Honours B.A. degree to include:

- 1) A general knowledge of the history of Western philosophy: Greek, Medieval, Modern.
- 2) A systematic knowledge of the main philosophical disciplines in their contemporary as well as historical contexts: logic, ethics, epistemology, and metaphysics.
- 3) An ability to present, in written form, clear and substantial reconstructions and analyses of the materials normally studied in the areas mentioned in (1) and (2).

To demonstrate their competence in these areas applicants must submit transcripts of academic work, three letters of recommendation from persons with whom they have studied, and at least one substantial example (approximately 15-20 typewritten pages) of their written philosophical work.

In addition, applicants from North America whose first language is English are required to submit scores of the Graduate Record Examination. Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree from a recognized institution where English is the language of instruction are required to submit documented proof of competency in oral and written English (TOEFL score).

Students who hold an M.A. degree from another institution should apply for admission at the Ph.D. II level; such students will normally be required to complete two years of course work.

M.A. (Bioethics) Students applying to the Bioethics Specialty program must write an M.A. thesis proposal. All applications to this program must also receive the approval of the Director of the Specialty program. Students who apply for this program should note that they must participate in a practicum which continues beyond the end of their second term of classes.

61.4 Application Procedures

Ph.D.

The Department conducts its admission process once a year. Applications are accepted between October 15 and January 15 for September admission. The application deadline is January 15.

The on-line application form is available at www.mcgill.ca/applying/graduate.

Applications will be considered complete upon receipt of:

1. application form;
2. \$60 fee;
3. two (2) official transcripts of all post-secondary studies;
4. three (3) original letters of reference;
5. test results (GRE, TOEFL);
6. writing sample;
7. statement of intent.

All supporting documents are to be submitted to the Department of Philosophy.

M.A. specialization in Bioethics

Applications are made initially through the Biomedical Ethics Unit in the Faculty of Medicine, which administers the program and teaches the core courses.

Applicants must be accepted first by the Department of Philosophy and then by the Bioethics Graduate Studies Advisory Committee.

For information, please contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3690 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514) 398-6980. Fax: (514) 398-8349. E-mail: leigh.turner@mcgill.ca.

61.5 Program Requirements

The course work for the first four terms of the Ph.D. program will include two pro-seminars, in two of the following three areas: Value theory; Metaphysics and Epistemology; History of Philosophy. Each seminar will be led by two members of staff, and the grade for the seminar will be determined jointly by them. Each academic year, the Chair will invite joint proposals from staff for topics for the following year's pro-seminar and will, if necessary, choose among proposals, ensuring that the topics offered in successive years do not fall within the same area as defined above. The Chair will also consult with graduate students in Ph.D. I concerning the topic of the pro-seminar for the following year. The pro-seminar will normally be offered in the Fall term.

The course work taken towards completion of the requirements for the Ph.D. program must satisfy certain distribution requirements. Students must take at least two graduate courses in each of the following three areas: Value Theory; Metaphysics and Epistemology; History of Philosophy. Pro-seminars (6 credits each) may be counted in partial satisfaction of these requirements. The Graduate Director, in consultation with the student's advisory committee, will determine for which area(s) a given course may be counted. Students are entitled to appeal such decisions to the Department as a whole. No student may count a given course towards the satisfaction of the distribution requirements for more than one area.

By the end of the Ph.D. II year, a student must submit a research paper (the "candidacy paper" [3 credits]), which may be worked up from a paper written to fulfill the requirements of a graduate course, to a Thesis Advancement Committee consisting of a least two members of the staff of the Department. The membership of this committee will be determined by the Graduate Director in consultation with the student; it is anticipated that members of this committee would, in principle, direct the student's thesis. This committee assigns a grade to the student's paper and reviews her or his graduate performance; on the basis of its assessment and review, it recommends to the Department as a whole either to permit the student to continue with the Ph.D. program and undertake a thesis or to decline to permit the student to continue. Two necessary conditions for a positive recommendation are that the student (a) receive a grade of at least B+ on the

candidacy paper, and (b) have at least a 3.5 GPA (on the undergraduate Grade Point scale) in the course work required for the program. The Department as a whole, taking into account the Thesis Advancement Committee's recommendation and the student's overall academic record in the program, decides whether to permit the student to continue.

Students who do not receive a positive recommendation but who satisfy Graduate and Postdoctoral Studies Office requirements (no courses below a B-minus and completion of 45 credits) will be recommended to the Graduate and Postdoctoral Studies Office by the Department to transfer from the Ph.D. program to the M.A. program.

M.A. specialization in Bioethics: The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (3 credit minimum) offered by Philosophy and any graduate courses required or accepted by Philosophy for the granting of a Master's degree, for a total of 18 to 21 credits. A minimum of 45 credits is required including the thesis. For further information refer to the Bioethics entry.

61.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

PHIL 506 SEMINAR: PHILOSOPHY OF MIND. (3) (Prerequisite: PHIL 306. Open only to students as indicated above and to Cognitive Science Minors) (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) (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 510 SEMINAR: ADVANCED LOGIC 2. (3) (Prerequisite: PHIL 310 or written permission of the instructor) (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 511 SEMINAR: PHILOSOPHY OF LOGIC AND MATHEMATICS. (3) (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) (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 519 SEMINAR: EPISTEMOLOGY. (3) (Prerequisite: PHIL 420 or written permission of the instructor) (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) (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 534 SEMINAR: ETHICS. (3) (Prerequisite: PHIL 334 or written permission of the instructor) (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 540 SEM: PHILOSOPHY AND SOCIAL SCIENCES. (3)

PHIL 541 SEMINAR: PHILOSOPHY OF SCIENCE. (3) (Prerequisite: PHIL 441 or other requirements specified by the instructor) (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) (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) (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) (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 551 SEMINAR: ANCIENT PHILOSOPHY 2. (3) (Prerequisite: at least one course in ancient philosophy and the specific requirements of individual instructors) (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) (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 560 SEMINAR: 17TH CENTURY PHILOSOPHY. (3) (Prerequisite: PHIL 360 or written permission of the instructor) (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 seventeenth-century philosopher or philosophical issue.

PHIL 561 SEMINAR: 18TH CENTURY PHILOSOPHY. (3) (Prerequisite: PHIL 361 or written permission of the instructor) (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) (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 570 SEMINAR: CONTEMPORARY ANALYTIC PHILOSOPHY. (3) (Prerequisite: PHIL 370 or PHIL 415 or written permission of the instructor) (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 575 SEMINAR: CONTEMPORARY EUROPEAN PHILOSOPHY. (3) (Prerequisite: PHIL 475 or written permission of the instructor) (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) (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) (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) (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.

PHIL 602 SEMINAR: HISTORY OF PHILOSOPHY 2. (3)

PHIL 604 SEMINAR: METAPHYSICS AND EPISTEMOLOGY 2. (3)

PHIL 607 PRO-SEMINAR 1. (6) A series of seminars on selected topics designed for professional training to graduate students. Topics will be selected from the general area of Value Theory.

PHIL 682 PRO-SEMINAR 3. (6) A series of seminars on selected topics designed to provide professional training to graduate students. Topics will be selected from the general area of Metaphysics/Epistemology.

PHIL 685 FUNDAMENTALS OF LOGIC. (3) A course in intermediate logic for graduate students in Philosophy, covering such topics as axiomatic systems, formal semantics, consistency, completeness, the limitative results, intuitionistic logic, formal theories of truth, aspects of the development of logic.

PHIL 690 CANDIDACY PAPER. (3)

PHIL 693 M.A. THESIS RESEARCH. (5)

PHIL 693D1 (2.5), PHIL 693D2 (2.5) M.A. THESIS RESEARCH. (Students must register for both PHIL 693D1 and PHIL 693D2) (No credit will be given for this course unless both PHIL 693D1 and PHIL 693D2 are successfully completed in consecutive terms) (PHIL 693D1 and PHIL 693D2 together are equivalent to PHIL 693)

PHIL 693N1 M.A. THESIS RESEARCH. (2.5) (Students must also register for PHIL 693N2) (No credit will be given for this course unless both PHIL 693N1 and PHIL 693N2 are successfully completed in a twelve month period) (PHIL 693N1 and PHIL 693N2 together are equivalent to PHIL 693) Submission of thesis topic and detailed bibliography.

PHIL 693N2 M.A. THESIS RESEARCH. (2.5) (Prerequisite: PHIL 693N1) (No credit will be given for this course unless both PHIL 693N1 and PHIL 693N2 are successfully completed in a twelve month period) (PHIL 693N1 and PHIL 693N2 together are equivalent to PHIL 693) See PHIL 693N1 for course description.

PHIL 694 M.A. THESIS RESEARCH 2. (5)

PHIL 694D1 (2.5), PHIL 694D2 (2.5) M.A. THESIS RESEARCH 2. (Students must register for both PHIL 694D1 and PHIL 694D2) (No credit will be given for this course unless both PHIL 694D1 and PHIL 694D2 are successfully completed in consecutive terms) (PHIL 694D1 and PHIL 694D2 together are equivalent to PHIL 694) Detailed thesis proposal.

PHIL 694N1 M.A. THESIS RESEARCH 2. (2.5) (Students must also register for PHIL 694N2) (No credit will be given for this course unless both PHIL 694N1 and PHIL 694N2 are successfully completed in a twelve month period) (PHIL 694N1 and PHIL 694N2 together are equivalent to PHIL 694) Detailed thesis proposal.

PHIL 694N2 M.A. THESIS RESEARCH 2. (2.5) (Prerequisite: PHIL 694N1) (No credit will be given for this course unless both PHIL 694N1 and PHIL 694N2 are successfully completed in a twelve month period) (PHIL 694N1 and PHIL 694N2 together are equivalent to PHIL 694) See PHIL 694N1 for course description.

PHIL 695 M.A. THESIS RESEARCH 3. (14) Completion of thesis.

PHIL 695D1 (7), PHIL 695D2 (7) M.A. THESIS RESEARCH 3. (Students must register for both PHIL 695D1 and PHIL 695D2) (No credit will be given for this course unless both PHIL 695D1 and PHIL 695D2 are successfully completed in consecutive terms) (PHIL 695D1 and PHIL 695D2 together are equivalent to PHIL 695) Completion of thesis.

PHIL 695N1 M.A. THESIS RESEARCH 3. (7) (Students must also register for PHIL 695N2) (No credit will be given for this course unless both PHIL 695N1 and PHIL 695N2 are successfully completed in a twelve month period) (PHIL 695N1 and PHIL 695N2 together are equivalent to PHIL 695) Completion of thesis.

PHIL 695N2 M.A. THESIS RESEARCH 3. (7) (Prerequisite: PHIL 695N1) (No credit will be given for this course unless both PHIL 695N1 and PHIL 695N2 are successfully completed in a twelve month period) (PHIL 695N1 and PHIL 695N2 together are equivalent to PHIL 695) See PHIL 695N1 for course description.

PHIL 701D1 (0), PHIL 701D2 (0) PH.D. COMPREHENSIVE EXAMINATION. (Students must register for both PHIL 701D1 and PHIL 701D2) (No credit will be given for this course unless both PHIL 701D1 and PHIL 701D2 are successfully completed in consecutive terms) (PHIL 701D1 and PHIL 701D2 together are equivalent to PHIL 701)

PHIL 701N1 PH.D. COMPREHENSIVE EXAMINATION. (0) (Students must also register for PHIL 701N2) (No credit will be given for this course unless both PHIL 701N1 and PHIL 701N2 are successfully completed in a twelve month period) (PHIL 701N1 and PHIL 701N2 together are equivalent to PHIL 701)

PHIL 701N2 PH.D. COMPREHENSIVE EXAMINATION. (0) (Prerequisite: PHIL 701N1) (No credit will be given for this course unless both PHIL 701N1 and PHIL 701N2 are successfully completed in a twelve month period) (PHIL 701N1 and PHIL 701N2 together are equivalent to PHIL 701) See PHIL 701N1 for course description.

PHIL 705 GUIDED RESEARCH IN ETHICS. (3)

PHIL 706 GUIDED RESEARCH IN ETHICS. (3)

PHIL 710 GUIDED RESEARCH IN LOGIC. (3)

PHIL 711 GUIDED RESEARCH IN LOGIC. (3)

PHIL 720 GUIDED RESEARCH: PHILOSOPHY OF SCIENCE. (3)

PHIL 721 GUIDED RESEARCH: PHILOSOPHY OF SCIENCE. (3)

PHIL 730 GUIDED RESEARCH: PHILOSOPHY OF RELIGION. (3)

PHIL 731 GUIDED RESEARCH: PHILOSOPHY OF RELIGION. (3)

PHIL 740 GUIDED RESEARCH: ANCIENT PHILOSOPHY. (3)

PHIL 741 GUIDED RESEARCH: ANCIENT PHILOSOPHY. (3)

PHIL 750 GUIDED RESEARCH: MEDIEVAL PHILOSOPHY. (3)

PHIL 751 GUIDED RESEARCH: MEDIEVAL PHILOSOPHY. (3)

PHIL 760 GUIDED RESEARCH: HISTORY OF PHILOSOPHY. (3)

PHIL 761 GUIDED RESEARCH: HISTORY OF PHILOSOPHY. (3)

PHIL 770 GUIDED RESEARCH: PHILOSOPHY OF POLITICS. (3)

PHIL 771 GUIDED RESEARCH: PHILOSOPHY OF POLITICS. (3)

PHIL 780 GUIDED RESEARCH: EPISTEMOLOGY/METAPHYSICS. (3)

PHIL 781 GUIDED RESEARCH: EPISTEMOLOGY/METAPHYSICS. (3)

* Several courses, primarily philosophical in content, are available in other departments. Note in particular the offerings in Classics, Jewish Studies, Islamic Institute and Political Science.

62 Physical and Occupational Therapy

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Director, Graduate Program — Diane St-Pierre

62.1 Staff

Professors

Hugues Barbeau; B.Sc.(P.T.), Ph.D.(Laval)
Robert W. Dykes; B.A.(UCLA), Ph.D.(Johns H.)
Erika Gisel; B.A.(Zur.), B.S.O.T., M.S., Ph.D.(Temple)
Sharon Wood-Dauphinee; B.Sc.(P.T.), Dip.Ed., M.Sc.A.,
Ph.D.(McG.)

Associate Professors

Katherine Berg; B.P.T., B.Sc. P.T., M.Sc.(Rehab Sc.),
Ph.D.(McG.)
Joyce Fung; B.Sc.(P.T.)(HK PU), Ph.D.(McG.)
Eva Kehayia; B.A., M.A., Ph.D.(McG.)
Nicol Korner-Bitensky; B.Sc.(O.T.), M.Sc., Ph.D.(McG.)
Annette Majnemer; B.Sc.(O.T.), M.Sc., Ph.D.(McG.)
Nancy Mayo; B.Sc.(P.T.)(Queen's), M.Sc., Ph.D.(McG.) (*James
McGill Professor*)
Patricia McKinley; B.A., M.A., Ph.D.(U.C.L.A.)
Diane St-Pierre; B.Sc.(P.T.)(McG.), M.Sc., Ph.D.(Montr.)

Assistant Professors

Sophie De Serres; B.Eng., M.Eng.(École Poly.), Ph.D.(Alta.)
Isabelle Gélinas; B.Sc.(O.T.)(Montr.), M.Sc.(Virginia),
Ph.D.(Rehab.Sc.)(McG.)
Anouk Lamontagne; B.Sc.(P.T.), M.Sc., Ph.D.(Laval)
Bernadette Nedelec; B.Sc.(O.T.), Ph.D.(Alta.)
Laurie Snider; B.Sc.(O.T.)(McG.), M.A.(Br.Col.), Ph.D.(Tor.)

62.2 Programs Offered

Master of Science (non-thesis) in Rehabilitation Science

The program requires three terms of full-time residence study and can usually be completed within three to four terms. It is designed for graduates who hold a B.Sc. (or equivalent) in Physical or Occupational Therapy or related health professions. Two years of clinical experience is recommended. The program trains health professionals to become consumers of research in order to promote evidence-based practice in rehabilitation science. The curriculum is made up of both required and elective courses and may also include a research project.

Master of Science in Rehabilitation Science

The full curriculum consists of approximately two years of study for graduates who hold a B.Sc. degree in one of the medical rehabilitation disciplines or a related field. The program consists of required and elective course work, a research proposal and a research thesis.

Doctorate in Rehabilitation Science

The Ph.D. program curriculum consists of three to four years of study, on average, for graduates with Master's level training in one of the medical rehabilitation disciplines or a related field. The program consists of required and elective course work, a comprehensive written examination, a research proposal and a doctoral thesis.

62.3 Admission Requirements

Master of Science in Rehabilitation Science

1. A B.Sc. degree or equivalent in physical or occupational therapy or related fields from a university of recognized reputation.
2. Evidence of a high academic achievement equivalent to a B standing, or a McGill CGPA of 3.0 (70-74%).
3. Prerequisite courses may be required in statistics, anatomy, physiology, psychology, sociology, neurophysiology or other areas, depending on the student's anticipated specialization.
4. Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL. (Test of English as a Foreign Language) with a minimum score of 250 on the computer-based test (School requirement), or the International English Language Testing System (IELTS) with a minimum overall band score of 7.0.
5. The GRE Test is mandatory for the following applicants: those who do not have a B.Sc. or equivalent from a Canadian university; those who have been out of university for 5 years or more. Only the General Test is mandatory. For consideration, students must obtain a minimum score of 550 in verbal and quantitative categories and a score of 3.5 to 4 in analytical writing. For enquiries about Graduate Records Examination, please contact GRE - Educational Testing Service, Princeton, NJ 08540, (609) 683-2002, www.gre.org. Applicants are responsible for ensuring that their scores are sent to the School of Physical and Occupational Therapy, at the following address: 3654 Promenade Sir-William-Osler, Montreal, QC H3G 1Y5

Master of Science (non-thesis) in Rehabilitation Science

1. to 5. as above, plus
6. Two years of clinical experience is recommended.

Doctorate in Rehabilitation Science

1. An M.Sc. degree in a rehabilitation-related discipline from a university of recognized reputation.
2. Evidence of a high academic achievement equivalent to a B⁺ standing, or a McGill CGPA of 3.3 (75-79%) is required.
3. Proof of proficiency in English.
4. GRE Test with a minimum score of 600 in verbal and quantitative categories and a score of 4.5 to 5 in analytical writing. The test is mandatory for the following applicants: those who do not have a B.Sc., M.Sc. or equivalent from a Canadian university; those who have been out of university for 5 years or more.

If a graduate student accepted into the M.Sc. program demonstrates superior performance in the first year, the Graduate Committee, in consultation with the thesis supervisor, may recommend waiving the M.Sc. thesis requirement, and allow the student to proceed directly to the Ph.D. program.

62.4 Application Procedures

Application forms for admission to graduate studies for the degree of M.Sc., M.Sc.(non-thesis), or Ph.D. in Rehabilitation Science may be requested directly from the School. An on-line application is available at www.mcgill.ca/applying/graduate.

Applications will be considered upon receipt of:

1. the completed application form (on-line or paper),
2. \$60 application fee,
3. a complete curriculum vitae,
4. a statement of purpose (for paper application only),
5. two copies of official transcripts,
6. two letters of reference,
7. test results (GRE, TOEFL), if required.

Deadlines:

- Canadian applicants – April 1
- International applicants – March 1

Documents are to be mailed directly to the Associate Director, Graduate Program, School of Physical and Occupational Therapy

62.5 Program Requirements**Elective Courses (for all programs)**

In addition to courses offered by the School of Physical and Occupational Therapy, students may choose courses given in other units. A complete list of suitable electives can be obtained from the Graduate Student Affairs Coordinator.

Master of Science in Rehabilitation Science (45credits)

The program requires a minimum of three terms of full-time residence study. It is not uncommon for a student to take two or more years to complete the degree.

Required Courses (10 credits)

- POTH610 (3) Research Methodology
- POTH614 (3) Selected Topics in Rehabilitation Science
- POTH616 (1) Seminars in Rehabilitation Science
- POTH617 (0) Rehabilitation Seminars 1
- POTH631 (3) Research Proposal

A research proposal is to be submitted in written form and defended in front of a supervisory committee. Research proposals should be completed by the beginning of the second full-time year.

Complementary Course (3 credits)

One 3-credit graduate level course in statistics may be required if not already completed in a prior degree.

Elective Courses (3 - 6 credits)

Courses at the 500 or 600 level which pertain to the student's area of specialization.

Thesis Component – Required (29 credits)

- POTH696 (2) Thesis Research
- POTH697 (6) Thesis Research 1
- POTH698 (9) Thesis Research 2
- POTH699 (12) Thesis Research 3

The student carries out a research study in an approved subject area under the guidance of an internal supervisor (from within the School) or an external supervisor (from outside the School). In the case of an external supervisor, an internal co-supervisor must be appointed.

All four of these courses must be registered for within the first three terms of full-time study. The course POTH699 is carried as IP "in progress" until completion of thesis.

Master of Science in Rehabilitation Science (non-thesis)

(45credits)

This program has two options. In the first option, students complete 45 credits of required and complementary course work. In the second option, students complete 30 credits of required and complementary courses plus a 15-credit research project in their area of interest. The program normally takes 3 to 4 terms when done on a full-time basis.

Required Courses (9 credits)

- POTH602 (3) Educational Methodology
- POTH610 (3) Research Methodology
- POTH617 (0) Rehabilitation Seminars 1
- POTH619 (0) Rehabilitation Seminars 2
- (3) Statistics at the 500 level or higher

Complementary Courses (36 credits)

Group A, 21 credits:

chosen from the following courses offered by the School or other campus courses at the 500 and 600 levels with permission of the Director.

- POTH508 (3) Plasticity in Rehabilitation
- POTH603 (3) Directed Practicum

- POTH604 (3) Current Topics in Pediatrics
- POTH614 (3) Selected Topics in Rehabilitation Science
- POTH618 (3) Topics in Rehabilitation
- POTH620 (3) Measurement: Rehabilitation 1
- POTH622 (3) Pathokinesiology
- POTH630 (3) Measurement: Rehabilitation 2

Group B, 15 credits, one of the following options:

Option 1, Directed Project:

- POTH661 (7) Research Project 1
- POTH662 (8) Research Project 2

Option 2:

no directed project, 5 additional courses at the 500 or 600 level

Doctorate in Rehabilitation Science

Doctoral students are required to pursue at least three years of full-time residence study.

The curriculum is divided as follows:

Required Courses (12 credits)

- POTH610* (3) Research Methodology
- POTH614* (3) Selected Topics in Rehabilitation Science
- POTH620 (3) Measurement in Rehabilitation 1
- POTH630 (3) Measurement in Rehabilitation 2

Of the four required courses, at least two* will already have been completed by students with an M.Sc. in Rehabilitation Science from McGill.

Complementary Course (6 credits)

one of:

- POTH602 (3) Educational Methodology
- EDPH689 (3) Teaching & Learning in Higher Education

One 3-credit graduate-level course in statistics may be required if not already completed in a prior degree.

Elective Courses (3-6 credits)

Courses which pertain to the student's area of specialization; chosen by the student in consultation with his/her supervisor and upon approval of the Director of the Graduate Program.

Comprehensive Examination

POTH701 Ph.D. Comprehensive Examination

The student must successfully pass a written comprehensive examination by the end of the first academic year. The format is three questions to be answered in essay style over a five-day period. An additional requirement may include an oral component.

Research Proposal

A research proposal is to be submitted in written form and defended in front of a supervisory committee. Research proposals should be completed during the second full-time year, following the comprehensive examination.

Teaching Assistantship - Required

One .

Thesis Component - Required

The student carries out a research study in an approved subject area under the guidance of an internal supervisor (from within the School) or an external supervisor (from outside the School). In the case of an external supervisor, an internal co-supervisor must be appointed.

62.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

POTH 508 PLASTICITY IN REHABILITATION. (3) (Prerequisite: POTH 455 or equivalent.) A seminar course designed to provide students with a review of current research on plasticity in the central and peripheral nervous systems. Particular emphasis is placed on the mechanisms involved in the recovery of function after injury.

POTH 602 EDUCATIONAL METHODOLOGY. (3) (Course equivalent: EDPH 689)

POTH 603 DIRECTED PRACTICUM. (3) (Restricted to on-campus students only.) A tutorial with directed practical experience in a clinical setting related to the student's clinical specialization, including curriculum development, and emphasizing current thought in rehabilitation.

POTH 604 CURRENT TOPICS IN PEDIATRICS. (3) (Prerequisite: POTH 260, or permission of instructors.) This course will provide an overview of current research in pediatrics.

POTH 610 RESEARCH METHODOLOGY. (3) (Corequisite: PSYC 305 or EPIB 607, or EDPE 675 and EDPE 676) An advanced lecture and seminar course. The philosophy of scientific inquiry, principles of research design, and application of statistical techniques are discussed with special consideration given to research studies in health care and rehabilitation.

POTH 614 SELECTED TOPICS IN REHABILITATION SCIENCE. (3) (Restricted to on-campus students only.) A weekly lecture and seminar course taught by staff, designed to provide an overview of current research issues in rehabilitation.

POTH 616 SEMINARS IN REHABILITATION SCIENCE. (1) A weekly seminar course given by staff and invited speakers in different areas of research related to rehabilitation science. Students are expected to participate by reading pertinent literature prior to seminars and asking questions at each seminar. Attendance is compulsory, and the course is graded pass/fail based on participation.

POTH 617 REHABILITATION SEMINARS 1. (0) A weekly seminar course given by staff and invited speakers in different areas of research related to rehabilitation science. Students are expected to participate by reading pertinent literature prior to seminars and asking questions at each seminar. Attendance is compulsory, and the course is graded pass/fail based on participation.

POTH 618 TOPICS IN REHABILITATION. (3) This is a directed reading course on a topic in rehabilitation science. The student will acquire extensive knowledge in the topic of interest and understand the strengths and limitations of the current body of work in the area.

POTH 619 REHABILITATION SEMINARS 2. (0) (Restriction: During one academic year, students may not register for POTH 619 in the same term as POTH 616 or POTH 617.) Seminar course given by staff and invited speakers covering different areas of research related to rehabilitation science.

POTH 620 MEASUREMENT: REHABILITATION 1. (3) (Prerequisite: POTH 222 and permission of instructor.)

POTH 622 PATHOKINESIOLOGY. (3) (Prerequisite: POTH 620)

POTH 630 MEASUREMENT: REHABILITATION 2. (3) (Prerequisite: EPIB 607 or PSYC 305 or equivalent.)

POTH 631 RESEARCH PROPOSAL. (3) The course covers issues involved in the development of a research protocol. The presentation of a written thesis proposal is required by the end of the course. This document will serve as the basis for an oral presentation to the student's Supervisory Committee which will also review the written proposal.

POTH 661 RESEARCH PROJECT 1. (7) (Campus students only.)

POTH 662 RESEARCH PROJECT 2. (8)

POTH 696 THESIS RESEARCH. (2)

POTH 697 THESIS RESEARCH 1. (6)

POTH 697D1 (3), POTH 697D2 (3) THESIS RESEARCH 1. (Students must register for both POTH 697D1 and POTH 697D2) (No credit will be given for this course unless both POTH 697D1 and POTH 697D2 are successfully completed in consecutive terms)

(POTH 697D1 and POTH 697D2 together are equivalent to POTH 697)

POTH 698 THESIS RESEARCH 2. (9)

POTH 698D1 (4.5), POTH 698D2 (4.5) THESIS RESEARCH 2. (Students must register for both POTH 698D1 and POTH 698D2) (No credit will be given for this course unless both POTH 698D1 and POTH 698D2 are successfully completed in consecutive terms) (POTH 698D1 and POTH 698D2 together are equivalent to POTH 698)

POTH 699 THESIS RESEARCH 3. (12)

POTH 699D1 (6), POTH 699D2 (6) THESIS RESEARCH 3. (Students must register for both POTH 699D1 and POTH 699D2) (No credit will be given for this course unless both POTH 699D1 and POTH 699D2 are successfully completed in consecutive terms) (POTH 699D1 and POTH 699D2 together are equivalent to POTH 699)

POTH 701 PH.D. COMPREHENSIVE. (0)

63 Physics

Department of Physics
Ernest Rutherford Physics Building
3600 University Street
Montreal, QC H3A, 2T8
Canada

Telephone: (514) 398-6485 (Graduate Information)

Fax: (514) 398-8434

E-mail: graduate.physics@mcgill.ca

Web site: www.physics.mcgill.ca

Chair — M. Grant

Director of Graduate Studies — P. Grutter

63.1 Staff

Emeritus Professors

M.P. Langleben; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C.

S.K. Mark; B.Sc., M.Sc., Ph.D.(McG.)

E.R. Pounder; B.Sc., Ph.D.(McG.), F.R.S.C.

D.G. Stairs; B.Sc., M.Sc.(Queen's), Ph.D.(Harv.)

P.R. Wallace; B.A., M.A., Ph.D.(Tor.), F.R.S.C.

M.J. Zuckermann; M.A., D.Phil.(Oxon), F.R.S.C.

Post-Retirement

J.E. Crawford; B.A., M.A.(Tor.), Ph.D.(McG.)

J.K.P. Lee; B.Eng., M.Sc., Ph.D.(McG.)

R.B. Moore; B.Eng., M.Sc., Ph.D.(McG.)

P.M. Patel; B.Sc., M.Sc.(Manc.), Ph.D.(Harv.)

Professors

J. Barrette; M.Sc., Ph.D.(Montr.)

C. Burgess; B.Sc.(Wat.), Ph.D.(Texas) (*James McGill Professor*)

F. Corriveau; Ph.D.(Zür.)

S. Das Gupta; B.Sc., M.Sc.(Calc.), Ph.D.(McM.) (*William C. Macdonald Professor of Physics*)

N.B. DeTakacsy; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)

C. Gale; B.Sc.(Ott.), M.Sc., Ph.D.(McG.)

M. Grant; B.Sc.(P.E.I.), M.Sc., Ph.D.(Tor.) (*James McGill Professor*)

H. Guo; B.Sc.(Sichuan), M.Sc., Ph.D.(Pitt.)

D. Hanna; B.Sc.(McG.), M.A., Ph.D.(Harv.)

R. Harris; B.A.(Oxon), Ph.D.(Sus)

C.S. Lam; B.Sc.(McG.), Ph.D.(M.I.T.) (*Ernest Rutherford Professor of Physics*)

S. Lovejoy; B.Sc.(Cantab.), Ph.D.(McG.)

D.H. Ryan; B.A., Ph.D.(Dub.)

J.O. Strom-Olsen; B.A., M.S., Ph.D.(Cantab.)

