
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.
F.D.K. Liddell; M.A.(Cantab.), Ph.D.(Lond.)
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. Abenhaim; M.D.(Paris), M.Sc.(McG.)
R. Battista; B.A., M.D.(Montr.), M.P.H., Sc.D.(Harv.)
J.F. Boivin; M.D.(Laval), S.M., Sc.D.(Harv.)
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.)
T. Hutchinson; M.B., B.Ch., B.A.D.(Dub.)
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.)
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.(London)
J. Carsley; B.A.(Yale), M.Sc., M.D.,C.M.(McG.)
A. Ciampi; M.Sc., Ph.D.(Queen's), Ph.D.(Rome)
J.P. Collet; M.D.(C.B., Lyon), Ph.D.(McG.)
G. Dougherty; M.D., M.Sc.(McG.) (joint appoint. with Pediatrics)
T.W. Gyorkos; B.Sc.(McG.), M.Sc.(Bishop's), Ph.D.(McG.)
C. Hankins; B.A., M.D.(Calgary), M.Sc.(London), C.C.F.P.(C),
F.R.C.P.(C)
L. Joseph; M.Sc., Ph.D.(McG.)
T. Kosatsky; B.A., M.D.(Manit.), M.P.H.(Emory) (PT)
C.P. Larson; M.D.,C.M., M.Sc.(McG.) (joint appoint. with
Pediatrics)
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)
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)
R. Tamblyn; M.Sc.(McM.), Ph.D.(McG.) (*William Dawson Scholar*)
(joint appoint. with Medicine)
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)

P. Brassard; B.Sc.(Montr.), M.Sc.(McG.), M.D.(Montr.), FRCPC,
CSPQ (PT)
N. Dendukuri; M.Sc.(Indian I.T.), Ph.D.(McG.) (PT)
R.W. Platt; M.Sc.(Man.), Ph.D.(Wash.)
Y. Robitaille B.Sc.(Montr.), Ph.D.(McG.) (PT)
G. Tan; D.Phil.(Oxon) (PT)

Associate Members

Dentistry: J. Feine; *Family Medicine*: J. Cox, T. Tannenbaum;
Dietetics and Human Nutrition: K. Gray-Donald; *Medicine*:
A. Barkun, M. Behr, J. Brophy, A. Clarke, P. Dobkin,
M. Eisenberg, P. Ernst, K. Flegel, M. Goldberg, S. Grover,
S. Kahn, E. Latimer, N. Mayo, L. Pilote, E. Rahme,
K. Schwartzman, I. Shrier; *Psychiatry*: E. Fombonne,
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; *Statistics Can-
ada*: J. Berthelot; *U. Liege*: F-A. Allaert; *U. de Montréal*:
Y. Moride; *U. of Toronto*: M. Hodge

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 the M.Sc. degree programs or the Ph.D. program may choose to follow a general program in epidemiology or specialize in biostatistics.

This year (2003-2004), the M.Sc. (non-thesis) program is closed to general registration. Only students who have obtained special permission from the Department may register, or those applying to the 4TA program sponsored by Ulysses.

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 a good knowledge of differential and integral calculus at the level of a first year undergraduate course is required.

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) EPIB 606 and EPIB 607. 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 (EPIB 650: 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). The same courses are available to all students in both programs and there is

no difference in intellectual or academic rigor required. The difference lies in the breadth and depth of knowledge acquired. Students must complete a minimum of 48 credits.

Students in the non-thesis option must take (or be exempted from) EPIB 606, EPIB 607*, EPIB 611, EPIB 640, EPIB 695, EPIB 621* and EPIB 681*. The remaining credits must include a project (EPIB 630) and a Comprehensive Examination (EPIB 601).

Students in the thesis option must take (or be exempted from) EPIB 606, EPIB 607*, EPIB 611, EPIB 640, EPIB 695, EPIB 621* and EPIB 681*. The remaining credits must include a 24 credit thesis (EPIB 690) 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) specializing in biostatistics 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) and may choose other courses in consultation with their supervisors. Students must pass a Comprehensive Examination (EPIB 701), 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 2003-04.

Courses EPIB 606 and EPIB 607 are prerequisites for most other courses.

EPIB 601 M.Sc. NON-THESIS COMPREHENSIVE EXAMINATION. (5)

The examination will be held at the end of the fourth term. It will test students' problem-solving ability and their integration and synthesis of the courses.

- **EPIB 604 GRADUATE SEMINARS.** (3) Planning, organization and delivery of a scientific presentation.

EPIB 604D1 GRADUATE SEMINARS. (1.5) (Students must also register for 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 604D2 GRADUATE SEMINARS. (1.5) (Prerequisite: EPIB 604D1) (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) See EPIB 604D1 for course description.

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) 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 HEALTH SCIENCES 1. (3) (Prerequisites: EPIB 606, EPIB 607) Multivariable and multivariate statistical techniques for continuous outcomes. Topics include multiple regression and analysis of variance.

- **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.

May be offered as: EPIB 630D1 and EPIB 630D2.

- **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 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) This course provides in-depth review of principles of infec-

tious disease epidemiology and illustrates these using local and global infections of current importance. Students will gain an understanding of principles of infectious disease epidemiology and how they apply to infections in both temperate and tropical areas.

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) This course will present methodologies for the evaluation of health services, and illustrate these approaches with a variety of clinical and community services. Topics will include: levels of evaluation, evaluation design, identification and measurement of key variables, and practical aspects of evaluation.

EPIB 650 DIPLOMA DISSERTATION. (9) A scholarly paper tailored to the student's interests and approved by the student's supervisor.

May be offered as: EPIB 650D1 and EPIB 650D2.

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 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 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 PHARMACOEPIDEMIOLGY 4. (2) (Offered only in Summer Term) (Prerequisites: EPIB 606, EPIB 607 or permission of instructor) The utility of epidemiological techniques for the assessment of drug benefits after their marketing is presented. The course is composed of four parts: (i) methodology of Phase IV studies (efficacy and effectiveness studies); (ii) measurement of quality of life; (iii) evaluation of the economic impact of drugs; (iv) assessment of the effects of drugs and vaccines on the public health system.

● **EPIB 655 EPIDEMIOLOGY IN PUBLIC HEALTH.** (3) (Prerequisites: EPIB 606, EPIB 607)

EPIB 656 HEALTH CARE TECHNOLOGY ASSESSMENT. (3) The objectives, principles, and methods of health care technology assessment will be examined and related to the policy process accompanying the diffusion of health care technology.

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 PHARMACOEPIDEMIOLGY 3. (2) (Offered only in Summer Term) (Prerequisites: EPIB 631, EPIB 633 or permission of instructor) In this course, students are confronted with real examples of pharmaco-epidemiologic problems. Flagship studies in pharmacoepidemiology are reviewed in terms of protocol, design issues, data collection, statistical analysis and interpretation of results.

EPIB 662 HEALTH IN DEVELOPING COUNTRIES. (3) (Offered only in Summer Term) (Prerequisites: EPIB 606 or equivalent.) This course will provide an introduction to health issues in developing countries, including major health problems, health determinants and strategies to improve health status. Due emphasis will be given to the primary health care strategy and to the impact of other sectors of development on health. Examples of the work of communities, ministries, non-government organizations and international agencies will be presented and discussed with particular references to issues of burden of disease, effectiveness and efficiency, feasibility, priority setting, sustainability and management.

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 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) Introduction to a statistical computing language, such as S-PLUS; random number generation and simulations; EM algorithm; bootstrap, cross-validation and other re-sampling schemes; Gibbs sampler. Other topics: numerical methods; importance sampling; permutation tests.

EPIB 681 DATA ANALYSIS HEALTH SCIENCES 2. (3) (Prerequisites: EPIB 606, EPIB 607, EPIB 621, EPIB 695) Univariate and multivariate statistical techniques for categorical and survival data. Topics include logistic regression, generalized linear models, and survival analysis.

EPIB 690 M.Sc. THESIS. (24)

May be offered as: EPIB 690D1 and EPIB 690D2.

EPIB 693 STATISTICAL INFERENCE 1. (2) (Offered only in Summer Term) (Prerequisite: A first year course in undergraduate differen-

tial 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) 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 — T.B.A.

Chair of Graduate Program — I. Alli

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

General

CGPA 3.0/4.0 (second class-upper division).

TOEFL with a minimum score of 550 on the paper-based test or 213 on the computer-based test (non-Canadian applicants whose mother tongue is not English).

Master's

Candidates should have 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 through academic units in the Faculty of Agricultural and Environmental Sciences must forward supporting documents to:

Student Affairs Office (Graduate Studies)
Macdonald Campus of McGill University
21,111 Lakeshore
Sainte-Anne-de-Bellevue, QC H9X 3V9
Canada

Telephone: (514) 398-7925

Fax: (514) 398-7968

E-mail: grad@macdonald.mcgill.ca

Applications will be considered upon receipt of a completed application form, \$60 application fee, all official transcripts, two signed original letters of reference on official letterhead of originating institution, and (if required) proof of competency in oral and written English by appropriate exams. DOCUMENTS SUBMITTED WILL NOT BE RETURNED.

Deadlines – Applications, including all supporting documents must reach the Student Affairs 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.

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.

Transcripts – Two official copies of all 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) 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, are required. 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.

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)

FDSC 690 (8) M.Sc. Literature Review
FDSC 691 (7) M.Sc. Research Proposal
FDSC 692 (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>			
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>			
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>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 2003-04.

● **FDSC 500 FOOD ENZYMOLOGY.** (3) (Winter) (3 lectures) (Pre-/Co-requisite: FDSC 305) (Course offered in odd years. Check with Graduate Advisor.)

★ **FDSC 510 FOOD HYDROCOLLOID CHEMISTRY.** (3) (Winter) (3 lectures) (Prerequisite: FDSC 319. Corequisite: FDSC 305) (Course offered in even years (check with Graduate Advisor)) The concepts of colloid chemistry as it applies to food systems. Components such as proteins, gums, carbohydrates, and emulsions are studied in terms of their chemical and physical properties (i.e., rheology, optical characteristics, etc.) and how they can be used to advantage in food systems.

● **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.)

★ **FDSC 519 ADVANCED FOOD PROCESSING.** (3) (Winter) (3 lectures) (Prerequisite: FDSC 330) (Course offered in even years (check with Graduate Advisor)) Advanced technologies associ-

ated with food processing studied in more detail. Topics include food irradiation, reverse osmosis, super critical fluid extraction and extrusion.

● **FDSC 520 BIOPHYSICAL CHEMISTRY OF FOOD.** (3) (Fall) (3 lectures) (Prerequisite: FDSC 233) (Course offered in even years. Check with Graduate Advisor.)

★ **FDSC 530 ADVANCED ANALYTICAL CHEMISTRY.** (3) (Fall) (3 lectures) (Prerequisite: FDSC 213) (Course offered in odd years (check with Graduate Advisor)) Selected instrumental methodologies including advances in automated chromatography, wide band NMR, chemical sensors, and the application of other spectroscopic techniques to the analysis of food constituents.

FDSC 535 FOOD BIOTECHNOLOGY. (3) (Fall) (3 lectures) (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) (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) (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 feed-stuffs, 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).

May be offered as: FDSC 695D1 and FDSC 695D2, or FDSC 695N1 and FDSC 695N2.

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).

May be offered as: FDSC 696D1 and FDSC 696D2, or FDSC 696N1 and FDSC 696N2.

FDSC 700 COMPREHENSIVE PRELIMINARY EXAMINATION. (0) (See Faculty Regulations)

May be offered as: FDSC 700D1 and FDSC 700D2, or FDSC 700N1 and FDSC 700N2.

FDSC 797 GRADUATE SEMINAR. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

May be offered as: FDSC 797D1 and FDSC 797D2, or FDSC 797N1 and FDSC 797N2.

FDSC 798 GRADUATE SEMINAR. (3) Presentation on a selected topic, research proposal or research results based on progress in degree work (Ph.D.).