M. Sutton; B.Sc., M.Sc., Ph.D.(Tor.)

L. Vinet; B.Sc., M.Sc., Ph.D.(Montr.), Doctorat 3^e cycle(Paris VI) (*joint appoint. with Mathematics and Statistics*)

J. Vinals; B.Sc., M.Sc., Ph.D.(Barcelona)

Associate Professors

R. Brandenberger; Dip.(Zür.), M.A., Ph.D.(Harv.)

J. Cline; B.Sc.(Calif.), M.Sc., Ph.D.(Cal. Tech.)

P. Grutter; Diploma, Ph.D.(Basel) (*William Dawson Scholar*)

V. Kaspi; B.Sc.(McG.), M.A., Ph.D.(Prin.) (*Canada Research Chair*)

K. Ragan; B.Sc.(Alta.), Ph.D.(Geneva)

Assistant Professors

R. Bennewitz; Diploma, Ph.D.(Berlin)

A. Clerk; B.Sc.(Tor.), Ph.D.(C'nell)

A. Cumming; B.A.(Camb.), Ph.D.(Calif.)

G. Gervais; B.Sc.(sher.), M.Sc.(McM.), Ph.D.(Northwestern)

M. Hilke; B.Sc., M.Sc., Ph.D.(Geneva)

G. Holder; M.Sc.(Qu.), Ph.D.(Camb.)

S. Jeon; B.Sc.(Korea), M.Sc., Ph.D.(Wash.)

M. Kilfoil; B.Sc.(UNB), M.Sc., Ph.D.(Mem.)

G. Moore; Ph.D.(Prin.)

R. Rutledge; B.Sc.(S. California), Ph.D.(MIT)

B. Vachon; B.Sc.(McG.), Ph.D.(Vic. B.C.)

A. Warburton; B.Sc.(Vic.), Ph.D.(Tor.)

P. Wiseman; B.Sc.(St. F.X.), Ph.D.(W. Ont.)

Lecturers

Z. Altounian, F. Buchinger

Associate Members

M.Mackey(Physiology), E. Podgorsak (Radiation Pysics),

D.Ronis (Chemistry)

63.2 Programs Offered

M.Sc. and Ph.D.

FIELDS OF RESEARCH

High-Energy Physics

Theoretical: The McGill high energy theorists have interests in a wide range of problems pertaining to all fundamental interactions: strong, electromagnetic, weak and gravitational. The research program extends from studies closely connected with experimental data to purely theoretical questions. Ongoing projects involve: particle phenomenology, quantum chromodynamics, electroweak baryogenesis, group theory, astroparticle physics, quantum gravity, grand unification and string theory.

Experimental High Energy Physics The experimental high energy physics group is engaged in a number of experiments at the research frontiers of the field, both in subatomic physics and in high energy astrophysics. These include:

- BaBar: The group played a major role in constructing installation and commissioning of the drift chamber. The full detector has been operational and taking data since summer 1999. The physics interests of the group center on CP violation in B-meson decays to CP eigenstates and in the determination of CKM matrix elements V_{cb} and V_{ub} .
- STACEE: Members of the group are currently constructing and installing a major air Cherenkov detector for the study of high energy gamma rays emitted by astrophysical objects such as supernova remnants and active galactic nuclei. The detector (located at Sandia National Labs in Albuquerque, New Mexico) operated and successfully observed the Crab Nebula, providing a proof-of-principle of this novel technique.
- ZEUS: A group working at the world's first electron-proton collider (HERA, at DESY, Hamburg) studies lepton-quark interactions at high energy. The physics topics of interest to the group include deep inelastic scattering (proton structure, forward jet production and low-x physics) and flavour (strange, charm) production.

Thus, graduate students at the M.Sc. and Ph.D. levels are offered a strong program of research in a challenging and rapidly advancing field. Short term Master's projects are based mainly on instrumentation or data analysis conducted on Campus, while Ph.D.

research may involve an extended stay at one of the world's major research laboratories.

Nuclear Physics

Theoretical: Transport equations for heavy ion collisions at intermediate energy; nuclear equation of state from heavy ion collisions; fragmentation at intermediate energy; electromagnetic probes in relativistic heavy ion collisions; effective lagrangians for hadronic systems at finite temperature; Quark-Gluon Plasma, QCD.

Experimental: Current research programs in experimental nuclear physics at McGill are focussed on two main axes:

- The study of heavy-ion reactions at relativistic energies to determine the properties of nuclear matter at high density. This program is being performed at the Brookhaven National Laboratory. McGill physicists are part of a major experiment at the heavy-ion collider RHIC at BNL.
- The study of ground state properties of unstable nuclei using laser spectroscopy techniques and ion traps. This work is being carried out using the Canadian Penning trap facility at the Argonne National Laboratory and at the accelerator ISOLDE (CERN), and the ISAC facility at TRIUMF.

Furthermore, the Nuclear Physics Group has an active in-house research program that applies the ion trap and laser techniques to the detection of trace quantities of material and contaminants, and to ion spectroscopy.

Condensed-Matter Physics

Theoretical: Programs of research are in progress on the properties of dilute alloys and amorphous metals, including magnetic systems and "spin-glasses"; on nonequilibrium characteristics of quantum devices; on kinetics of pattern formation during first order phase transitions, on structured fluids and polymers, on the statistical mechanics of biological membranes and growth problems; and on interface instabilities in dendritic crystal growth. Research is being done by nonlinear analysis and large-scale computational modelling.

Experimental: Lines of research include structural, transport, Mössbauer and other magnetic properties of metallic glasses and rapidly quenched metals, and certain crystalline metal alloys. Also included are major areas of activity in high resolution X-ray diffraction using synchrotrons to study the time evolution of non-equilibrium structures and to study thin films and buried interfaces, scanning tunneling and atomic force microscopy, and the rapidly expanding area of nanoscience.

Astrophysics

This group does research in radio and X-ray observation of neutron stars and ground-based gamma-ray astronomy. The research program in X-ray astrophysics uses various X-Ray observatories including the RXTE, Chandra and the XMM satellites. Among the scientific issues addressed in this program are the properties of young neutron stars, both pulsars and "magnetars", pulsar wind nebulae, and supernova remnants.

Nonlinear Variability in Geophysics

This group studies nonlinear dynamical processes in the atmosphere and other geophysical systems, especially those associated with turbulent, chaotic and extremely variable behaviour. Emphasis is placed on multifractal analysis and modelling as well as the development of new theories and techniques covering wide ranges of scale in time and space. Data from a variety of in situ and remotely sensed sources are used. This includes satellite data of the earth's atmosphere and surface as well as high quality precipitation data from the McGill Radar Weather Observatory.

63.3 Admission Requirements

M.Sc.

Normal requirement is a B.Sc. in Physics, or equivalent, with high standing.

Ph.D.

Normal requirement is a M.Sc. in Physics or equivalent. Candidates in good standing may have the option of transferring into this program from the M.Sc. program after one year.

63.4 Application Procedures

An application package is available upon request. It includes a brochure with a detailed description of the research activities in the Department, application forms for admission to graduate studies and information concerning requirements for the M.Sc. and Ph.D. degrees. Inquiries should be addressed to the Graduate Coordinator.

Applications will be considered upon receipt of:

1. application form
2. official transcripts
3. letters of reference
4. \$60 application fee
5. test result (TOEFL)

All information is to be submitted to Paula Domingues, Department of Physics.

Applications and supporting documents should be submitted by:

- February 1st – international applicants,
- March 15th – Canadian applicants.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

Financial Assistance

Subject to the availability of funds, financial assistance will be offered to students in the form of a bursary, Teaching and Research assistantships. For new students, financial support will be offered at the time of acceptance and arrival. Forms are given and filled out on registration day.

63.5 Program Requirements**M.Sc.** (48 credits)

Candidates must successfully complete five 3-credit courses, plus PHYS691, PHYS692, PHYS690 and PHYS690D1/PHYS690D2 (M.Sc. Thesis), in addition to all the other normal requirements of the Graduate and Postdoctoral Studies Office.

Ph.D.

Candidates must successfully complete two one-term courses and a Preliminary examination and submit a Ph.D. thesis, in addition to all the normal requirements of the Graduate and Postdoctoral Studies Office. (Courses taken as part of the M.Sc. program at McGill may be accepted as substitutes for the two required courses.) Normally one of the courses must be a 600 or 700-level course in the candidate's area of specialization.

63.6 Advanced Undergraduate and Graduate Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

PHYS 514 GENERAL RELATIVITY. (3) (Winter) (3 hours lectures) (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 selfassembly, computer modeling, and microfabrication/micromachining.

PHYS 551 QUANTUM THEORY. (3) (Fall) (3 hours lectures) (Honours students, or permission of the instructor) General formulation, scattering theory, WKB approximation, time-dependent perturbation theory and applications, angular momentum, relativistic wave equations.

PHYS 557 NUCLEAR PHYSICS. (3) (Fall) (3 hours lectures) (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) (Honours students, or permission of the instructor) Properties of crystals, lattice vibrations and thermal properties of insulators, free electron model and band structure, semi-conductors, metals, optical properties.

PHYS 559 ADVANCED STATISTICAL MECHANICS. (3) (Fall) (3 hours lectures) (Honours students, or permission of the instructor) Self averaging and central-limit theorem; thermodynamic fluctuations; ensemble theory; surface roughening; broken symmetry and Goldstone's theorem; phase transitions; mean-field, Landau and Ornstein-Zernicke theory; Monte Carlo method; molecular dynamics; scaling; renormalization group; epsilon expansion; non-equilibrium theory.

PHYS 562 ELECTROMAGNETIC THEORY. (3) (Winter) (3 hours lectures) (Honours students, or permission of the instructor) (Graduate Prerequisites: 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) (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, electromagnetic and weak interactions.

PHYS 606 SELECTED TOPICS: CONT. PHYSICS 1. (3)

PHYS 607 SELECTED TOPICS: CONT. PHYSICS 2. (3)

PHYS 610 ADVANCED QUANTUM MECHANICS. (3) (3 hours) Relativistic wave equations for spin-0, spin-1/2, and spin-1 particles. Review of Lagrangian and Hamiltonian formalisms for classical mechanics. Canonical, Feynman path-integral, and Schwinger external-source quantization techniques. Relativistic quantum field theories for free spin-0, spin-1/2, and spin-1 particles. Interactions, perturbation theory, and Feynman diagrams.

PHYS 614 ADVANCED ASTROPHYSICS 1. (3) (Prerequisites: PHYS 521 or permission of instructor)

PHYS 615 ADVANCED ASTROPHYSICS 2. (3) (Prerequisites: PHYS 521 or permission of instructor)

PHYS 616 MULTIFRACTALS AND TURBULANCE. (3) (3 hours)

PHYS 618 QUANTUM THEORY OF SOLIDS. (3) (3 hours) Includes some of the following topics; excitations in solids, phonons, the electron gas, superconductivity and phase transitions.

PHYS 620 EXPERIMENTAL METHODS OF SUBATOMIC PHYSICS. (3) (3 hours) Basic techniques of experimentation in nuclear and particle physics. Accelerators, beam optics, detection systems, major experiments, Monte-Carlo simulation, data acquisition and data analysis.

PHYS 621 HIGH ENERGY ASTROPHYSICS. (3) (Prerequisites: PHYS 567 or permission of instructor)

PHYS 634 SEMINAR IN ADVANCED MATERIALS. (3) (3 hours) A series of research-level seminars about topics of current interest in advanced materials. Topics include molecular and nanoelectronics, computational approaches to materials design and property predictions, new techniques in molecular and atomic imaging, advances in materials preparation, quantum device and quantum computing.

PHYS 658 ADVANCED CONDENSED MATTER. (3) (3 hours)

PHYS 659 EXPERIMENTAL CONDENSED MATTER. (3) (3 hours) To obtain an active understanding of the principles, the possibilities and the limitations of various experimental techniques. Possible topics include vacuum and low-temperature techniques; transport, thermal, magnetization and de Haas van Alphen measurements; scattering techniques; Mossbauer spectroscopy, NMR, scanning probe microscopy, electron microscopy; surface science methods.

PHYS 673 THEORETICAL HIGH ENERGY PHYSICS. (3) (3 hours) Introduction to quantum field theory; perturbation theory and Feynman diagrams. Applications to quantum electrodynamics, quantum chromodynamics and electroweak (Weinberg-Salam) theory.

PHYS 690 M.Sc. THESIS. (24)

PHYS 690D1 (12), PHYS 690D2 (12) M.Sc. THESIS. (Students must register for both PHYS 690D1 and PHYS 690D2) (No credit will be given for this course unless both PHYS 690D1 and PHYS 690D2 are successfully completed in consecutive terms) (PHYS 690D1 and PHYS 690D2 together are equivalent to PHYS 690)

PHYS 691 THESIS PREPARATION. (3) Directed study of research papers and experimental or theoretical techniques in the student's designated area of research under the supervision of the graduate studies committee of the Department.

PHYS 692 THESIS PROJECT. (6) Independent work under the direction of the student's supervisor on a research problem in the student's designated area of research leading to a project report or seminar.

PHYS 692D1 (3), PHYS 692D2 (3) THESIS PROJECT. (Students must register for both PHYS 692D1 and PHYS 692D2) (No credit will be given for this course unless both PHYS 692D1 and PHYS 692D2 are successfully completed in consecutive terms) (PHYS 692D1 and PHYS 692D2 together are equivalent to PHYS 692) Independent work under the direction of the student's supervisor on a research problem in the student's designated area of research leading to a project report or seminar.

PHYS 700 PRELIMINARY PH.D. EXAMINATION. (0)

PHYS 719 SPECIAL TOPICS: SOLID STATE PHYSICS 2. (3) (3 hours) Specialized discussion of some current problems in solid state physics.

PHYS 729 SPECIAL TOPICS IN NUCLEAR PHYSICS. (3)

PHYS 730 SPECIAL TOPICS: HIGH ENERGY PHYSICS 1. (3) (3 hours) Specialized discussion of some current problems in theoretical particle physics.

PHYS 731 SPECIAL TOPICS: HIGH ENERGY PHYSICS 2. (3) (3 hours)

PHYS 732 TOPICS IN ASTROPHYSICS 1. (3) (Prerequisites: PHYS 521 or permission of instructor)

PHYS 733 TOPICS IN ASTROPHYSICS 2. (3) (Prerequisites: PHYS 521 or permission of instructor)

64 Physiology

Department of Physiology
McIntyre Medical Sciences Building
3655 Promenade Sir-William-Osler
Montreal, QC H3G 1Y6
Canada

Telephone: (514) 398-4343

Fax: (514) 398-7452

Web site: www.medicine.mcgill.ca/physio

Chair — A. Shrier

Chair of Graduate Program — J. Orlowski

64.1 Staff

Emeritus Professors

Kresmir Krnjevic; O.C., B.Sc., Ph.D., M.B., Ch.B. (Edin.), F.R.S.C.
Geoffrey Melvill Jones; B.A., M.A., M.B., B.Ch., M.D.(Cantab.)

Professors

Thomas M.S. Chang; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)
Munroe W. Cohen; B.Sc., Ph.D.(McG.)

Ellis J. Cooper; B.Eng.(Sir G.Wms.), M.Sc.(Surr.), Ph.D.(McM.)
Mony Frojmovic; B.Sc., Ph.D.(McG.)

Leon Glass; B.S.(Brooklyn), Ph.D.(Chic.) (*Isadore Rosenfield
Professor of Cardiology*)

Phil Gold; M.Sc., Ph.D., M.D., C.M.(McG.), F.R.C.P.(C.) (*joint
appoint. with Medicine*)

David Goltzman; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C.) (*Antoine
G. Massabki Professor of Medicine*) (*joint appoint. with
Medicine*)

John Hanrahan; Ph.D.(Br.Col.)

Wayne S. Lapp; M.S.A.(Tor.), Ph.D.(McG.)

Mortimer Levy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C.) (*joint
appoint. with Medicine*)

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.(Queen's) (*James
McGill Professor*)

Premysl 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.)

Associate Professors

Kathleen Cullen; B.Sc.(Brown), Ph.D.(Chic.) (*William Dawson
Scholar*)

Riaz Farookhi; B.Sc., M.Sc.(M.I.T.), Ph.D.(Tufts)

Mladen Glavinovic; B.Sc.(Zagreb), M.Sc.(Tor.), Ph.D.(McG.)

Michael Guevara; 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 Professors - Part Time

Nicole Bernard

Assistant Professors

Erik Cook; Ph.D.(Baylor College, Houston, Tx)

Julie Desbarats; Ph.D.(McG.)

Pejmun Haghighi; Ph.D.(McG.)

Julios Martinez-Trujillo; Ph.D.(Tübingen, Germany)

Assistant Professor - Part Time

Anne-Marie Lauzon

Adjunct Professors

Roy Caplan, Terence Herbert, James Henry, John Milton,
Serge Rossignol, Malmur Sairam

Associate Members

Anaesthesia: Steven Backman

Biomedical: Robert Kearney, Satya Prakash

Dentistry: James Lund

Medicine: Angel Alonso, Andrey Cybulsky, Samuel O. Freedman,

Abraham Fuks, Claude Gagnon, Raymond Gagnon,

Harry L. Goldsmith, Geoffrey Hendy, Louise Larose,

Serge Lemay, Peter T. Macklem, James Martin, Shree Muly,

Mariana Newkirk, Barry Posner, Shafaat Rabbani, J. Enrique

Silva, Alan Sniderman, Mary Stevenson, Simon Wing, Hans

Zingg

Neurology and Neurosurgery: Albert Aguayo, Massimo Avoli, Charles Bourque, SalCarbonetto, Pierre Drapeau, DanielGuitton, David Rajsdale, Michael Rasminsky

Nephrology: Tomoko Takano

Ophthalmology: Curtis Baker

Otolaryngology: Bernard Segal

Pediatrics: Immanuela Moss, Charles Rohlicek

Psychiatry: Bernardo Dubrovsky, Christina Gianoulakis

64.2 Programs Offered

The Physiology Department offers training leading to M.Sc. and Ph.D. degrees. The scope of the ongoing research, and close connections with the McGill teaching hospitals, offer excellent opportunities for collaborations with hospital based scientists.

All graduate students in Physiology receive financial support.

Any faculty member who agrees to supervise a student who does not hold a fellowship, is obliged to provide financial support.

64.3 Admission Requirements

Admission to the Graduate Program is based on an evaluation by the Graduate Student Admissions and Advisory Committee (GSAAC), and on being accepted by a research supervisor. Final acceptance is contingent upon approval of the recommendation of the applicant by the Graduate and Postdoctoral Studies Office, from whom official notification will be received.

Candidates for the M.Sc. degree must hold a B.Sc. degree or its equivalent. Candidates who have completed an M.Sc. may be admitted directly to the Ph.D. program. M.Sc. students interested in a Ph.D., may transfer to the Ph.D. program after 12-18 months, if all of the transfer requirements have been fulfilled. The M.Sc. thesis requirement is then waived. Candidates with exceptional academic records may be considered to proceed directly to the Ph.D. degree from the B.Sc. degree.

The GRE General Test is required for anyone who does not have a degree from a Canadian University. The TOEFL is required for anyone whose university studies were completed in a language other than English outside of Canada. A minimum CGPA of 3.2 on 4.0 is required for a file to be considered.

64.4 Application Procedures

The GSAAC will only consider applications upon receipt of all of the following documentation:

1. application form;
2. personal statement;
3. CV;
4. two letters of reference, not more than six months old, from two professors;
5. two official copies of all university transcripts;
6. \$60 application fee;
7. results of the GRE (Graduate Record Exam) General Test, for applicants whose undergraduate degree is not from a Canadian university.
8. results of the Test of English as a Foreign Language (TOEFL), minimum score of 600 on paper-based test (or 250 on computer-based test), if the undergraduate studies were carried out in a language other than English outside of Canada.

Applications should be submitted to the Graduate Secretary as early as possible in order to facilitate processing. However, no applications will be considered after the following deadlines:

September (Fall term):

March 1 (November 1 for International students)

January (Winter term):

October 1 (May 1 for International students)

Interested candidates should refer to the Department's Web site.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

64.5 Program Requirements

M.Sc.

The M.Sc. program is comprised of a minimum of 49 credits.

Required Courses (43 credits)

PHGY601	(1)	M.Sc. Proposal Seminar
PHGY602	(3)	Literature Search and Research Proposal
PHGY607	(3)	Laboratory Research 1
PHGY608	(3)	Laboratory Research 2
PHGY620	(3)	Progress in Research
PHGY621	(12)	Thesis 1
PHGY622	(15)	Thesis 2
PHGY623	(3)	M.Sc. Seminar

Elective Courses (6 credits)

In addition to the above, students must select 6 approved credits in Physiology or Science at the 500 or 600 level.

Students may be requested to fulfil other course requirements.

Students are required to submit a thesis, usually equivalent to one first author paper.

Each student will have a supervisory committee which will monitor the progress of the studies.

Transfer to the Ph.D Program

After 18 months students may transfer to the Ph.D. program if all of the transfer requirements have been fulfilled. This includes completion of the Ph.D. Preliminary Exam and the successful completion of a transfer seminar. The M.Sc. thesis requirement is then waived.

Ph.D.

Students in the Ph.D. program are required to:

1. present PHGY 702 - Ph.D. Proposal Seminar 3 months after starting the program (1 credit);
2. complete PHGY 701 - Comprehensive Examination within 6-12 months of admission to the program (0);
3. complete PHGY 720 through 725 - Ph.D. Departmental Seminar Course (1 credit each);
4. submit a thesis and defend it orally;
5. new students must take, in addition to the above, an additional 9 credits of Physiology or Science at the 500 level or above, in consultation with the Graduate Student Admissions and Advisory Committee and their supervisor;

Each student will have a supervisory committee which will monitor the progress of the studies.

Required Courses (9 credits)

PHGY 701	(0)	Ph.D. Comprehensive Examination
PHGY 702	(1)	Ph.D. Proposal Seminar
PHGY 703	(1)	Ph.D. Progress Seminar 1
PHGY 704	(1)	Ph.D. Progress Seminar 2
PHGY 720	(1)	Ph.D. Departmental Seminar 1
PHGY 721	(1)	Ph.D. Seminar Course 2
PHGY 722	(1)	Ph.D. Seminar Course 3
PHGY 723	(1)	Ph.D. Seminar Course 4
PHGY 724	(1)	Ph.D. Seminar Course 5
PHGY 725	(1)	Ph.D. Seminar Course 6

Complementary Courses (9 credits)

In addition to the above, students are required to take an additional 9 credits of Physiology or Science at the 500 level or above, in consultation with the GSAAC and the candidate's supervisor.

64.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses taught only in alternate years.

Denotes courses not offered in 2004-05.

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) (Undergraduate Prerequisite: PHGY 312 or the equivalent) (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) (Undergraduate Prerequisite: 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) (Undergraduate Prerequisite: 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 520 ION CHANNELS. (3) (Winter) (Offered in even numbered years) (1 1/2 hour lecture, 1 1/2 hour seminar) (Prerequisite: PHGY 311) (Priority to Graduate and Honours students; others by permission of instructors.)

PHGY 531 TOPICS IN APPLIED IMMUNOLOGY. (3) (Winter) (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) (Restricted to 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) (Permission of the instructor required.) (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 601 M.Sc. PROPOSAL SEMINAR. (1)

PHGY 602 LITERATURE SEARCH AND RESEARCH PROPOSAL. (3)

PHGY 607 LABORATORY RESEARCH 1. (3)

PHGY 608 LABORATORY RESEARCH 2. (3)

PHGY 610 BIOPHYSICS. (3) (Prerequisite: permission of the instructor.) A series of seminars in selected topics in theoretical biology and biomathematics.

PHGY 620 PROGRESS IN RESEARCH. (3)

PHGY 621 THESIS 1. (12)

PHGY 622 THESIS 2. (15)

PHGY 623 M.Sc. SEMINAR. (3)

PHGY 701 Ph.D. COMPREHENSIVE EXAMINATION. (0)

PHGY 701D1 (3), PHGY 701D2 (3) Ph.D. COMPREHENSIVE EXAMINATION. (Students must register for both PHGY 701D1 and PHGY 701D2) (No credit will be given for this course unless both PHGY 701D1 and PHGY 701D2 are successfully completed in consecutive terms)

PHGY 702 Ph.D. PROPOSAL. (1)

PHGY 703 Ph.D. PROGRESS SEMINAR 1. (1)

PHGY 704 Ph.D. PROGRESS SEMINAR 2. (1)

PHGY 720 Ph.D. SEMINAR COURSE 1. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

PHGY 721 Ph.D. SEMINAR COURSE 2. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

PHGY 722 Ph.D. SEMINAR COURSE 3. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental

seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

PHGY 723 PH.D. SEMINAR COURSE 4. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

PHGY 724 PH.D. SEMINAR COURSE 5. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

PHGY 725 PH.D. SEMINAR COURSE 6. (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

COURSES OFFERED BY OTHER UNITS –

Department of Medicine, Division of Experimental Medicine:

- EXMD 502 Advanced Endocrinology. (3)
- EXMD 503 Advanced Endocrinology. (3) (Winter)
- EXMD 504 Biology of Cancer. (3)
- EXMD 506 Advanced Applied Cardiovascular Physiology. (3)
- EXMD 507 Advanced Applied Respiratory Physiology. (3)
- EXMD 508 Advanced Topics in Respiration. (3)
- EXMD 509 Gastrointestinal Physiology and Pathology. (3)
- EXMD 615 Membrane Carbohydrates. (3)

Biomedical Engineering:

- BMDE 519 Biomedical Signals and Systems. (3) (2-0-8)

65 Plant Science

Department of Plant Science
Macdonald Campus
21,111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7851

Fax: (514) 398-7897

E-mail: plantscience@macdonald.mcgill.ca

Web site: www.mcgill.ca/plant

Chair — M.G. Fortin

65.1 Staff

Emeritus Professors

- R.H. Estey; B.Ed.(U.N.B.), M.S.(Maine), D.I.C.(Imp. Coll.), B.Sc.(Agr.), Ph.D.(McG.), F.L.S.
- W.F. Grant; B.A., M.A.(McM.), Ph.D.(Va), F.L.S.
- H.A. Steppler; B.S.A.(Man.), M.Sc., Ph.D.(McG.), F.A.I.C.

Professors

- D.J.I. Buszard; B.Sc.(Bath), Ph.D.(Lond.)
- P. Dutilleul; L.Sc., D.Sc.(Louvain)
- D. Mather; B.Sc.(Agr.) (McG.), M.Sc., Ph.D.(Guelph)
- D.L. Smith; B.Sc., M.Sc.(Acad.), Ph.D.(Guelph)
- A.K. Watson; B.Sc.(Agr.), M.Sc.(Br.Col.), Ph.D.(Sask.)

Associate Professors

- D.J. Donnelly; B.Sc.(Agr.) (McG.), M.Sc.(U.B.C), Ph.D.(S.Fraser)
- M.G. Fortin; B.Sc.(Pl.Sc.), M.Sc.(Laval), Ph.D.(McG.) (*William Dawson Scholar*)

- S. Jabaji-Hare; B.Sc.(Beirut), M.Sc.(Guelph), Ph.D.(Wat.)
- A.C. Kushalappa; B.Sc., M.Sc.(B'Lore), Ph.D.(Flor.)
- K.A. Stewart; B.Sc.(Agr.)(Br.Col.), Ph.D.(R'dg)
- M. Waterway; B.A.(Grand Rapids), M.S.(Wis.), Ph.D.(C'nell)

Assistant Professors

- J. Bede; B.Sc.(Calg.), M.Sc., Ph.D.(Tor.)
- S. deBlois; B.Sc.(Agr.)(McG), M.Sc., Ph.D.(Montr.)
- P. Seguin; B.Sc.(Agr.), M.Sc.(McG), Ph.D.(Minn.)
- M. Stromvik; B.A., M.S. (Stockholm), Ph.D. (Ill.)

Faculty Lecturers

- C. Begg; B.Sc.(Agr.)(McG.), M.Sc.(Sask.), Ph.D.(McG.)
- S. Lussier; B.Sc.(Agr.) (McG.)
- K. McClintock; B.A.(Wellesley), B.Sc.(Agr), M.Sc.(McG.)
- D. Wees; B.Sc.(Agr.), M.Sc.(McG.)

Associate Member

- T.A. Johns (*Dietetics and Human Nutrition*)

Adjunct Professors

- T.L. Capson, S. Jenni, J.-F.Laliberté, L.O'Donoghue

65.2 Programs Offered

The Department offers an M.Sc. and Ph.D. in Plant Science and provides for study in all fields of the plant sciences. Research facilities – both field and laboratory – are available for investigations in plant breeding, crop physiology, crop management, plant ecology, the epidemiology and biology of plant diseases, the physiology of diseased plants, cytogenetics, biosystematics, recombinant DNA technology, mycology, weed biology, tissue culture and plant biochemistry.

An advisory committee is named for each student, having the responsibility for developing the program of study appropriate to the student's background and area of specialization.

65.3 Admission Requirements

General

The minimum cumulative grade point average (CGPA) is 3.0/4.0 (second-class upper division) or a GPA of 3.2/4.0 during the last two years of full-time university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

Ph.D.

Ph.D. candidates are required to have an M.Sc. degree in an area related to the chosen field of specialization for the Ph.D. program. Outstanding M.Sc. students may be permitted to transfer to the second year of the Ph.D program following one year of study.

65.4 Application Procedures

Applicants for graduate studies must forward supporting documents to:

Department of Plant Science
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7851

Fax: (514) 398-7897

E-mail: carolyn.bowes@mcgill.ca

Applications will be considered upon receipt of a signed and completed application form, \$60 application fee, and the following supporting documents:

DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Transcripts - Two official copies of all university level transcripts with proof of degree(s) granted. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent.

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. Applicants must be graduates of a university of recognized reputation and hold a Bachelor's degree equivalent to a McGill Honours degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

Letters of Recommendation - Two letters of recommendation on letterhead (official paper) of originating institution or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, preferably in the applicant's area of specialization. It is the applicant's responsibility to arrange for these letters to be sent.

Competency in English - Non-Canadian applicants whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g., TOEFL (minimum score 550 on the paper-based test, 213 on the computer-based test) or IELTS (minimum overall band 6.5). The MCHE is not considered equivalent. Results must be submitted as part of the application. The University code is 0935 (McGill University, Montreal); please use Department code 31 (Graduate Schools), Biological Sciences - Agriculture, to ensure that your TOEFL reaches this office without delay.

Graduate Record Exam (GRE) - The GRE is not required, but it is highly recommended.