May be offered as: **FDSC 798D1 and FDSC 798D2, or FDSC 798N1 and FDSC 798N2.**

31 French Language and Literature

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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. 3^e Cy.(Paris - Sorbonne)

J.-P. Duquette; L. ès L.(Montr.), Dr. 3^e Cy.(Paris X - Nanterre)

Y. Lamonde; M.A.(Montr.), M.A., Ph.D.(Laval)

F. Ricard; M.A.(McG.), Dr. 3^e Cy.(Aix-Marseille), M.S.R.C. (*James McGill Professor*)

Y. Rivard; M.A.(McG.), Dr. 3^e 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 ou québécoise ("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 ou québécoise 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 du M.A. en littérature française ou québécoise de l'Université McGill, 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 FREN 695 et le FREN 697) et préparer leur sujet de mémoire (FREN 696: 6 crédits).

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 FREN 695, FREN 697 et FREN 600 sont obligatoires.

Les étudiants inscrits à mi-temps doivent s'inscrire à un minimum de deux séminaires par session.

Les séminaires FREN 609 et FREN 611 – 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 (FREN 699).

La composante recherche du programme de maîtrise sans mémoire est aussi de 24 crédits (FREN 600: 3 crédits, FREN 698: 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 (FREN 706) et Examen préliminaire (FREN 707).

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.

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 2003-2004. Le nombre de crédits est indiqué entre parenthèses, après le titre du cours.

FREN 600 TRAVAUX DIRIGÉS 1. (3)

FREN 601 TRAVAUX DIRIGÉS 2. (3)

FREN 609 CRÉATION LITTÉRAIRE 1. (3)

FREN 611 CRÉATION LITTÉRAIRE 2. (3)

FREN 616 LITTÉRATURE ET LINGUISTIQUE. (3)

FREN 624 QUESTIONS DE GENRE 1. (3)

FREN 628 PROBLÈMES DE THÉORIE LITTÉRAIRE. (3)

FREN 629 HISTOIRE DES IDÉES. (3)

FREN 637 LITTÉRATURE ET AUTRES ARTS 1. (3)

FREN 638 LITTÉRATURE ET AUTRES ARTS 2. (3)

FREN 695 INITIATION À LA RECHERCHE LITTÉRAIRE. (3)

FREN 696 ÉLABORATION PROJET DE MÉMOIRE. (6)

S'offre aussi sous les numéros:

FREN 696D1 et FREN 696D2, ou FREN 696N1 et FREN 696N2.

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)

S'offre aussi sous les numéros:

FREN 698D1 et FREN 698D2, ou FREN 698N1 et FREN 698N2.

FREN 699 M.A. THESIS. (24)

S'offre aussi sous les numéros:

FREN 699D1 et FREN 699D2, ou FREN 699N1 et FREN 699N2.

FREN 706 ÉLABORATION DU SUJET DE THÈSE. (9)

S'offre aussi sous les numéros:

FREN 706D1 et FREN 706D2, ou FREN 706N1 et FREN 706N2.

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.

S'offre aussi sous les numéros:

FREN 707D1 et FREN 707D2, ou FREN 707N1 et FREN 707N2.

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 713 SÉMINAIRE DE RECHERCHE 4. (3)
FREN 723 16E SIÈCLE 1. (3)
FREN 728 17E SIÈCLE 3. (3)
FREN 731 18E SIÈCLE 3. (3)
FREN 737 20E SIÈCLE 1. (3)
FREN 762 THÈME DE LITTÉRATURE QUÉBÉCOISE 2. (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;

- pass courses GEOG 631D1/GEOG 631D2 and GEOG 698 (12 credits), which deal with the preparation of the thesis proposal;
- attend such additional courses as the Chair and the student's thesis supervisor think fit; and,
- submit a thesis GEOG 699 (24 credits) in an appropriate area of geographical inquiry.

M.A. – Neotropical Environment (48 credits)

Candidates must:

- pass the required courses: ENVR 610 and BIOL 640 (6 credits total).
- pass one 3-credit course chosen from POLI 644; SOCI 565, ENVR 611, ENVR 612, ENVR 680, BIOL 553, BIOL 641, GEOG 498, AGRI 550.
- pass one 3-credit Geography graduate course.
- Participation in the MSE-Panama Symposium presentation in Montreal is required.
- pass courses GEOG 631D1/GEOG 631D2 and GEOG 698 (12 credits), which deal with the preparation of the thesis proposal;
- submit a thesis GEOG 699 (24 credits) on a topic approved by the advisor.

M.A. – Social Statistics Option (48 credits)

Candidates must:

- 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;
- pass GEOG 634 (or suitable substitute) (3 credits);
- pass GEOG 688 or ECON 688 or POLI 688 or SOCI 688 (3 credits);
- pass courses GEOG 631D1/GEOG 631D2 and GEOG 698 (12 credits), which deal with the preparation of the thesis proposal;
- attend such additional courses as the Chair and the student's thesis supervisor think fit; and,
- submit a thesis GEOG 699 (24 credits) on a topic approved by the Social Statistics Option advisor.

M.Sc. – Neotropical Environment (48 credits)

Candidates must:

- pass the required courses: ENVR 610 and BIOL 640 (6 credits total).
- pass one 3-credit course chosen from POLI 644; SOCI 565, ENVR 611, ENVR 612, ENVR 680, BIOL 553, BIOL 641, GEOG 498, AGRI 550.
- pass one 3-credit Geography graduate course.
- Participation in the MSE-Panama Symposium presentation in Montreal is required.
- pass courses GEOG 631D1/GEOG 631D2 and GEOG 698 (12 credits), which deal with the preparation of the thesis proposal;
- submit a thesis GEOG 699 (24 credits) on a topic approved by the advisor.

Ph.D. Degree

Candidates must:

- attend a minimum of two graduate courses (6 credits) and such additional courses as the Chair and the student's supervisory committee think fit;
- pass course GEOG 631D1/GEOG 631D2 which deals with the preparation of the thesis proposal;
- pass a comprehensive examination (GEOG 700, GEOG 701, GEOG 702) the form of which is detailed in a document available from the Department; and,

- submit a thesis based on original research in an appropriate area of geographical inquiry.

Ph.D. – Neotropical Environment

Candidates must:

- pass the required courses: ENVR 610 and BIOL 640 and such additional courses as the Chair and the student's supervisory committee think fit.
- pass one 3-credit course chosen from POLI 644; SOCI 565, ENVR 611, ENVR 612, ENVR 680, BIOL 553, BIOL 641, GEOG 498, AGRI 550.
- Participation in the MSE-Panama Symposium presentation in Montreal is required.
- pass course GEOG 631D1/GEOG 631D2 which deals with the preparation of the thesis proposal;
- pass a comprehensive examination (GEOG 700, GEOG 701, GEOG 702) the form of which is detailed in a document available from the Department; and,
- 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 2003-04.

GEOG 500 GEOGRAPHY OF REGIONAL IDENTITY. (3) (Fall) (3 hours) (Restriction: Graduate students and final year undergraduates and/or those who have taken GEOG 408) The response of diverse regional groups in Europe to the centripetal tendencies of national institutions. The course draws upon examples from a variety of European regions. Contemporary regional issues will be contextualised within a spatial framework of historical geography.

GEOG 501 MODELLING ENVIRONMENTAL SYSTEMS. (3) (Fall) (1.15 hours lecture, 0.58 hours seminar, 0.69 hours project, 0.58 hours laboratory) (Restriction: open only to U2 or U3 students who have completed six or more credits from courses at the 300 level of Atmospheric and Oceanic Sciences, Biology, Chemistry, Earth and Planetary Sciences, Geography, Natural Resource Sciences, or a McGill School of Environment domain, or permission of the instructor) (Prerequisites: MATH 139 or MATH 140, MATH 141, and MATH 203, or equivalent) (Enrolment limited to 20 students by availability of workstations) Most problems in environmental science deal with weak relationships and poorly defined systems. Model development and simulation will be used in this course to help improve understanding of environmental systems. Simulation of environmental systems is examined, focusing on problem definition, model development and model validation.

GEOG 502 GEOGRAPHY OF NORTHERN DEVELOPMENT. (3) (Fall) (3 hours) 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) The objective of this seminar course is to develop an understanding of the geographical consequences of a variety of new forms of economic and social organization that are emerging in the North American and Western European settings. Key themes: technological and managerial change, changing labour processes, industrial re-location.

GEOG 505 GLOBAL BIOGEOCHEMISTRY. (3) (Winter) (2 hours and research) (Prerequisite: GEOG 305 or GEOG 322 and permission of instructor) An examination of the storage, transfers and cycling of major elements and substances, with an emphasis on the global scale and the linkages between the atmosphere, hydrosphere, lithosphere and biosphere.

GEOG 506 PERSPECTIVES ON GEOGRAPHIC INFORMATION ANALYSIS. (3) (Winter) (2 hours and laboratory) 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) Addresses how different groups of people struggle over natural resources and environmental change. Politics of conservation in resource-dependent local communities, struggles over resource access and character, questions of power, resistance, class, and gender, and to "nature" as a socially-constructed yet active player.

GEOG 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)

● **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)

● **GEOG 550 QUATERNARY PALEOECOLOGY.** (3) (2 hours, laboratory and seminar) (Prerequisite: course in ecology or biogeography, or permission of instructor)

GEOG 551 ENVIRONMENTAL DECISIONS. (3) (Fall) (2 hours seminar, 1 hour tutorial) (Prerequisites: GEOG 302, GEOG 306 or equivalents) This course deals with the role of geographic information, paradigms and modes of analysis - including but not restricted to GIS - in environmental impact assessment and decision making. The focus will be on community-based decision making, particularly where conservation issues are involved. Cross-cultural situations, developing areas and the role of non-government organizations.

GEOG 602 URBAN GEOGRAPHY: SELECTED TOPICS. (3) Social and historical aspects of the urban environment.

GEOG 608 CULTURAL GEOGRAPHY PART 1. (3) Cultural ecology with particular reference to changing peasant/plantation relations; space needs of native peoples in relation to land claims.

GEOG 609 HUMAN GEOGRAPHY - SOC,BEHAVIOURAL PROBS. (3) Analysis of social and theoretical problems in human geography.

GEOG 610 SOCIAL GEOGRAPHY: SELECTED TOPICS. (3) Approaches to the study of human-constructed landscapes, including issues of ethnicity, social networks and social metaphors/ tropes.

GEOG 613 ADVANCED BIOGEOGRAPHY. (3)

GEOG 625 SPECIAL TOPICS IN HUMAN GEOGRAPHY. (3) An examination of recent advances in human geography.

GEOG 626 SPECIAL TOPICS IN PHYSICAL GEOGRAPHY. (3) An examination of recent advances in physical geography.

GEOG 631D1 METHODS OF GEOGRAPHICAL RESEARCH. (3) (Students must also register for GEOG 631D2) (No credit will be given for this course unless both GEOG 631D1 and GEOG 631D2 are successfully completed in consecutive terms) General research seminar in human and physical geography.

GEOG 631D2 METHODS OF GEOGRAPHICAL RESEARCH. (3) (Prerequisite: GEOG 631D1) (No credit will be given for this course unless both GEOG 631D1 and GEOG 631D2 are successfully completed in consecutive terms).

May be offered as: GEOG 631N1 and GEOG 631N2.

GEOG 634 QUANTITATIVE METHODS IN GEOGRAPHY. (3)

GEOG 698 THESIS PROPOSAL. (6) Preparation and evaluation of thesis proposal.

May be offered as: GEOG 698D1 and GEOG 698D2, or GEOG 698N1 and GEOG 698N2.

GEOG 699 THESIS RESEARCH. (24) Independent research under the supervision of a research director.

May be offered as: GEOG 699D1 and GEOG 699D2, or GEOG 699N1 and GEOG 699N2.

GEOG 700 COMPREHENSIVE EXAMINATION 1. (0)

May be offered as: GEOG 700D1 and GEOG 700D2.

GEOG 701 COMPREHENSIVE EXAMINATION 2. (0)

May be offered as: GEOG 701D1 and GEOG 701D2.

GEOG 702 COMPREHENSIVE EXAMINATION 3. (0)

May be offered as: GEOG 702D1 and GEOG 702D2.

33 German Studies

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Chair — K. Bauer

Director of Graduate Studies — J. Schmidt

33.1 Staff

Emeritus Professor
P.M. Daly; B.A.(Brit.), 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 GERM 200 or GERM 202.

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.
3. Two letters of reference.
4. \$60 application fee.
5. Test results (GRE, TOEFL).
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)

GERM 690 (9) Thesis Research 1
 GERM 691 (9) Thesis Research 2
 GERM 692 (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)

GERM 680 (6) Research Paper 1
 GERM 681 (6) Research Paper 2
 GERM 682 (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.

Courses currently scheduled for 2003-04:

GERM 511 MIDDLE HIGH GERMAN LITERATURE. (3) (Fall) (Given in German) (Prerequisite: Germ 325 or equivalent) This seminar course will acquaint students with the German courtly literature of the 12th and 13th century, its concepts, concerns and its sociology. The knightly romances of Hartmann von Aue (Erec), Wolfram von Eschenbach (Parzival), Gottfried von Straßburg (Tristan), and the heroic epic (Nibelungenlied) will be read and discussed in class, Hartmann's Erec in the original MHG language as well as in translation, to give students a basic acquaintance with the Middle High German literary language. Writers studied will include: Hartmann von Aue, Gottfried von Straßburg, Wolfram von Eschenbach.

GERM 619 TOPICS IN LITERARY THEORY. (3)

GERM 637 GERMAN ROMANTICISM 3. (3)

GERM 645 GERMAN LITERATURE - 20TH CENTURY 1. (3)

GERM 657 LITERARY THEORY AND CRITICISM 3. (3)

Other courses:

GERM 561 German Literature: Baroque. (3)
 GERM 605 Medieval German Literature 1. (3)
 GERM 623 German Literature: Enlightenment 4. (3)
 GERM 630 German Classicism 1. (3)
 GERM 631 German Classicism 2. (3)
 GERM 636 German Romanticism 2. (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 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 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 Ph.D. Comprehensive Examination. (0)
GERM 701D2 Ph.D. Comprehensive Examination. (0)
GERM 790 Ph.D. Language Requirement. (6)

34 Hispanic Studies

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Chair — J. Pérez-Magallón

Chair of Graduate Program — J. Pérez-Magallón

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)

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, HISP 550, 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;
- two letters of recommendation;
- \$60 application fee;
- TOEFL scores where applicable;
- 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 (HISP 695, HISP 696) (6 credits)

Thesis – HISP 697 (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 (HISP 603, HISP 604) (6 credits)
- Two Guided Research Projects – 18 credits

All candidates pursuing the M.A. without thesis must complete HISP 615. Candidates choosing to focus their research on the literature of Spain will take HISP 616. Those wishing to specialize in the literature of Spanish America will take HISP 617.

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. It is expected that most students will require 3 terms to complete their degrees. 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 Reserach 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.

Courses to be offered in 2003-04:

HISP 603 HISPANIC BIBLIOGRAPHY 1. (3)

HISP 604 HISPANIC BIBLIOGRAPHY 2. (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 663 SPANISH LITERATURE SINCE CIVIL WAR. (3)

HISP 667 SPANISH-AMERICAN LITERATURE: COLONIAL PERIOD. (3)

HISP 683 SPANISH-AMERICAN PROSE. (3)

HISP 688 SPANISH-AMERICAN PROSE. (3)

HISP 690 SPECIAL TOPICS. (3)

HISP 693 SPECIAL TOPICS. (3)

HISP 695 THESIS PREPARATION 1. (3)

May be offered as:

HISP 695D1 and HISP 695D2, or HISP 695N1 and HISP 695N2.

HISP 696 THESIS PREPARATION 2. (3)

HISP 697 M.A. THESIS. (24)

May be offered as: HISP 697D1 and HISP 697D2.

HISP 698 READING COURSE. (3)

HISP 701 COMPREHENSIVE EXAMINATIONS. (0) (Ph.D. students in the Department of Hispanic Studies only) Ph.D. Comprehensive examinations, both oral and written.

HISP 790 PH.D. LANGUAGE REQUIREMENT. (6) (For students in other departments.)

May be offered as: HISP 790D1 and HISP 790D2.

Other courses:

HISP 501 History of the Spanish Language. (3)

HISP 605 Problems of Literary Theory and Criticism. (3)

HISP 606 Problems of Literary Theory and Criticism. (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 666 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 684 Spanish-American Prose. (3)

HISP 687 Spanish-American Prose. (3)

HISP 689 Spanish-American Prose. (3)

HISP 692 Special Topics. (3)

HISP 694 Special Topics. (3)

35 History

Department of History
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Web site: www.arts.mcgill.ca/programs/history

Chair — Brian Lewis

Chair of Graduate Programs — Leonard Moore

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.)
Myron J. Echenberg; M.A.(McG.), Ph.D.(Wis.)
John W. Hellman; B.A.(Marq.), M.A., Ph.D.(Harv.) (*on leave Winter 2004*)
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*)
Philip D. Longworth; M.A.(Oxon)
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.)
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*) (*on leave 2003-04*)
Brian J. Young; B.A.(Tor.), M.A., Ph.D.(Queen's) (*James McGill Professor*)
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.)
Catherine Desbarats; B.A.(Queen's), D.Phil.(Oxon), Ph.D.(McG.)
Elizabeth Elbourne; B.A., M.A.(Tor.), D.Phil.(Oxon)
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.)
Michael J. Silverthorne; B.Litt., M.A., D.Phil.(Oxon)
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.)
Elizabeth Digeser; B.A.(NY), M.A.(Johns H.), M.A., Ph.D.(Calif.)
Elsbeth Heaman; B.A., M.A.(McG.), Ph.D.(Tor.)
Lorenz Lüthi; Lic.Phil.(Zürich), M.A., M.Phil., Ph.D.(Yale)
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, Labour, Cultural, Religious and Economic history.
3. United States Colonial, Revolutionary, Modern Political and Social history.
4. Latin American history.
5. European History: French, German, Italian, East-Central European and Balkan, Russian, Medieval, Renaissance, Military, Intellectual, European Jewish history.
6. Japanese history.
7. Chinese history.
8. African history.
9. Ancient history.
10. Medical 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 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.

M.A. Degree in History of Medicine

(48 credits normally completed in two years)

The program requires the completion of 48 credits, composed of three full-year graduate seminars, plus a major research paper. Consult the Department of Social Studies of Medicine section for program details.

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:

HIST 702 Comprehensive Examination in Major Field.

HIST 703 Comprehensive Examination in First Minor Field.

HIST 704 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.

The course credit weight is given in parentheses after the title.

Courses currently scheduled for 2003-04:

HIST 550 ROMAN HISTORY: SEMINAR. (3) (Fall) (Restricted to Honours students or advanced undergraduates who have permission of the instructor. Also open to graduate students.) (Topic for 2003-04: Social Transformation in the Late Roman Empire.) Various topics in Roman history.

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.) In this research seminar students who have taken the Roman History Seminar (HIST 550), will undertake supervised design, research, discussion and writing of a research paper on a theme in Roman history.

HIST 582 EUROPEAN INTELLECTUAL HISTORY. (3) A study of selected topics in 20th century French and European intellectual

and cultural history and popular culture. Topic for 2003-04: Auto-biographical and Collective memory, Europe and North America.

HIST 612D1 GERMAN NATIONAL SOCIALISM. (3) (Topic for 2003-04: The German Resistance to Hitler.)

HIST 612D2 GERMAN NATIONAL SOCIALISM. (3)

HIST 613D1 TOPICS: CANADIAN SOCIAL HISTORY. (3) A seminar covering topics in Canadian Social History which vary from year to year.

HIST 613D2 TOPICS: CANADIAN SOCIAL HISTORY. (3)

HIST 615D1 TOPICS IN ITALIAN HISTORY. (3) (Topic for 2003-04: Italy during the 16th Century.)

HIST 615D2 TOPICS IN ITALIAN HISTORY. (3)

HIST 640 MODERN MEDICINE SEMINAR 1. (3) (Topic for 2003-04: The Evolution of Medical Judgment.) 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 655D1 TUTORIAL. (3) 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 655D2 TUTORIAL. (3)

HIST 668D1 JAPANESE INTELLECTUAL HISTORY. (3) (Topic for 2003-04: Cultural Contacts between Japan and the Western World.)

HIST 668D2 JAPANESE INTELLECTUAL HISTORY. (3)

HIST 673D1 PROBLEMS IN U.S. HISTORY. (3) (Topic for 2003-04: Reagan.)

HIST 673D2 PROBLEMS IN U.S. HISTORY. (3)

HIST 677D1 SEMINAR: EUROPEAN JEWISH HISTORY. (3) (Topic for 2003-04: Messianism and Messianic Movements.)

HIST 677D2 SEMINAR: EUROPEAN JEWISH HISTORY. (3)

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 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 697 THESIS RESEARCH 2. (12)

HIST 698 THESIS RESEARCH 3. (12)

HIST 699 TUTORIAL. (3)

HIST 702 COMPREHENSIVE EXAMINATION - MAJOR FIELD. (0)

May be offered as: HIST 702D1 and HIST 702D2.

HIST 703 COMPREHENSIVE EXAMINATION - FIRST MINOR FIELD. (0)

May be offered as: HIST 703D1 and HIST 703D2.

HIST 704 COMPREHENSIVE EXAMINATION - SECOND MINOR FIELD. (0)

May be offered as: HIST 704D1 and HIST 704D2.

OTHER COURSES:

HIST 579 The Arts of Healing in China. (3)

HIST 580D1 European and Native-American Encounters. (3)

HIST 580D2 European and Native-American Encounters. (3)

HIST 581 The Art of War in China. (3)

HIST 585 Theory for Historical Studies. (3)

HIST 590 Topics: The British Empire. (3)
 HIST 594D1 Topics: Tudor and Stuart England. (3)
 HIST 594D2 Topics: Tudor and Stuart England. (3)
 HIST 595D1 Seminar: Early Modern Western Europe. (3)
 HIST 595D2 Seminar: Early Modern Western Europe. (3)
 HIST 604D1 Colonial America. (3)
 HIST 604D2 Colonial America. (3)
 HIST 610D1 Seminar: Topics - Medieval History. (3)
 HIST 610D2 Seminar: Topics - Medieval History. (3)
 HIST 611D1 Seminar: Traditional Chinese History. (3)
 HIST 611D2 Seminar: Traditional Chinese History. (3)
 HIST 614D1 Topics: Latin American History. (3)
 HIST 614D2 Topics: Latin American History. (3)
 HIST 618 Readings in East Asian History. (3)
 HIST 619 Ancient Medicine Seminar 1. (3)
 HIST 620 Ancient Medicine Seminar 2. (3)
 HIST 627D1 Seminar: Eastern Europe. (3)
 HIST 627D2 Seminar: Eastern Europe. (3)
 HIST 628D1 Topics in Russian History. (3)
 HIST 628D2 Topics in Russian History. (3)
 HIST 631D1 Topics: U.S. Social History. (3)
 HIST 631D2 Topics: U.S. Social History. (3)
 HIST 634D1 Modern British History since 1867. (3)
 HIST 634D2 Modern British History since 1867. (3)
 HIST 636 Medieval Medicine Seminar 1. (3)
 HIST 637 Medieval Medicine Seminar 2. (3)
 HIST 643D1 Canadian History to 1867. (3)
 HIST 643D2 Canadian History to 1867. (3)
 HIST 656D1 Tutorial. (3)
 HIST 656D2 Tutorial. (3)
 HIST 671D1 Seminar: American Society - Civil War - 1920. (3)
 HIST 671D2 Seminar: American Society - Civil War - 1920 (3)
 HIST 683D1 History of Montreal. (3)
 HIST 683D2 History of Montreal. (3)

36 Human Genetics

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 E-mail: laura.benner@mcgill.ca
 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. Shoubridge; 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 Sciences (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).

Applications and documentation must be received by February 15. 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)

BIOL 370	(3)	Human Genetics Applied
EPIB 606	(3)	Introduction to Epidemiology
HGEN 600	(6)	Genetic Counselling Practicum
HGEN 610	(3)	Genetic Counselling: Independent Studies.
HGEN 620	(12)	Introductory Field Work Rotations

Required Courses – Phase II (year 2) (18 credits)

HGEN 630D1	(6)	Advanced Field Work Rotations
HGEN 630D2	(6)	Advanced Field Work Rotations
HGEN 640	(3)	Clinical Genetic
HGEN 641	(3)	Clinical Genetics 2

Complementary Course (3 credits)

chosen from:

PSYC 337	(3)	Introduction: Abnormal Psychology 1
HGEN 611	(3)	Genetic Counselling: Independent Studies Project
HGEN 650	(3)	Genetic Counselling: Reading Project
HGEN 660	(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 HGEN 662, HGEN 680, HGEN 681, HGEN 682 (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 (HGEN 701) 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 2003-04.