Application Fee (non-refundable) - A fee of \$60 Canadian must accompany each application (including McGill students), otherwise it cannot be considered. This sum must be remitted using one of the following methods:

1. Credit card (by completing the appropriate section of the application form). NB: on-line applications must be paid for by credit card.
2. Certified cheque in Cdn.\$ drawn on a Canadian bank.
3. Certified cheque in U.S.\$ drawn on a U.S. bank.
4. Canadian Money order in Cdn.\$.
5. U.S. Money Order in U.S.\$.
6. An international draft in Canadian funds drawn on a Canadian bank requested from the applicant's bank in his/her own country.

Deadlines - Applications, including all supporting documents must reach the Department no later than June 1 (March 1 for International) for the *Fall Term (September)*; October 15 (July 1 for International) for the *Winter Term (January)*; February 15 (November 1 for International) for the *Summer Term (May)*. It may be necessary to delay review of the applicant's file until the following admittance period if application materials including supporting documents are received after these dates. International applicants are advised to apply well in advance of the deadline because immigration procedures may be lengthy. Applicants are encouraged to make use of the on-line application form available on the Web at www.mcgill.ca/applying/graduate.

Financial aid is very limited and highly competitive. It is suggested that students give serious consideration to their financial planning before submitting an application.

Acceptance to all programs depends on a staff member agreeing to serve as the student's supervisor and the student obtaining financial support. Normally, a student will not be accepted unless adequate financial support can be provided by the student and/or

the student's supervisor. Academic units cannot guarantee financial support via teaching assistantships or other funds.

Qualifying Students - Some applicants whose academic degrees and standing entitle them to serious consideration for admission to graduate studies, but who are considered inadequately prepared in the subject selected may be admitted to a *Qualifying Program* if they have met the Graduate and Postdoctoral Studies Office minimum CGPA of 3.0/4.0. The course(s) to be taken in a *Qualifying Program* will be prescribed by the academic unit concerned. *Qualifying students* are registered in graduate studies, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

65.5 Program Requirements

M.Sc.

Candidates must complete a 45-credit course and research program established by their advisory committee. The program will consist of:

1. Two 3-credit graduate level courses or their equivalent.
2. M.Sc. Thesis 1 PLNT664.
3. M.Sc. Thesis 2 PLNT665.
4. M.Sc. Thesis 3 PLNT666.
5. Attendance at PLNT665, PLNT666, PLNT767 and PLNT768; and at invitational seminar (PLNT690).
6. Additional courses may be required at the discretion of the candidate's supervisory committee.

Plant Science M.Sc. research programs normally require two years for completion.

M.Sc. - Neotropical Environment

Candidates must complete a 45-credit course and research program established by their advisory committee. The program will consist of:

1. Two 3-credit courses ENVR610 and BIOL640.
2. One 3-credit course chosen from POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGRI550.
3. M.Sc. Thesis 1 PLNT664.
4. M.Sc. Thesis 2 PLNT665.
5. M.Sc. Thesis 3 PLNT666.
6. When in residence in Montreal, attendance at PLNT665, PLNT666, PLNT690, PLNT767 and PLNT768; when in residence in Panama, participation at the STRI seminar series.
7. Participation in the MSE-Panama Symposium Presentation in Montreal is also required.
8. Additional courses may be required at the discretion of the candidate's supervisory committee.

Plant Science research programs normally require two years for completion.

Ph.D.

Students will follow the program of study established by their advisory committee. This program will consist of:

1. Ph.D. comprehensive examination PLNT701, which must be taken within one year of registering.
2. Ph.D. Thesis 1 PLNT766.
3. Ph.D. Thesis 2 PLNT767.
4. Ph.D. Thesis 3 PLNT768.
5. Other courses deemed necessary for the chosen area of specialization.
6. Attendance at all thesis progress and program reports (PLNT665, PLNT666, PLNT767 and PLNT768) and at invitational seminar (PLNT690).

Students who have taken their M.Sc. degree at McGill University will be required to spend one term in study at another research institution.

Ph.D. – Neotropical Environment

Students will follow the program of study established by their advisory committee. This program will consist of:

1. Ph.D. comprehensive examination PLNT701, which must be taken within one year of registering.
2. Ph.D. Thesis 1 PLNT766.
3. Ph.D. Thesis 2 PLNT767.
4. Ph.D. Thesis 3 PLNT768.
5. Two required courses: ENVR610 and BIOL640.
6. One course chosen from POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGRI550.
7. When in residence in Montreal, attendance at all thesis progress and program reports: PLNT665, PLNT666, PLNT690, PLNT767 and PLNT768; when in residence in Panama, participation at the STRI seminar series.
8. Participation in the MSE-Panama Symposium Presentation in Montreal is also required.
9. Additional courses may be required at the discretion of the candidate's supervisory committee.

Students who have taken their M.Sc. degree at McGill University will be required to spend one term in study at another research institution.

65.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

AEMA 610 STATISTICAL METHODS 2. (3) (3 lectures and one 2-hour lab) (Prerequisite: AEMA 310 or equivalent) Principles of linear models, multiple regression equations and classification models. Introduction to Analysis of Variance and common statistical designs used in agricultural and environmental sciences. Emphasis on balanced and unbalanced designs and data structures; their analysis and tests of statistical significance.

AEMA 611 EXPERIMENTAL DESIGNS. (3) (3 lectures and 1 conference) (Prerequisite AEMA 310 or equivalent) (Given in alternate years)

AEMA 614 TEMPORAL AND SPATIAL STATISTICS. (3) (3 hours lectures) (Prerequisite AEMA 310 or equivalent) (Given in alternate years) Temporal statistics: analysis in the time domain, Box-Jenkins forecasting methodology, analysis in the frequency domain, periodogram analysis. Spatial statistics: mapping, autocorrelation analysis, geostatistics. Statistical inference with auto-correlated sample data.

CELL 500 TECHNIQUES PLANT MOLECULAR GENETICS. (3)

CELL 501 PLANT MOLECULAR BIOLOGY AND GENETICS. (3)

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.

PLNT 535 PLANT BREEDING. (3) (Undergraduate prerequisite: CELL 204, PLNT 201 or PLNT 211) (Given in alternate years) 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 600 PLANT-MICROBE INTERACTIONS. (3) (3 hours) This course examines in detail the advances in several areas of plant-microbe research; signalling (recognition phenomena) and regula-

tory interactions between plants and microbes (including symbionts), biochemical and molecular plant response to biotic and abiotic stress and mechanisms of defense reactions.

PLNT 602 FORAGE CROP EXPERIMENTATION. (3)

PLNT 604 VEGETABLE CROPS. (3)

PLNT 614 ADVANCED PLANT BREEDING. (3)

PLNT 619 CROP PHYSIOLOGY. (3) (3 hours conference)

PLNT 622 BIOLOGICAL CONTROL OF WEEDS. (3) Directed reading and discussion on the use of plant-feeding organisms and disease to reduce the density of undesirable vegetation in favour of more useful plant species.

PLNT 623 BIOCHEMISTRY AND PHYSIOLOGY OF HERBICIDES. (3) Mechanisms of penetration, translocation, selectivity and modes of action of herbicides and their interactions with the environment.

PLNT 624 ADVANCED CELLULAR REGULATION. (3) (Restrictions: Not open to students who have taken PLNT 424.)

PLNT 626 BIOCHEMISTRY AND PHYSIOLOGY OF PLANT LIPIDS. (3) (2 hours lectures)

PLNT 628 PLANT NITROGEN FIXATION AND MYCORRHIZAE. (3) A detailed examination of the chemistry, biochemistry, anatomy, physiology, ecology and agricultural application of biological nitrogen fixation and mycorrhizal associations in higher plants.

PLNT 633 PLANT PATHOGENIC FUNGI. (3) Techniques to diagnose plant diseases based on culturing and identification of plant pathogenic fungi in the laboratory. Students will make a collection of fungi, and become familiar with monographs, host indices, taxonomic keys, and other literature for fungal identification.

PLNT 636 EPIDEMIOLOGY AND MANAGEMENT OF PLANT DISEASE. (3) Concepts and principles of plant disease epidemiology. Quantification of factors influencing epidemiological processes. Influence of host, pathogen and environmental factors on the rate of disease development. Disease forecasting and timing fungicide application. Management of crop diseases, including chemical and biological control. Immunological and molecular techniques to detect pathogens.

PLNT 650 ADVANCED SYSTEMATIC BOTANY. (3)

PLNT 662 LABORATORY RESEARCH METHODS PLANT SCIENCE. (3) (3 hours lab) Physical and chemical methods applied to biology. Students are required to perform a formal project centered around the use of one or more instruments covered and provide a written and/or oral report of the project.

PLNT 664 M.Sc. THESIS 1. (12) Written and oral presentation of thesis proposal to the research supervisory committee.

PLNT 665 M.Sc. THESIS 2. (12) Oral presentation of a proposal to the department and progress report on the thesis research project to the supervisory committee.

PLNT 666 M.Sc. THESIS 3. (15) Preparation and submission of an acceptable thesis. Oral presentation of the thesis research to the department.

PLNT 670 SPECIAL TOPICS. (3) (2 hours seminar) This course is designed to develop seminar presentation skills in graduate students. The course consists of instruction on audio-visual preparation, speaking style, and organization of content, plus practice presentations by students.

PLNT 690 RESEARCH HORIZONS IN PLANT SCIENCE. (0) A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

PLNT 690D1 (0), PLNT 690D2 (0) RESEARCH HORIZONS IN PLANT SCIENCE. (Students must register for both PLNT 690D1 and PLNT 690D2) (No credit will be given for this course unless both PLNT 690D1 and PLNT 690D2 are successfully completed in consecutive terms) (PLNT 690D1 and PLNT 690D2 together are equivalent to PLNT 690) A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

PLNT 690N1 RESEARCH HORIZONS IN PLANT SCIENCE. (0) (Students must also register for PLNT 690N2) (No credit will be given for this course unless both PLNT 690N1 and PLNT 690N2 are successfully completed in a twelve month period) (PLNT 690N1 and PLNT 690N2 together are equivalent to PLNT 690) A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

PLNT 690N2 RESEARCH HORIZONS IN PLANT SCIENCE. (0) (Prerequisite: PLNT 690N1) (No credit will be given for this course unless both PLNT 690N1 and PLNT 690N2 are successfully completed in a twelve month period) (PLNT 690N1 and PLNT 690N2 together are equivalent to PLNT 690) See PLNT 690N2 for course description.

PLNT 691D1 (0), PLNT 691D2 (0) RESEARCH HORIZONS IN PLANT SCIENCE. (Students must register for both PLNT 691D1 and PLNT 691D2) (No credit will be given for this course unless both PLNT 691D1 and PLNT 691D2 are successfully completed in consecutive terms) A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

PLNT 691N1 RESEARCH HORIZONS IN PLANT SCIENCE. (0) (Students must also register for PLNT 691N2) (No credit will be given for this course unless both PLNT 691N1 and PLNT 691N2 are successfully completed in a twelve month period) A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

PLNT 691N2 RESEARCH HORIZONS IN PLANT SCIENCE. (0) (Prerequisite: PLNT 691N1) (No credit will be given for this course unless both PLNT 691N1 and PLNT 691N2 are successfully completed in a twelve month period) See PLNT 691N1 for course description.

PLNT 701 DOCTORAL COMPREHENSIVE EXAMINATION. (0)

PLNT 701D1 (0), PLNT 701D2 (0) DOCTORAL COMPREHENSIVE EXAMINATION. (Students must register for both PLNT 701D1 and PLNT 701D2) (No credit will be given for this course unless both PLNT 701D1 and PLNT 701D2 are successfully completed in consecutive terms) (PLNT 701D1 and PLNT 701D2 together are equivalent to PLNT 701)

PLNT 701N1 DOCTORAL COMPREHENSIVE EXAMINATION. (0) (Students must also register for PLNT 701N2) (No credit will be given for this course unless both PLNT 701N1 and PLNT 701N2 are successfully completed in a twelve month period) (PLNT 701N1 and PLNT 701N2 together are equivalent to PLNT 701)

PLNT 701N2 DOCTORAL COMPREHENSIVE EXAMINATION. (0) (Prerequisite: PLNT 701N1) (No credit will be given for this course unless both PLNT 701N1 and PLNT 701N2 are successfully completed in a twelve month period) (PLNT 701N1 and PLNT 701N2 together are equivalent to PLNT 701) See PLNT 701N1 for course description.

PLNT 766 PH.D. THESIS 1. (0) Written and oral presentation of thesis proposal to the research supervisory committee.

PLNT 767 PH.D. THESIS 2. (0) Oral presentation of a proposal to the Department and progress report on the thesis research project to the supervisory committee.

PLNT 768 PH.D. THESIS 3. (0) Preparation and submission of an appropriate final thesis. Oral presentation of the thesis research and thesis defense to the Faculty.

PLNT 770 SPECIAL TOPICS 2. (3) Prescribed reading, conference and practical work on selected topics in the student's area of specialization.

66 Political Science

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Web site: www.arts.mcgill.ca/programs/polisci

Chair — Christopher Manfredi

Director of Graduate Program — Richard Schultz

66.1 Staff

Emeritus Professors

Baldev Raj Nayar; B.A., M.A.(Punj.), M.A., Ph.D.(Chic.)
Blema Steinberg; B.A. (McG.), M.A. (C'neil.), Ph.D. (McG.)

Professors

Mark R. Brawley; B.A., M.A., Ph.D.(U.C.L.A.)
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 2005*)
Rex Brynen; B.A.(Vic.,B.C.), M.A., Ph.D.(Calg.)
Elisabeth Gidengil; B.A.(Lond.), M.A.(N.Y.), Ph.D.(McG.)
Christopher Manfredi; B.A., M.A.(Calg.), M.A., Ph.D.(Claremont)
T. V. Paul; B.A., M.A.(Kerala), M.Phil.(J. Nehru U.), M.A., Ph.D.(U.C.L.A.) (*James McGill Professor*)
Filippo Sabetti; B.A.(McM.), Ph.D.(Ind.)
Richard Schultz; B.A.(York), M.A.(Manc.), Ph.D.(York) (*James McGill Professor*) (*on leave 2004-2005*)
Harold M. Waller; M.S.(Northwestern), Ph.D.(Georgetown) (*on leave 2004-2005*)

Associate Professors

Arun Agrawal; B.A.(Delhi), M.B.A.(Indian Inst. of Mgmt), M.A., Ph.D.(Duke) (*William Dawson Scholar*)
Jerome H. Black; B.A.(Tor.), M.A.(Kent & Roch.), Ph.D.(Roch.)
Barbara Haskel; A.M., Ph.D.(Harv.)
Juliet Johnson; A.B. (Stan.), M.A., Ph.D. (Prin.)
Antonia Maioni; M.A.(Carl.), Ph.D.(Northwestern) (*William Dawson Scholar*)
Hudson Meadwell; B.A.(Man.), M.A., Ph.D.(Duke)
Samuel J. Noumoff; B.A.(Clark), M.A., Ph.D.(N.Y.)
Philip Oxhorn; B.A.(Redlands), M.A.(Cant.), Ph.D.(Harv.) Alan Patten; M.A., Ph.D.(Oxf.) (*William Dawson Scholar*)
Stephen Saideman; B.A.(Oberlin), M.A., Ph.D.(U.C., San Diego) (*Canada Research Chair*)
Narendra Subramanian; B.A.(Prin.), M.A., Ph.D.(M.I.T.)

Assistant Professors

Arash Abizadeh; B.A. (Winn.), M.Phil. (Oxf.), Ph.D. (Harv.)
Eric Bélanger; B.A., M.A.(Laval), Ph.D.(Montr.)
Erik Kuhonta; B.A.(Penn.), M.A.(C'neil.), Ph.D.(Stan.)
Catherine Lu; Ph.D.(Tor.)
Brian Rathbun; B.A.(Duke), M.A.(Mich.), Ph.D.(Calif.)
Stuart Soroka; B.A.(Queen's), M.A.(Carl.), Ph.D.(U.B.C.)
Dietlind Stolle; M.A.(Claremont), Ph.D.(Prin.)

66.2 Programs Offered

The Department offers programs leading to the M.A. (with or without thesis) and Ph.D. degrees. These programs combine depth of specialization in a particular field with breadth of knowledge in related fields. The staff offers courses and supervises research on most of the important areas of political science. Students may specialize in any of the following: Canadian Government and Politics; Comparative Politics of Developed or Developing Countries, Political Theory and International Relations.

The Department awards a number of teaching assistantships each year and students who are admitted to the graduate program are automatically considered for such an award. The announcements listing the positions expected to be available will be posted by October 15 for Winter Term courses and March 15 for Fall and Full Year courses.

Because this Calendar is prepared early in the year, changes may take place after it has been printed. Students are advised to contact the Department Office for supplementary information which may be important to their choice of program.

66.3 Admission Requirements

All applicants, including those who have done their undergraduate work at McGill, must submit at least two letters of reference. Transcripts from all universities attended must be sent to the Department.

Master's

Students holding a B.A. degree may be eligible for admission to the M.A. program. Preparation equivalent to a McGill Honours Program in Political Science is desirable. Students who have inadequate preparation in Political Science but are otherwise judged to be qualified are admitted to a qualifying year, in which they undertake advanced undergraduate work.

Ph.D.

Students holding a Master's degree in Political Science may be eligible for admission to the Ph.D. program. In some instances, students may be admitted directly into the Ph.D. program without having completed an MA degree. They will be considered Ph.D.1 and some previous political science course work could be applied to the requirements of the program, provided that it did not count towards any other degree.

GRE and TOEFL Exams

GRE results are required for applications to the Doctoral Program; this includes McGill Master's students applying to the Doctoral Program. GRE results are not required for students applying to the Master's Program or Qualifying term or year.

Non-Canadian students from countries where English is not the first language and who have not studied at a university in which teaching is conducted in English must submit TOEFL scores. A minimum score of 600 on the paper-based test (250 on the computer-based test) is required for admission. Files will not be considered unless TOEFL scores are received before the application deadline.

GRE information booklets and, when appropriate, TOEFL information booklets are included in the application package mailed to prospective students. For more information, consult the following Web sites: www.gre.org and www.toefl.org.

66.4 Application Procedures

Applications will be considered upon receipt of:

1. application form.
2. original transcripts;
3. two letters of reference;
4. \$60 application fee;
5. test results: TOEFL (if applicable) and GRE (for Ph.D. applicants);
6. personal statement (one page);
7. sample of writing (Ph.D. only).

All applications should be submitted to the Graduate Coordinator in the Department of Political Science.

The deadline for applications for admission to the Department is January 31.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

66.5 Program Requirements

Requirements for the M.A. Degree (45 credits)

Students may select Option A (Thesis Option) or Option B (Research Project Option) in completing M.A. degree requirements. Students may switch from one option to the other while completing their coursework.

In addition, the Department offers an M.A. Research Project Option in Social Statistics.

A. Thesis Option

There are two requirements:

1. Five one-term courses (5 x 3 credits). Where special requirements of a student's area of concentration so warrant, the Director of Graduate Program may allow one of these courses to be taken at the upper undergraduate level. The substitution of one course outside Political Science in related disciplines may also be allowed if it is appropriate to the program.
2. A thesis to demonstrate proficiency in research. The thesis is normally about 100 pages long, and is subject to evaluation by one examiner internal to the Department and one examiner external to the Department.

B. Research Project Option

1. Seven one-term courses (7 x 3 credits). Where special requirements of a student's area of concentration so warrant, the Director of Graduate Program may allow one of these courses to be taken at the upper undergraduate level. The substitution of up to two courses outside Political Science in related disciplines may also be allowed if appropriate to the program.
2. A research paper to demonstrate proficiency in research. The research paper is normally about 50 pages in length and involves revision of a paper written for one of the graduate courses completed in the program. The research paper is evaluated by two faculty members in the Department.

For both of the above options, all students must take one of the following and preferably both:

- POLI616 or POLI617 or POLI561
- OR POLI612 or a suitable more advanced course.

M.A. Project Option in Social Statistics

The program complements disciplinary training with statistical research. Students will normally complete program course requirements, supplemented by further statistical courses, as advised by the Option advisor, and subject to approval by the Department.

Entrance to this option is by application to the Social Statistics Option Committee *subsequent to acceptance into the Department program*.

All students must take one of the following and preferably both:

- POLI616 or POLI617 or POLI561
- OR POLI612 or a suitable more advanced course.

In addition, students MUST take POLI688 Research Seminar in Social Statistics (or equivalent).

Candidates for the M.A. degree follow a program approved on an individual basis by the Department. All students who wish to be considered for the Ph.D. program are evaluated on the basis of their M.A. program. Only a small number of students are permitted to go on for their doctorate and students currently enrolled in the M.A. program must formally re-apply for admission into the Ph.D. program. A pass for the M.A. degree does not necessarily imply permission to proceed to the doctorate.

Requirements for the Ph.D. Degree

Superior applicants, normally understood as students who are at least in the top 10 percent of their graduating class or who have a CPGA of at least 3.5 or its equivalent, will be eligible for admission into the Ph.D. track and receive a Ph.D. degree after successfully completing the requirements of the Ph.D. track. These are:

- A. Successful completion of thirteen 3-credit courses.
- B. Distribution of Courses:
- Two major fields in political science (satisfied by four courses and a written comprehensive examination in each field, as well as one integrated oral comprehensive examination covering both major fields).
 - One minor field (satisfied by two courses). Minor fields can be in any one of the five fields offered by the Department. Students may also petition the Graduate Committee to approve as a minor some special combination of courses which is suitable to a particular student's planned course of study.
 - An additional 3-credit course in either of the student's major fields or minor field, according to what best meets the particular student's needs.
 - Students are required to take one 700-level Ph.D. Research Seminar in each major field, as part of the four course requirement. In each of these 700-level seminars, students are expected to complete a paper which focuses on a clearly defined research problem and is comparable in scope to an article in a professional journal. The papers should demonstrate the student's familiarity with the relevant scholarly work and his/her ability to carry out research and organize the results of the research. Each paper will be evaluated by two faculty members in the Department.
 - Methodology Requirements: All students are required to take at least one of the following POLI616 or POLI617 or POLI561 and POLI612 or a suitable more advanced course. Students who are given an exemption from a methodology course requirement because of course work completed prior to entering the M.A.-Ph.D. program will still be required to complete thirteen 3-credit courses.
- C. Advanced Research Tools: The Department feels that it is essential that its Ph.D. students demonstrate a high level of proficiency in one of the two principal research tools of modern political science: languages or quantitative methods. Language Requirement: Students must pass an advanced-level translation test from a language other than English. In selecting a language to fulfill this requirement, the student must demonstrate in writing how the chosen language is related to the research. Quantitative Methods: To fulfill this requirement, students must complete a course in advanced statistical methods. For additional information, students should consult the "Information Bulletin for Ph.D. Program".
- D. All students in the Ph.D. program are expected to take their written comprehensives and their oral comprehensive in the second term of their third year in the program. Students are expected to have completed all of their required course work in their major and minor fields, as well as their methodology requirement (13 one-term courses), by no later than the end of the first term of their third year.
- E. Students are expected to submit dissertation proposals by the end of the second term of their third year in the program.
- F. The student must write a doctoral dissertation which makes an original contribution to knowledge in the discipline.

Ph.D. – Neotropical Environment candidates who choose the Language Requirement referred to in item C above, must fulfill that requirement in Spanish. They must also include the following courses as part of their program: ENVR610 and BIOL640, and one of POLI644, SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550;

Transfer students and students with Master's degrees from other universities: Transfer students will be treated as M.A. students who change tracks. Previous course work at the graduate level can be applied towards the requirements of the program, provided the Admission Committee is confident that the quality of such work is on par with McGill standards. Students transferring into the M.A.-Ph.D. track must fulfill a minimum residency requirement of two years, including a minimum of 6 courses and at least

one 700-level Ph.D. research paper. All students will be required to pass the comprehensive written and oral exams.

66.6 Courses for Higher Degrees

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Undergraduate Courses for Qualifying Program and Graduate Students.

When it is appropriate to their programs, graduate students may take an undergraduate course approved by the Director of Graduate Studies. These courses are listed in the Faculty of Arts section of the *Undergraduate Programs Calendar* and in the annual course list prepared by the Department in the fall.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

POLI 099 TEACHING METHODS. (3) This registration is available to graduate students at the M.A. or Ph.D. level who have satisfactorily completed work as a Teaching Assistant for at least a two-thirds appointment over the course of two semesters.

POLI 099D1 (1.5), POLI 099D2 (1.5) TEACHING METHODS. (Students must register for both POLI 099D1 and POLI 099D2.) (No credit will be given for this course unless both POLI 099D1 and POLI 099D2 are successfully completed in consecutive terms) (POLI 099D1 and POLI 099D2 together are equivalent to POLI 099)

POLI 521 SEMINAR: CANADIAN POLITICS AND GOVERNMENT. (3) (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) 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) (Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor) A research seminar dealing with experiences of various developing countries. Examines the intersections of visions of gender and community; the interactions between mobilization along gender and community lines; the gendered nature and cultural coding of various policy initiatives. Greater emphasis given to concerns and actions of women, and to visions of community based on religion and race. Students are expected to undertake a research project.

POLI 524 SEMINAR: DEVELOPED AREAS. (3) (Prerequisite: At least one upper-level course in the politics of developed areas) (Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor)

POLI 561 SEMINAR: POLITICAL THEORY. (3) (Prerequisite: At least one upper level course in political philosophy) (Open to graduate students, final year Honours students, and other advanced undergraduates with the permission of the instructor) 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) (Open to graduate students and final year Honours students only) A research seminar dealing with topics in the field of international politics.

POLI 599 INTERNSHIP: POLITICAL SCIENCE. (3) (Fall and Winter) (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.

POLI 612 EMPIRICAL METHODS. (3) Fundamental principles of empirical research, in which the emphasis will be placed on acquainting the student with the techniques most commonly used by political scientists. The topics include the design of research projects, procedure in carrying out research, problems of measurement, survey research, scaling, data processing, and data analysis.

POLI 613 SELECTED THEMES: POLITICAL THEORY. (3)

POLI 616 MODERN POLITICAL ANALYSIS. (3) An introduction to the concepts underlying modern approaches to the study of politics. The scope of the discipline will be delineated and the foundations of empirical research, including the philosophy and methodology of science especially as these apply to social science, will be considered. Various alternatives and critiques will be presented and evaluated.

POLI 617 PROBLEMS IN POLITICAL THEORY. (3) An introduction to central normative issues in the study of politics. The seminar consists of lectures, oral presentations, discussion and research papers.

POLI 619 IMMIGRANTS / REFUGEES / MINORITIES. (3) A consideration of the different dimensions of politics associated with immigration and ethnorracial diversity. The course will emphasize the Canadian case in comparative perspective.

POLI 620 SOCIETY AND POLITICS IN CANADA. (3) A critical review of the theoretical and empirical literature in the areas of political attitudes and ideology, participation, parties and elections.

POLI 621 INTERPRETING CANADIAN POLITICAL PROCESS. (3)

POLI 622 ADVANCED TOPICS CANADIAN POLITICS. (3) A specific problem area in Canadian Politics.

POLI 623 JUDICIAL POLITICS AND THE CONSTITUTION. (3)

POLI 625 COMPARATIVE POLICY ANALYSIS. (3)

POLI 628 COMPARATIVE POLITICS. (3) An introduction for graduate students to the sub-discipline of comparative politics. The logic of comparative analysis as well as a number of alternative paradigms for analyzing and comparing political systems and processes.

POLI 629 POST-COMMUNIST TRANSFORMATIONS. (3) This course will incorporate discussions of concrete political processes and events, but will focus primarily on theories in comparative politics that might help us understand changes currently underway in the former Soviet Union. Students will continuously assess the value of these theories as methods of understanding change in the former Soviet Union.

POLI 630 TOPICS IN EUROPEAN POLITICS. (3)

POLI 632 VOTING BEHAVIOR/PUBLIC OPINION. (3) A critical examination of major debates within the comparative literature on voting behavior and public opinion. The work discussed will draw primarily on research conducted in the United States, Canada and Western Europe.

POLI 635 THEORIES OF U.S. POLITICS. (3)

POLI 636 APPROCHES THEOR:POLITIQUE QUE. (3) (This course will be conducted both in English and French; a reading knowledge and an ability to understand the two languages is recommended)

POLI 639 POLITICS OF DEVELOPED AREAS. (3) A specific problem area in the Comparative Politics of Developed Areas.

POLI 640 MIDDLE EAST POLITICS. (3) Examination of political and socio-economic development in the Middle East, with particular emphasis on the Arab world. Topics to be addressed include state formation and consolidation; Arab nationalism; civil society and state-society relations; the politics of Islam; petro-politics; the political economy of economic liberalization; and future patterns of political change.

POLI 641 POLITICAL CHANGE IN SOUTH ASIA. (3) This course examines major political and social changes in South Asia. Explores such topics as colonialism and nationalism; trends in mass mobilization and electoral politics; regime changes; economic policies and their impact; and conflicts over authority patterns, policy agendas, and national boundaries.

POLI 642 AFRICAN POLITICS. (3)

POLI 643 POLITICS OF IDENTITY. (3) Theoretical approaches to the politics of identity with reference to experiences in different world regions. The politics of nationalism, ethnicity, religion, race and gender, and the relationship of such forms of identity politics to democracy, tolerance, pluralism, violence, socio-economic change and equality.

POLI 646 POLITICS OF DEVELOPING AREAS. (3)

POLI 647 DEVELOPMENT POLITICAL ECONOMY. (3) Incorporation of subordinate groups into national systems in the developing countries of Africa, Asia, and Latin America. Specific topics include state formation, the emergence of civil society, modernization and dependency theories, alternative development models, democracy, authoritarianism, sustainable development and gender.

POLI 648 LATIN AMERICAN POLITICS. (3) This course explores changing patterns of social, economic and political relations in Latin America, especially at the level of civil society. It examines such topics as state formation, institutional development, regime transformation and the insertion of Latin American countries in both the international capitalist economy and the inter-state system.

POLI 649 MASS APPROACH POLITICAL DEVELOPMENT: CHINA. (3) The strategy of political and socio-economic development in contemporary China. Topics include: cultural and ideological foundations of socialization. The consequences of the disintegration of the USSR and the socialist countries of Europe, and the balance sheet of the post-1978 reform.

POLI 650 SEMINAR IN PEACEBUILDING. (3) 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 651 THE EU AND POLITICAL INTEGRATION. (3) Theories from both comparative and international politics will be drawn upon to analyze the development, politics, institutions and policies of the EU. The internal political economy and external relations of the EU will be analyzed.