M.Sc. in Genetic Counselling Courses

HGEN 600D1 GENETIC COUNSELLING PRACTICUM. (3) 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 600D2 GENETIC COUNSELLING PRACTICUM. (3)

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. **May be offered as: HGEN 610D1 and HGEN 610D2.**

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 620D1 INTRODUCTORY FIELD WORK ROTATIONS. (6) 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 620D2 INTRODUCTORY FIELD WORK ROTATIONS. (6)

HGEN 630D1 ADVANCED FIELD WORK ROTATIONS. (6) 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 630D2 ADVANCED FIELD WORK ROTATIONS. (6)

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 (cytoge-

netics, biochemical genetics, molecular genetics, population genetics, etc.) related to clinical cases.

- **HGEN 640D1 CLINICAL GENETICS.** (1.5)

- **HGEN 640D2 CLINICAL GENETICS.** (1.5)

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.

M.Sc. and Ph.D. in Human Genetics Courses

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 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

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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 — Anthony Paré

Co-Directors of Graduate Programs:

Curriculum and Second Language Education programs —

Dr. Roy Lyster

Culture and Values in Education and Leadership programs —

Dr. Steven Jordan

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.

Professors

David Dillon; B.A.(St. Columban's), M.S.(S.W. Texas St. Univ.),
 Ph.D.(U. of Texas, Austin)

Ratna Ghosh; C.M., B.A.(Calcutta), M.A., Ph.D.(Calg.) F.R.S.C.,
 (*William C. Macdonald Professor of Education*)

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.(McG.), Cert.
 Reading(McG.) Ph.D.(Ariz.)

Claudia A. Mitchell; B.A.(Brandon), M.A.(Mt. St. Vincent),
 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 Amoriggi; B.Sc., M.A.(Rhode Island), 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*)

Winston G. Emery; B.Ed., M.A.(McG.), Ph.D.(Montr.)

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.)

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.(West Indies)

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 Hoechsmann; B.A., M.A.(S.Fraser), Ph.D.(Tor.)

Kevin Kee; B.A., M.A., Ph.D.(Queen's)

Kevin McDonough; B.A., B.Ed., M.Ed.(Alta.), Ph.D.(Ill.)

Joan Russell; B.Mus., L.Mus., M.Ed., Ph.D.(McG.)

Ruth Sandwell; B.A.(Carl.), M.A.(U.Vic.), Ph.D.(Simon Fraser)

Mela Sarkar; B.A., Dip.Ed.(McG.), M.A., Ph.D.(C'dia)

Shaheen Shariff; B.G.S., M.A.Educ., Ph.D.(S.Fraser)

Sylvia Sklar; Dip.Ed.(McG.), B.A.(C'dia), M.Ed.(McG.)

Faculty Lecturers

Linda Cooper; B.A.(C'dia), M.A.(McM.)

Carolyn Pittenger; B.A., M.A.(SUNY Albany), M.Ed.(McG.)

Adjunct Professors

Abigail Anderson; B.A.(Sir G.Wms.), Dip.Ed., M.A.(McG.)

Noel C. Burke; B.Ed., M.Ed.(McG.)

Gretta Chambers; B.A.(McG.)

Scott Conrod; B.Sc.(Sir G.Wms.), M.Ed.(McG.)

Jaswant K. Guzder; B.Sc., M.D.C.M., Dip. Psychiatry(McG.)

Charley Levy; B.A.(Sir G.Wms.), M.A.(Middlebury)

Marianna McVey; B.A.(Carl.), M.A., Ed.D.(Syracuse)

Kenneth Robertson; B.Ed., M.A.(McG.), D.Ed.(Alta.)

Vikki Zack; B.A., Dip.Ed.(McG.), M.A.(Montr.), Ph.D.(McG.)

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. A minimum of 36 credits including a combination of relevant courses in anthropology, applied linguistics, linguistics, education, literature, psychology, sociology, TESL or TFSL methodology.

Master of Arts in Educational Studies. Normally, at least two years of relevant educational experience (teaching or related professional experience).

Graduate Certificate in Educational Leadership. 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) 398-4531, 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.

Applications 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 letter-head 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. and M.A. applicants

March 1st – 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 (Thesis Option) (45 credits)

Required Courses (6 credits)

EDEM 609 (3) Issues in Educational Studies

EDER 615 (3) Culture, Values and Education

Complementary Courses (12 credits)

9 credits to be selected from the following courses:

EDEM 620 (3) Meanings of Literacy

EDER 600 (3) Globalization, Education & Change

EDER 606 (3) Philosophy of Moral Education

EDER 607 (3) Values Education: Contemporary Approaches

EDER 614 (3) Sociology of Education

EDER 617 (3) Aesthetics and Education

EDER 625 (3) Topics: Culture in Education

EDER 626 (3) Topics: Value in Education

EDER 649 (3) Education: Multicultural Societies

3 credits to be selected from the following courses:

EDEC 706 (3) Textual Approaches to Research

EDEM 690 (3) Research Methods

EDEM 692 (3) Qualitative Research Methods

EDSL 630 (3) Qualitative/Ethnographic Studies

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)

EDER 690 (6) Thesis Preparation 1

EDER 691 (6) Thesis Preparation 2

EDER 692 (12) Thesis Preparation 3

MASTER OF ARTS IN CULTURE AND VALUES IN EDUCATION (Non-thesis Option) (45 credits)

Required Courses (18 credits)

EDEM 609 (3) Issues in Educational Studies

EDER 615 (3) Culture, Values and Education

EDER 633 (12) Special Project

Complementary Courses (12 credits)

9 credits to be selected from the following courses:

EDEM 620 (3) Meanings of Literacy

EDER 600 (3) Globalization, Education & Change

EDER 606 (3) Philosophy of Moral Education

EDER 607 (3) Values Education: Contemporary Approaches

EDER 614 (3) Sociology of Education

EDER 617 (3) Aesthetics and Education

EDER 625 (3) Topics: Culture in Education

- EDER 626 (3) Topics: Value in Education
 EDER 649 (3) Education: Multicultural Societies

3 credits to be selected from the following courses:

- EDEC 706 (3) Textual Approaches to Research
 EDEM 690 (3) Research Methods
 EDEM 692 (3) Qualitative Research Methods
 EDSL 630 (3) Qualitative/Ethnographic Studies

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)
 (45 credits)

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)

- EDEM 690 (3) Research Methods
 EDER 520 (3) Issues in Jewish Education
 EDER 529 (0) Hebrew Language Requirement
 EDER 610D1 (7.5) Internship
 EDER 610D2 (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:

- EDER 521 (3) Teaching Judaism: Yiddish
 EDER 522 (3) Teaching Judaism: Hebrew
 EDER 523 (3) Teaching Judaism: Bible
 EDER 524 (3) Teaching Judaism: History
 EDER 525 (3) Teaching Judaism: Holidays
 EDER 526 (3) Teaching Judaism: Liturgy
 EDER 527 (3) Teaching Judaism: Special Topics
 EDER 528 (3) Teaching Judaism: The Holocaust

6 credits from among the following:

- EDPI 526 (3) Talented and Gifted Studies
 EDPI 642 (3) Education of Learners/Special Needs 1
 EDPI 654 (3) Instruction/Curriculum Adaptation
 EDPI 666 (3) Methods: Learning Disabilities
 EDPE 510 (3) Learning and Technology
 EDPE 535 (3) Instructional Design
 EDPE 616 (3) Cognitive Development

37.5.2 M.A. in Second Language Education

This program combines theoretical and applied studies in second language education. 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 (9 credits)

- EDEM 609 (3) Issues in Educational Studies
 EDSL 623 (3) Second Language Learning
 EDSL 664 (3) Second Language Research Methods

Complementary Courses (12 credits)

12 additional credits, at least 9 of which must be chosen from the following list. Students with no background in statistics will be required to take EDPE 575 Educational Measurement.

Departmental Seminars:

- EDSL 616 (3) Individual Reading Course 2
 EDSL 617 (3) Special Topic
 EDSL 624 (3) Educational Sociolinguistics
 EDSL 627 (3) Classroom-Centered Research: Second Languages
 EDSL 629 (3) Second Language Testing Evaluation
 EDSL 630 (3) Qualitative/Ethnographic Studies
 EDSL 631 (3) Second Language Curriculum Development
 EDSL 632 (3) Second Language Literacy Development
 EDSL 643 (3) Psycholinguistique et enseignement du français LS
 EDSL 644 (3) Sociolinguistique et enseignement du français LS
 EDSL 647 (3) Développement curriculaire
 EDSL 651 (3) French Immersion Education: Canada

Thesis Component – Required (24 credits)

- EDSL 666 (6) Thesis Research 1
 EDSL 667 (6) Thesis Research 2
 EDSL 668 (6) Thesis Research 3
 EDSL 669 (6) Thesis Research 4

MASTER OF ARTS IN SECOND LANGUAGE EDUCATION (Non-thesis) (45 credits)

Required Courses (12 credits)

- EDEM 609 (3) Issues in Educational Studies
 EDSL 629 (3) Second Language Testing Evaluation
 EDSL 632 (3) Second Language Literacy Development
 EDSL 664 (3) Second Language Research Methods

Complementary Courses (9 credits)

9 credits, three of the following courses:

- EDSL 623 (3) Second Language Learning
 or EDSL 643 (3) Psycholinguistique et ens. du FLS
 EDSL 624 (3) Educational Sociolinguistics
 or EDSL 644 (3) Sociolinguistique et enseignement du français LS
 EDSL 631 (3) Second Language Curriculum Development
 or EDSL 647 (3) Développement curriculaire

Elective Courses (24 credits)

Students are required to take 24 additional credits at the 500- or 600-level, inside or outside the Department. These are to be approved by the Graduate Program Director. Students with no background in statistics will be required to take EDPE 575 Educational Measurement.

Program-specific elective courses are:

- EDSL 603 (6) Individual Reading Course 1
 EDSL 616 (3) Individual Reading Course 2
 EDSL 617 (3) Special Topic
 EDSL 627 (3) Classroom-Centered Research: Second Languages
 EDSL 630 (3) Qualitative/Ethnographic Studies
 EDSL 651 (3) French Immersion Education: Canada
 An undergraduate language course (e.g., Spanish, Italian, Japanese) may be substituted for one 3-credit course. This course must be passed at the graduate level.

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)

EDEM 609 (3) Issues in Educational Studies
EDEM 620 (3) Meanings of Literacy
EDEC 606 (3) Seminar in Curriculum Inquiry

Complementary Courses (6 credits)

two of the following courses:

EDEM 679 (3) Interpretive Inquiry, or equivalent
EDEM 690 (3) Research Methods
EDEM 692 (3) Qualitative Research Methods, or equivalent

Elective Courses (6 credits)

Two courses chosen in consultation with an advisor.

Thesis Component – Required (24 credits)

EDEM 621 (6) Thesis 1
EDEM 623 (6) Thesis 2
EDEM 699 (12) Thesis 3

MASTER OF ARTS EDUCATIONAL STUDIES (Non-thesis Option) – Curriculum Concentration (45 credits)

Required Courses (12 credits)

EDEM 609 (3) Issues in Educational Studies
EDEM 620 (3) Meanings of Literacy
EDEM 690 (3) Research Methods
EDEC 606 (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)

EDEM 625 (6) Project 1
EDEM 627 (6) Project 2

MASTER OF ARTS EDUCATIONAL STUDIES (Thesis Option) – Leadership Concentration (45 credits)

Required Courses (9 credits)

EDEM 609 (3) Issues in Educational Studies
EDEM 610 (3) Leadership in Action
EDEM 673 (3) Leadership Theory in Education

Complementary Courses (6 credits)

two of the following courses:

EDEM 679 (3) Interpretive Inquiry, or equivalent
EDEM 690 (3) Research Methods
EDEM 692 (3) Qualitative Research Methods, or equivalent

Elective Courses (6 credits)

Two courses chosen in consultation with an advisor.

Thesis Component – Required (24 credits)

EDEM 621 (6) Thesis 1
EDEM 623 (6) Thesis 2
EDEM 699 (12) Thesis 3

MASTER OF ARTS EDUCATIONAL STUDIES (Non-Thesis Option) – Leadership Concentration (45 credits)

Required Courses (12 credits)

EDEM 609 (3) Issues in Educational Studies
EDEM 610 (3) Leadership in Action
EDEM 673 (3) Leadership Theory in Education
EDEM 690 (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)

EDEM 625 (6) Project 1
EDEM 627 (6) Project 2

37.5.4 Graduate Certificate in Educational Leadership 1

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)

EDEM 610 (3) Leadership in Action
EDEM 628 (3) Education Resource Management
EDEM 646 (3) Planning and Evaluation

Complementary Courses (6 credits)

Two courses chosen from the following:

EDEC 635 (3) Advanced Written Communication
EDEM 635 (3) Fiscal Accountability in Education
EDEM 637 (3) Managing Educational Change
EDEM 644 (3) Curriculum Development and Implementation
EDEM 660 (3) Community Relations in Education
EDEM 664 (3) Education and the Law
EDEM 671 (3) The Principalship
EDEM 675 (3) Special Topics 1
EDEM 679 (3) Interpretive Inquiry
EDEM 693 (3) School Improvement Approaches
EDEM 695 (3) Policy Studies in Education

37.5.5 Graduate Certificate in Educational Leadership 2

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)

EDEM 609 (3) Issues in Educational Studies
EDEM 673 (3) Leadership Theory in Education
EDEM 681 (3) Practicum-Administrative Studies

Complementary Courses (6 credits)

Two courses chosen from the following:

EDEC 635 (3) Advanced Written Communication
EDEM 635 (3) Fiscal Accountability in Education
EDEM 637 (3) Managing Educational Change
EDEM 644 (3) Curriculum Development and Implementation
EDEM 660 (3) Community Relations in Education
EDEM 664 (3) Education and the Law
EDEM 671 (3) The Principalship
EDEM 675 (3) Special Topics 1
EDEM 679 (3) Interpretive Inquiry
EDEM 693 (3) School Improvement Approaches
EDEM 695 (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 both the D1 and D2 components. No credit will be given unless both components (D1 and D2) are successfully completed in consecutive terms.

N1 and N2 are taught in two non-consecutive terms (Winter and Fall). Students must register for both the N1 and N2 components. No credit will be given unless both components (N1 and N2) are successfully completed within a twelve-month period.

J1, J2 and J3 are taught over three consecutive terms. Students must register for all three components (J1, J2, J3). No credit will be given unless all three components are successfully completed.

The course credit weight is given in parentheses after the title.

Descriptions of courses not scheduled in 2003-04 can usually be found in the preceding Calendar.

□ 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 2003-04:

□ **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) The processes of development, implementation and evaluation will be studied from the perspective of the teacher. The focus will be on the role of the teacher as a curriculum professional at the preschool, elementary and secondary school levels.

EDEC 603 INDIVIDUAL READING COURSE. (6) Individualized guided study of a topic in the teaching of the candidates' specialties selected according to their interest and teaching experience.

May be offered as: EDEC 603D1 and EDEC 603D2.

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 608 SELECTED READINGS IN LITERACY. (6) This course serves as a tutorial course that would normally involve the monograph supervisor. Students would concentrate their reading in an area pertinent to the monograph.

May be offered as: EDEC 608D1 and EDEC 608D2.

EDEC 612 MEDIA LITERACY. (3) The course examines the nature and possibilities of media literacy education in schooling, including both the development of students' ability to critically analyze the mass, visual, electronic media in society as well as the development of their own ability to utilize various new media for their own communication.

EDEC 616 READING COURSE. (3) Individualized guided study of a topic in the teaching of the candidates' specialties selected according to their interest and teaching experience.

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.

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 690D1 MONOGRAPH PREPARATION AND PRESENTATION. (6) The preparation and submission of a study project dealing with some aspect of the teaching of the candidate's specialization and supported by a comprehensive review of the relevant literature. The monograph is to be presented to the candidate's program director after the satisfactory completion of the required coursework.

EDEC 690D2 MONOGRAPH PREPARATION AND PRESENTATION. (6)

Other courses:

EDEC 604 Literacy and Learning Across Curriculum. (3)
 EDEC 606D1 Seminar in Curriculum Inquiry. (1.5)
 EDEC 606D2 Seminar in Curriculum Inquiry. (1.5)
 EDEC 607 Foundations of Literacy. (3)
 EDEC 609 Drama and Literacy. (3)
 EDEC 610 Literature: Children/Young Adults. (3)
 EDEC 613 Selected Readings in Curriculum. (6)
 EDEC 613D1 Selected Readings in Curriculum. (3)
 EDEC 613D2 Selected Readings in Curriculum. (3)
 EDEC 614 Numeracy Across the Curriculum. (3)
 EDEC 616D1 Reading Course. (1.5)
 EDEC 616D2 Reading Course. (1.5)
 EDEC 617 Special Topics - Literacy Studies. (3)
 EDEC 617D1 Special Topics - Literacy Studies. (1.5)
 EDEC 617D2 Special Topics - Literacy Studies. (1.5)
 EDEC 623 Emergent Literacy. (3)
 EDEC 627 Responding to Texts. (3)
 EDEC 629 Writing: Theory, Research, and Practice. (3)
 EDEC 637 Gender, Genre and Schooling. (3)
 EDEC 690 Monograph Preparation and Presentation. (12)
 EDEC 701 Proseminar in Education 1. (2)
 EDEC 702 Proseminar in Education 2. (2)
 EDEC 703 Ph.D. Colloquium 1. (2)
 EDEC 704 Ph.D. Colloquium 2. (2)
 EDEC 705 Advanced Research Designs. (3)
 EDEC 706 Textual Approaches to Research. (3)

37.6.3 EDEE – Elementary Education

Courses currently scheduled for 2003-04:

EDEE 655 SPECIAL TOPICS - CURRICULUM STUDIES. (3) A detailed examination of a selected topic. The content will vary from year to year and will be announced prior to registration.

Other courses:

EDEE 661 Global Education. (3)

37.6.4 EDEM – Admin & Policy Studies in Education

Courses currently scheduled for 2003-04:

EDEM 603 INDIVIDUAL READING COURSE. (6) Independent study of an approved topic with the guidance of a faculty advisor.

May be offered as: EDEM 603D1 and EDEM 603D2.

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 616 INDIVIDUAL READING COURSE. (3) Independent study of an approved topic with the guidance of a faculty advisor.

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 623 THESIS 2. (6) Continuation of EDEM 621.

May be offered as: EDEM 623D1 and EDEM 623D2.

EDEM 625 PROJECT 1. (6) Theoretical or practical project under the supervision of a departmental faculty member to explore and analyze an area of interest relevant to the concentration in leadership or curriculum.

May be offered as: EDEM 625D1 and EDEM 625D2.

EDEM 627 PROJECT 2. (6) Extension of Project 1 or new project.

May be offered as: EDEM 627D1 and EDEM 627D2.

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.

May be offered as: EDEM 628D1 and EDEM 628D2.

EDEM 630 POLICY ISSUES: WORKPLACE LEARNING. (3) This course explores the complex policy climate in workplace learning in Canada and examines the pressures and choices facing program planners and instructors.

EDEM 644 CURRICULUM DEVELOPMENT AND IMPLEMENTATION. (3) Processes of planning, developing, implementing and adapting curricula in various learning systems.

May be offered as: EDEM 644D1 and EDEM 644D2.

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.

May be offered as: EDEM 646D1 and EDEM 646D2.

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) Roles, expectations and skills related to the task of the school principal and the implications for school climate and effectiveness.

EDEM 673 LEADERSHIP THEORY IN EDUCATION. (3) Concepts of leadership and the role of leadership in educational settings.

May be offered as: EDEM 673D1 and EDEM 673D2.

EDEM 675 SPECIAL TOPICS 1. (3) Important current issues in the field of Educational Studies. (Content varies from year to year.)

EDEM 679 INTERPRETIVE INQUIRY. (3) Focus on issues of voice, reflectivity, and representation when using interpretive frameworks in qualitative research.

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 692 QUALITATIVE RESEARCH METHODS. (3) Theoretical and practical exploration of the foundations of qualitative methods, with emphasis on underlying principles.

EDEM 699 THESIS 3. (12) Final synthesis of the research project.

May be offered as: EDEM 699D1 and EDEM 699D2.

EDEM 700 COMPREHENSIVE EXAMINATION. (0)

Other courses:

EDEM 606 Educational Leadership Issues. (3)

EDEM 610D1 Leadership in Action. (1.5)

EDEM 610D2 Leadership in Action. (1.5)

EDEM 615 Selected Issues: Contemporary Education. (6)

EDEM 615D1 Selected Issues: Contemporary Education. (3)

EDEM 615D2 Selected Issues: Contemporary Education. (3)

EDEM 621 Thesis 1. (6)

EDEM 621D1 Thesis 1. (3)

EDEM 621D2 Thesis 1. (3)

EDEM 634 Monograph: Preparation and Presentation. (12)

EDEM 634D1 Monograph: Preparation and Presentation. (6)

EDEM 634D2 Monograph: Preparation and Presentation. (6)

EDEM 659 Program Evaluation. (3)

EDEM 674 Organizational Theory and Education. (3)

EDEM 674D1 Organizational Theory and Education. (1.5)

EDEM 674D2 Organizational Theory and Education. (1.5)

EDEM 675D1 Special Topics 1. (1.5)

EDEM 675D2 Special Topics 1. (1.5)

EDEM 677 Special Topics 2. (3)

EDEM 677D1 Special Topics 2. (1.5)

EDEM 677D2 Special Topics 2. (1.5)

EDEM 681 Practicum Administrative Studies. (3)

EDEM 683 Advanced Practicum. (6)

EDEM 683D1 Advanced Practicum. (3)

EDEM 683D2 Advanced Practicum. (3)

EDEM 690D1 Research Methods. (1.5)

EDEM 690D2 Research Methods. (1.5)

EDEM 693 School Improvement Approaches. (3)

EDEM 693D1 School Improvement Approaches. (1.5)

EDEM 693D2 School Improvement Approaches. (1.5)

EDEM 695 Policy Studies in Education. (3)

EDEM 695D1 Policy Studies in Education. (1.5)

EDEM 695D2 Policy Studies in Education. (1.5)

EDEM 700D1 Comprehensive Examination. (0)

EDEM 700D2 Comprehensive Examination. (0)

37.6.5 EDER – Religious Studies

Courses currently scheduled for 2003-04:

EDER 603 INDIVIDUAL READING COURSE. (6)

EDER 615 CULTURE, VALUES AND EDUCATION. (3) In-depth examination of culture and values in education.

EDER 616 INDIVIDUAL READING COURSE. (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: Postmodernism and Education; Antiracist Education; Cultural Relativism and Critical Thinking; Popular Culture and Education.)

EDER 626 TOPICS: VALUE IN EDUCATION. (3) In-depth examination of topics in values in education. Content will vary from year to year and will be announced prior to registration. (Examples: Spirituality and Education; Patterns of Moral/Spiritual Development; Ethics and Education.)

EDER 633 SPECIAL PROJECT. (12) (Prerequisite: Completion of program course requirements. For non-thesis students only.) An investigation into an educational problem, or issue, or innovative practice in the student's area of concentration, supervised by the student's supervisor and with departmental approval. The student will complete the Special Project by submitting a monograph, project report or production, accompanied by a written component.

EDER 633D1 SPECIAL PROJECT. (6) (Students must also register for 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) An investigation into an educational problem, or issue, or innovative practice in the student's area of concentration, supervised by the student's supervisor and with departmental approval. The student will complete the Special Project by submitting a monograph, project report or production, accompanied by a written component.

EDER 633D2 SPECIAL PROJECT. (6) (Prerequisite: EDER 633D1) (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) See EDER 633D1 for course description.

EDER 649 EDUCATION: MULTICULTURAL SOCIETIES. (3) Majority-minority relations and their implications for educational policy and practice.

EDER 690 THESIS PREPARATION 1. (6) A supervised comprehensive study and written review of the literature in the area of the student's thesis topic.

May be offered as: EDER 690D1 and EDER 690D2.

EDER 691 THESIS PREPARATION 2. (6) Supervised independent work leading to an elaborated written proposal of the student's thesis project, to be presented and defended at a colloquium convened by the Department.