POLI 671 INTERNATIONAL RELATIONS THEORY. (3) This course is designed to give students a thorough background in the basic theories and models used in International Relations. It emphasizes breadth, in order to ground students in the variety of approaches employed in the field of international politics.

POLI 672 INTERNATIONAL POLITICAL ECONOMY. (3) For students in international and comparative politics, a course in IPE in two senses: 1) the use of the economic model of purposive behaviour to examine international phenomena; 2) the politics of global economic issues such as production, trade, finance, debt, technology transfer, economic coordination. Connections between domestic political economies and the IPE, alternative strategies of state adjustment to a changing IPE.

POLI 673 INTERNATIONAL POLITICS NORTH-SOUTH RELATIONS. (3)

POLI 676 PSYCHOLOGY AND POLITICS. (3) (Prerequisites: No previous course work in psychology is required. In addition to political science graduate students who are specializing in international relations and, subject to limitations of class size, this seminar is open to other interested political science graduate students and third year honours undergraduates in political science, history and psychology.)

POLI 677 INTERNATIONAL CRISIS, CONFLICT, WAR. (3) This seminar is designed to explore the literature on the concepts of interna-

tional crisis, conflict and war. Discussions will focus on: research designs and methods; decision-making models; crisis/conflict management; bargaining in crisis; UN and superpower crisis intervention; deterrence and war prevention; theories of war; and polarity, war, crisis and stability.

POLI 678 STATE BEHAVIOUR. (3)

POLI 679 INTERNATIONAL SECURITY: CONFLICT AND CO-OPERATION. (3)

POLI 688 SEMINAR ON SOCIAL STATISTICS. (3)

POLI 690 READING IN POLITICAL SCIENCE. (3) A graduate student may take a one-term reading course per academic year in a particular field and under the supervision of a member of staff.

POLI 690D1 (1.5), POLI 690D2 (1.5) READING IN POLITICAL SCIENCE. (Students must register for both POLI 690D1 and POLI 690D2) (No credit will be given for this course unless both POLI 690D1 and POLI 690D2 are successfully completed in consecutive terms) (POLI 690D1 and POLI 690D2 together are equivalent to POLI 690)

POLI 691 BIBLIOGRAPHIC METHODS 1. (6) Research-related skills and the production of a research bibliography.

POLI 692 BIBLIOGRAPHIC METHODS 2. (6) Advanced research-related skills and the production of a research bibliography.

POLI 693 M.A. RESEARCH PROPOSAL. (3)

POLI 694 RESEARCH PREPARATION 1. (3)

POLI 695 RESEARCH PREPARATION 2. (3)

POLI 696 RESEARCH PREPARATION 3. (3)

POLI 697 RESEARCH PREPARATION 4. (3)

POLI 698 MASTER'S THESIS SUBMISSION. (12) A thesis to demonstrate proficiency in research. The thesis is normally about 100 pages long, and is subject to evaluation by one examiner internal to the Department and one examiner external to the Department.

POLI 698D1 (6), POLI 698D2 (6) MASTER'S THESIS SUBMISSION. (Students must register for both POLI 698D1 and POLI 698D2) (No credit will be given for this course unless both POLI 698D1 and POLI 698D2 are successfully completed in consecutive terms) (POLI 698D1 and POLI 698D2 together are equivalent to POLI 698)

POLI 699 MASTER'S RESEARCH ESSAY. (6) The Master's research paper should explore a clearly defined problem, show familiarity with the most important work previously done in the field, and demonstrate the ability to carry out research, organize results and present them in good literary style. Normally the paper will flow out of a previous graduate seminar and will be approximately 50 pages in length.

POLI 699D1 (3), POLI 699D2 (3) MASTER'S RESEARCH ESSAY. (Students must register for both POLI 699D1 and POLI 699D2) (No credit will be given for this course unless both POLI 699D1 and POLI 699D2 are successfully completed in consecutive terms) (POLI 699D1 and POLI 699D2 together are equivalent to POLI 699)

POLI 701 PH.D. GENERAL WRITTEN EXAMINATION FIRST FIELD. (0)

POLI 702 PH.D. GENERAL WRITTEN EXAMINATION SECOND FIELD. (0)

POLI 715 ISSUES IN CONTEMPORARY POLITICAL PHILOSOPHY. (3)

POLI 728 RESEARCH SEMINAR IN COMPARATIVE POLITICS. (3) (Suggested prerequisites: POLI 612 and POLI 628)

POLI 771 INTERNATIONAL POLICY AND FOREIGN POLICY IN DEVELOPING WORLD. (3) (Prerequisites: A graduate-level course in international relations or comparative politics/developing areas)

POLI 778 RESEARCH SEMINAR - INTERNATIONAL POLITICS. (3) A workshop intended to help M.A. and Ph.D. students prepare their thesis proposals and chapters. Writing techniques and methodology will be covered. Students critique seminar presentations by leading scholars on their new works.

POLI 780 READING SEMINAR. (3) A research seminar on a topic that is not covered in the regular seminars, but which is of interest

to a group of students and a faculty member. The exact topic for the research papers will be determined by mutual agreement among students and faculty members involved.

POLI 781 READING SEMINAR. (3) A research seminar on a topic that is not covered in the regular seminars, but which is of interest to a group of students and a faculty member. The exact topic for the research papers will be determined by mutual agreement among students and faculty members involved.

POLI 799 PH.D. ORAL COMPREHENSIVE EXAMINATION. (0)

67 Psychiatry

Department of Psychiatry
1033 Pine Avenue West
Montreal, QC H3A 1A1
Canada

Telephone: (514) 398-4176

Fax: (514) 398-4370

E-mail: msc.psychiatry@mcgill.ca

Web site: www.med.mcgill.ca/psychiatry/mscprog.htm

Chair — J. Paris

Chair of Graduate Program — M. Leyton

67.1 Staff

Emeritus Professors

B.E. Murphy; M.D.(Tor.), Ph.D.(McG.)

T.L. Sourkes; M.Sc.(McG.), Ph.D.(C'nell)

Professors

F. Abbott; B.Sc.(Trent), M.Sc., Ph.D.(McG.)

L. Annable; B.Sc.(Liv.), Dipl. in Stat.(Edin.)

C. Benkelfat; M.D.(Rabat)

P. Boksa; B.Sc., Ph.D.(Montr.)

G. Chouinard; B.A., M.D.(Montr.), Dipl.Psych.(McG.)

C. de Montigny; B.A., M.D., Ph.D.(Montr.)

M. Dongier; M.D.(Aix-Marseille), Dipl.Psych.(McG.)

F.R. Ervin; B.S.(Texas), M.D.(Tulane)

N. Frasure-Smith; B.A., Ph.D.(Johns H.)

S. Gauthier; B.A., M.D.(Montr.)

C. Gianoulakis; B.Sc.(Sir G.Wms.), Ph.D.(Rutgers)

H.A. Guttman; M.D.(Geneva)

L.T. Hechtman; B.Sc., M.D., C.M.(McG.)

L.J. Kirmayer; B.Sc., M.D., C.M., Dipl.Psych.(McG.)

S. Lal; M.B., B.S.(Lond.), Dipl.Psych.(McG.)

E.P. Lester; M.D.(Athens); Dipl.Psych.(McG.)

M.J. Meaney; B.A.(Loyola), M.A., Ph.D.(C'dia.) (*James McGill Professor*)

K. Minde; M.D.(Munich), M.A.(Col.)

V.N.P. Nair; M.B., B.S.(Kerala), D.P.M.(Mys.)

J.C. Negrete; M.D.C.M., (Tucuman) Dipl.Psych.(McG.)

R. Palmour; B.A., Ph.D.(Texas)

J. Paris; M.D., C.M.(McG.)

J.C. Perry; M.D.(Duke)

G. Pinard; B.A.(Loyola), M.D., Dipl.Psych.(Montr.)

J. Poirier; Ph.D.(Montr.)

R. Quirion; B.Sc., M.Sc., Ph.D.(Sher.)

J.J. Sigal; B.Sc., B.Ed.(Alta.), M.A., Ph.D.(Montr.)

H. Steiger; Ph.D.(McG.)

A. Young; B.A., M.A., Ph.D.(Penn.)

S. Young; B.A.(Oxon), M.Sc., Ph.D.(Lond.)

Associate Professors

S. Beaulieu; M.D./Ph.D.(Laval)

E.E. Corin; Ph.D.(Louvain)

G. Debonnel; M.D.(Lyon)

B.O. Dubrovsky; M.D.(Buenos Aires)

K. Gill; B.Sc.(Br.Col.), M.A., Ph.D.(C'dia)

A. Gratten; Ph.D.(C'dia)

S. King; M.Ed., Ph.D.(Va.)

D. Pedersen; M.D.(Buenos Aires)
 J. Rochford; M.A.(Queen's), Ph.D.(C'dia)
 C. Rousseau; M.D.(Sher.), M.Sc.(McG.)
 L.K. Srivastava; B.Sc., M.Sc.(Alld.), Ph.D.(New Delhi)
 R. Tempier; M.D.(Aix-Marseille II)
 C.-D. Walker; B.Sc., Ph.D.(Geneva)
 M. Zoccolillo; B.Sc.(New Orleans), M.D.(Norfolk)

Assistant Professors

L. Beauclair; B.Sc., M.D.(Laval)
 P. Beaudry; M.D.(Sher.), Dipl.Psych.(McG.)
 D. Bloom; B.Sc.(Regina), M.D.(Queen's)
 D. Boivin; Ph.D.(Montr.)
 D. Charney; M.D.,C.M.(McG.)
 J.B. Debruille; M.D.(Paris), Ph.D.(U Pierre et Marie Curie)
 M. Elie; M.D.,C.M.(McG.)
 G. Galbaud du Fort; M.D., Ph.D.(Paris) (*joint appoint. with Epidemiology and Biostatistics*)
 D. Groleau; B.Sc., M.Sc., Ph.D.(Montr.)
 R. Joober; M.D.(France), Ph.D.(Tunisia)
 M. Lepage; Ph.D.(Que.)
 M. Leyton; Ph.D.(C'dia)
 S. Lupien; Ph.D.(Montr.)
 A. Malla; Ph.D. (W.Ont.)
 M. Perreault; Ph.D.(Montr.)
 D. Sookman; Ph.D.(C'dia)
 G. Turecki; M.D.(Brazil), Ph.D.(McG.)
 S. Williams; Ph.D.(Montr.)

Associate Member

R.O. Pihl (Psychology)

Adjunct Professors

P. Blier, L. Gaston, C. Mercier, S. Welner

67.2 Programs Offered

Master of Science (M.Sc.)

The M.Sc. program in Psychiatry is designed (1) to provide a mechanism for the training of medical scientists who intend to pursue a research career in psychiatry and (2) to provide a focus for basic science or social science students wishing to obtain advanced training in areas particularly relevant to psychiatric research. Students in this program receive no clinical training in psychiatry.

67.3 Admission Requirements

A B.Sc., B.A., B.N. or M.D. degree.

A strong background in science and/or social science, as demonstrated by academic achievement equivalent to a GPA of 3.3 (on a 4 point scale) or 3.5 in the last two years.

A written agreement from the proposed research supervisor, and student's statement of purpose for seeking an M.Sc.

An outline of the proposed thesis research, to be written by the prospective student in collaboration with an appropriate research supervisor.

Two letters of reference.

Certified proficiency in written English or French.

67.4 Application Procedures

Applications will be considered upon delivery of the following to the Graduate Program Coordinator:

1. a completed application form;
2. Cdn \$60.00 application fee;
3. two official transcripts of all university studies;
4. written Confirmation of Supervision form (see department web site) from the proposed research supervisor
5. A written statement of purpose, describing the specific reasons for seeking a Master of Science degree in Psychiatry.

6. An outline of the proposed thesis research, to be written by the prospective student in collaboration with an appropriate research supervisor.
7. Two letters of reference with Applicant Evaluation checklist forms (see department web site);
8. TOEFL or IELTS certificate of proficiency in English for non-Canadian applicants whose mother tongue and language of education is not English, with a minimum score of 213 on the computerized TOEFL or 550 on the written TOEFL test, or 6.5 on the IELTS test.

Deadlines:

January (Winter term): August 1

May (Summer term): December 15

September (Fall term): March 1

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

67.5 Program Requirements

Formal coursework: The M.Sc. in Psychiatry requires 45 credits, of which 36 are Thesis Research and 9 are to be taken in graduate level courses approved by the student's Supervisory Committee. These courses are selected on the basis of the area of research interest and the background of the student, and shall include a course in statistical analysis, if this is not presented upon admission.

Original research. Each student shall complete an original investigation of a scope appropriate to the presentation of a Master's Thesis. This thesis will be reviewed by the Supervisory Committee prior to its submission to the Graduate and Postdoctoral Studies Office, and shall then be reviewed by external referees according to the usual regulations of the Graduate and Postdoctoral Studies Office.

Supervisory Committees. The M.Sc. in Psychiatry is administered by the Graduate Training Committee. Each student selects a Supervisory Committee composed of the research supervisor plus 2-4 other faculty who are knowledgeable about the student's research area and who can advise both on appropriate coursework and on the thesis research project. The student will meet with this Supervisory Committee at least once during each year of matriculation for the purpose of evaluating academic and research progress of the student. The Supervisory Committee will also act as a resource body for the student, both with respect to academic and administrative matters.

Residence. Three terms of full-time study. No part-time study allowed.

67.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment.

Denotes courses not offered in 2004-05.

The course credit weight is given in parentheses after the title.

PSYT 500 ADVANCES: NEUROBIOLOGY OF MENTAL DISORDERS. (3) (Winter) (3 hours) (Undergraduate Prerequisites: 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.) (Open to U3 and grad-

uate students only.) (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 allometric brain growth and recent evolutionary theories of brain organization as they relate to normal and abnormal behavior will be emphasized.

PSYT 610 DIPLOMA EVALUATION: WRITTEN. (0)

PSYT 611 DIPLOMA EVALUATION: ORAL. (0)

PSYT 630 STATISTICS FOR NEUROSCIENCES. (3) Statistics needed for analysing the types of data generated in a laboratory setting, with emphasis on the neurosciences, will be covered. Hypothesis testing, parametric and non-parametric statistics will be studied with a practical approach, using data generated by the students. Computer analysis will be introduced.

PSYT 691 THESIS RESEARCH 1. (12)

PSYT 692 THESIS RESEARCH 2. (12)

PSYT 693 THESIS RESEARCH 3. (12)

PSYT 696 SPECIAL TOPICS IN PSYCHIATRY. (3) Supervised reading and discussion of selected issues and topics in contemporary psychiatry. Students will be responsible for assigned readings and for preparation of a graded paper.

PSYT 711 CULTURAL PSYCHIATRY. (3) (Prerequisites: Knowledge of psychiatry and anthropology)

PSYT 713 PSYCHIATRIC EPIDEMIOLOGY. (3) (Prerequisites: EPIB 606 or equivalent or permission of instructor.)

68 Psychology

Department of Psychology
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Canada

Telephone: (514) 398-6124 / 398-6100

Fax: (514) 398-4896

E-mail: gradapp@psych.mcgill.ca

Web site: www.psych.mcgill.ca

Chair — K.B.J. Franklin

68.1 Staff

Emeritus Professors

A.S. Bregman; M.A.(Tor.), Ph.D.(Yale)

V. Douglas; B.A.(Qu.), M.A., M.S.W., Ph.D.(Mich.)

W.E. Lambert; M.A.(Colgate), Ph.D.(N. Carolina), F.R.S.C.

A.A.J. Marley; B.Sc.(Birm.), Ph.D.(Penn.)

R. Melzack; B.Sc., M.Sc., Ph.D.(McG.) (*E.P. Taylor Emeritus Professor of Psychology*)

P. Milner; B.Sc.(Leeds), M.Sc., Ph.D.(McG.)

Professors

F.E. Aboud; B.A.(Tor.), M.A., Ph.D.(McG.)

I.M. Binik; B.A.(N.Y.U.), M.A., Ph.D.(Penn.)

A. Chaudhuri; B.Sc., M.Sc.(Tor.), Ph.D.(U.C.Berk.) (*James McGill Professor*)

B. Ditto; B.S.(Iowa), Ph.D.(Ind.)

K.B.J. Franklin; B.A., M.A.(Auck.), Ph.D.(Lond.)

F.H. Genesee; B.A.(W.Ont.), M.A., Ph.D.(McG.)

J. Mogil; B.Sc.(Tor.), Ph.D.(U.C. LA) (*E.P. Taylor Professor of Psychology*)

D.S. Moskowitz; B.S.(Kirkland), M.A., Ph.D.(Conn.)

Y. Oshima-Takane; B.A.(Tokyo Women's Christian U.), M.A.(Tokyo), Ph.D.(McG.)

D.J. Ostry; B.A.Sc., M.A.Sc., Ph.D.(Tor.)

C. Palmer; B.Sc.(Mich.), M.Sc.(Rutgers), Ph.D.(C'neil)

M. Petrides; B.Sc., M.Sc.(Lond.), Ph.D.(Cantab.)

R.O. Pihl; B.A.(Lawrence), Ph.D.(Ariz.)

J.O. Ramsay; B.Ed.(Alta.), Ph.D.(Prin.)

B. Sherwin; B.A., M.A., Ph.D.(C'dia) (*James McGill Professor*)

T.R. Shultz; B.A.(Minn.), Ph.D.(Yale)

Y. Takane; B.L., M.A.(Tokyo), Ph.D.(N. Carolina)

D.M. Taylor; M.A., Ph.D.(W.Ont.)

N. White; B.A.(McG.), M.A., Ph.D.(Pitt.)

D.C. Zuroff; B.A.(Harv.), M.A., Ph.D.(Conn.)

Associate Professors

J. Abela; B.A.(Brown), M.A., Ph.D.(Penn.)

A.G. Baker; B.A.(Br.Col.), M.A., Ph.D.(Dal.)

E.S. Balaban; B.A. (Mich. St.), Ph.D. (Rockefeller)

M. Baldwin; B.A.(Tor.), M.A., Ph.D.(Wat.)

D. Donderi; B.A., B.Sc.(Chic.), Ph.D.(C'neil)

R. Koestner; B.A., Ph.D.(Roch.)

D.J. Levitin; A.B.(Stan.), M.S., Ph.D.(Oregon) (*Bell Professor of Psychology and E-Commerce*)

J. Lydon; B.A.(Notre Dame), M.A., Ph.D.(Wat.)

J. MacDougall; B.A.(Carl.), M.A., Ph.D.(McG.) (Part-time)

M.J. Mendelson; B.Sc.(McG.), A.M., Ph.D.(Harv.)

G. O'Driscoll; B.A.(Wellesley), Ph.D.(Harv.) (*William Dawson Scholar*)

Z. Rosberger; B.Sc.(McG.), M.A., Ph.D.(C'dia) (Part-time)

Assistant Professors

I. Bradley; B.Sc., M.Sc.(Tor.), Ph.D.(Wat.) (Part-time)

M-H. Ho; B.Sc., M.Phil.(Chinese HK); M.Sc., Ph.D.(Ill.)

B. Knauper; Dr.phil.(Germany)

K. Nader; B.Sc., Ph.D.(Tor.)

D. Titone; B.A.(N.Y.), M.A., Ph.D.(SUNY at Binghamton)

Lecturers

N. Allard; R. Amsel

Associate Members

F. Abbott (*School of Nursing, Psychiatry*)

C. Baker, F.A.A. Kingdom, K.Mullen, R. Hess (*McGill Vision Research Centre*)

T. Coderre (*Anesthesia*)

M.Jones-Gotman, B.Milner, T.Paus, W.Sossin, V.Sziklas, R.Zatorre (*Montreal Neurological Institute*)

H. Steiger (*Douglas Hospital Research Centre*)

Adjunct Professors

M. Bruck, S. Bursein, F. Cramer-Azima, P. Delisle, C. Garson,

P.Gregoire, L.A. Petitto, A. Routtenberg, M.Shapiro,

D.Sookman, M. Spevack, A.Surkis

Part-Time Appointments

J. Armony, J-M. Assaad, V. Bohbut, J. Legallais, M. Lepage,

M.Leyton, S.Lupien, Z. Pleszweski, S. Stotland

68.2 Programs offered

M.A. and M.Sc. degrees may be awarded in Experimental Psychology, but only as a stage in the Ph.D. in Experimental Psychology program.

Ph.D. in Clinical Psychology (there is no M.A. or M.Sc. program).

The aim of the Experimental program is to provide students with an environment in which they are free to develop skills and expertise that will serve during a professional career of teaching and research as a psychologist. Course work and other requirements are at a minimum. Success in the program depends on the student's ability to organize unscheduled time for self-education. Continuous involvement in research planning and execution is considered a very important component of the student's activities.

Students are normally expected to do both Master's and Doctoral study.

The Clinical program adheres to the scientist-practitioner model and as such is designed to train students for careers in university teaching or clinical research, and for service careers – working with children or adults in a hospital, clinical, or educational setting. Most of our clinical graduates combine service and research roles. While there are necessarily many more course requirements than in the experimental program, the emphasis is again on research training. There is no Masters program in Clinical Psychology; students are expected to complete the full program leading to a doctoral degree.

Research interests of members of the Psychology Department include animal learning, behavioural neuroscience, clinical, child development, cognitive science, health psychology, psychology of language, perception, quantitative psychology, social psychology, and personality psychology.

Facilities for advanced research in a variety of fields are available within the Department itself. In addition, arrangements exist with the Departments of Psychology at the Montreal Neurological Institute, Allan Memorial Institute, Douglas Hospital, Jewish General Hospital, Lakeshore General Hospital, Lethbridge Rehabilitation Centre, MacKay Centre, Montreal Children's Hospital and the Montreal General Hospital, to permit graduate students to undertake research in a hospital setting.

For full information about all programs and financial aid, and for application forms, contact the Graduate Program Co-ordinator, Department of Psychology.

Ph.D. Option in Language Acquisition (LAP)

Information about this option is available from the Department and on the Web at: www.psych.mcgill.ca/lap.html.

68.3 Admission Requirements

Admission to the graduate program depends on an evaluation of students' research interests and their aptitude for original contributions to knowledge and, if applicable, for professional contributions in the applied field.

The usual requirement for admission is an Honours or Majors degree (B.A. or B.Sc.) in Psychology. This usually includes an introductory course plus twelve courses in psychology (each equivalent to three term hours). Courses in experimental psychology, the theoretical development of modern ideas in psychology, and statistical methods as applied to psychological problems (equivalent to an introductory course) are essential. Applicants' knowledge of relevant biological, physical, and social sciences is considered.

Applicants who hold a Bachelor's degree but who have not met these usual requirements should consult the Graduate Program Director to determine which (if any) courses must be completed before an application can be considered. Students with insufficient preparation for graduate work may register as special students in the Faculty of Arts or the Faculty of Science, and follow an appropriate course of study. Such registration requires the permission of the Department but carries no advantage with respect to a student's eventual admission to graduate studies.

68.4 Application Procedures

Applicants must submit to the Graduate Program Secretary in Psychology:

1. a completed application form; on-line web application
2. two official copies and one photocopy of all university transcripts;
3. three letters of recommendation, preferably from professors of psychology;
4. a fee of \$60, in Canadian funds, by credit card;
5. a completed application summary sheet for the Psychology Department;

6. a personal statement with their full name outlining their interests in psychology and their career goals; <http://www.psych.mcgill.ca>
7. official reports and a photocopy of scores on the General and Subject Graduate Record Examination (GRE).
All applicants must take the GRE if they have studied at an English speaking University. Canadians who have not studied in English are not required to submit either GRE or TOEFL. Non-Canadians whose first language is not English and who have not studied at university in English must take the Test of English as a Foreign Language (TOEFL). Canadian citizens are not required to take the TOEFL.

Applicants should note that the deadline for many scholarships and fellowships is about four months earlier than the application deadline and that applications for fellowships and scholarships should be submitted through their home university.

The application deadline is December 15th.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

68.5 Program Requirements

Master's (M.A. and M.Sc. Degrees – 45 credits each)

There is no M.A. or M.Sc. program in Clinical psychology. M.A. and M.Sc. degrees may be awarded in Experimental Psychology, but only as a stage in the Ph.D. program.

Candidates must demonstrate a sound knowledge of modern psychological theory, of its historical development, and of the logic of statistical methods as used in psychological research. Candidates will be expected to have an understanding of the main lines of current work in areas other than their own field of specialization. The primary concern of the candidate is research. Final standing for the degree is based mainly on the student's research progress and on the results of course work and other required assignments. All first year students, Experimental and Clinical must submit a General Comprehensive paper on a topic related to their research interests.

Ph.D.

All candidates for the Ph.D. degree must demonstrate broad scholarship, mastery of current theoretical issues in psychology and their historical development, and a detailed knowledge of their special field. Great emphasis is placed on the development of research skills, and the dissertation forms the major part of the evaluation at the Ph.D. level.

All Ph.D. 2 and 3 students must register for at least one graduate seminar each term (see course numbers PSYC710 to PSYC758); the seminars are conducted by different staff members each year and their content changes accordingly.

A special (doctoral) comprehensive examination is written in one of the following areas of psychology: clinical, behavioral neuroscience, learning and motivation, personality and social psychology, development and language, perception and cognition, quantitative and individual differences, or any other appropriate area.

Ph.D. students in clinical psychology must fulfill similar requirements to Ph.D. students in the experimental program and must also take a variety of specialized courses which include practicum and internship experiences.

The Department of Psychology does not ordinarily require an examination in a foreign language. It should be noted, however, that all students planning to practice in clinical psychology in the province of Quebec will be examined on their proficiency in French before being admitted to the professional association.

68.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to

press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

Note: All undergraduate courses administered by the Faculty of Science (courses at the 100- to 500-level) have limited enrolment. The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

PSYC 501 AUDITORY PERCEPTION. (3) (2 lectures) (Prerequisite: PSYC 212 or equivalent, or permission of instructor.) Non-mathematical presentation of the acoustics biology and perception of: loudness, pitch, spatial location, frequency specificity, musical and speech sounds. Auditory scene analysis (segregation of component sounds) in multi-sound environments. For graduate students and undergraduates in any department with some background in acoustics or perception. Lectures and student presentations.

PSYC 503 COMPUTATIONAL PSYCHOLOGY. (3) (Prerequisite: Permission of instructor.) (Not open to U0 or U1 students.) Application of computational methods to the simulation of psychological phenomena. Use of psychological ideas in robotic and other engineering applications. Comparison of natural and artificial intelligence. Symbolic and neural network techniques. Methods for evaluating simulations.

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 510 STATISTICAL ANALYSIS OF TESTS. (3) (3 lectures) (Undergraduate Prerequisites: PSYC 305 or PSYC 536, PSYC 406 or permission of instructor.) This course aims to introduce students interested in developing or appraising tests to the important statistical problems and modern techniques associated with testing data. Testing situations discussed will range from one-shot classroom tests through special purpose scales to the highly refined large scale tests such as the SAT.

PSYC 511 INFANT COMPETENCE. (3) (1, 3 hour seminar) (Prerequisites: PSYC 351 or PSYC 352 or PSYC 353 or PSYC 380 or PSYC 450 and permission of instructor) Basic research on the nature of infant competence - both the development of mental representations/operations and expressive/communicative ability - will be examined. Implications for clinical assessment and intervention including information processing procedures as an alternative to conventional tests and treatment procedures for developmental delays will be covered.

PSYC 522 NEUROCHEMISTRY AND BEHAVIOUR. (3) (2 lectures) (Prerequisites: any two of the following PSYC 308, PSYC 311, PSYC 318, ANAT 321, PHGY 314, BIOL 306) (Restrictions: Not open to students who have taken or are taking PHAR 562) Anatomical, biochemical and physiological aspects of neurotransmitter systems in the brain, current theories of the function of these systems in normal and abnormal behaviour, and the actions of psychotropic drugs.

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) (Prerequisites: PSYC 212, PSYC 213, PSYC 204 (or equivalent)) Overview of major topics in the interdisciplinary study of music cognition and perception, with an emphasis on cognitive psychological and experimental approaches. Topics include: psychoacoustics, music memory, scales, tonality, neuropsychology of music, performance, talent and expertise, absolute pitch, expectation, melody and rhythm.

PSYC 530 APPLIED TOPICS IN DEAFNESS. (3) (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) (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.) (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 534 COMMUNITY PSYCHOLOGY. (3) (Prerequisites: PSYC 337 and PSYC 338 or permission of instructor) (Open to Graduate students or U3 undergraduates in Psychology) (Enrolment limited) Community psychology aims to promote health in groups and communities rather than expending resources solely on relieving dysfunction in individuals. The course reviews the conceptual rationale for community psychology and explores examples of both successful and unsuccessful prevention programs. It also discusses crisis intervention, informal caregivers, self-help groups, and mental health education through the media.

PSYC 535 ADVANCED TOPICS IN SOCIAL PSYCHOLOGY. (3) (Prerequisites: PSYC 215, PSYC 333 and one additional course from the social and personality area of specialization, or PSYC 380. Departmental permission required.) (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 speciality 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. 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 541 MULTILEVEL MODELLING. (3) (Prerequisite: PSYC 305 or equivalent or permission of the instructor.) (Limited enrolment.) Data in psychology, education and many applied sciences often show a multilevel or hierarchical structure which violates the independence assumption in standard statistical methods, including the basic concepts of multilevel linear and nonlinear models, and will get first-hand experiences in applying these methods to empirical data.

PSYC 561 METHODS: DEVELOPMENTAL PSYCHOLINGUISTICS. (3) (3 hour lectures) (Prerequisites: PSYC 340 and LING 355 or equivalent or permission of instructor.) (Graduate students, limited enrolment) An examination of various approaches and methods used in investigations of the development of language and communication. The following approaches are discussed along with the representative studies: A case study approach, observational-correlational approach versus experimental-manipulative approach, cross sectional design versus longitudinal design, ethnographic approach.

PSYC 660D1 (3), PSYC 660D2 (3) PSYCHOLOGY THEORY. (Students must register for both PSYC 660D1 and PSYC 660D2) (No credit will be given for this course unless both PSYC 660D1 and PSYC 660D2 are successfully completed in consecutive terms) Professors representing the various research areas within the Department discuss critical issues and developments within their fields of expertise.

PSYC 690 MASTERS RESEARCH 1. (15) Development of research topic, study and review of previous literature, preliminary experimental and/or theoretical thesis research.

PSYC 690D1 (7.5), PSYC 690D2 (7.5) MASTERS RESEARCH 1. (Students must register for both PSYC 690D1 and PSYC 690D2) (No credit will be given for this course unless both PSYC 690D1 and PSYC 690D2 are successfully completed in consecutive terms) (PSYC 690D1 and PSYC 690D2 together are equivalent to PSYC 690) Development of research topic, study and review of previous literature, preliminary experimental and/or theoretical thesis research.