May be offered as: EDER 691D1 and EDER 691D2, or EDER 691N1 and EDER 691N2.

EDER 692 THESIS PREPARATION 3. (12) Supervised on-going research and writing pertaining to the student's thesis. Submission of the completed thesis for examination and evaluation.

May be offered as: EDER 692D1 and EDER 692D2, or EDER 692N2 and EDER 692N2.

EDER 701 DOCTORAL COMPREHENSIVE EXAMINATION. (0)

May be offered as: EDER 701D1 and EDER 701D2.

Other courses:

EDER 505 Education and Social Issues. (3)
 EDER 600 Globalization, Education & Change. (3)
 EDER 603D1 Individual Reading Course. (3)
 EDER 603D2 Individual Reading Course. (3)
 EDER 604 Selected Educational Theories. (3)
 EDER 606 Philosophy of Moral Education. (3)
 EDER 607 Values Education: Contemporary Approaches. (3)
 EDER 608 Educational Implications of Social Theory. (3)
 EDER 609 Education and Philosophical Thought. (3)
 EDER 614 Sociology of Education. (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 632 Peace Education. (3)
 EDER 639 Education and Development. (3)
 EDER 643 Women, Education and Development. (3)
 EDER 652 National Education Systems 1. (3)
 EDER 659 Principles-Education in Human Sexuality. (3)
 EDER 672 Policy on Gender Issues. (3)

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 2003-04:

EDSL 506 COMPUTER/INTERNET AND L2 LEARNING. (3) Theoretical principles, models and empirical findings relevant to computer aided language learning (CALL); review and analysis of existing CALL programs, Internet resources, and multi-media technology for second language education. Application component included.

EDSL 603 INDIVIDUAL READING COURSE 1. (6) Independent study of an approved topic with the guidance of individual instructor and permission of Graduate Program Director.

EDSL 616 INDIVIDUAL READING COURSE 2. (3) Independent study of an approved topic with the guidance of individual instructor and permission of Graduate Program Director.

EDSL 617 SPECIAL TOPIC. (3) In-depth study of a current topic in Second Language Education. in conjunction with EDSL 630.)

EDSL 623 SECOND LANGUAGE LEARNING. (3) Seminar in second language acquisition theory and research and their relevance to teaching a second language.

EDSL 627 CLASSROOM-CENTERED RESEARCH: SECOND LANGUAGES. (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 STUDIES. (3) An examination of theoretical and applied issues in qualitative and ethnographic studies in second language education.

EDSL 631 SECOND LANGUAGE CURRICULUM DEVELOPMENT. (3) Research, theory and practice in curriculum development and teaching in second language education within contemporary frameworks.

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) Théories et recherches récentes dans le domaine de l'acquisition du langage, du comportement verbal et du bilinguisme. Étude des implications pertinentes pour l'apprentissage et l'enseignement du français langue seconde.

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) Submission of a thesis proposal.

EDSL 667 THESIS RESEARCH 2. (6) Presentation of thesis proposal.

EDSL 668 THESIS RESEARCH 3. (6) Master's thesis.

EDSL 669 THESIS RESEARCH 4. (6) Master's thesis.

EDSL 690 MONOGRAPH - SECOND LANGUAGES. (12)

May be offered as: EDSL 690D1 and EDSL 690D2.

EDSL 701 COMPREHENSIVE EXAMINATION. (3)

Other courses:

EDSL 603D1 Individual Reading Course 1. (3)

EDSL 603D2 Individual Reading Course 1. (3)
EDSL 624 Educational Sociolinguistics. (3)
EDSL 644 Sociolinguistique et enseignement du français LS. (3)
EDSL 647 Développement Curriculaire. (3)
EDSL 651 French Immersion Education: Canada. (3)
EDSL 711 Language Acquisition Issues 3. (2)

38 Islamic Studies

Institute of Islamic Studies
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Web site: www.arts.mcgill.ca/programs/islamic

Director — A. Uner Turgay

38.1 Staff

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.(Princ.), M.L.S.(Rutgers),
Ph.D.(Prin.)

Associate Professor

A. Uner Turgay; B.A.(Robert Coll., Istanbul), M.A., Ph.D.(Madison-Wisc.)

Assistant Professor

Michelle L. Hartman; B.A.(Col.), Ph.D.(Oxf.)

Lecturers (part-time)

Issa J. Boullata; Ph.D.(Lond.) (post-retirement)

Henry Habib; Ph.D.(McG.)

Faruq Hassan; Ph.D.(Leeds)

Gabriel Karam; M.A.(McG.)

Donald P. Little; B.A.(Vanderbilt), M.A.(Stan.), Ph.D.(Calif.)
(post-retirement)

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 Postdoctoral 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 ISLA 522 (as the Language Requirement);
- c) Research Materials ISLA 603 ("Pass" - not for credit);
- d) Thesis courses (24 credits in all): ISLA 697 (6 credits), ISLA 698 (6 credits) and ISLA 699 (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 offered by the Institute;
- b) Higher Intermediate Arabic (ISLA 523D1/ISLA 523D2), 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 (ISLA 701);

- 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.

Courses currently scheduled for 2003-04:

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 HISTORY: ISLAMIC CIVILIZATION - CLASSICAL.** (3) (Fall) (3 hours) The origins of the early Islamic state in Arabia and the Umawi Caliphate. The growth of an Islamic civilization, and the "Abbasid Empire" until the Seljuk period. The rise of the Fatimids. The Caliphate of Cordoba.

★ **ISLA 510D2 HISTORY: ISLAMIC CIVILIZATION - CLASSICAL.** (3) (Winter)

ISLA 521D1 INTRODUCTORY ARABIC. (4.5) (Fall) (5 lecture hours and laboratory) Modern Standard Literary Arabic (non-spoken).

ISLA 521D2 INTRODUCTORY ARABIC. (4.5) (Winter)

ISLA 522D1 LOWER INTERMEDIATE ARABIC. (3) (Fall) (3 hours and laboratory) (Prerequisite: ISLA 521 or equivalent)

ISLA 522D2 LOWER INTERMEDIATE ARABIC. (3) (Winter)

ISLA 523D1 HIGHER INTERMEDIATE ARABIC. (3) (Fall) (3 hours) (Prerequisite: ISLA 522 or equivalent) (Formerly 397-623)

ISLA 523D2 HIGHER INTERMEDIATE ARABIC. (3) (Winter)

ISLA 531D1 SURVEY DEVELOPMENT OF ISLAMIC THOUGHT. (3) (Fall) (3 hours) 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)

ISLA 532D1 INTRODUCTORY TURKISH. (3) (Fall) (3 lecture hours plus conference and laboratory)

ISLA 532D2 INTRODUCTORY TURKISH. (3) (Winter)

ISLA 533D1 LOWER INTERMEDIATE TURKISH. (3) (Fall) (3 lecture hours plus conference and laboratory) (Prerequisite: ISLA 532 or equivalent)

ISLA 533D2 LOWER INTERMEDIATE TURKISH. (3) (Winter)

ISLA 541D1 INTRODUCTORY PERSIAN. (3) (Fall) (3 hours)

ISLA 541D2 INTRODUCTORY PERSIAN. (3) (Winter)

ISLA 542D1 LOWER INTERMEDIATE PERSIAN. (3) (Fall) (3 hours) (Prerequisite: ISLA 541 or equivalent)

ISLA 542D2 LOWER INTERMEDIATE PERSIAN. (3) (Winter)

ISLA 551D1 INTRODUCTORY URDU. (3) (Fall) (3 hours) Introduction to the basic grammatical structures and vocabulary of the Urdu language, including drills in pronunciation and sentence structures.

ISLA 551D2 INTRODUCTORY URDU. (3) (Winter)

ISLA 552D1 INTERMEDIATE URDU. (3) (Fall) (3 hours) (Prerequisite: ISLA 551 or equivalent) 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 552D2 INTERMEDIATE URDU. (3) (Winter)

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 found, 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 633D1 HIGHER INTERMEDIATE TURKISH. (3) (Prerequisite: ISLA 532 or equivalent)

ISLA 633D2 HIGHER INTERMEDIATE TURKISH. (3)

ISLA 697D1 THESIS RESEARCH. (3) Six credits for accepted thesis proposal.

ISLA 697D2 THESIS RESEARCH. (3)

ISLA 698D1 THESIS RESEARCH. (3) Six credits on submission of completed thesis.

ISLA 698D2 THESIS RESEARCH. (3)

ISLA 699D1 THESIS RESEARCH. (6) Twelve credits for thesis passed by Internal and External examiners.

ISLA 699D2 THESIS RESEARCH. (6)

ISLA 701 COMPREHENSIVE EXAMINATION. (0)

May be offered as: **ISLA 701D1** and **ISLA 701D2.**

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 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 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 ISLAMIC DEVELOPMENTS - MODERN INDIA AND PAKISTAN.** (3) Significant movements in Islamic thought and political action, since the Mughal downfall. The influence of Sirhindi; Waliyullah and his school; the Mujahidin; 1857, De'oband; Aligarh; Azad and Muslim participation in Indian nationalism; Iqbal; Pakistan. Pakistan constitutional and ideological issues; birth of Bangladesh and subsequent developments; Muslims in India since partition.

ISLA 723D2 ISLAMIC DEVELOPMENTS - MODERN INDIA AND PAKISTAN. (3)

★ **ISLA 732D1 RISE AND EVOLUTION - NATIONALISM AMONG MUSLIMS.** (3) A comparative approach to the motivation and ideology in nationalist movements among Muslim peoples. Analysis of general trends and distinctive characteristics in various nationalist movements and their orientations, and the doctrinal disputes among Muslim intellectuals who attempted to explore the nature of the nation and its making in relation to universalist ideas of Islam.

★ **ISLA 732D2 RISE AND EVOLUTION - NATIONALISM AMONG MUSLIMS.** (3)

ISLA 735 SPECIAL SEMINAR. (3)

ISLA 736 SPECIAL TOPICS. (3)

ISLA 739 SPECIAL SEMINAR. (3)

ISLA 745 SPECIAL SEMINAR. (3)

ISLA 777 ISLAMIC PHILOSOPHY. (3) (Seminar 2 hours) Consideration of the development of philosophic thought among the Muslims. Classical Arabic or Persian writings will be used.

ISLA 785 MODERN ARABIC LITERATURE 1. (3)

ISLA 786 MODERN ARABIC LITERATURE 2. (3)

Courses offered in alternate years:

ISLA 511D1 History: Islamic Civilization - Mediaeval Era. (3)

ISLA 511D2 History: Islamic Civilization - Mediaeval Era. (3)

ISLA 607 Islam and Politics: Pakistan. (3)

ISLA 608 Islam and Politics: Iran. (3)

ISLA 705D1 State and Government in Islam. (3)

ISLA 705D2 State and Government in Islam. (3)

ISLA 708 Qur'an Exegesis (Modern). (3)

ISLA 752D1 Social/Economic Developments / Muslim Countries. (3)

ISLA 752D2 Social/Economic Developments / Muslim Countries. (3)

ISLA 761D1 The Mughals and the Safavids. (3)

ISLA 761D2 The Mughals and the Safavids. (3)

ISLA 764D1 Ottoman History. (3)

ISLA 764D2 Ottoman History. (3)

Other courses:

ISLA 501 The Qur'an: Text and History. (3)

ISLA 522 Lower Intermediate Arabic. (6)

ISLA 605D1 Arabic Literature Add. C500-1970s. (3)

ISLA 605D2 Arabic Literature Add. C500-1970s. (3)

ISLA 680 Pro-Seminar: Ottoman Institutions. (3)

ISLA 697 Thesis Research. (6)

ISLA 698 Thesis Research. (6)

ISLA 699 Thesis Research. (12)

ISLA 706D1 Islamic Law. (3)

ISLA 706D2 Islamic Law. (3)

ISLA 711 Islamic Jurisprudence. (3)

ISLA 713 Islam and Nation States: Southeast Asia. (3)

ISLA 740D1 Mystical Tradition of Islam. (3)

ISLA 740D2 Mystical Tradition of Islam. (3)

ISLA 741D1 Philosophical Tradition in Islam. (3)

ISLA 741D2 Philosophical Tradition in Islam. (3)

ISLA 778 The Qur'an and Arabic Stylistics. (3)

ISLA 782D1 Muslims in Central Asia. (3)

ISLA 782D2 Muslims in Central Asia. (3)

ISLA 789 Special Topics. (6)

ISLA 789D1 Special Topics. (3)

ISLA 789D2 Special Topics. (3)

39 Italian Studies

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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;
3. two letters of recommendation;
4. a sample critical essay, written in Italian;
5. for international students, TOEFL test results;
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)

- ITAL 602 (3) The Literary Tradition
 ITAL 610 (3) Bibliography of Italian Literature
 ITAL 619 (3) Topics in Literary Theory, or a similar approved course in another department
 ITAL 680 (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)

- ITAL 698 (6) Thesis Proposal
 ITAL 699 (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 ITAL 606 Individual Reading Course 1 and ITAL 607 Individual Reading Course 2 offered as tutorials.