PSYC 690N1 MASTERS RESEARCH 1. (7.5) (Students must also register for PSYC 690N2) (No credit will be given for this course unless both PSYC 690N1 and PSYC 690N2 are successfully completed in a twelve month period) (PSYC 690N1 and PSYC 690N2 together are equivalent to PSYC 690) Development of research topic, study and review of previous literature, preliminary experimental and/or theoretical thesis research.

PSYC 699 MASTERS RESEARCH 2. (12) Continuation of PSYC 690. Further experimental and/or theoretical research. Data analysis (as needed). Writing of thesis.

PSYC 699D1 (6), PSYC 699D2 (6) MASTERS RESEARCH 2. (Students must register for both PSYC 699D1 and PSYC 699D2) (No credit will be given for this course unless both PSYC 699D1 and PSYC 699D2 are successfully completed in consecutive terms) (PSYC 699D1 and PSYC 699D2 together are equivalent to PSYC 699) Continuation of PSYC 690. Further experimental and/or theoretical research. Data analysis (as needed). Writing of thesis.

PSYC 699N1 MASTERS RESEARCH 2. (6) (Students must also register for PSYC 699N2) (No credit will be given for this course unless both PSYC 699N1 and PSYC 699N2 are successfully completed in a twelve month period) (PSYC 699N1 and PSYC 699N2 together are equivalent to PSYC 699) Continuation of PSYC 690. Further experimental and/or theoretical research. Data analysis (as needed). Writing of thesis.

PSYC 699N2 MASTERS RESEARCH 2. (6) (Prerequisite: PSYC 699N1) (No credit will be given for this course unless both PSYC 699N1 and PSYC 699N2 are successfully completed in a twelve month period) (PSYC 699N1 and PSYC 699N2 together are equivalent to PSYC 699) See PSYC 699N1 for course description.

PSYC 701 DOCTORAL COMPREHENSIVE EXAMINATION. (6)

PSYC 701D1 (3), PSYC 701D2 (3) DOCTORAL COMPREHENSIVE EXAMINATION. (Students must register for both PSYC 701D1 and PSYC 701D2) (No credit will be given for this course unless both PSYC 701D1 and PSYC 701D2 are successfully completed in consecutive terms) (PSYC 701D1 and PSYC 701D2 together are equivalent to PSYC 701)

PSYC 706 CLINICAL PRACTICUM. (15)

PSYC 706D1 (7.5), PSYC 706D2 (7.5) CLINICAL PRACTICUM. (Students must register for both PSYC 706D1 and PSYC 706D2) (No credit will be given for this course unless both PSYC 706D1 and PSYC 706D2 are successfully completed in consecutive terms) (PSYC 706D1 and PSYC 706D2 together are equivalent to PSYC 706)

PSYC 706J1 CLINICAL PRACTICUM. (5) (Students must also register for PSYC 706J2 and PSYC 706J3) (No credit will be given for this course unless PSYC 706J1, PSYC 706J2 and PSYC 706J3 are all successfully completed in consecutive terms) (PSYC 706J1, PSYC 706J2 and PSYC 706J3 together are equivalent to PSYC 706)

PSYC 706J2 CLINICAL PRACTICUM. (5) (Prerequisite: PSYC 706J1) (Students must also register for PSYC 706J3) (No credit will be given for this course unless PSYC 706J1, PSYC 706J2 and PSYC 706J3 are all successfully completed in consecutive terms) (PSYC 706J1, PSYC 706J2 and PSYC 706J3 together are equivalent to PSYC 706) See PSYC 706J1 for course description.

PSYC 706J3 CLINICAL PRACTICUM. (5) (Prerequisite: PSYC 706J2) (No credit will be given for this course unless PSYC 706J1, PSYC 706J2 and PSYC 706J3 are all successfully completed in consecutive terms) (PSYC 706J1, PSYC 706J2 and PSYC 706J3 together are equivalent to PSYC 706) See PSYC 706J1 for course description.

PSYC 707 CLINICAL INTERNSHIP 1. (15)

PSYC 707D1 (7.5), PSYC 707D2 (7.5) CLINICAL INTERNSHIP 1. (Students must register for both PSYC 707D1 and PSYC 707D2) (No credit will be given for this course unless both PSYC 707D1 and PSYC 707D2 are successfully completed in consecutive terms) (PSYC 707D1 and PSYC 707D2 together are equivalent to PSYC 707)

PSYC 707J1 CLINICAL INTERNSHIP 1. (5) (Students must also register for PSYC 707J2 and PSYC 707J3) (No credit will be given for this course unless PSYC 707J1, PSYC 707J2 and PSYC 707J3 are all successfully completed in consecutive terms) (PSYC 707J1, PSYC 707J2 and PSYC 707J3 together are equivalent to PSYC 707)

PSYC 707J2 CLINICAL INTERNSHIP 1. (5) (Prerequisite: PSYC 707J1) (Students must also register for PSYC 707J3) (No credit will be given for this course unless PSYC 707J1, PSYC 707J2 and PSYC 707J3 are all successfully completed in consecutive terms) (PSYC 707J1, PSYC 707J2 and PSYC 707J3 together are equivalent to PSYC 707) See PSYC 707J1 for course description.

PSYC 707J3 CLINICAL INTERNSHIP 1. (5) (Prerequisite: PSYC 707J2) (No credit will be given for this course unless PSYC 707J1, PSYC 707J2 and PSYC 707J3 are all successfully completed in consecutive terms) (PSYC 707J1, PSYC 707J2 and PSYC 707J3 together are equivalent to PSYC 707) See PSYC 707J1 for course description.

PSYC 708 CLINICAL INTERNSHIP 2. (15)

PSYC 708D1 (7.5), PSYC 708D2 (7.5) CLINICAL INTERNSHIP 2. (Students must register for both PSYC 708D1 and PSYC 708D2) (No credit will be given for this course unless both PSYC 708D1 and PSYC 708D2 are successfully completed in consecutive terms) (PSYC 708D1 and PSYC 708D2 together are equivalent to PSYC 708)

PSYC 708J1 CLINICAL INTERNSHIP 2. (5) (Students must also register for PSYC 708J2 and PSYC 708J3) (No credit will be given for this course unless PSYC 708J1, PSYC 708J2 and PSYC 708J3 are all successfully completed in consecutive terms) (PSYC 708J1, PSYC 708J2 and PSYC 708J3 together are equivalent to PSYC 708)

PSYC 708J2 CLINICAL INTERNSHIP 2. (5) (Prerequisite: PSYC 708J1) (Students must also register for PSYC 708J3) (No credit will be given for this course unless PSYC 708J1, PSYC 708J2 and PSYC 708J3 are all successfully completed in consecutive terms) (PSYC 708J1, PSYC 708J2 and PSYC 708J3 together are equivalent to PSYC 708) See PSYC 708J1 for course description.

PSYC 708J3 CLINICAL INTERNSHIP 2. (5) (Prerequisite: PSYC 708J2) (No credit will be given for this course unless PSYC 708J1, PSYC 708J2 and PSYC 708J3 are all successfully completed in consecutive terms) (PSYC 708J1, PSYC 708J2 and PSYC 708J3 together are equivalent to PSYC 708) See PSYC 708J1 for course description.

PSYC 709 LANGUAGE ACQUISITION ISSUES 1. (2)

PSYC 710 COMPAR&PHYSIOLOGICAL PSYCH. (3)

PSYC 711 COMPAR&PHYSIOLOGICAL PSYCH. (3)

PSYC 712 COMPAR&PHYSIOLOGICAL PSYCH. (3)

PSYC 713 COMPAR&PHYSIOLOGICAL PSYCH. (3)

PSYC 715 COMPAR&PHYSIOLOGICAL PSYCH. (3)

PSYC 722 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 723 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 724 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 725 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 726 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 727 PERSONALITY AND SOCIAL PSYCHOLOGY. (3)

PSYC 728 ETHICS AND PROFESSIONAL ISSUES. (3)

PSYC 729 THEORY OF ASSESSMENT. (3)

PSYC 730 CLINICAL NEUROSCIENCE METHODS. (3)

PSYC 732 CLINICAL PSYCHOLOGY. (3)

PSYC 733 CLINICAL PSYCHOLOGY. (3)

PSYC 734 DEVELOPMENTAL PSYCHOLOGY AND LANGUAGE. (3)

PSYC 736 DEVELOPMENTAL PSYCHOLOGY AND LANGUAGE. (3)

PSYC 740 PERCEPTION AND COGNITION. (3)

PSYC 741 PERCEPTION AND COGNITION. (3)

PSYC 742 PERCEPTION AND COGNITION. (3)

PSYC 743 PERCEPTION AND COGNITION. (3)

PSYC 745 PERCEPTION AND COGNITION. (3)

PSYC 746 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 747 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 748 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 749 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 750 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 751 QUANTITATIVE AND INDIVIDUAL DIFFERENCES. (3)

PSYC 752D1 (3), PSYC 752D2 (3) PSYCHOTHERAPY AND BEHAVIOUR CHANGE. (Students must register for both PSYC 752D1 and PSYC 752D2) (No credit will be given for this course unless both PSYC 752D1 and PSYC 752D2 are successfully completed in consecutive terms) A practice-oriented course. Staff and students discuss current cases being treated with a variety of psychotherapeutic and behavioural change techniques.

PSYC 753 HEALTH PSYCHOLOGY SEMINAR 1. (3)

PSYC 754 HEALTH PSYCHOLOGY SEMINAR 2. (3)

PSYC 757 HEALTH PSYCHOLOGY SEMINAR 5. (3)

PSYC 780 SPECIAL TOPICS IN CLINICAL PSYCHOLOGY. (6)

PSYC 798 TEACHING METHODS: PSYCHOLOGY 2. (3) Continuation of PSYC 797.

69 Quebec Studies/Études sur le Québec

Quebec Studies Program / Programme d'études sur le Québec
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Web site: www.arts.mcgill.ca/programs/qs

Director — Catherine Desbarats; B.A.(Qu.),D.Phil.(Oxon.),
Ph.D.(McG.)

Québec Studies Coordinator and Assistant to the Director —
Stéphan Gervais

In 1963-64 McGill University established a French Canada Studies Program. Some of the energies and resources of the Program are devoted to research on Quebec and French Canada. In 1992, the name of the program was changed to Quebec Studies to reflect its central focus.

The program is offered at the undergraduate level. Should their main field of study be Quebec, graduate students must apply to the relevant departments.

Graduate students taking courses dealing in whole or in part with Quebec, or who are studying Quebec as their special field of study, are welcome to make use of the facilities of the Quebec Studies Program.

En 1963-64, le programme d'études canadiennes-françaises fut créé à l'Université McGill. En collaboration avec les autres départements de l'Université, le programme a notamment pour but de développer la recherche sur divers aspects du Québec et du Canada français. Depuis 1992, l'appellation du programme a été modifiée pour celle de programme d'études sur le Québec afin de refléter clairement les objectifs poursuivis.

Les activités du programme se concentrent au premier cycle. Les étudiants qui désirent poursuivre des études en vue de l'obtention d'une maîtrise ou d'un doctorat portant sur le Québec ou le Canada français doivent s'adresser aux départements concernés.

Les étudiants dont les cours portent, en tout ou en partie, sur le Canada français ou qui se spécialisent dans ce domaine, sont toutefois invités à se prévaloir des services du programme d'études sur le Québec.

70 Religious Studies

Faculty of Religious Studies

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Canada

Telephone: (514) 398-4121

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Web site: www.mcgill.ca/religiousstudies

Dean, Faculty of Religious Studies — B. Barry Levy

Graduate Program Chair — Gerbern Oegema

Graduate Admissions Chair — Patricia G. Kirkpatrick

70.1 Staff

Emeritus Professors

G.B. Baum; B.A.(McM.), M.A.(Ohio), D.Th.(Fribourg)

D.J. Hall; B.A.(W.Ont.), M.Div., S.T.M., Th.D.(U.T.S., N.Y.),

D.D.(Queen's), LL.D.(Wat.), D.D.(Presb. Coll.)

J.C. McLelland; B.A.(McM.), M.A.(Tor.), B.D.(Knox, Tor.),

Ph.D.(Edin.), D.D.(Mtl. Dio.Coll.), D.D.(Knox, Tor.)

Post-Retirement

R.C.Culley; B.A.(Tor.), B.D.(Knox, Tor.), M.A., Ph.D.(Tor.),
D.D.(Mtl. Dio.Coll.)

F. Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.),
Ph.D.(Claremont)

Professors

M. Boutin; B.A., B.A., B.A., (Montr.), D.Th.(Munich)

(*J.W.McConnell Professor of Philosophy of Religion*)

B. Barry Levy; B.A., M.A., B.R.E.(Yeshiva), Ph.D.(N.Y.U.)

A. Sharma; B.A.(Alld.), M.A.(Syr.), M.T.S., Ph.D.(Harv.) (*Henry
Birks Professor of Comparative Religion*)

K.K. Young; B.A.(Vt.), M.A.(Chic.), Ph.D.(McG.) (*James McGill
Professor*)

Associate Professors

E.B. Aitken; A.B.(Harv.), M.Div.(Univ. of the South), Th.D.(Harv.)

D.B. Farrow; B.R.E.(Providence), M.Div.(Grace), M.Th.(Regent),
Ph.D.(Lond.)

I.H. Henderson; B.A.(Man.), B.D.(St. Andrews), M.A.(McM.),
D.Phil.(Oxon)

G.V. Hori; B.A.(York), M.A.(Tor.), Ph.D.(Stan.)

T. Kirby; B.A.(King's, Halifax); M.A.(Dal.); D.Phil.(Oxon)

P.G. Kirkpatrick; B.A.(McG.), M.Th.(Lond.), D.Phil.(Oxon)

G.S. Oegema; B.A., Th.D.(Free, Amsterdam); M.A., Ph.D.(Freie,
Berlin), Dr. Theol. Habil (Tübingen)

Assistant Professors

G. Fiasse; B.A., M.A., Ph.D. (Louvain) (*joint appointment with
Department of Philosophy*)

L.H. Sideris; B.A., M.A., Ph.D.(Ind.) (*joint appoint. with McGill
School of Environment*)

D. Soneji; B.A. (Man.), Ph.D. (McG.)

Visiting Professor

V. Yifa; B.A.(Naticual Taiwan); M.A.(Hawaii); Ph.D.(Yale)

Adjunct Professor

T. Jinpa Langri

Associate Member

L. Turner (*Bioethics*)

Faculty Lecturer

J. Kanaris

70.2 Programs Offered

The Faculty of Religious Studies offers programs leading to the degrees of Master of Sacred Theology (S.T.M.), Master of Arts (M.A.) (thesis) and (non-thesis), M.A. (with Specialization in Bioethics) and Doctor of Philosophy (Ph.D.).

The purpose of the M.A. (thesis) degree is to encourage advanced study and research in one of the disciplines of religious studies (see below) for those who wish to become scholars or teachers, or will be engaged in some field of religious or public service. An option in the M.A. (thesis) program is the M.A. in Religious Studies with specialization in Bioethics offered in collaboration with the Biomedical Ethics Unit, see section 9.

The M.A. without thesis is intended to ensure a student's well-rounded exposure to several religions and to several of the disciplinary approaches currently used in their academic study.

The S.T.M. is meant for those who intend to enter the ministry of the Christian Church or another religious institution, or proceed to a teaching career or to some form of social work. The S.T.M. program is fully accredited by the Association of Theological Schools in the U.S. and Canada.

The purpose of the Ph.D. program is to engage students in advanced academic studies normally in preparation for an academic career.

Adequate library facilities are available in the William and Henry Birks Building and elsewhere in the University for the courses listed, and for research.

Specializations are offered in the following disciplines:

Hebrew Bible and Old Testament Studies; Greco-Roman Judaism, New Testament Studies; Church History; Christian Theology; Philosophy of Religion; Religious Ethics; Biomedical Ethics, Hinduism; Buddhism.

The M.A. (thesis) with specialization in Bioethics is offered in conjunction with the Biomedical Ethics Unit.

70.3 Admission Requirements**Master of Arts (M.A.) (thesis)**

Applicants must possess a B.A. with a Major or Honours in Religious Studies or a Bachelor of Theology (B.Th.), or a Master of Divinity (M.Div.) degree, normally with a minimum CGPA of 3.3/4.0 (B+) from an accredited university or college. Applicants with less than 30 appropriate credits in Religious Studies or Theology are normally required to take a Qualifying Program before entering the M.A.

Master of Arts (M.A.) (thesis) in Religious Studies with specialization in Bioethics

– for information contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3690 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514)398-6980. Fax: (514) 398-8349. E-mail: leigh.turner@mcgill.ca.

Master of Arts (M.A.) (non-thesis)

Applicants must possess a B.A. with a Major or Honours in Religious Studies or a Bachelor of Theology (B.Th.), or a Master of Divinity (M.Div.) degree, normally with a minimum CGPA of 3.3/4.0 (B+) from an accredited university or college. Applicants with less than 30 appropriate credits in Religious Studies or Theology are normally required to take a Qualifying Program before entering the M.A.

Master of Sacred Theology (S.T.M.)

Applicants must possess a B.A., normally with at least a good second class standing (B+ or CGPA 3.3/4.0), in a major or honours program in religious studies or theology from an accredited university or college. Those who have a McGill B.Th. or an equivalent degree in addition to a B.A. degree with a second class standing may be admitted to the second year of the S.T.M. program.

Doctor of Philosophy (Ph.D.)

Entry into the doctoral program is limited to applicants who have earned an academic Master's degree in Religious Studies or Theology in a recognized graduate program, or those who have finished the course requirements of such a program with a minimum CGPA of 3.5/4.0.

Advanced standing (Ph.D. 2) may be granted if the completed Master's level work is in the same area as that of the intended doctoral specialization and involved not less than six (6) courses (18 credits).

It is recommended that French and/or German be included in the bachelor's or master's work preceding doctoral study.

Applicants for doctoral programs are requested to submit a substantial sample of their scholarly writing (15-20 pages) with their application. The application should specify one of the specializations listed in section 70.2.

70.4 Application Procedures

Application forms for admission are available at www.mcgill.ca/applying/graduate. Applications are completed online and submitted electronically. All supporting documents must be submitted to the Graduate Admissions Office of the Faculty of Religious Studies.

The following items must be submitted before the application can be considered by the Faculty's Graduate Admissions Committee:

1. application form;
2. \$60 Application fee (credit card, certified cheque or money order);

3. two copies of the official transcripts of all post-secondary courses taken and degrees completed;
4. two academic letters of recommendation addressed to the Chair of the Graduate Admissions committee;
5. a statement of intent of approximately 500 words;
6. a sample of recent academic writing;
7. non-Canadian applicants whose mother tongue is not English are required to submit documented proof of competency in oral and written English, e.g., TOEFL (Test of English as a Foreign Language) with a minimum score of 577 on the paper-based test (233 on the computer-based test).

The application deadline for September admission is February 1 for funding consideration and March 1 for general admission. The deadline for January admission is November 1.

70.5 Program Requirements

Language Requirements

The Faculty of Religious Studies offers courses in primary text source languages, such as Biblical Hebrew, Aramaic, Biblical Greek, Coptic, Sanskrit, Pali, Tamil and classical literary Tibetan. The Faculty does not guarantee instruction in any languages other than those mentioned above. Therefore, if a student wishes to have a language such as French, German or Japanese counted as a second language, instruction may have to be sought outside the Faculty. The successful completion of at least twelve credits at the post-secondary level in a language course, or successful completion of a language examination administered by the appropriate member of the Faculty, will constitute evidence of the student's having the required reading knowledge of the language in question.

M.A.

Students are required to give their area committee evidence of reading knowledge of a scholarly language other than English. This language may be either a modern language in which there is a significant amount of scholarship relevant to the student's area of research, or a classical language relevant to the student's area of research. If a classical language is chosen, it must be in addition to any prerequisite language for the area in question.

Ph.D.

Students are required to give their area committee evidence of reading knowledge of two languages other than English. These languages must be chosen from modern languages in which there is a significant amount of scholarship relevant to the student's area of research or classical languages relevant to the student's area of research.

Research in some disciplines, or on certain thesis topics, may require proficiency in more than two languages besides English. In that case, additional language requirements may be stipulated by the supervisor.

S.T.M.

The S.T.M. program has no language requirement.

MASTER OF ARTS (M.A.) (thesis) (48 credits)

The normal residence requirement is three terms of full-time resident study. Students may apply to do the third term during the summer of their first year. Students may also register on a half-time basis.

Candidates are required to complete satisfactorily a minimum of six, one-term courses (18 credits) and write a thesis (30 credits) embodying the results of their research. The minimum pass mark in courses is B- for M.A. students.

Research may be undertaken in the areas of specialization listed in section 70.2.

All students must consult with an adviser in the chosen area of study for selection of courses before registration.

Candidates who have studied only one major religious tradition before entering the M.A. program are recommended to do some course work in another major religious tradition. It may prove appropriate for a student to take one or more graduate seminars

in other McGill Departments, e.g., in Jewish Studies, Classics, Philosophy, East Asian Studies, . Access is also possible to courses in the other universities in Montreal.

For language requirements, see above.

A thesis proposal (approved by the supervisor) must be submitted to the Graduate Committee for approval.

The dissertation may be submitted at the end of the third term provided all course work and language requirements have been successfully completed. Candidates must complete the degree within three years of initial full-time registration. A maximum one year extension may be granted.

Required Courses (33credits)

RELG602	(3)	Theory in Religious Ethics
RELG688	(3)	Thesis Research 1
RELG689	(3)	Thesis Research 2
RELG698	(12)	Thesis Research 3
RELG699	(12)	Thesis Research 4

Complementary Courses (15credits)

15 credits selected from the 500- or 600-level courses accepted by the Faculty of Religious Studies for the granting of a Master's degree.

Master of Arts (M.A.) (thesis) in Religious Studies with specialization In Bioethics

The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (6credit minimum) offered by the base faculty or department and any graduate courses required or accepted by a base faculty for the granting of a Master's degree, for a total of 21 credits. A minimum of 45 credits is required including the thesis.

Registration Requirements: Depending upon the requirements of the base discipline, a minimum of three terms is required for completion of the program, including course work and thesis.

Thesis Supervision: Thesis supervision for students in the specialization is provided by a participating faculty member in the program. Those students whose supervisors are not appointed to a student's base discipline will have a co-supervisor appointed from the base discipline. Thesis examination will be conducted according to the base discipline norms.

Required Courses – Biomedical Ethics Unit (6credits)

BIOE680	(3)	Bioethical Theory
BIOE681	(3)	Bioethics Practicum

Required Courses – Faculty of Religious Studies (6 credits)

RELG571	(3)	Religion and Medicine
RELG602	(3)	Theory in Religious Ethics

Complementary Courses (9 credits)

The remaining credits are to be taken in any graduate courses (500 or 600 level) required or accepted by the base faculty for the granting of a Master's degree, in consultation with the supervisor.

Thesis Component – Required (24 credits)

BIOE690	(3)	M.Sc. Thesis Literature Survey
BIOE691	(3)	M.Sc. Thesis Research Proposal
BIOE692	(6)	M.Sc. Thesis Research Progress Report
BIOE693	(12)	M.Sc. Thesis

MASTER OF ARTS (M.A.) (non-thesis) (45 credits)

The normal residence requirement is three terms of full-time resident study. Students may apply to do the third term during the summer of their first year. Students may also register on a part-time basis.

The program requires completing a total of 45 credits taken at the 500 and 600 level. The student is required to take 36 credits in course work, normally by taking four courses per term for three terms. The minimum pass mark in courses is B- for M.A. students. Candidates who have studied only one major religious tradition before entering the M.A. program are recommended to do some course work in another major religious tradition.

For language requirements, see above.

All students must consult with a faculty adviser for selection of courses before registration.

The remaining 9 credits are to be earned by writing three research papers, each based on a reading list. Of these papers, one is to be in one specific religious tradition, a second in another religious tradition different from the first, and the third in methods used in the comparative study of religions. Each of these papers is worth three credits and each is graded on a PASS/FAIL basis.

Required Courses (15 credits)

RELG 555	(3)	Honours Seminar
RELG 602	(3)	Theory in Religious Ethics
RELG 660	(3)	M.A. Research Paper 1
RELG 661	(3)	M.A. Research Paper 2
RELG 662	(3)	M.A. Research Paper 3

Complementary Courses (30 credits)

10 courses selected from the 500- or 600-level courses accepted by the Faculty of Religious Studies for the granting of a Master's degree.

MASTER OF SACRED THEOLOGY (S.T.M.) (48 credits)

ATS Accreditation The S.T.M. program is fully accredited by the Association of Theological Schools in the U.S. and Canada.

The normal requirement is two years (of two terms each) of full-time study (or one year of full-time study for those admitted with advanced standing into S.T.M.2), but the degree may, by permission, be taken on a part-time basis.

Note: Ordination requirements for S.T.M. graduates will normally involve a further year of professional pastoral studies (the In-Ministry Year) provided by the Joint Board of Theological Colleges affiliated with the Faculty of Religious Studies.

Candidates are required to complete satisfactorily twelve one-term courses (36 credits) and pass four Area Studies courses (12 credits) chosen from the following areas:

- 1) Biblical Theology (RELG520)
- 2) Church History (RELG530)
- 3) Christian Theology (RELG531)
- 4) Philosophy of Religion (RELG540)
- 5) Theological Ethics (RELG541)
- 6) Comparative Religion (RELG550)

Normally six 3-credit courses and two Area Studies courses shall be taken in each academic session. The pass mark in courses is B- for S.T.M. students. Normally graduate courses should be chosen from at least four different specialty areas in Religious Studies. Applicants who are admitted directly into S.T.M. 2 are required to complete six one-term courses (18 credits) and two Area Studies (6 credits).

Students who take the S.T.M. as part of their ordination requirements are to choose their courses in consultation with the Principal of the Theological College with which they are associated. Course selection for all S.T.M. students needs the approval of the Chair of the Religious Studies Graduate Committee.

Courses are offered by the Department in the areas of specialization listed in section 70.2.

Related courses are also available in other departments.

The S.T.M. has no language requirement.

DOCTOR OF PHILOSOPHY (PH.D.)

Candidates admitted to Ph.D. I must be registered on a full-time basis for 4 consecutive years (8 terms) and candidates admitted to Ph.D. II must be registered on a full-time basis for 3 consecutive years (6 terms), after which they will continue as additional session students until completion of the program. Half-time study may be permitted upon request. (Refer to the Graduate and Postdoctoral Studies Calendar section 4.2.1 Residence Requirements - Doctoral.)

Candidates admitted to Ph.D. 1 take a minimum six graduate seminars during their first year and four seminars during their Ph.D. 2 year; those admitted to Ph.D. 2 must take a minimum of four graduate seminars. If possible, two seminars should be in their area of specialization, and at least one should be at the 700-level.

Supervision: One of the professors in the area of specialization acts as program adviser of each candidate in that area until a thesis supervisor is selected. Candidates must meet with their adviser or supervisor prior to registration to select their courses and to obtain advice concerning the requirements they are obliged to meet (e.g., courses, modern languages, ancient languages, and comprehensive examinations). A thesis proposal (approved by the supervisor) must be submitted to the Religious Studies Graduate committee for approval by the time the course work is finished, or as soon as possible afterwards. The candidate is expected to be present for the discussion of the proposal. The thesis should be submitted by the end of the Ph.D.7 year. Further registration will not be allowed after Ph.D. 7 without prior approval of the Faculty of Religious Studies and the Graduate and Postdoctoral Studies Office.

Comprehensive Examinations These examinations are designed to ensure that candidates are adequately prepared to undertake the research required for a doctoral thesis and to teach university-level courses in their chosen field. They are meant to test students' competence in: 1) their chosen field, 2) one or two cognate areas. The latter are areas related to the chosen field and are to be determined by the supervisor in consultation with the candidate. Comprehensives may take the form of a written examination, a major essay, a project, an oral examination, or a combination of these. For further details, refer to "Guidelines for Comprehensive Examinations" on the website at www.mcgill.ca/religiousstudies/graduate/guidelines.

Doctoral Colloquium (Doktorklub) As one of their requirements all Ph.D. students in residence shall attend the monthly graduate colloquium, at which time a student's thesis project is formally presented and discussed.

70.6 Courses Offered

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Term(s) offered (Fall, Winter, Summer) may appear after the credit weight to indicate when a course would normally be taught. Please check Class Schedule to confirm this information.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

AREA A (BIBLICAL)

RELG 520 BIBLICAL THEOLOGY. (3) (Fall and Winter) (Limited to S.T.M. students.) Tutorials and guided reading in the field of Biblical Theology.

RELG 601 ANCIENT JEWISH LITERATURE. (3) An examination of current theories of the origin and development of Greco-Roman Judaism with special attention to the treatment of non-canonical Jewish writings, e.g., the Pseudepigrapha and the Qumran Scrolls.

RELG 602 THEORY IN RELIGIOUS ETHICS. (3) Basic theories in philosophical and religious ethics.

RELG 603 PRIMARY TEXT: AKKADIAN. (3) (Prerequisite: Basic reading knowledge of Akkadian or permission of instructor.)

RELG 604 FORMATION: POST-EXILIC JUDAISM. (3)

RELG 605 INTERPRETERS OF RELIGION AND FAITH OF ANCIENT ISRAEL. (3)

RELG 606 STUDIES IN BIBLICAL POETRY. (3)

RELG 607 STUDIES: BIBLICAL NARRATIVE TRADITIONS. (3)

RELG 611 PAULINE THEOLOGY. (3)

RELG 613 THE MINISTRY OF JESUS. (3)

RELG 618 THE CHURCH IN THE NEW TESTAMENT. (3) A study of the history of the Early Church on the basis of the New Testament Writings.

JWST 510 JEWISH BIBLE INTERPRETATION 1. (3) (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) (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.

AREA B (HISTORICAL AND THEOLOGICAL)

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) (Prerequisite: At least six (6) credits at the 300-level in Christianity or the Christian Bible.) (Not open to students who have taken RELG 320)

RELG 533 HISTORY OF CHRISTIAN THOUGHT 2. (3) (Prerequisite: At least six (6) credits at the 300-level in Christianity or the Christian Bible.) (Not open to students who have taken RELG 327)

RELG 625 CREEDS AND CONFESSIONS. (3) An examination of selected credal and confessional statements from earliest extant confessional expressions to twentieth century creeds.