Typically, the first year program will consist of: Literary Theory course, ITAL 610, the three Complementary courses, and ITAL 698. The second year will include ITAL 602, ITAL 680 and the Thesis.

M.A., non-thesis option:**Required Courses** (30 credits)

- ITAL 602 (3) The Literary Tradition
 ITAL 610 (3) Bibliography of Italian Literature
 ITAL 619 (3) Topics in Literary Theory, or a similar approved course in another department
 ITAL 680 (3) Research Seminar
 ITAL 690 (9) Research Paper 1
 ITAL 691 (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 ITAL 606 Individual Reading Course 1 and ITAL 607 Individual Reading Course 2 offered as tutorials.

Typically, the first year program will consist of: Literary Theory course, ITAL 610, three Complementary courses, and ITAL 690. The second year will include ITAL 602, ITAL 680, two Complementary courses and ITAL 691.

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 2003-04.

● **ITAL 530 17TH-18TH CENTURY CULTURE.** (3)

ITAL 542 HISTORY OF ITALIAN LANGUAGE. (3) A historical survey of the intense debate on the problem of literary language in Italy, from Dante to the present time, as caused by the variance between spoken and literary languages; followed by an in-depth examination of the theoretical and literary texts of one particular period.

● **ITAL 551 BOCCACCIO AND THE ITALIAN NOVELLA.** (3)

ITAL 563 13TH-16TH CENTURY LITERATURE. (3) Topics in the literature of the 13th to the 16th Centuries.

● **ITAL 590 ITALIAN LITERARY CRITICISM.** (3)

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)

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) A study of certain aspects of Italian literature in relation to the literatures of other Western countries.

● **ITAL 650 ITALIAN LITERATURE AND FOLKLORE.** (3)

ITAL 680 RESEARCH SEMINAR. (3) Presentation and discussion of research work.

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 COMPREHENSIVE EXAMINATION. (3) (Students must also register for ITAL 701D2) (No credit will be given for this course unless both ITAL 701D1 and ITAL 701D2 are successfully completed in consecutive terms)

ITAL 701D2 COMPREHENSIVE EXAMINATION. (3) (Prerequisite: ITAL 701D1) (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

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Chair — Gershon Hundert

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*)
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.)
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 Professor

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)

JWST 510 (3) Jewish Bible Interpretation 1
JWST 511 (3) Jewish Bible Interpretation 2
JWST 699 (3) Research in Jewish Studies

Complementary Courses (12 credits)

An additional 12 credits of courses, seminars, or tutorials.

Thesis Component – Required (24 credits)

JWST 690 (3) M.A. Thesis 1
JWST 691 (6) M.A. Thesis 2
JWST 692 (12) M.A. Thesis 3
JWST 694 (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)

JWST 699 (3) Research in Jewish Studies

Complementary Courses (18 credits)

6 credits to be taken from:

JWST 602 (3) East European Jewish History 1
(or other appropriate tutorial, seminar or topics course)
JWST 603 (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)

JWST 695 (3) M.A. Thesis 1: Area II
JWST 696 (6) M.A. Thesis 2: Area II
JWST 697 (12) M.A. Thesis 3: Area II
JWST 601 (3) M.A. Thesis 4: Area II

M.A., non-thesis option (45 credits)

Required Course (3 credits)

JWST 699 (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)

- JWST 510 (3) Jewish Bible Interpretation 1
 JWST 511 (3) Jewish Bible Interpretation 2
 JWST 542 (3) Abraham Ibn Ezra as Parshan
 JWST 543 (3) Maimonides as Parshan
 JWST 544 (3) Nachmanides as Parshan
 JWST 555 (3) The Bible in Jewish Philosophy
 JWST 556 (3) Modern Parshanut 1
 JWST 558 (3) Topics: Modern Jewish Thought
 JWST 661 (3) Study of a Biblical Character

Jewish History (12 or 15 credits)

- JWST 585 (3) Tutorial: Eastern European Studies 1
 JWST 586 (3) Tutorial: Eastern European Studies 2
 JWST 602 (3) East European Jewish History 1
 JWST 603 (3) East European Jewish History 2
 HIST 655 (6) Tutorial
 HIST 677D1 (3) Seminar: European Jewish History
 HIST 677D2 (3) Seminar: European Jewish History

Jewish Literature (12 or 15 credits)

- JWST 502 (3) Contemporary Hebrew Literature
 JWST 510 (3) Jewish Bible Interpretation 1
 JWST 511 (3) Jewish Bible Interpretation 2
 JWST 520 (3) Bible Interpretation in Antiquity
 JWST 521 (3) Bible in the Dead Sea Scrolls
 JWST 530 (3) Topics in Yiddish Literature
 JWST 531 (3) Topics in Yiddish Literature
 JWST 532 (3) Narrative Midrash
 JWST 533 (3) Halakhic Midrash
 JWST 534 (3) Homiletic Midrash
 JWST 535 (3) Exegetic Midrash
 JWST 536 (3) Readings: Aramaic Bible Translation
 JWST 537 (3) The Bible in the Talmud Bavli
 JWST 538 (3) Early Rabbinic Parshanut 1
 JWST 541 (3) Medieval Ashkenazi Parshanut
 JWST 546 (3) Innovative Medieval Parshanut
 JWST 547 (3) Mystical Biblical Interpretation
 JWST 548 (3) Medieval Parshanut
 JWST 550 (3) The Bible in Hebrew Literature
 JWST 551 (3) 20th Century Parshanut
 JWST 554 (3) Modern Jewish Biblical Scholarship
 JWST 555 (3) The Bible in Jewish Philosophy
 JWST 556 (3) Modern Parshanut 1
 JWST 571 (3) Biblical Literature
 JWST 572 (3) Aggadah in Modern Scholarship
 JWST 573 (3) History of Hebrew Bible Text
 JWST 574 (3) Bible in Responsa Literature
 JWST 575 (3) Topics in Parshanut
 JWST 581 (3) Aramaic Language
 JWST 582 (3) Hebrew and Aramaic Philology
 JWST 587 (3) Tutorial in Yiddish Literature
 JWST 588 (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.

The course credit weight is given in parentheses after the title.

Courses currently scheduled for 2003-04:

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 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 558 TOPICS: MODERN JEWISH THOUGHT. (3) (Topic for 2003-04: Franz Rosenzweig's Star of Redemption. A close study of selections from this central text of twentieth-century Jewish thought.) Topic for 2002-03: The image of Moses in Modern Jewish Thought from Spinoza to Schoenberg.

JWST 562 MEDIEVAL ISLAMIC AND JEWISH PHILOSOPHY. (3) (Prerequisite: one course in Greek, Islamic or Jewish Philosophy, or permission of instructor.) (Topic for 2003: The Taste of God - Philosophy, Revelation and Mysticism in the thought of the Muslim theologian al-Ghazali and the Jewish poet and theologian Judah Halevi. Course offered jointly by the Dept. of Jewish Studies and the Institute of Islamic Studies.) Deals with the manifold points of contact between medieval Muslim and Jewish intellectual history. Muslim and Jewish philosophers, theologians and mystics belonged to the same currents of thought, used the same language and studied the same sources in translation, proposing similar answers to questions that arose in the context of their respective religious traditions.

JWST 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 581 ARAMAIC LANGUAGE. (3) (Requires Departmental approval) (Not open to students who have taken JWST 506)

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.

JWST 601 M.A. THESIS 4: AREA II. (3) Preparation and submission of an acceptable thesis.

JWST 602 EAST EUROPEAN JEWISH HISTORY 1. (3) (1500 - 1800) Studies on specific issues and problems related to the social and cultural history of the Jews in Eastern Europe.

JWST 603 EAST EUROPEAN JEWISH HISTORY 2. (3) (1500 - 1800) Studies on specific issues and problems related to the social and cultural history of the Jews in Eastern Europe.

JWST 661 STUDY OF A BIBLICAL CHARACTER. (3) Advanced level seminar devoted to the evolving interpretation of one or more biblical characters as they appear in the Jewish and cognate interpretative literatures. Emphasis will be on the evolving nature of the interpretation in varied religious and intellectual contexts.

JWST 690 M.A. THESIS 1. (3) Normally done during the first semester of residence, this project entails original bibliographic research related to the history of Jewish Bible interpretation, usually the preparation of an extensive bibliography of one writer, text or theme. The choice may relate to the thesis topic.

JWST 691 M.A. THESIS 2. (6) A study of the history of Jewish interpretation of one verse, based on 100 primary sources of a

topical analysis of a major issue in the history of Jewish Bible interpretation.

JWST 692 M.A. THESIS 3. (12) Preparation of the thesis.

JWST 694 M.A. THESIS 4: AREA I. (3) A directed reading project devoted to the modern critical scholarship on one Biblical work.

JWST 695 M.A. THESIS 1: AREA II. (3) Bibliographical introduction to the field and preparation of a research proposal in East European Jewish Studies.

JWST 696 M.A. THESIS 2: AREA II. (6) Preparation of a research report and presentation of a research seminar in East European Jewish Studies.

JWST 697 M.A. THESIS 3: AREA II. (12) Preparation and submission of an acceptable thesis in East European Jewish Studies.

JWST 699 RESEARCH IN JEWISH STUDIES. (3) Practical problems and resources related to research and key theoretical debates in the field will be discussed.

OTHER COURSES

JWST 502 Contemporary Hebrew Literature. (3)

JWST 523 Ancient Bible Interpretation. (3)

JWST 534 Homiletic Midrash. (3)

JWST 535 Exegetic Midrash. (3)

JWST 543 Maimonides as Parshan. (3)

JWST 544 Nachmanides as Parshan. (3)

JWST 548 Medieval Parshanut. (3)

JWST 552 Judaism and Poverty. (3)

JWST 556 Modern Parshanut 1. (3)

JWST 573 History of Hebrew Bible Text. (3)

JWST 576 Jewish Family Law. (3)

JWST 585 Tutorial: Eastern European Studies 1. (3)

JWST 586 Tutorial: Eastern European Studies 2. (3)

JWST 641 Medieval Bible Interpretation 1. (3)

JWST 671 Jewish Bible Interpretation 3. (3)

JWST 741 Medieval Bible Interpretation 2. (3)

JWST 791D1 Comprehensive Examination. (1.5)

JWST 791D2 Comprehensive Examination. (1.5)

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. Hélène Perrault

Graduate Program Director — Dr. René A. Turcotte
Telephone: (514) 398-4184 ext. 0539

41.1 Staff

Professors

David Montgomery; B.Sc.(Guelph), M.Sc., Ph.D.(Purdue)

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

Greg Reid; B.Ed.(P.E.)(McG.), M.S.(Calif.), Ph.D.(Penn. State)

Associate Professors

Margaret J. Downey; B.Ed., M.A., Ph.D.(McG)

David J. Pearsall; B.A., BPHE, M.Sc., Ph.D.(Queen's)

René A. Turcotte; H.B.P.H.E.(Lauren.), M.Sc., Ph.D.(Alta.)

Assistant Professor

Gordon Bloom; B.Ed.(W.Ont.), M.A.(York), Ph.D.(Ott.)

Associate Member

Karen Johnston (Neurology and Neurosurgery)

Adjunct Professors

Robert Boushel; B.A.(Acadia), M.A.(S.Florida, Tampa),
Ph.D.(Boston)

Alain Comtois; B.Sc.(C'dia), M.Sc., Ph.D.(McG.)

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 (Thesis Option)
(45 credits)

Areas of concentration: Adapted Physical Activity, Psychology of Sport and Motor Behavior or Pedagogy

Required Courses (6 credits)

EDKP 605 (3) Research Methods 1

EDPE 676 (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.