RELG 626 REFORMATION: SECULAR DIMENSIONS. (3)

RELG 629 PRIMARY TEXT: ARAMAIC. (3) (Prerequisite: Basic reading knowledge of Aramaic or permission of instructor) Religious texts in Aramaic, with particular attention to the problems of translation and interpretation as they apply to the student's thesis research.

RELG 630 THEOLOGICAL FOUNDATIONS. (3)

RELG 631 THEOLOGY OF THE CROSS. (3) The tradition Luther called *Theologia Crucis* as an appropriate theological response to the experience of the dominant culture of this continent.

RELG 633 THE THEOLOGY OF KARL BARTH. (3)

RELG 634 MOVEMENTS IN CONTEMPORARY THEOLOGY. (3)

RELG 635 CHRISTOLOGY AND ECCLESIOLOGY. (3) Studies in the relation between two central theological loci, with special attention to their trinitarian, sacramental and eschatological frame of reference.

RELG 636 THEOLOGICAL METHOD. (3)

RELG 683 RESEARCH IN CHRISTIAN THEOLOGY. (3) Theologies of Religious Pluralism.

AREA C (RELIGION AND CULTURE)

RELG 540 PHILOSOPHY OF RELIGION. (3) (Winter) (Limited to S.T.M. students.) Tutorials and guided reading in the field of Philosophy of Religion.

RELG 541 THEOLOGICAL ETHICS. (3) (Limited to S.T.M. students.)

RELG 571 RELIGION AND MEDICINE. (3) (Winter) 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 641 MODERN PHILOSOPHY OF RELIGION. (3)

RELG 642 PHILOSOPHY OF RELIGION IN TWENTIETH CENTURY. (3) Intuition, Concept, Experience.

RELG 643 PROBLEMS: PHILOSOPHY OF RELIGION. (3)

RELG 672 VALUE SYSTEMS - CHRISTIAN PERSPECTIVE. (3)

RELG 673 INTERPRETERS OF CHRISTIAN VALUES. (3)

RELG 684 RESEARCH IN PHILOSOPHY OF RELIGION 1. (3)

RELG 745 MEANING AND INTERPRETATION. (3) (This course is available only to students in Ph.D. 2 or higher) An interdisciplinary seminar on hermeneutical problems.

AREA D (ASIAN RELIGIONS)

ISLA 531D1 SURVEY DEVELOPMENT OF ISLAMIC THOUGHT. (3) (Fall) (3 hours) (Students must also register for 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 531D2 SURVEY DEVELOPMENT OF ISLAMIC THOUGHT. (3) (Winter) (Prerequisite: ISLA 531D1) (No credit will be given for this course unless both ISLA 531D1 and ISLA 531D2 are successfully completed in consecutive terms) See ISLA 531D1 for course description.

RELG 546 INDIAN PHILOSOPHY. (3) (Prerequisites: 6 credits in Indian religions, philosophy of religion, philosophy, or permission of the instructor)

RELG 547 HINDU PHILOSOPHY 2. (3) (Prerequisites: 6 credits in Indian religions, philosophy of religion, philosophy, or permission of the instructor)

RELG 548 INDIAN BUDDHIST PHILOSOPHY. (3) (Prerequisites: RELG 252 or RELG 342 or permission of instructor)

RELG 549 EAST ASIAN BUDDHIST PHILOSOPHY. (3) (Prerequisites: RELG 253 and RELG 342 or RELG 344 or approval of instructor)

RELG 550 COMPARATIVE RELIGION. (3) (Limited to S.T.M. students.)

RELG 551 INDIAN LOGIC 1. (3)

RELG 552 ADVAITA VEDANTA. (3) (Prerequisites: 6 credits in Indian religions)

RELG 553 RELIGIONS OF SOUTH INDIA 1. (3) (Prerequisite: 6 credits in Indian religions)

RELG 555 H ONOURS SEMINAR. (3) (Winter) (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) (Winter) (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)

RELG 571 RELIGION AND MEDICINE. (3) (Winter) 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 651 INDIAN BUDDHIST EPISTEMOLOGY. (3) (Prerequisite: two years of Sanskrit or Pali, or permission of the instructor)

RELG 654 PRIMARY TEXT: JAPANESE. (3) (Prerequisite: Basic reading knowledge of Japanese or permission of instructor) Religious texts in Japanese, with particular attention to the problems of translation and interpretation as they apply to the student's thesis research.

RELG 655 BUDDHIST EPISTEMOLOGY. (3) (Prerequisite: RELG 651)

RELG 658 JAPANESE BUDDHIST PHILOSOPHY. (3) A close reading of the major texts of the Kyoto School.

RELG 751 TUTORIAL ON A SELECTED TOPIC. (3)

RELG 751, RELG 751 TUTORIAL ON A SELECTED TOPIC. (Students must register for both RELG 751D1 and RELG 751D2) (No credit will be given for this course unless both RELG 751D1 and RELG 751D2 are successfully completed in consecutive terms) (RELG 751D1 and RELG 751D2 together are equivalent to RELG 751)

RELG 752 TUTORIAL ON A SELECTED TOPIC. (6)**M.A. RESEARCH (NON-THESIS)****RELG 660 M.A. RESEARCH PAPER 1. (3)****RELG 661 M.A. RESEARCH PAPER 2. (3)****RELG 662 M.A. RESEARCH PAPER 3. (3)****M.A. RESEARCH (THESIS)****RELG 688 THESIS RESEARCH 1. (3)****RELG 689 THESIS RESEARCH 2. (3)****RELG 698 THESIS RESEARCH 3. (12)****RELG 699 THESIS RESEARCH 4. (12)**

71 Russian and Slavic Studies

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Chair — Paul M. Austin

Graduate Director — Laura Beraha

71.1 Staff

Associate Professors

P.M. Austin; M.A.(C'nell), B.A., Ph.D.(Tor.)

L. Beraha; B.A., M.A., Ph.D.(McG.)

L. Parts; M.A., Ph.D.(Col.)

T. Patera; M.Sc.(Moscow), M.A., Ph.D.(McG.)

71.2 Programs Offered

Master's and Ph.D. in Russian

The Department offers graduate instruction (seminar and guided independent reading courses) as well as research and thesis supervision in the fields of Russian culture and literature. Current faculty specialize in 19th and 20th century literature. Particular emphasis is laid on working with the original language; practicum courses may be allotted, at the discretion of the Department, to course work leading to advanced proficiency in this area.

Ph.D. Language Tests

Ph.D. candidates in other departments who require Russian for research and in satisfaction of the language requirement should contact the Department for recommended courses.

71.3 Admission Requirements

The general rules of the Graduate and Postdoctoral Studies Office apply and are outlined in the General Information and Regulations section of the Calendar.

The minimum academic requirement is normally a high standing in Honours Russian (or equivalent). Further, the Department must be convinced that the candidate for admission has an

aptitude for research work and will be able to make an original contribution to knowledge.

A working knowledge of French is recommended for the Ph.D. program.

Any necessary preparation to fulfill these requirements will be offered within the Department or elsewhere at McGill. Certain graduate courses may be taken by arrangement at approved universities.

71.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two certified copies of all university transcripts;(All transcripts not in English or French **must** be accompanied by a **certified** English or French translation);
3. two letters of recommendation (in English or French);
4. \$60 application fee;
5. test results - GRE (recommended); TOEFL (required of all candidates whose mother tongue is not English and who have not completed an undergraduate degree using the English language. Proof of TOEFL must be presented at time of application or shortly thereafter);
6. a sample of written work;
7. statement of academic intent.
8. interview, where appropriate, if necessary by telephone, with members of the Department Graduate Committee.

All information must be submitted to the Graduate Coordinator, Department of Russian and Slavic Studies.

Deadline: February 1.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

71.5 Program Requirements

Original research work and the scholarly qualities of the thesis are the principal criteria for conferring a graduate degree in Russian.

Master's

The M.A. requirements are 48 credits comprised of:

30 credits in M.A. thesis courses -

RUSS691 (6 credits), RUSS692 (24 credits);

12-18 credits in graduate coursework in Russian and Slavic Studies;

0 - 6 credits in graduate coursework outside the Department, subject to approval by the Department Graduate Committee;

0 credits in RUSS600 or RUSS601, if deemed necessary by the Department.

The M.A. Thesis Proposal is normally submitted for review by the Department Graduate Committee at the end of the second term of residency. Candidates should consult the Department Thesis Proposal Guidelines.

Ph.D.

The Ph.D. requirements include:

RUSS 700, RUSS701, and RUSS702;

French Language Examination;

Thesis and Thesis Defence.

Depending on their individual background, students may be asked to take additional coursework as approved by the Department Graduate Committee and students must complete two of the following guided research projects: RUSS 750, RUSS 760 or RUSS 770.

Ph.D. language requirements include proficiency in Russian, functional ability in English and in French, and proficiency in a second Slavic language, if relevant to the research topic and where deemed appropriate by the Department Graduate Committee.

71.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

RUSS 510 HIGH STALINIST CULTURE. (3) (Fall) (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 619 TOPICS IN LITERARY THEORY. (3)

RUSS 675 RUSSIAN REALISM 1 (3) (Prerequisite: Permission of Department Graduate Committee) Major works of the period 1860-1900: prose, poetry and drama from Tjutchev and Turgenev to Tolstoi and Chedhov. Development of the Realist school and its relationship to Romanticism, its struggle with the questions of the functions and responsibilities of art in society, its philosophical and political aspirations and achievements.

RUSS 676 RUSSIAN REALISM 2(3) (Prerequisite: Permission of Department Graduate Committee) The second stage of the inquiry into the nature, origins, power and limitations of Realism in major works by Turgenev, Tolstoi and Dostoevskii. A more detailed examination of the works' philosophies, ideologies and poetics.

RUSS 679 RUSSIAN ROMANTICISM 1(3) (Prerequisite: Permission of the Department Graduate Committee) The emergence of Russian literature from dependence on stereotypical eighteenth-century European models; its response to the new sensibilities of Sentimentalism and early Romanticism. Focus on the interrelationship between the creation of a new literary language based on a hybrid of European and traditional models, and new concepts of the Self.

RUSS 681 RUSSIAN ROMANTICISM 2. (3) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 681D1/D2.)

RUSS 682 RUSSIAN TWENTIETH CENTURY 1. (3) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 681D1/D2.)

RUSS 683 RUSSIAN TWENTIETH CENTURY 2. (3) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 682D1/D2.)

RUSS 684 YURI TRIFONOV AND HIS TIMES. (3)

RUSS 685 POST-SOVIET WOMEN'S PROSE. (3) (Prerequisite: Permission of the Department Graduate Committee.)

RUSS 689 19TH CENTURY RUSSIAN LITERATURE IN THEORY. (3) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 690D1/D2.)

RUSS 690 20TH CENTURY RUSSIAN LITERATURE IN THEORY. (3) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 690D1/D2.)

RUSS 691 M.A. THESIS PROPOSAL. (6)

RUSS 691D1 (3), RUSS 691D2 (3) M.A. THESIS PROPOSAL. (Students must register for both RUSS 691D1 and RUSS 691D2) (No credit will be given for this course unless both RUSS 691D1 and RUSS 691D2 are successfully completed in consecutive

terms) (RUSS 691D1 and RUSS 691D2 together are equivalent to RUSS 691)

RUSS 692 M.A. THESIS. (24)

RUSS 700 PHD TUTORIAL. (0) (Prerequisite: Permission of the Department Graduate Committee.) Supervised preparation for the candidate's two designated Major Fields in the PhD Comprehensive Examination.

RUSS 701 PH.D. COMPREHENSIVE EXAMINATION. (0) (Prerequisites: RUSS 700 and two of: RUSS 750, RUSS 760, RUSS 770.)

RUSS 701D1 (0), RUSS 701D2 (0) PH.D. COMPREHENSIVE EXAMINATION. (Students must register for both RUSS 701D1 and RUSS 701D2) (No credit will be given for this course unless both RUSS 701D1 and RUSS 701D2 are successfully completed in consecutive terms) (RUSS 701D1 and RUSS 701D2 together are equivalent to RUSS 701)

RUSS 702 PHD THESIS PROPOSAL. (0) (Prerequisite: Permission of the Department Graduate Committee.)

RUSS 720 SPECIAL TOPICS SEMINAR 1. (3) (Prerequisite: Permission of the Department Graduate Committee.)

RUSS 721 SPECIAL TOPICS SEMINAR 2. (3) (Prerequisite: Permission of the Department Graduate Committee.)

RUSS 750 HISTORY OF RUSSIAN LANGUAGE. (0) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 650D1/D2.)

RUSS 760 PRE-PETRINE FOUNDATION. (0) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 660D1/D2.)

RUSS 770 18TH CENTURY FOUNDATION. (0) (Prerequisite: Permission of the Department Graduate Committee.) (Restriction: Not open to students who have taken RUSS 670D1/D2.)

RUSS 790D1 (0), RUSS 790D2 (0) RUSSIAN LANGUAGE REQUIREMENT - PH.D. (Students must register for both RUSS 790D1 and RUSS 790D2) (No credit will be given for this course unless both RUSS 790D1 and RUSS 790D2 are successfully completed in consecutive terms)

72 Social Studies of Medicine

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Chair — Allan Young

72.1 Staff

Professors

Alberto Cambrosio; M.A.(Sher.), Ph.D.(Montr.)
Margaret Lock; B.Sc.(Leeds), M.A., Ph.D.(Calif.) (*Marjorie Bronfman Professor of Social Studies in Medicine*)
Andrea Tone; M.A., Ph.D.(Emory U.)
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.)

Associate Professors

Cornelius Borck; M.D.(Free U.), Ph.D.(Imperial College, U. of London)
Faith E. Wallis; M.A., M.L.S.(McG.), Ph.D.(Tor.)

Assistant Professor

Thomas Schlich; M.D.(Marburg), Ph.D.(Freiburg)

72.2 Programs Offered

The Department (SSOM) offers graduate studies in three programs:

- one in medical anthropology, given jointly with the Department of Anthropology;
- one in medical history, given jointly with the Department of History; and
- one in medical sociology, given jointly with the Department of Sociology.

In each program, the student may work towards the M.A. and Ph.D. degrees. All degrees are awarded by the relevant Faculty of Arts department. For further information regarding those departments, please consult the Anthropology, History, or Sociology sections.

The Department (SSOM) is interdisciplinary, having faculty in the fields of medical anthropology, medical history, and medical sociology. In its programs of graduate studies, it attempts to provide two things: a training that is solidly grounded in the discipline of the chosen program, i.e., in anthropology, history or sociology; and, through seminars and interaction with Department members and other graduate students, exposure to the other disciplines that are represented in the Department. The Department aims to instill in its graduates a combination of disciplinary competence and interdisciplinary perspective.

72.3 Admission Requirements

M.A. in Medical Anthropology

The program is open to students with backgrounds in the social sciences, the medical professions, or the medical sciences.

M.A. in the History of Medicine

Candidates must have a background in either history (Honours B.A. in History, or equivalent) or a degree in one of the health professions.

M.A. in Medical Sociology

The program is open to students with a background in social sciences, health professions or health sciences. It aims to prepare candidates for a career of teaching and research in medical sociology, and there is consequently a preference for applicants with the potential to proceed to the doctoral degree.

Ph.D. Programs

Candidates for a Ph.D. will normally have taken their M.A. in the same field. Please refer to the appropriate Department – Anthropology, History, or Sociology.

72.4 Application Procedures

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

M.A. in Medical Anthropology

Admission is granted by a joint admissions committee made up of representatives from Anthropology and SSOM.

For details concerning applications, teaching assistantships, fellowships, etc. see Department of Anthropology.

M.A. in the History of Medicine

Application is made directly to the History Department. For details see Department of History.

M.A. in Medical Sociology

Admission is granted by a joint admissions committee made up of representatives from Sociology and SSOM. For details concerning applications, teaching, assistantships, fellowships, etc., see Department of Sociology.

Ph.D. Programs

Please refer to the appropriate Department – Anthropology, History, or Sociology.

72.5 Program Requirements

M.A. IN MEDICAL ANTHROPOLOGY

With the medical anthropology program, candidates will apply for permission to take either of two courses of study, M.A. thesis or non-thesis.

For Anthropology courses, see Department of Anthropology. For SSOM seminars, see below.

M.A. in Medical Anthropology with thesis (48 credits)

Required Courses (42 credits)

HSSM605	(3)	Medical Anthropology
ANTH615	(3)	Seminar in Medical Anthropology
ANTH694	(6)	M.A. Thesis Tutorial 1
ANTH695	(6)	M.A. Thesis Tutorial 2
ANTH699	(24)	M.A. Thesis

Complementary Courses (6 credits)

Two Anthropology courses.

M.A. in Medical Anthropology, without thesis (45 credits)

Required Courses (45 credits)

HSSM605	(3)	Medical Anthropology
ANTH615	(3)	Seminar in Medical Anthropology
ANTH602	(3)	Theory 1
ANTH609	(6)	Proseminar in Anthropology
ANTH611	(3)	Research Design
ANTH660	(3)	Research Methods
ANTH665	(3)	Quantitative Methods
ANTH685	(3)	Research Tutorial 1
ANTH686	(3)	Research Tutorial 2
ANTH696	(15)	M.A. Research Paper

M.A. IN THE HISTORY OF MEDICINE

The M.A. degree in Medical History does not have a thesis option.

The program requires the completion of 48 credits, composed of three full-year graduate seminars, plus a major research paper, (30 credits) (HIST691, HIST692 in the first year and HIST693, HIST694 in the second year).

Graduate seminars offered in the History of Medicine include

HIST619	(3)	Ancient Medicine Seminar 1
HIST620	(3)	Ancient Medicine Seminar 2
HIST636	(3)	Medieval Medicine Seminar 1
HIST637	(3)	Medieval Medicine Seminar 2

For SSOM seminars, see below.

M.A. IN MEDICAL SOCIOLOGY

Students may choose between two programs: M.A. thesis or non-thesis.

For Sociology courses, see Department of Sociology. For SSOM seminars, see below.

M.A. in Medical Sociology (thesis) (48 credits)

This includes 18 credits of course work and a research thesis that is based on original research (30 credits)

Required Courses (12 credits)

SOCI504	(3)	Quantitative Methods 1
SOCI540	(3)	Qualitative Research Methods
SOCI580	(3)	Social Research Design and Practice
SOCI652	(3)	Current Sociological Theory

Complementary Courses (6 credits)

one of the following two courses:

SOCI515	(3)	Medicine and Society
SOCI538	(3)	Selected Topics in Sociology of Biomedical Knowledge

plus one course in the History of Medicine.

Thesis Component – Required (30 credits)

SOCI690	(3)	M.A. Thesis 1
SOCI691	(6)	M.A. Thesis 2
SOCI692	(3)	M.A. Thesis 3

SOCI693 (3) M.A. Thesis 4
 SOCI695 (15) M.A. Thesis 6

M.A. in Medical Sociology (non-thesis) (45 credits)

This includes 21 credits of course work and a research paper based on original research (24 credits).

Required Courses (12 credits)

SOCI652 (3) Current Sociological Theory
 SOCI580 (3) Design and Practice of Social Research
 SOCI504 (3) Seminar: Quantitative Methods I
 SOCI540 (3) Qualitative Research Methods

Complementary Courses (9 credits)

one of the following two courses:

SOCI515 (3) Medicine and Society
 SOCI538 (3) Selected Topics in the Sociology of Biomedical Knowledge

plus two courses in the Social Studies of Medicine, one of which must be in the History of Medicine.

Research Component – Required (24 credits)

SOCI696 (3) Research Paper 1
 SOCI697 (3) Research Paper 2
 SOCI698 (6) Research Paper 3
 SOCI699 (12) Research Paper 4

PH.D. PROGRAMS

For information on the doctoral programs, please refer to the appropriate Department – Anthropology, History, or Sociology.

72.6 SSOM Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

HSSM 603D1 (3), HSSM 603D2 (3) MEDICINE IN 19TH AND 20TH CENTURY. (Students must register for both HSSM 603D1 and HSSM 603D2) (No credit will be given for this course unless both HSSM 603D1 and HSSM 603D2 are successfully completed in consecutive terms)

HSSM 604 HISTORY OF MEDICINE. (3) Tutorial.

HSSM 605 MEDICAL ANTHROPOLOGY. (3)

HSSM 606 MEDICAL ANTHROPOLOGY TUTORIAL. (3)

HSSM 609 SOCIAL SCIENCES OF MEDICINE. (3) Tutorial.

HSSM 610 SOCIOLOGY OF MEDICINE. (3)

HSSM 611 SOCIOLOGY OF BIOMEDICAL KNOWLEDGE. (3)

HSSM 612D1 (3), HSSM 612D2 (3) MEDICINE AND THE SCIENTIFIC REVOLUTION 1500-1700. (Students must register for both HSSM 612D1 and HSSM 612D2) (No credit will be given for this course unless both HSSM 612D1 and HSSM 612D2 are successfully completed in consecutive terms)

HSSM 614D1 (3), HSSM 614D2 (3) HISTORY OF MEDIEVAL MEDICINE. (Students must register for both HSSM 614D1 and HSSM 614D2) (No credit will be given for this course unless both HSSM 614D1 and HSSM 614D2 are successfully completed in consecutive terms)

73 Social Work

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73.1 Staff

Emeritus Professor

David E. Woodsworth; B.A., Dipl.S.W.(Tor.), M.A.(Mich.), Ph.D.(Brandeis)

Professors

Peter Leonard; B.Sc., M.Sc., Dipl. Mental Health(Lond.)
 James Torczyner; B.H.L.(Yeshiva), M.S.W., D.S.W.(Calif.)

Associate Professors

Ben Zion Dalfen; B.A., M.S.W., Dip. Adv. Soc. Wk. Practice(McG.)
 Linda Davies; B.S.W., M.S.W.(McG.), Ph.D.(N. Lond. Poly.)
 Sydney Duder; B.Sc., M.S.W., Dipl. Adv. Soc. Wk. Practice, 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.)
 Carol Cumming Speirs; B.A.(Sir G.Wms.), M.S.W.(McG.)
 Ingrid Thompson; B.A.(Sir G.Wms.), M.S.W.(McG.), Ph.D.(Cantab.)

Assistant Professors

Shari Brotman; B.S.W., M.S.W.(McG.), Ph.D.(Tor.)
 Amanda Grenier; B.S.N.(Windsor); M.S.W., Ph.D.(McG.)
 Lindsay John; B.A.(Guelph), M.S.W.(W. Laur.), M.Sc.(McM.), Ph.D.(Tor.)
 Lucyna Lach; B.A., M.S.W., Ph.D.(Tor.)
 Robin Wright; B.A./B.S.W.(McM.), M.S.W., Ph.D.(Tor.)

Coordinator of Field Education

Francine Granner

73.2 Programs Offered

Master of Social Work, a Joint M.S.W. and Law degree, and a Ph.D. program offered jointly with Université de Montréal.

The McGill School of Social Work is a member of the International Association of Schools of Social Work, the Canadian Association of Schools of Social Work, and of the Rassemblement des Unités de Formation Universitaire en Travail Social du Québec.

The School of Social Work is a professional school whose primary objective is to prepare students for careers and for leadership in the fields of social work and social welfare.

M.S.W. Program

The global objective of the Master's program is the provision of advanced professional training by means of integrated learning experiences. At a more specific level, the educational goals are to develop:

1. deepened and advanced competence in practice and research;
2. a capacity for critical understanding of social theory, social problems and emergent issues, population groups in need, institutional structures, and policy initiatives and processes.

Joint Ph.D. Program in Social Work

The Schools of Social Work at McGill and Université de Montréal of Montreal and McGill have established a Doctoral joint program in social work and social policy in order to respond to the pressing

needs for professors, social policy analysts and researchers in Canada and Quebec. This bilingual program presents characteristics unique among Canadian doctoral programs in social work. Specifically, this program aims to:

1. Prepare graduates for careers in university teaching and research, in policy development, in evaluation of practice, in intervention, consultation, or management of human services;
2. Permit students to acquire the ability to apply scientific methods of research to the study of normative, analytical, and methodological questions;
3. Stimulate original research on pressing social concerns; and
4. Facilitate exchanges among academics in a bilingual (French and English) and multicultural perspective.

Of particular value and importance is the opportunity for students to be exposed throughout their program to the multicultural and multiracial character of Montreal.

73.3 Admission Requirements

M.S.W Program

Students who have successfully completed a B.S.W., with a minimum B average (GPA 3.0/4.0), and who have completed course work in statistics and in research methods at the undergraduate level are admissible to the Master of Social Work program. It is expected that students will have professional social work experience with supporting references.

Joint M.S.W./Law Program

Students must apply separately for admission to each Faculty. Students must meet or surpass the requirements for admission to both the M.S.W. program and to Law and must submit a brief statement explaining their interest in this joint program.

Joint Ph.D. Program (McGill University and Université de Montréal)

Students are free to seek admission to either McGill or the Université de Montréal. Students accepted into the program have access to the resources offered by both schools.

Applicants applying to the joint Ph.D. program must hold a Master's degree in social work or, exceptionally, a Bachelor's degree in social work with a Master's degree in a related subject from an accredited program. Candidates must be proficient in French and English to be able to understand teaching and class discussion in both languages and to carry out necessary reading.

Criteria considered in weighing applications include:

- 1) demonstrated intellectual ability and critical capacity;
- 2) relevant experience;
- 3) admissibility and quality of the student's project.

73.4 Application Procedures

Applications are available on-line by mid-September from the School of Social Work Web site. The deadline to apply is February 1. Applications will only be considered upon receipt of all required documents.

Applications will only be considered upon receipt of all required documents.

International applicants are required to submit documented proof of competency in English, e.g., TOEFL (Test of English as a Foreign Language) minimum score of 550 on the paper-based test (213 on the computer-based test) or an equivalent test. Applicants from the U.S.A. are exempt.

All documents must be submitted to the School of Social Work, attention: Ms. Lillian Iannone, Student Affairs Coordinator.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/online.

73.5 Program Requirements

MASTER OF SOCIAL WORK

The M.S.W. is a second cycle of professional study in which students pursue programs at an advanced level, building upon their

first professional degree (B.S.W.). Each student works out a study plan in consultation with her/his academic advisor in relation to the student's identified study goals.

There are two options, practice (non-thesis, including a practicum and independent study project) and thesis (thesis, no practicum). Both options carry a weight of 45 credits, and, taken on a full-time basis, both options involve three terms of study. In both options, part-time study can be arranged (see section on Duration and Time Limitations below).

M.S.W. (Non-Thesis Option) (45 credits)

This option is designed for students who are interested in developing skills in specialized practice and policy analysis.

Required Courses (24 credits)

SWRK612	(3)	Knowledge, Values and Practice
SWRK650	(3)	Field Work Practicum 1
SWRK651	(3)	Field Work Practicum 2
SWRK660	(6)	Field Work Practicum 3
SWRK690	(9)	Independent Study Project

Complementary Course (3 credits)

one of the following research methods courses:

SWRK615	(3)	Applied Clinical Research
SWRK633	(3)	Program Evaluation
SWRK643	(3)	Quantitative Research Methods
SWRK653	(3)	Qualitative Research Methods

Elective Courses (18 credits)

18 credits from SWRK 500- or 600-level courses. Up to 6 credits in total may be taken outside of the department.

M.S.W. (Thesis Option) (45 credits)

This option is designed for students who have strong research interests.

Required Courses (33 credits)

SWRK612	(3)	Knowledge, Values and Practice
SWRK643	(3)	Quantitative Research Methods
SWRK698	(12)	Thesis Research 1
SWRK699	(15)	Thesis Research 2

Complementary Course (3 credits)

one of the following research methods courses:

SWRK615	(3)	Applied Clinical Research
SWRK633	(3)	Program Evaluation
SWRK653	(3)	Qualitative Research Methods

Elective Courses (9 credits)

9 credits from SWRK 500- or 600-level courses. Up to 6 credits may be taken outside of the department.

NOTE: While not a prerequisite for admission, possession of a working knowledge of the French language is important not only to candidates who intend to seek admission to the Quebec professional coporation after graduation but also to those who wish to maximize their field placement opportunities during their program. Students, however, have the option of completing their field requirements at an approved social service agency outside of Quebec.

Courses taken outside of the Department

Students in both M.S.W. options are invited to take up to two courses in other departments of the University in areas of study not offered in the School of Social Work. Students also have the option of taking equivalent research methodology courses offered in other departments to fulfill the research requirement. All students must secure the approval of their academic advisor prior to registration for such courses.

Duration and Time Limitations

Taken on a full-time basis, both M.S.W. options involve three terms of study. The third term may optionally be taken in the summer, in which case the entire program may be completed in one calendar year.

In both options, part-time study can be arranged. In the thesis option, a student may register for half-time studies, in which case the program may be completed in six terms. In the practice

(non-thesis) option, students may arrange to register course by course, so that greater flexibility is possible. When residency requirements are complete, students may, if necessary, register for additional sessions for research advising only. Students should note, however, that they are charged tuition fees for these additional sessions.

The Graduate and Postdoctoral Studies Office sets time limitations for students pursuing masters programs at McGill. Full-time students must complete the M.S.W. degree within three years of initial registration, and part-time students must complete the degree within five years of initial registration. Under certain exceptional conditions, an extension may be permitted. These conditions are described in the General Information section of the *Graduate and Postdoctoral Studies Calendar*.

JOINT DEGREE IN SOCIAL WORK AND LAW (M.S.W./B.C.L./L.L.B.)

This degree may be completed in three calendar years, rather than the four calendar years it would take to attain both degrees separately, as some courses are jointly credited. Students must complete a total of 126 credits over the three-year period, as follows:

Practicum: (12 credits)

to be completed during the summer of the first or second year.

Coursework: (102 credits)

Twenty-nine pure law courses (87 credits).

Five pure social work courses (15 credits),

including course SWRK 612 (required) and at least one of the four research methods courses (SWRK 615, 633, 643, or 653).

Research: (12 credits)

A major social work/law research paper, jointly credited in both degree programs. This is a key component of this joint degree.

Two social work courses are also jointly credited in the Law program, to make up the required 105 Law credits, and two Law courses are also jointly credited in the Social Work program, to make up the required 45 Social Work credits.

JOINT Ph.D. PROGRAM IN SOCIAL WORK

The program consists of 90 credits:

15 course credits (five 3-credit courses),

75 credits for the comprehensive examination and the dissertation.

A student assessed as having insufficient knowledge in research methodology may be required by the Admissions Committee to take one or more complementary research courses as part of their program.

Duration of Program

McGill Graduate and Postdoctoral Studies regulations prescribe a minimum of two years' "residence" - that is, registration on a full-time basis for two years, or paying the corresponding fees - after the master's degree for a doctoral degree. The deadline for submission of the dissertation is five years from the completion of residence requirements. Students entering McGill with a Masters' degree, as will be the case with all students in this program, have the student status of Ph.D. II in their first year.

Regulations of both universities will be interpreted in a flexible way in order to remain as equitable as possible for all students.

McGill Graduate and Postdoctoral Studies Regulations prescribe a minimum of two years' residence after the Master's degree for a doctoral degree.

73.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

SWRK 530 SOCIAL PERSPECTIVES ON AGING I. (3) (Limited to U3 and M.S.W. students)

SWRK 531 SOCIAL PERSPECTIVES ON AGING 2. (3) (Summer) (School of Social Work: Limited to U3 and M.S.W. students)

SWRK 532 INTERNATIONAL SOCIAL WORK. (3) (Winter) (Limited to B.S.W. U3, Special B.S.W. and M.S.W. 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) (Limited to B.S.W. U3, Special 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.

SWRK 600 PRACTICE WITH WOMEN AS MOTHERS. (3) This course will explore maternal subjectivity and its implications for clinical practice with mothers and families. We will examine how social work intervention has tended to reproduce traditional attitudes towards mothers and consider the development of alternative social relations in our practice with mothers.

SWRK 601 CONSTRUCTION OF SUBJECTIVITY. (3) This course will present a critical approach to understanding how personality is constructed within the major social relations of class, gender and race. Relevance to students' research and practice interests will be explored.

SWRK 604 CRITICAL ISSUES: SOCIAL POLICY. (3)

SWRK 606 PRACTICE IN CHILD WELFARE. (3) Reflection on current practices in child welfare. An overview of contemporary theoretical frameworks and students' experiences in the field will form the basis of class discussion. Topics include: the construction of abuse and neglect; the risk ethos, families'/mothers' experiences of child welfare services; the reflective practitioner and resistance.

SWRK 608 SEMINAR IN CORRECTIONS. (3)

SWRK 609 HEALTH AND SOCIAL WORK. (3) An examination of major social work policy and practice issues bearing on health, including: ethics, legal issues, medicalization, health as an industry, uses of epidemiology and health economics. Practice questions will include crisis intervention, multidisciplinary teamwork in hospital settings, and emerging issues for social workers in health.

SWRK 610 FAMILY TREATMENT. (3) (Prerequisite: SWRK 622) An advanced seminar on techniques and practice of current therapies.

SWRK 611 SUBSTITUTE CARE: CHILD/ADOLESCENT. (3)

SWRK 612 KNOWLEDGE, VALUES AND PRACTICE. (3) (Required course) Introduction of the current debate about the status of knowledge in the social sciences, especially issues of scientific objectivity, cultural differences and their implications for social work practice.

SWRK 615 APPLIED CLINICAL RESEARCH. (3)

SWRK 622 FAMILY ASSESSMENT AND TREATMENT. (3) A seminar on current techniques of family diagnosis and therapy.

SWRK 623 COUPLE COUNSELLING. (3)

SWRK 624 COMMUNITY ORGANIZATION. (3) The aim of this course is to develop an understanding of the organizing process at the grass-roots level. Emphasis is placed upon community power and conflict, the development of organizing strategies and the application of such strategies in groups and movements dedicated to social change.

SWRK 627 SOCIAL WORK PRACTICE WITH GROUPS. (3)

SWRK 628 VIOLENCE AGAINST WOMEN. (3) Discussion of the psychological, social and political factors which create and maintain a society where male violence against the women they love occurs. A feminist theoretical perspective will be developed and analyzed.

Treatment approaches will be considered focussing on inter-ventive strategies to help both the battered and the batterers.

SWRK 631 SUPERVISION/MANAGEMENT. (3) Every human service organization is characterized by the need to manage people, information and resources. This course will provide an overview of the nature and function of these fundamental supervision and management processes.

SWRK 633 PROGRAM EVALUATION. (3) The theoretical and practical problems involved in evaluating the impact of social work services and social welfare programs. Topics include goal definition, comparison of experimental and non-experimental designs, data sources, qualitative and quantitative approaches, and outcome measures.

SWRK 635 ADVANCED CLINICAL PRACTICE. (3)

SWRK 636 TUTORIAL IN SOCIAL WORK. (3) An individual or small group tutorial in which students will work independently in conjunction with the instructor. The student will undertake a major project related to the area of specialization.

SWRK 642 TUTORIAL SOCIAL WELFARE. (3) This tutorial permits students to pursue studies in special areas not covered in other courses offered, or to study in greater depth subjects covered in earlier work. Emphasis is on the content, operation and analysis of social welfare programs.

SWRK 643 QUANTITATIVE RESEARCH METHODS. (3) A comparative review of the research methods and data sources that are used in social work and social welfare, with consideration of the statistical methods and computer programs that are appropriate for each. Topics will include experimental and nonexperimental designs, questionnaire construction, data analysis and reporting research.

SWRK 646 EMPLOYEE ASSISTANCE PROGRAMS. (3)

SWRK 646D1 (1.5), SWRK 646D2 (1.5) EMPLOYEE ASSISTANCE PROGRAMS. (Students must register for both SWRK 646D1 and SWRK 646D2) (No credit will be given for this course unless both SWRK 646D1 and SWRK 646D2 are successfully completed in consecutive terms) (SWRK 646D1 and SWRK 646D2 together are equivalent to SWRK 646)

SWRK 648 SPECIAL TOPICS IN SOCIAL WORK. (3) This course will be offered from time to time to deal with topics of current interest in social work, that are not covered in other courses. Specific content will differ from year to year.

SWRK 649 SPECIAL TOPICS IN SOCIAL WELFARE. (3)

SWRK 650 FIELD WORK PRACTICUM 1. (3) Supervised educational experience in social work practice integrating practice with theoretical knowledge characteristic of the specialized field. Individual and group instruction. Involves approximately 115 hours of work in a field setting.

SWRK 651 FIELD WORK PRACTICUM 2. (3) Supervised educational experience in social work practice integrating practice with theoretical knowledge characteristic of the specialized field. Individual and group instruction. Involves approximately 115 hours of work in a field setting.

SWRK 653 QUALITATIVE RESEARCH METHODS. (3) Qualitative methodologies concerned with description and interpretation of social phenomena, including participant observation, structured and unstructured interviewing. Student research projects will form the basis for class discussion.

SWRK 655 SEMINAR ON AGING. (3)

SWRK 656 ALTERNATIVE SERVICE ORGANIZATIONS. (3)

SWRK 657 MENTAL HEALTH POLICY AND PRACTICE. (3) The definition and management of madness during the last 200 years or so of Western societies. Focuses upon relevant dimensions of intellectual and social history, particularly the histories of what we now think of as mental health professions. Particular attention is paid to the history of current controversies about involuntary commitment, chemotherapy, and so forth.

SWRK 658 MODELS OF DIRECT PRACTICE. (3)

SWRK 660 FIELD WORK PRACTICUM 3. (6) (Involves approximately 220 hours of work in a field setting) Supervised educational experience in social work practice integrating practice with theoretical knowledge characteristic of the specialized field. Individual and group instruction. Involves approximately 115 hours of work in a field setting.

SWRK 663 SOCIAL WORK APPLIED TO ALCOHOLISM. (3)

SWRK 664 MULTICULTURAL CONTEXT PRACTICE. (3) This course will examine current theory in "multicultural" social work and explore alternative models of practice based on anti-racist/anti-oppression principles. Of special interest in this course are the issues of access and equity in human services. Students are encouraged to develop critical analyses and to develop projects based on practice issues.

SWRK 668 LIFE-THREATENING ILLNESS AND BEREAVEMENT. (3)

This seminar addresses the psycho-social concerns of patients and family members living with life threatening illness. An interdisciplinary theoretical perspective is combined with clinical practice interventions. Topics discussed include phases of the illness (diagnosis, chronic, terminal), bereavement, suicide, euthanasia, AIDS and cultural factors related to illness. Special attention will be given to the role of the social worker.

SWRK 669 DISABILITY AND REHABILITATION. (3) This seminar focuses on social work practice with individuals who experience various disabilities. It examines the societal reaction to disability and the history of these values and attitudes and provides an overview of historical and contemporary perspectives regarding intervention. As well, it critically reviews and analyzes recent legislation and advances in the integration of the disabled into the social contexts of the family, school, work force, community, and society at large.

SWRK 690 INDEPENDENT STUDY PROJECT. (9) An independent study project on a topic of interest in a comprehensive and creative fashion. The project is completed by the student following initial guidance from her/his advisor. It systematically examines a theoretical, substantive or empirical matter, using appropriate methodology.

SWRK 690D1 (4.5), SWRK 690D2 (4.5) INDEPENDENT STUDY PROJECT. (Students must register for both SWRK 690D1 and SWRK 690D2) (No credit will be given for this course unless both SWRK 690D1 and SWRK 690D2 are successfully completed in consecutive terms) (SWRK 690D1 and SWRK 690D2 together are equivalent to SWRK 690) An independent study project on a topic of interest in a comprehensive and creative fashion. The project is completed by the student following initial guidance from her/his advisor. It systematically examines a theoretical, substantive or empirical matter, using appropriate methodology.

SWRK 691 SOCIAL WORK / LAW INDEPENDENT STUDY PROJECT. (12) Students will produce an essay consisting of: 1) identifying a substantive area which integrates core legal and social work knowledge; 2) analyzing the legal and behavioural science information in each substantive area; 3) developing and applying relevant theoretical frameworks; 4) developing research questions to be examined by qualitative or quantitative methods; 5) integrating research findings.

SWRK 691D1 (6), SWRK 691D2 (6) SOCIAL WORK / LAW INDEPENDENT STUDY PROJECT. (Students must register for both SWRK 691D1 and SWRK 691D2) (No credit will be given for this course unless both SWRK 691D1 and SWRK 691D2 are successfully completed in consecutive terms) (SWRK 691D1 and SWRK 691D2 together are equivalent to SWRK 691)

SWRK 698 THESIS RESEARCH 1. (12) Independent research work under the direction of a supervisor.

SWRK 698D1 (6), SWRK 698D2 (6) THESIS RESEARCH 1. (Students must register for both SWRK 698D1 and SWRK 698D2) (No credit will be given for this course unless both SWRK 698D1 and SWRK 698D2 are successfully completed in consecutive terms) (SWRK 698D1 and SWRK 698D2 together are equivalent to SWRK 698) Independent research work under the direction of a supervisor.

SWRK 699 THESIS RESEARCH 2. (15) Independent research work under the direction of a supervisor.

SWRK 699D1 (7.5), SWRK 699D2 (7.5) THESIS RESEARCH 2.

(Students must register for both SWRK 699D1 and SWRK 699D2) (No credit will be given for this course unless both SWRK 699D1 and SWRK 699D2 are successfully completed in consecutive terms) (SWRK 699D1 and SWRK 699D2 together are equivalent to SWRK 699) Independent research work under the direction of a supervisor.

SWRK 701 COMPREHENSIVE EXAMINATION. (0) (Open only to students in the joint Social Work Ph.D. program)

SWRK 720 THOUGHT AND THEORY DEVELOPMENT IN SOCIAL WORK.

(3) (Open only to students in the joint Social Work Ph.D. program) The purpose of this seminar is to explore the origins and historical development of social work theory. Included in the analysis of this development will be the impact of material, cultural and ideological shifts within society in general and social welfare in particular. Attention will also be given to the effect of changes within relevant social science disciplines on the process of social work theory development and its relation to intervention.

SWRK 721 DISSERTATION SEMINAR. (3) (Open only to students in the joint Social Work Ph.D. program) The objective of this seminar is to provide an opportunity for doctoral students and faculty to explore a range of issues arising from students' research projects. Particular attention will be given to the relationship between research objectives and research methodology, and to situating the project in its historical context. The implications for intervention of students' research in terms of "Who benefits?" will also be an important focus of the seminar. It is to be given every other week throughout the two consecutive terms following completion of comprehensives.

SWRK 722 ADVANCED SEMINAR: SOCIAL WORK INTERVENTION.

(3) (Open only to students in the joint Social Work Ph.D. program)

SWRK 723 ADVANCED SEMINAR ON SOCIAL POLICY. (3) (Open only to students in the joint Social Work Ph.D. program) Analysis of social policies and their impact on social work practice and on the clientele that they affect. Study of the interaction between social policies and styles of management of social work organizations responsible for their application.

SWRK 724 ADVANCED RESEARCH METHODS AND ANALYSIS: QUANTITATIVE DATA. (3) (Open only to students in the joint Social Work Ph.D. program) Problems encountered in the use of quantitative methods in social work research. Types of quantitative research useful in social welfare policy analysis and discussion of yield from alternative analytic methods.

SWRK 725 ADVANCED QUALITATIVE RESEARCH METHODS AND DATA ANALYSIS. (3) (Open only to students in the joint Social Work Ph.D. program) Review of the principal methods comprised under the area of qualitative research and problems related to the utilization of those methods. Particular attention to analysis arising from these methods.

SWRK 726 INDEPENDENT STUDY. (3) (Open only to students in the joint Social Work Ph.D. program)

74 Sociology

Department of Sociology
Stephen Leacock Building
855 Sherbrooke Street West, Room 712
Montreal, QC H3A 2T7
Canada

Graduate Program and Admission Information:

Telephone: (514) 398-6847

Fax: (514) 398-3403

E-mail: graduate.sociology@mcgill.ca

Web site: www.mcgill.ca/sociology

Chair — Suzanne Staggenborg

Graduate Program Director — TBA

Graduate Admissions Director — TBA

74.1 Staff

Emeritus Professor

Maurice Pinard; B.A., LL.L., M.A.(Montr.), Ph.D.(Johns H.), F.R.S.C.

Professors

John A. Hall; B.A.(Oxon), M.A.(Penn. St.), Ph.D.(L.S.E.) (*Dean, Faculty of Arts*)

Céline Le Bourdais B.Sc. (Montr.), B.Sc. (Laval), M.Sc. (Montr.), Ph.D. (Brown)

Michael Smith; B.A.(Leic.), M.A., Ph.D.(Brown)

Suzanne Staggenborg; B.A.(Miami), M.A.(Wash.), Ph.D. (Northwestern) (*on leave 2004-05*)

Axel P.M. van den Berg; Kand.Doc.(Amsterdam), Ph.D.(McG.) (*on leave 2004-05*)

Morton Weinfeld; B.A.(McG.), Ed.M., Ph.D.(Harv.) (*Chair, Canadian Ethnic Studies*) (*on leave 2004-05*)

Associate Professors

Lucia Benaquisto; B.A.(S.U.N.Y., Albany), A.M. Ph.D.(Harv.)

Alberto Cambrosio; M.A.(Sher.), Ph.D.(Montr.) (Social Studies of Medicine) (*on leave 2004-05*)

Uli Locher; V.D.M.(Berne), S.T.M., Ph.D.(Yale) (*Assoc. Dean of Arts, Projects & Technology*)

Anthony Masi; A.B.(Colgate), M.A., Ph.D.(Brown) (*Deputy Provost & Chief Information Officer*)

James Ron; B.A.(Stan.), M.A., Ph.D.(Berkeley) (*Canada Research Chair in Conflict and Human Rights*)

Steven L. Rytina; B.G.S., Ph.D.(Mich.)

Donald von Eschen; A.B.(Beloit), M.A.(Chic.), Ph.D.(Johns H.)

Assistant Professors

Giovani Burgos; B.A.(SUNY, Albany), M.A., Ph.D.(Ind.)

Kathleen Fallon; B.A.(Calif.), M.A., Ph.D.(Ind.)

Jennifer Fosket; B.A.(Hills College), Ph.D.(Calif.)

John (Jack) Sandberg; B.A.(Hunter), Ph.D.(Mich.)

Matthew Lange; B.A. (Carleton College), M.A., Ph.D. (Brown)

Elaine Weiner; B.A.(Grinnell College); M.A.(Fla.); Ph.D. (Mich.)

Associate Members

David Aberbach (*Jewish Studies*)

Gregory Baum (*Religious Studies*)

Adjunct Professors

Catherine Montgomery, Rodney Nelson

74.2 Programs Offered

The Department offers training leading to the degrees of Master of Arts in Sociology (thesis and non-thesis options), Master of Arts in Sociology - Medical Sociology option (thesis and non-thesis options) with the Social Studies of Medicine Department, Master of Arts in Sociology - Neotropical Environment option (non-thesis), Master of Arts in Sociology - Social Statistics option (non-thesis); and the Doctor of Philosophy in Sociology.

Theses and dissertations are normally supervised in one of the following areas of Department research concentration: states and social movements; economy and society; social inequality (class, ethnicity and gender) and deviance and social control.

Availability of Funding

Prospective students may apply for a variety of fellowships administered by the University, through research-granting agencies in Quebec, Canada, or in their home countries. Other sources of funding include private companies, agencies, foundations, other provincial and federal government agencies, as well as foreign governments and organizations. Detailed information on other funding sources is available on the McGill Web site, www.mcgill.ca/gps/fellowships.

The Department offers a limited number of teaching assistantships of \$3,663 per term. Teaching assistantships require 12

hours of work per week in the Fall and Winter terms. Students who wish to be considered for such assistantships should inform the Graduate Admissions Director, Leacock 712, in writing and preference will be given to those dossiers completed by February 15th.

A limited number of differential fee waivers are also available for international students. Several research assistantships may be available from faculty members.

74.3 Admission Requirements

Applicants must have a Bachelor's degree with a standing equivalent to a Cumulative Grade Point Average (CGPA) of 3.3 or better out of a possible 4.0. The degree may be either in Sociology – in which case it should be equivalent to the Honours B.A. degree at McGill – or it may be in another relevant social science. In the latter case, applicants may be required to take some additional Sociology courses to fill gaps in their background.

The strength of an applicant's academic record is of primary importance in consideration of an applicant's dossier. For a detailed description of courses open to graduates and undergraduates, and of preparation required of McGill University honours students, candidates should consult the *Undergraduate Programs Calendar* via on the Web at www.mcgill.ca.

All applicants are asked to submit two letters of recommendation and two certified copies of their university-level grades along with an example of their written work. Applicants who have received a Master's degree at a university other than McGill should submit a copy of their thesis or evidence of equivalent research experience with their application for admission. The applicant's dossier must be completed by February 15th to be considered for the McGill Awards Competition and the internal Teaching Assistantship competition.

Applicants not registered at Canadian universities must submit with their applications the results of the Verbal and Quantitative aptitude tests of the Graduate Record Examination. Canadian students are also encouraged to submit the results of this test with their application. Arrangements to take the Graduate Record Examination should be made directly with the Educational Testing Service, Box 955, Princeton, New Jersey 08540, USA. The Test of English as a Foreign Language (TOEFL) is also required of all non-Canadian students whose mother tongue is not English. The minimum acceptable score for the TOEFL exam is 580 on the paper-based test or 237 on the computer-based test.

Candidates who lack sufficient preparation in the social sciences, but whose academic record justifies consideration for eventual admission to the Master's graduate program, must register for a qualifying year during which they are required to take courses to broaden their knowledge of sociology. Candidates must achieve a final mark of at least a B in these courses and an average in all courses of at least B+; in general, they must, in the opinion of the Department, have achieved sufficient preparation in the subject matter of sociology before they will be allowed to proceed with graduate work. All candidates are expected to have taken courses in statistics, research methods and sociological theory at the undergraduate level.

The program of study is designed to give students an advanced understanding of a major field in sociology, of current methods of sociological research, and of some principal theoretic issues in the discipline. Three terms of residence study is the minimum requirement for a Master's degree.

M.A. in Medical Sociology

The program is open to students with a social sciences, health professions or health sciences background. It is interdisciplinary in nature and includes required courses offered by both participating departments as well as a research thesis based on original research. For additional information concerning this program, please consult the Social Studies of Medicine section or the Web site, www.mcgill.ca/ssom.

74.4 Application Procedures

Please note that the dossier must be complete with ALL of the following information before the applicant will be considered for entrance to the graduate program:

1. Application form.
2. Statistics, Theory, Methods form.
3. Two certified copies of undergraduate and graduate level transcripts. Please provide an official translation if the original is not in English or French.
4. Two letters of reference on the departmental forms enclosed with the graduate application package.
5. Test results (Graduate Record Examination (GRE) / Test of English as a Foreign Language (TOEFL) (if applicable) minimum score: 580 on the paper-based test or 237 on the computer-based test.
6. Statement of Academic Background - a brief statement of the applicant's interests and the areas of sociology he/she wishes to study at McGill.
7. One or two samples of written work. This can be in the form of a graded paper or a chapter from a thesis and must be at least 15 typewritten pages in length translated into English or French.
8. M.A. Option Form (for M.A. applicants only).
9. \$60 application fee (certified cheque, money order or credit card payment).
10. Two address labels which will serve to acknowledge both the receipt of the application and the decision taken by the Graduate Committee.

Applicants may apply using one of three formats:

1. on-line (Web) Application
www.mcgill.ca/applying/graduate
2. Adobe Acrobat PDF Application
www.arts.mcgill.ca/programs/sociology/grad/admissions.html
3. Paper Application
www.arts.mcgill.ca/programs/sociology/grad/admissions.html

Applications can be obtained by contacting the Graduate Secretary, Department of Sociology at (514) 398-6847, sending a fax to (514) 398-3403, an e-mail to graduate.sociology@mcgill.ca or sending a request in writing to the Sociology Department.

M.A. in Medical Sociology

Admission is granted by a joint admissions committee made up of representatives from Sociology and Social Studies of Medicine.

74.5 Program Requirements

M.A. PROGRAM OPTIONS

The M.A. degree has six options:

- non-thesis option consisting of seven required courses plus a research paper;
- thesis option with five required courses and a thesis;
- thesis option in Medical Sociology, which requires six courses plus a thesis;
- non-thesis option in Medical Sociology which requires seven courses plus a research paper;
- non-thesis option in Social Statistics which requires seven courses (supplemented by further statistical courses) plus a statistics-based research paper;
- thesis option in Neotropical Environment.

Although the non-thesis option requires more course work, students taking this option are likely to obtain the M.A. more rapidly than those in the thesis option because of the difficulty and length of time involved in completing an M.A. thesis. The expectation is that most students will choose the non-thesis Master's program so as to progress more quickly, especially those wishing to pursue a doctoral degree. The programs are described in more detail below.

M.A. Degree Program Non-Thesis Option (45 credits)**Required Courses (12 credits)**

All students must have taken, or take during the first year of the program, the following four courses:

SOCI504	(3)	Quantitative Methods 1
SOCI540	(3)	Qualitative Research Methods
SOCI580	(3)	Social Research Design and Practice
SOCI652	(3)	Current Sociological Theory

Should a student be granted an exemption from any one or more of these courses by the Graduate Studies Committee, another substantive seminar must be substituted in its place.

Elective Courses (9 credits)

Students are required to choose three elective courses, one of which may be in a cognate field, subject to the approval of the Graduate Committee.

Research Paper Component – Required (24 credits)

SOCI696	(3)	Research Paper 1 (first term)
SOCI697	(3)	Research Paper 2 (second term)
SOCI698	(6)	Research Paper 3 (third term)
SOCI699	(12)	Research Paper 4 (third term)

The research paper will normally, but not necessarily, flow out of a paper written for one of the graduate seminars or an independent reading course. Comparable to an article in a professional journal, the paper ought to focus on a clearly defined research problem, demonstrating familiarity with the most important relevant scholarly work and the ability to carry out research and organize the results of the research. This paper is expected to be no more than 30 pages in length, exclusive of footnotes and bibliography.

M.A. Degree Program Thesis Option (48 credits)**Required Courses (12 credits)**

All students must have taken, or take during the first year of the program, the following four course:

SOCI504	(3)	Quantitative Methods 1
SOCI540	(3)	Qualitative Research Methods
SOCI580	(3)	Social Research Design and Practice
SOCI652	(3)	Current Sociological Theory

Should a student be granted an exemption from any one or more of these courses by the Graduate Committee, another course must be substituted in its place.

Elective Courses (3 credits)

Students are required to choose one course, which may be in a cognate field, subject to the approval of the Graduate Committee.

Thesis Component – Required (33 credits)

SOCI690	(3)	M.A. Thesis 1 (first term)
SOCI691	(6)	M.A. Thesis 2 (second term)
SOCI692	(3)	M.A. Thesis 3 (second term)
SOCI693	(3)	M.A. Thesis 4 (second term)
SOCI694	(18)	M.A. Thesis 5 (third term)

To provide students with some research experience, all candidates must present a thesis based on their own research. While not necessarily requiring an exhaustive review of work in the particular field of study, or a great deal of original scholarship, the thesis must show familiarity with previous work in the field and must normally demonstrate the ability to carry out research and to organize results, all of which must be presented in good literary style. The thesis will consist of between 50-75 pages of text, exclusive of footnotes and bibliography, which must be completed no later than August 31st of the second year in the program.

M.A. Degree Program Non-Thesis Option in Social Statistics

The program complements disciplinary training with research experience applying statistical methods to Statistics Canada data (or equivalent). Students will complete normal program course requirements under the M.A. non-thesis program, supplemented by further statistical courses, as advised by the option advisor, and subject to approval by the home department. Students will complete a statistics-based M.A. research paper (Economics,

Political Science, Sociology) or thesis (Geography) in conjunction with an interdisciplinary capstone seminar.

Acceptance into the program is by application to the Social Statistics Option Committee and is contingent on acceptance into the M.A. program in one of the participating departments (Economics, Geography, Political Science, Sociology).

M.A. Degree in Medical Sociology

The Department offers M.A. programs in Medical Sociology which are given jointly by the Sociology Department and the Department of Social Studies in Medicine. Both the thesis and non-thesis options are available.

Sociology/NeoTropical Environment M.A. Program

McGill University and the Smithsonian Tropical Research Institute (STRI) are joining forces to offer graduate studies in neotropical environment. These are offered as options within existing programs in Biology, Bioresource Engineering, Geography, Political Science, Plant Science, Renewable Resources, and Sociology. Advisors will be McGill professors and STRI scientists. The degrees are granted by McGill University.

Students must meet the Graduate and Postdoctoral Studies Office admission requirements, enter through one of the participating departments and meet the requirements of that unit. In addition, to meet the option requirements, students will take two core courses (ENVR610A and BIOL640). These specific NEO courses will be taught in Panama. Students also take one of POLI644; SOCI565, ENVR611, ENVR612, ENVR680, BIOL553, BIOL641, GEOG498, AGR1550. The thesis fieldwork must be conducted in Latin America on a topic approved by the NEO coordinating committee.

REQUIREMENTS FOR THE PH.D. DEGREE

A minimum of three years of study is required. There is one year of course work consisting of six courses. It is important to note that students admitted without any one or more of the required courses or their equivalent at the M.A. level (SOCI580, SOCI652, SOCI504, and SOCI540) will be expected to make up any deficiencies in addition to the regular course requirements.

Course Requirements: Ph.D. students are required to take six additional courses, the only required course being SOCI505 Quantitative Methods 2. The other five courses can be chosen from among the elective courses listed in the Sociology Department course offerings.

Examination Requirements: Ph.D. Candidates must take examinations in two subfields of sociology. These fields will be chosen from the Department's areas of specialization.

Examinations must be completed and the student's candidacy for the degree established no later than the end of the third year of graduate study.

Language Requirement: Ph.D. Candidates must demonstrate ability to read French with high proficiency or to read another language relevant to their field of research. The language requirement should be met by the end of the third year and may be satisfied by taking an approved French language course at the English and French Language Centre at McGill, or by a written examination in the Department or by exemption.

Thesis Requirement: Ph.D. Candidates are required to submit a thesis on an approved topic. The topic must be approved by a dissertation proposal committee convened by the student's dissertation supervisor. The thesis should be completed within five years after the initial residency period of two years.

Further details on the requirements and regulations for the thesis and the fields in which the Department is prepared to direct research may be obtained from the Sociology Web site at www.mcgill.ca/sociology and at www.mcgill.ca/gps.

74.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been

added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Note: All undergraduate courses administered by the Faculty of Arts (courses at the 100- to 500-level) have limited enrolment.

All 300, 400 and 500-level Sociology courses listed in the Faculty of Arts Calendar are open to graduate students and can be taken for graduate credit provided appropriate work load adjustments are agreed upon with the instructor.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

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 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 515 MEDICINE AND SOCIETY. (3) (Prerequisite: Undergraduate students require permission of instructor)

SOCI 516 ADVANCED PSYCHOLOGICAL SOCIOLOGY. (3)

SOCI 520 MIGRATION AND IMMIGRANT GROUPS. (3) (Prerequisite: 15 credits in the Social Sciences)

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)

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 SELECTED TOPICS. (3) This seminar is directed to the needs of individual students. It will focus on the areas of expertise of visiting Professors/Scholars. The topics covered are not included in our regular curriculum and vary from year to year.

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 560 GENDER AND ORGANIZATION. (3) (Prerequisite: Permission of Instructor)

SOCI 565 SOCIAL CHANGE IN PANAMA. (3) (Prerequisites: SOCI 210 and SOCI 350 or equivalents.) (Corequisites: BIOL 473, ENVR 451 and ABEN 450.) (Restriction: location in Panama. Students must register for a full term in Panama.) 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. Four field trips.

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) (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 590 CONFLICT AND STATE BREAKDOWN. (3) (Open to graduate students in Sociology, Political Science, Anthropology, and History AND undergraduate students with permission of instructor.) Survey of central theories of ethnic conflict, state breakdown, and warlordism in the developing world. Emphasis on the conflicts of the 1990s in Africa, the former Soviet Union and the Balkans.

SOCI 627 POLITICAL SOCIOLOGY. (3) 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 629 ETHNICITY AND PUBLIC POLICY. (3)

SOCI 652 CURRENT SOCIOLOGICAL THEORY. (3) (Prerequisite: SOCI 330) Examination of works in some major areas of Sociology with a focus on: antecedent thought and research in the area; the internal structure and consistency of these works; the validity of the major claims made; and the implications for future theoretical development and research.

SOCI 661 SEMINAR: SOCIOLOGY OF KNOWLEDGE. (3)

SOCI 670 COMP URBANIZATION-THIRD WORLD. (3)

SOCI 688 SEMINAR ON SOCIAL STATISTICS. (3) (Restriction: open only to students in the M.A. Social Statistics Option, or with permission of instructor. Not open to students who have taken POLI 688, SOCI 668 or GEOG 688.)

SOCI 690 M.A. THESIS 1. (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Exploratory thesis research for the selection of a thesis topic.

SOCI 691 M.A. THESIS 2. (6) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Preparation, submission and approval of the thesis proposal by the student to his/her committee.

SOCI 692 M.A. THESIS 3. (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Fieldwork and data analysis on the thesis. Progress report to the supervisor.

SOCI 693 M.A. THESIS 4. (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Fieldwork and data analysis on the thesis. Progress report to the supervisor.

SOCI 694 M.A. THESIS 5. (18) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology

Department.) Completion, submission, and approval of the M.A. Thesis by the committee and the Graduate and Postdoctoral Studies Office.

SOCI 695 M.A. THESIS 6. (15) (Open only to graduate students registered in the Medical Sociology thesis program.) Completion, submission, and approval of the M.A. Thesis by the committee and the Graduate and Postdoctoral Studies Office.

SOCI 696 RESEARCH PAPER 1. (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Exploratory research for the selection of a research topic.

SOCI 697 RESEARCH PAPER 2. (3) Preparation, submission and approval of the proposal by the student to his/her supervisor.

SOCI 698 RESEARCH PAPER 3. (6) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Fieldwork and data analysis on the research.

SOCI 699 RESEARCH PAPER 4. (12) Completion, submission and approval of the research paper by the committee.

SOCI 700 PH.D. AREA EXAMINATION 1. (0) (Restriction: Only open to Ph.D. students in the Sociology Department) The examination assesses the student's breadth of knowledge in one substantive area. This is the first of two required comprehensive examinations for the Ph.D. Program.

SOCI 701 PH.D. AREA EXAMINATION 2. (0) (Restriction: Only open to Ph.D. students in the Sociology Department) The examination assesses the student's breadth of knowledge in one substantive area. This is the second of two required comprehensive examinations for the Ph.D. Program.

SOCI 702 PH.D. PROPOSAL APPROVAL. (0) (Only open to Ph.D. students in the Sociology Department) Presentation and acceptance of the Ph.D. Proposal Defense by the student to the Department Proposal Committee.

SOCI 720 READING IN SOCIAL THEORY. (3)

SOCI 730 READING AND RESEARCH. (3)

H.B. Williams; B.A.(Acadia), M.D.,C.M.(McG.)

Associate Professors

J. Barkun; M.D., M.Sc.(McG.)

O. Blaschuk; B.Sc.(Winn.), M.Sc.(Man.), Ph.D.(Tor.)

J.D. Boby; B.Sc., M.Sc.(McG.), Ph.D.(Tor.)

S. Chevalier; B.Sc., M.Sc., Ph.D.(Montr.)

D. Fleiszer; B.Sc., M.D., C.M.(McG.)

C. Lee; M.D., M.Sc.(McG.), F.R.C.S.(C)

L. Lessard; B.Sc., M.D.(Laval), F.R.C.S.(C)

P. Metrakos; B.Sc., M.D.(McG.), F.R.C.S.(C)

J.S. Mort; B.Sc.(McG.), Ph.D.(McM.)

R. St.-Arnaud; Ph.D.(Laval)

J. Sampalis; M.Sc., Ph.D.(McG.)

D. Shum-Tim; M.Sc., M.D.,C.M.(McG.)

T. Taketo-Hosotani; B.Sc., M.Sc., Ph.D.(Kyoto)

C.I. Tchervenkov; B.Sc., M.D.,C.M.(McG.), F.R.C.S.(C)

J.I. Tchervenkov; M.D.,C.M.(McG.), F.R.C.S.(C)

D. Zukor; B.Sc., M.D.,C.M.(McG.)

Assistant Professors

J. Antoniou; M.D.,C.M., Ph.D.(McG.), F.R.C.S.(C)

M. Basik; M.D.,C.M. (McG.)

E. Chevet; M.Sc., Ph.D.(Paris)

M. Chevrete; B.Sc., M.Sc., Ph.D.(Laval)

D.C. Evans; B.A., M.D.,C.M.(McG.)

J. Faria; M.D.,C.M., M.Sc.(McG.), F.R.C.S.(C)

L. Feldman; M.D.,C.M., M.Sc.(McG.)

H. Flageole; M.D., M.Sc.(McG.)

R.C. Hamdy; M.Sc, M.D.(Egypt), F.R.C.S.(C)

E. Harvey; B.Sc.(Ont.) M.D.,C.M., M.Sc.(McG.)

K.J. Lachapelle; M.Sc., M.D.,C.M.(McG.)

E. Lee; B.A.(Boston), M.Sc., Ph.D.(McG.)

S. Meterissian; M.D.,C.M., M.Sc.(McG.)

M. Petropavlovskaja; M.Sc., Ph.D.(Moscow)

A. Philip; M.Sc., Ph.D.(McG.)

P. Puligandla; M.D., M.Sc.(W.Ont.), F.R.C.S.(C)

A.D. Recklies; B.Sc.(McG.), Ph.D.(McM.)

K. Shaw; M.D.,C.M., M.Sc.(McG.)

T. Steffen; M.D.(Switz.), Ph.D.(McG.)

M. Tanzer; M.D.,C.M.(McG.), F.R.C.S.(C)

75 Surgical Research

Department of Surgery (Division of Surgical Research)
Montreal General Hospital
1650 Cedar Avenue, Room C9-160
Montreal, QC H3G 1A4
Canada

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Fax: (514) 934-8289

E-mail: gradstudies.surgery@mcgill.ca

Web site: www.surgery-research.mcgill.ca

Director — L. Rosenberg

Associate Director — A. Philip

Administrative & Student Affairs Coordinator — I. Sidorenko

75.1 Staff

Professors

P. Brodt; B.Sc.(Bar-Ilan), M.Sc.(Ott.), Ph.D.(McG.)

R.C.-J. Chiu; M.B.(Taiwan), Ph.D.(McG.)

N.V. Christou; B.Sc., M.Sc., Ph.D., M.D.,C.M.(McG.)

M.M. Elhilali; M.B., B.Ch., D.S., DU, M.Ch.(Cairo), Ph.D.(McG.)

G.M. Fried; B.Sc., M.D.,C.M.(McG.)

C. Gagnon; B.Sc., M.Sc., Ph.D.(Montr.)

F. Glorieux; M.D.(Louvain), M.Sc.(Montr.), Ph.D.(McG.)

J.M. Laberge; M.D.(Laval)

D.S. Mulder; M.D.(Sask.), M.Sc.(McG.)

A.R. Poole; B.Sc., Ph.D.(R'dg)

L. Rosenberg; M.Sc., M.D., Ph.D.(McG.)

P.J. Roughley; B.Sc., Ph.D.(Nott.)

H. Shennib; M.D.(Cairo), F.R.C.S.(C)

75.2 Programs Offered

The Department of Surgery offers graduate programs leading to M.Sc. and Ph.D. degrees.

The main research interests in the Department include projects in islet cell differentiation and islet transplantation, tissue engineering of cardiac muscle, immunopathogenesis of liver xenograft rejection; the biology of tissue repair and fibrosis; cartilage regeneration, osteoinduction and biomechanics; sepsis and multi-organ failure; biology of cancer; sexual dysfunction and prostate cancer; and surgical health outcomes.

A list of research directors and a description of their research topics, as well as application forms may be obtained from our Web site.

75.3 Admission Requirements

Graduate Diploma in Surgical Health Care Research

The program is open to all graduate students in the Division of Surgical Research, but is specifically designed for surgical residents who have allotted time during their residency training. To be accepted into the Graduate Diploma Program students must be accepted into the Division of Surgical Research; fulfill the minimum requirements for admission to the Graduate and Postdoctoral Studies Office; identify an acceptable and feasible research project; and identify an accredited faculty member willing to support the research and supervise the student. **The program is under the direction of Professor John Sampalis.**

M.Sc. Program

Usually a B.Sc., M.D. or D.V.M. degree, with a minimum CGPA of 3.2/4.0. Applications will be accepted from candidates sponsored

by a research supervisor willing to provide laboratory space and direction for their research work.

Ph.D. Program

Admission is usually from the M.Sc. program either upon completion of the M.Sc. degree, or by transfer from the first year of M.Sc. to the second year of Ph.D. studies. Request for such transfer is to be made in writing by the thesis supervisor during the candidate's first year of M.Sc. studies, not later than March 30th for students enrolled in September, or November 1st for those registered in January. **Transfer is granted on the basis of an examination administered by the student's Research Supervisory Committee.** Exceptional students with a minimum 3.5/4.0 CGPA may apply directly to the Ph.D. program.

Students with an M.Sc. degree from other departments or from other recognized universities whose M.Sc. topic is closely related to the subject of their Ph.D. research may be admitted directly into the Ph.D. program, at the level of Ph.D.2, at the discretion of the Department. Exceptional students with a Master's degree unrelated to their proposed research may be admitted to Ph.D.1.

75.4 Application Procedures

Applicants must submit a completed application form including a brief curriculum vitae, a short description of the proposed thesis research (prepared by the student and/or the prospective research director), \$60 (payable by credit card, certified cheque or money order to McGill University), as well as two copies of all academic transcripts and two letters of recommendation mailed directly to the Department. A letter of intent and a memorandum of agreement are also required from the prospective supervisor.

Deadline for receipt of complete applications:

Canadian applicants: May 1 for September (Fall term)
September 1 for January (Winter term)

International applicants: February 2 for September (Fall term)
August 1 for January (Winter term)

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

75.5 Program Requirements

Graduate Diploma in Surgical Health Care Research

(30 credits)

This diploma program consists primarily of coursework, however a research project must be completed to obtain the required 30 credits. The program is designed to be completed within one year.

Required Courses (18 credits)

EXSU606 (3) Statistics for Surgical Research
EXSU601 (6) Knowledge Management
EXSU637 (9) Research Project

Complementary Courses (12 credits)

at least 3 credits from the following courses:

EPIB631* (2) Pharmacoepidemiology 2
EPIB633* (2) Pharmacoepidemiology 1
EPIB656 (3) Health Care Technology Assessment
EPIB679 (3) Special Topics 5
EXMD631 (3) Topics in Economic Evaluation

* Must be taken in tandem for a total of four credits.

at least 9 credits from the following courses:

EPIB606 (3) Introduction to Epidemiology
EPIB607 (3) Inferential Statistics
EPIB610 (3) Occurrence of Health Events in Population
EPIB631* (2) Pharmacoepidemiology 2
EPIB633* (2) Pharmacoepidemiology 1
EPIB643 (1) Substantive Epidemiology 3
EPIB655 (3) Epidemiology in Public Health
EPIB668 (2) Special Topics 1
EXMD631 (3) Topics in Economic Evaluation
POTH630 (3) Measurement: Rehabilitation 2

* Must be taken in tandem for a total of four credits.

M.Sc. Program (48 credits)

The M.Sc. program consists of research work in preparation of a thesis and completion of required courses for a total of 48 credits. The program is to be completed during three terms; an additional term is assigned for the preparation of the thesis.

The course requirements for a total of 15 credits are as follows:

EXSU601 (6) Knowledge Management
EXSU606 (3) Statistics for Surgical Research
EXSU605 (3) Biomedical Research Innovation

A graduate level course in the student's specialty is also mandatory. Selection of the former and of additional courses, if required, will be in consultation with a Research Supervisory Committee appointed for each student.

The laboratory research component of the program is worth 33 credits.

Ph.D. Program

The minimum residence time in the program is three calendar years. In addition to the courses listed under the M.Sc. program, students are encouraged to select additional courses from allied disciplines relevant to their research topic. To graduate, candidates will also have to pass a predoctoral examination.

Predocctoral comprehensive examination: All Ph.D. students (admitted directly into the Ph.D. program, or those allowed to transfer from M.Sc. 1 to Ph.D. 2 without writing an M.Sc. thesis) must take this examination.

The examination is to take place after 12 months of residence in the Ph.D. program, and will be administered by an expanded Research Supervisory Committee under its Chair. The examination will have two components: an oral presentation of the candidate's research project, as well as preparation of a report in writing on an assigned research publication, and its oral presentation. The candidate must receive a pass mark in both components to continue in the Ph.D. program.

75.6 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

Courses with numbers ending D1 and D2 are taught in two consecutive terms (most commonly Fall and Winter). Students must register for both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

EXSU 601 KNOWLEDGE MANAGEMENT. (6) (1 1/2 hours/week) (Compulsory for students in the Department of Surgery and available to others by permission of the coordinators)

EXSU 601D1 (3), EXSU 601D2 (3) KNOWLEDGE MANAGEMENT. (Students must register for both EXSU 601D1 and EXSU 601D2) (No credit will be given for this course unless both EXSU 601D1 and EXSU 601D2 are successfully completed in consecutive terms) (EXSU 601D1 and EXSU 601D2 together are equivalent to EXSU 601) Critical elements required for the preparation of abstracts and full-length manuscripts, and the creation and delivery of digital slide presentations.

EXSU 601N1 KNOWLEDGE MANAGEMENT. (3) (Students must also register for EXSU 601N2) (No credit will be given for this course unless both EXSU 601N1 and EXSU 601N2 are successfully completed in a twelve month period) (EXSU 601N1 and EXSU 601N2 together are equivalent to EXSU 601)

EXSU 601N2 KNOWLEDGE MANAGEMENT. (3) (Prerequisite: EXSU 601N1) (No credit will be given for this course unless both EXSU 601N1 and EXSU 601N2 are successfully completed in a twelve month period) (EXSU 601N1 and EXSU 601N2 together

are equivalent to EXSU 601) See EXSU 601N1 for course description.

EXSU 605 BIOMEDICAL RESEARCH INNOVATION. (3) (2 hours/week) (Compulsory for students in the Department of Surgery and available to others by permission of the coordinators)

EXSU 606 STATISTICS FOR SURGICAL RESEARCH. (3) (2 hours/week) (Compulsory for students in the Department of Surgery and available to others by permission of the coordinators)

EXSU 637 RESEARCH PROJECT. (9)

EXSU 637D1 (4.5), EXSU 637D2 (4.5) RESEARCH PROJECT. (Students must register for both EXSU 637D1 and EXSU 637D2) (No credit will be given for this course unless both EXSU 637D1 and EXSU 637D2 are successfully completed in consecutive terms)

EXSU 684 SIGNAL TRANSDUCTION. (3) (2 hours/week) (Open to graduate students with prerequisites and U3 undergraduates with special permission)

EXSU 690 M.Sc. RESEARCH 1. (4)

EXSU 690D1 (2), EXSU 690D2 (2) M.Sc. RESEARCH 1. (Students must register for both EXSU 690D1 and EXSU 690D2) (No credit will be given for this course unless both EXSU 690D1 and EXSU 690D2 are successfully completed in consecutive terms) (EXSU 690D1 and EXSU 690D2 together are equivalent to EXSU 690)

EXSU 690N1 M.Sc. RESEARCH 1. (2) (Students must also register for EXSU 690N2) (No credit will be given for this course unless both EXSU 690N1 and EXSU 690N2 are successfully completed in a twelve month period) (EXSU 690N1 and EXSU 690N2 together are equivalent to EXSU 690)

EXSU 690N2 M.Sc. RESEARCH 1. (2) (Prerequisite: EXSU 690N1) (No credit will be given for this course unless both EXSU 690N1 and EXSU 690N2 are successfully completed in a twelve month period) (EXSU 690N1 and EXSU 690N2 together are equivalent to EXSU 690) See EXSU 690N1 for course description.

EXSU 691 M.Sc. RESEARCH 2. (4)

EXSU 691D1 (2), EXSU 691D2 (2) M.Sc. RESEARCH 2. (Students must register for both EXSU 691D1 and EXSU 691D2) (No credit will be given for this course unless both EXSU 691D1 and EXSU 691D2 are successfully completed in consecutive terms) (EXSU 691D1 and EXSU 691D2 together are equivalent to EXSU 691)

EXSU 691N1 M.Sc. RESEARCH 2. (2) (Students must also register for EXSU 691N2) (No credit will be given for this course unless both EXSU 691N1 and EXSU 691N2 are successfully completed in a twelve month period) (EXSU 691N1 and EXSU 691N2 together are equivalent to EXSU 691)

EXSU 691N2 M.Sc. RESEARCH 2. (2) (Prerequisite: EXSU 691N1) (No credit will be given for this course unless both EXSU 691N1 and EXSU 691N2 are successfully completed in a twelve month period) (EXSU 691N1 and EXSU 691N2 together are equivalent to EXSU 691) See EXSU 691N1 for course description.

EXSU 692 M.Sc. RESEARCH 3. (4)

EXSU 692D1 (2), EXSU 692D2 (2) M.Sc. RESEARCH 3. (Students must register for both EXSU 692D1 and EXSU 692D2) (No credit will be given for this course unless both EXSU 692D1 and EXSU 692D2 are successfully completed in consecutive terms) (EXSU 692D1 and EXSU 692D2 together are equivalent to EXSU 692)

EXSU 692N1 M.Sc. RESEARCH 3. (2) (Students must also register for EXSU 692N2) (No credit will be given for this course unless both EXSU 692N1 and EXSU 692N2 are successfully completed in a twelve month period) (EXSU 692N1 and EXSU 692N2 together are equivalent to EXSU 692)

EXSU 692N2 M.Sc. RESEARCH 3. (2) (Prerequisite: EXSU 692N1) (No credit will be given for this course unless both EXSU 692N1 and EXSU 692N2 are successfully completed in a twelve month period) (EXSU 692N1 and EXSU 692N2 together are equivalent to EXSU 692) See EXSU 692N1 for course description.

EXSU 693 M.Sc. THESIS. (21)

EXSU 693D1 (10.5), EXSU 693D2 (10.5) M.Sc. THESIS. (Students must register for both EXSU 693D1 and EXSU 693D2) (No credit will be given for this course unless both EXSU 693D1 and EXSU 693D2 are successfully completed in consecutive terms) (EXSU 693D1 and EXSU 693D2 together are equivalent to EXSU 693)

EXSU 693N1 M.Sc. THESIS. (10.5) (Students must also register for EXSU 693N2) (No credit will be given for this course unless both EXSU 693N1 and EXSU 693N2 are successfully completed in a twelve month period) (EXSU 693N1 and EXSU 693N2 together are equivalent to EXSU 693)

EXSU 693N2 M.Sc. THESIS. (10.5) (Prerequisite: EXSU 693N1) (No credit will be given for this course unless both EXSU 693N1 and EXSU 693N2 are successfully completed in a twelve month period) (EXSU 693N1 and EXSU 693N2 together are equivalent to EXSU 693) See EXSU 693N1 for course description.

EXSU 700 COMPREHENSIVE EXAMINATION. (0)

EXSU 700D1 (0), EXSU 700D2 (0) COMPREHENSIVE EXAMINATION. (Students must register for both EXSU 700D1 and EXSU 700D2) (No credit will be given for this course unless both EXSU 700D1 and EXSU 700D2 are successfully completed in consecutive terms) (EXSU 700D1 and EXSU 700D2 together are equivalent to EXSU 700)

76 Urban Planning

School of Urban Planning
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Web site: www.mcgill.ca/urbanplanning

Director — David F. Brown

76.1 Staff

Emerita Professor

Jeanne M. Wolfe; B.Sc.(Lond.), M.Sc.(W.Ont.), M.A.(McG.)

Professor

Jane Matthews-Glenn; B.A., LL.B.(Queen's), D.en droit (Strasbourg)

Associate Professors

David F. Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheffield)
Raphaël Fischler; B.Eng.(Eindhoven), M.Sc., M.C.P.(M.I.T.), Ph.D.(Calif.)

Assistant Professors

Madhav G. Badami; B.Tech., M.S.(I.I.T., Madras)
M.E.Des.(Calg.), Ph.D.(UBC) (*joint appoint. with McGill School of Environment*)

Lisa Bornstein; B.Sc.(U.C.Berk.), M.R.P.(C'nell), Ph.D.(U.C.Berk.)
Murtaza Haider; B.Sc.(Peshawar), M.A.Sc., Ph.D. (Tor.) (*joint appoint. with Civil Engineering*)

Associate Member

Gordon O. Ewing (Geography)

Adjunct Professors

David Farley, Mario Polèse

Instructor

François Dufaux

Guest Lecturers

Cameron Charlebois, Luc Danielse, Marc Denhez,
AndrewHoffmann, Brenda Lee, LéonPloegaerts, RayTomalty,
AlainTrudeau, MartinWexler

76.2 Programs Offered

The objective of the School is to produce qualified professional urban planners for the public and the private sectors. Training is provided at the post-graduate 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 these professional organizations after meeting their internship requirements.

Modern urban planning developed into a profession in the early decades of the twentieth century, largely as a response to the appalling sanitary, social and economic conditions of rapidly developing industrial cities. Initially the disciplines of 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 nineteenth 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, facilitating the search for equitable and efficient solutions to urban development problems.

McGill University was the first institution in Canada to offer a full-time planning program. An inter-disciplinary 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, a unit within the Faculty of Engineering.

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 traffic management, 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.

76.3 Admission Requirements

The M.U.P. degree is open to students holding a bachelor's degree or equivalent in Anthropology, Architecture, Economics, Engineering, Environmental Studies, Geography, Law, Management, Political Science, Social Work, Sociology or Urban Studies. Students from other backgrounds are considered for admission on an individual basis.

In addition to the documents for admission required by the Graduate and Postdoctoral Studies Office, the following must be submitted:

1. Statement of specific interest in the area of Urban Planning.
2. For architects only, a portfolio containing at least five (5) examples of architectural work accomplished in school and in practice. (Portfolios are not to exceed 8½" x 11" in size.)
3. For international students only. The minimum TOEFL requirement is 600 (paper-based test) or 250 (computer-based test).

The deadline for submitting applications and supporting material is March 1st.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

Awards and Financial Assistance

For information regarding awards and financial assistance, please refer to the Graduate and Postdoctoral Studies Office *Graduate Fellowships and Awards Calendar*.

76.4 Program Requirements

The program in Urban Planning requires two years of study (69credits). A three-month internship with a member of a recognized planning association is required.

Students are required to prepare a Supervised Research Project which may take the form of investigative research, an impact study, a development project or a plan. It may be undertaken jointly with another student.

Required Courses (51 credits)

PUB1004*	(3)	Land Use Planning
URBP604	(6)	Planning Projects 3
URBP606	(3)	Supervised Research Seminar
URBP609*	(3)	Planning Graphics
URBP612	(3)	History and Theory of Planning
URBP622	(6)	Planning Project 1
URBP623	(3)	Planning Projects 2
URBP628	(6)	Practical Experience
URBP630	(3)	Supervised Research Project 1
URBP631	(6)	Supervised Research Project 2
URBP632	(6)	Supervised Research Project 3
URBP633	(3)	Planning Methods

Students who have completed the material for courses marked with an * may request permission from the instructor to substitute another course.

Complementary Courses (12 - 18 credits)

at least 12 credits, a minimum of 4 courses, must be selected from the following list. It is highly recommended that students complete at least one course in each of the disciplines: housing, transportation, environment and design.

ARCH378	(3)	Site Usage
ARCH527	(3)	Civic Design
ARCH528	(3)	History of Housing
ARCH529	(3)	Housing Theory
ARCH550	(3)	Urban Planning 1
ARCH551	(3)	Urban Planning 2
CIVE540	(3)	Urban Transportation Planning
GEOG351	(3)	Quantitative Methods
URBP501	(2)	Principles and Practice 1
URBP505	(3)	Geographical Information Systems
URBP605	(3)	Graduate Seminar
URBP607	(3)	Reading Course: Urban Planning
URBP614	(3)	Urban Environmental Planning
URBP616	(3)	Selected Topics 1
URBP617	(3)	Selected Topics 2
URBP618	(3)	Selected Topics 3
URBP619	(3)	Transportation and Land Development
URBP620	(3)	Computer Applications in Planning
URBP621	(3)	Theories of Urban Form
URBP625	(2)	Principles and Practice 2

URBP626 (2) Principles and Practice 3

Electives (0 - 6 credits)

Students may select additional courses that would be helpful in developing an in-depth knowledge of one or more subject areas in the field of planning. These courses must be at the 500 or 600 levels. They may be taken in any academic unit at McGill or at another university. Frequent choices are classes in real-estate analysis, urban geography, sociology, anthropology, law, politics, and environmental science. Students must confirm that the elective course(s) they select will be counted towards the MUP degree prior to registration.

76.5 Courses

Students preparing to register should consult the Web at www.mcgill.ca/minerva (click on Class Schedule) for the most up-to-date list of courses available; courses may have been added, rescheduled or cancelled after this Calendar went to press. Class Schedule lists courses by term and includes days, times, locations, and names of instructors.

The course credit weight is given in parentheses after the title.

Denotes courses not offered in 2004-05.

URBP 501 PRINCIPLES AND PRACTICE 1. (2) 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) 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) (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) (Corequisites: Enrolment in full "Barbados Field Study Semester"; AGRI 413, AGRI 519 or CIVE 519 or URBP 519, AGRI 452 or CIVE 452.) 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) (Corequisites: Enrolment in full "Barbados Field Study Semester"; AGRI 413, AGRI 519 or CIVE 519 or URBP 519, AGRI 452 or CIVE 452, URBP 507) (Restrictions: Not open to students who have taken 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 604 PLANNING PROJECTS 3. (6) (Prerequisites: Planning Projects I and II.) The second-year studio is designed to permit the study of planning problems in depth. Problems are chosen depending on the experience and research interests of the participants, or for their topical nature.

URBP 605 GRADUATE SEMINAR. (3)

URBP 606 SUPERVISED RESEARCH SEMINAR. (3) The supervised research seminar consists of group conferences between students and staff, both to introduce and discuss the topic of professional

ethics, and to permit the formulation and development of the students' research project.

URBP 607 READING COURSE: URBAN PLANNING. (3) The Reading Course offers an opportunity to explore, under the supervision of a staff member, subject areas relevant to urban planning.

URBP 609 PLANNING GRAPHICS. (3) Designed to familiarize the student with graphic techniques used in professional planning work, as well as to heighten environmental perception. Weekly lecture which reviews theory and practice followed by a weekly studio assignment involving the application of practical skills.

URBP 612 HISTORY AND THEORY OF PLANNING. (3) A review of planning history and theories of planning. These are examined under three categories: explanation of urban phenomena, substantive theory, and theories of process.

URBP 614 URBAN ENVIRONMENTAL PLANNING. (3) Examination and evaluation of methodologies pertaining to the assessment of environmental impact in the urban context and the integration of diverse environmental elements directly within the urban planning process. Consideration is given to both theoretical and practical issues. The quality of recent professional reports is assessed.

URBP 616 SELECTED TOPICS 1. (3) Special topics related to Urban Planning will be presented by staff and visiting lecturers.

URBP 617 SELECTED TOPICS 2. (3) Special topics related to Urban Planning will be presented by staff and visiting lecturers.

URBP 618 SELECTED TOPICS 3. (3) Special topics related to Urban Planning will be presented by staff and visiting lecturers.

URBP 619 TRANSPORTATION AND LAND DEVELOPMENT. (3) Urban land development projects: design procedures and standards for internal traffic distribution, auto, truck and pedestrian access, parking requirements, and the development of transportation-related land-use controls. Methods for assessing the impact of land development projects on external traffic. Transportation/land-use relationships at the broader regional scale, with a review of land-use forecasting and allocation models and procedures for the coordination of comprehensive transportation/land-use planning.

URBP 620 COMPUTER APPLICATIONS IN PLANNING. (3)

URBP 621 THEORIES OF URBAN FORM. (3)

URBP 622 PLANNING PROJECT 1. (6) (studio) This studio introduces practical problems based on real world cases. Material covered includes: problem definition; data sources, collection and analysis; goal setting; the creative process; problem solving; and policy implications. Students work in interdisciplinary groups. Each studio terminates with an oral and graphic presentation of work to which expert critics are invited. Progress is evaluated according to performance in class, in the oral presentation, and on written reports.

URBP 623 PLANNING PROJECTS 2. (3) This studio introduces practical problems based on real world cases. Material covered includes: problem definition; data sources, collection and analysis; goal setting; the creative process; problem solving; and policy implications. Students work in interdisciplinary groups. Each studio terminates with an oral and graphic presentation of work to which expert critics are invited. Progress is evaluated according to performance in class, in the oral presentation, and on written reports.

URBP 625 PRINCIPLES AND PRACTICE 2. (2) This six-week intensive course exposes students to issues and techniques which are applicable in diverse professional planning contexts that vary in terms of their subject matter, location, scale and the role played by planners. The course focusses on a specific case study and is taught by a visiting lecturer with experience in the selected subject area. Course topics are systematically varied over a two-year cycle.

URBP 626 PRINCIPLES AND PRACTICE 3. (2)

URBP 628 PRACTICAL EXPERIENCE. (6) An internship related to the practice of urban planning is required. The practical experience must be of at least 3 months duration and be supervised by a professional in the planning field. An evaluation of the student's

performance by the supervisor, as well as a short report by the student, forms the basis for assessment.

URBP 629 CITIES IN A GLOBALIZING WORLD. (3) (3-0-6) (Prerequisite: URBP 622 or permission of instructor.)

URBP 630 SUPERVISED RESEARCH PROJECT 1. (3) The Supervised Research Project is intended to focus a student's interests on a particular area of enquiry at the end of studies for a Master's Degree in Planning. It should ideally provide the transition into practice or more advanced studies. Joint research projects are allowed.

URBP 631 SUPERVISED RESEARCH PROJECT 2. (6) Continuation of the requirements for the Supervised Research Project.

URBP 632 SUPERVISED RESEARCH PROJECT 3. (6) Continuation of the requirements for the Supervised Research Project.

URBP 633 PLANNING METHODS. (3) (Priority given to Urban Planning Students) An introduction to quantitative methods that are commonly used in urban research and planning practice. Topics include municipal information systems, fieldwork techniques, survey design and analysis, analysis of spatial and temporal patterns, and the evaluation of policies and plans.

Courses offered jointly by the School and other academic units

ARCH 550 URBAN PLANNING 1. (3) (2-0-7) (Prerequisite: B.Sc.(Arch.) or permission of instructor) (Not normally open to Urban Planning students) Theory and practice. An examination of different basic approaches to urban planning with special reference to Quebec.

ARCH 551 URBAN PLANNING 2. (3) (2-1-6) (Prerequisite: ARCH 550) Urban design and project development, theory and practice. Detailed analysis of selected examples of the development process and of current techniques in urban design. Includes case studies from Quebec and elsewhere.

CIVE 433 URBAN PLANNING. (3) (3-1-5) (Prerequisites: CIVE 421 and MIME 310. Corequisite: CIVE 319) 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 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.

GEOG 351 QUANTITATIVE METHODS. (3) (Fall) (3 hours) (Prerequisite: MATH 203 or permission of instructor) (Credit for other statistics courses may preclude credit for this course conversely. See "Course Overlap" under "Course Requirements") Multiple regression and correlation, logit models, discrete choice models, gravity models, facility location algorithms, survey design, population projection.

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