EDKP 504 (3) Health and Lifestyle Education

EDKP 505 (3) Sport & Physical Education in Society

EDKP 550	(3)	Analyzing Instructional Behaviors
EDKP 603	(3)	Individual Readings
EDKP 607	(3)	Curriculum Innovation and Change
EDKP 616	(3)	Individual Readings
EDKP 650	(3)	Teaching in Physical Education
EDKP 654	(3)	Sport Psychology
EDKP 655	(3)	Program Development/Adapted Physical Activity
EDKP 664	(3)	Motor Learning
EDKP 665	(3)	Motor Performance of Disabled Persons
EDKP 671	(3)	Experimental Problems
EDKP 672	(3)	Experimental Problems
EDKP 695	(3)	Thesis Research 5 or complementary course
EDKP 696	(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)

EDKP 691	(6)	Thesis Research 1
EDKP 692	(6)	Thesis Research 2
EDKP 693	(6)	Thesis Research 3
EDKP 694	(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)

EDKP 608	(15)	Special Project
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Complementary Courses (18 credits)

6 credits, two courses from the following list:

EDPE 575	(3)	Educational Measurement
EDKP 605	(3)	Research Methods 1
EDSL 630	(3)	Qualitative/Ethnographic Studies
or EDEM 692	(3)	Qualitative Research Methods

12 credits from the following list:

EDKP 504	(3)	Health and Lifestyle Education
EDKP 505	(3)	Sport and Physical Education in Society
EDKP 550	(3)	Analyzing Instructional Behaviors
EDKP 607	(3)	Curriculum Innovation and Change
EDKP 650	(3)	Teaching in Physical Education
EDKP 654	(3)	Sport Psychology
EDKP 655	(3)	Program Development/Adapted Physical Activity
EDKP 664	(3)	Motor Learning
EDKP 665	(3)	Motor Performance of Disabled Persons
EDKP 671	(3)	Experimental Problems
EDKP 672	(3)	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 (Thesis Option) (45 credits)

Areas of concentration: Exercise Physiology and Biomechanics

Required Courses (6 credits)

EDKP 605	(3)	Research Methods 1
EDPE 676	(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.

EDKP 553	(3)	Physiological Assessment: Sport
EDKP 566	(3)	Biomechanical Assessment in Sport
EDKP 603	(3)	Individual Readings

EDKP 616	(3)	Individual Readings
EDKP 652	(3)	Cardio - Respiratory Exercise Physiology
EDKP 662	(3)	Metabolic/Neuromuscular Responses to Exercise
EDKP 663	(3)	Application: Exercise Physiology to Sport
EDKP 667	(3)	Sport Science – Seminar
EDKP 668	(3)	Data Acquisition in Sport Science
EDKP 671	(3)	Experimental Problems
EDKP 672	(3)	Experimental Problems
EDKP 695	(3)	Thesis Research 5
EDKP 696	(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)

EDKP 691	(6)	Thesis Research 1
EDKP 692	(6)	Thesis Research 2
EDKP 693	(6)	Thesis Research 3
EDKP 694	(6)	Thesis Research 4

M.Sc. Kinesiology and Physical Education (Non-thesis Option) (45 credits)

Areas of concentration: Exercise Physiology and Biomechanics

Project Component – Required (15 credits)

EDKP 608	(15)	Special Project
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Complementary Courses (18 credits)

6 credits, two courses from the following list:

EDPE 575	(3)	Educational Measurement
EDKP 603	(3)	Individual Readings
EDKP 605	(3)	Research Methods
EDKP 616	(3)	Individual Readings
EDSL 630	(3)	Qualitative/Ethnographic Studies
or EDEM 692	(3)	Qualitative Research Methods

12 credits chosen from the following:

EDKP 553	(3)	Physiological Assessment: Sport
EDKP 566	(3)	Biomechanical Assessment in Sport
EDKP 652	(3)	Cardio - Respiratory Exercise Physiology
EDKP 662	(3)	Metabolic/Neuromuscular Responses to Exercise
EDKP 663	(3)	Application: Exercise Physiology to Sport
EDKP 667	(3)	Sport Science – Seminar
EDKP 668	(3)	Data Acquisition in Sport Science
EDKP 671	(3)	Experimental Problems
EDKP 672	(3)	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 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.

Descriptions of courses not scheduled in 2003-04 can usually be found in the preceding Calendar.

Courses currently scheduled for 2003-04:

EDKP 553 PHYSIOLOGICAL ASSESSMENT: SPORT. (3) 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 IN SPORT. (3) Various equipment and protocols will be used to evaluate the biomechanics of skilled movement patterns. Kinematic, kinetic, and electromyographic data will be collected, processed and interpreted to identify optimal performance features related to equipment design and individual technique. Each student will be required to complete a series of research projects and literature summaries.

EDKP 603 INDIVIDUAL READING COURSE 1. (6)

May be offered as: EDKP 603D1 and EDKP 603D2.

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 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 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 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 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.

May be offered as: EDKP 672D1 and EDKP 672D2.

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).

May be offered as: EDKP 691D1 and EDKP 691D2.

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.

May be offered as: EDKP 692D1 and EDKP 692D2.

EDKP 693 THESIS RESEARCH 3. (6) Ongoing research pertaining to the thesis under the direction of the thesis advisor(s).

May be offered as: EDKP 693D1 and EDKP 693D2.

EDKP 694 THESIS RESEARCH 4. (6) Independent work under the supervision of the thesis advisor(s). Final submission and approval of the thesis.

May be offered as: EDKP 694D1 and EDKP 694D2.

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.

Other courses:

EDKP 502 Selected Issues. (3)

EDKP 505 Sport and Physical Education in Society. (3)

EDKP 550 Analyzing Instructional Behaviors. (3)

EDKP 650 Teaching in Physical Education. (3)

EDKP 652 Cardio-Respiratory Exercise Physiology. (3)

EDKP 655 Program Development/Adapted Physical Activity. (3)

EDKP 663 Application: Exercise Physiology to Sport. (3)

EDKP 664 Motor Learning. (3)

EDKP 667 Sport Science - Seminar. (3)

42 Law

Faculty of Law
Graduate Programs in Law
3661 Peel Street
Montreal, QC H3A 1X1
Canada

Telephone: (514) 398-3544

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E-mail: gradadmissions.law@mcgill.ca

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Dean, Faculty of Law — Peter Leuprecht

Director, Institute of Comparative Law — David Lametti

Director, Institute of Air and Space Law — Paul Dempsey

Associate Dean (Graduate Studies and Research) —
Lionel Smith

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, L. Gialoretto, A. Harakas, S. Lessard, R. Margo,

P. Nesgos, J. Saba, F. Schubert, P. van Fenema,

L. Wilhelmy van Hasselt, L. Weber

Lecturer

P. Lack

Institute of Comparative 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 Bellefleur; 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; Kwame Ninsin) (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)

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

Richard Gold; B.Sc. (McG.), LL.B. (Tor.), LL.M.,

S.J.D. (Michigan) (*B.C.E. Professor of E-Governance*)

Patrick Healy; B.A. (Hons.) (Vict.), B.C.L. (McG.), LL.M. (Tor.)

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)

Peter Leuprecht; B.C.L., Doctorat en droit (U. of Innsbruck)

Marie-Claude Prémont; B.Eng. (Sher.), LL.M., Ph.D. (Laval)

René Provost; LL.B. (Montr.), LL.M. (Berkeley), D.Phil. (Oxon)

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) (*William Dawson Scholar*)

Stephen Smith; B.A. (Queen's), LL.B. (Tor.), D.Phil. (Oxon)

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

Adelle Blackett; B.A. (Queen's), LL.B., B.C.L. (McG.), LL.M. (Col.)

Jaye Ellis; B.A. (Calg.), LL.B., B.C.L. (McG.), LL.M. (U.B.C.), D.C.L. (McG.)

Fabien Gélinas; LL.B., LL.M. (Montr.), D.Phil. (Oxon)

Lara Khoury; LL.B. (Sherb.), B.C.L. (Oxon)

David Lametti; B.A. (Tor.), LL.B., B.C.L. (McG.), LL.M. (Yale)

D.Phil. (Oxon)

Geneviève Saumier; B.Com., B.C.L., LL.B. (McG.) Ph.D. (Cantab.)

42.2 Programs Offered

The principal higher degrees in Law are the LL.M. (Master of Laws) and the D.C.L. (Doctor of Civil Law), as offered by the Faculty of Law and its two teaching Institutes, the Institute of Air and Space Law and the Institute of Comparative 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 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.

ICL: Applicants must achieve a minimum TOEFL score of 600 (250 on the computer-based test) or 7.5 overall band in the IELTS.

IASL: Applicants must achieve a minimum TOEFL score of 575 (233 on the computer-based test) or 7.0 overall band in the IELTS.

For both ICL and IASL: 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 civil-law 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 is 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 the degree of B.C.L. or LL.B. with at least second class honours, from McGill University, or its equivalent from another recognized university. 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, 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. Except in rare cases, students are not formally assigned a supervisor at the admissions stage. During the first year of study, they are permitted to adjust their thesis topics and choose a supervisor (subject to the approval of the Associate Dean).

Transfers from a Graduate Certificate Program to the LL.M. program are permitted for students who have achieved very good marks in their course work and who satisfy the other eligibility requirements. They may apply to the Graduate Admissions Committee for transfer and, if admitted, must waive receipt of the Graduate Certificate. (If a candidate has already received the Graduate Certificate, he or she may be accepted as a candidate for the Master's degree if he or she registers for three additional terms and undertakes additional course work.)

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 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: 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 (sent directly by the referee to the Graduate Program in Law);
- \$60 application fee;
- official TOEFL or IELTS score report.

All information is to be submitted to the Coordinator, Graduate Studies in Law, at the above address.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

Deadline: February 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

IMPORTANT NOTE: The Faculty of Law has approved significant changes to its graduate programmes. These are likely to come into effect for admissions in the academic year 2004-05. Some of the requirements described below are therefore subject to change. Changes will appear on the Faculty Web site.

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 and Research).

Note: International students must register for at least 12 credits per term in order to satisfy visa requirements.

Students who study at McGill under the terms of an international assistance project may, in some circumstances, be permitted to complete a practical internship for academic credit.

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. 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 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 and Research).

Graduate Certificate students generally remain in residence for both terms and take all 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

The Master's programs consist of a course work component (normally 18 credits) 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.

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 and Research). 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.

Exceptionally, and upon the recommendation of the Graduate Admissions Committee of the Faculty of Law, candidates may register as half-time students and complete their prescribed course work in two academic years.

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:

ASPL 636	(3)	Private International Air Law
ASPL 633	(3)	Public International Air Law
ASPL 637	(3)	Space Law: General Principles
ASPL 632*	(3)	Comparative Air Law
ASPL 613*	(3)	Government Regulation of Air Transport
ASPL 638*	(3)	Law of Space Applications
ASPL 639*	(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 and Research).

Thesis Component – Required (27 credits)

ASPL 690	(3)	Master's Thesis 1
ASPL 691	(3)	Master's Thesis 2
ASPL 692	(6)	Master's Thesis 3
ASPL 693	(12)	Master's Thesis 4
ASPL 694	(3)	Master's Thesis 5

The LL.M. student must present an acceptable thesis on a subject approved by the Associate Dean (Graduate Studies and Research). 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.

Institute of Comparative Law Master of Civil Law (M.C.L.)

This program is not currently being offered.

Institute of Comparative Law Master of Laws (LL.M.)

The Master's program consists of both course requirements and a substantial thesis.

There is no uniform program of studies. Candidates follow a curriculum that, as far as possible, is fashioned to meet their particular needs as indicated by prior legal experience and aspirations. Candidates will normally take six courses, for a total of at least 18 credits, during the two terms of the academic year. All ICL graduate students must take either Theoretical Approaches to Law or Legal Traditions.

Apart from this requirement, there is no set curriculum. Courses are for the most part determined by the student, in consultation with the Associate Dean (Graduate Studies and Research), with programs tailored to meet individual needs. Students who have a particularly strong academic record, who are already well-versed in the area they wish to study and who have a fully developed thesis proposal when they arrive at the Faculty may be authorized by the Associate Dean (Graduate Studies and Research) to take a reduced course load. In such cases, the minimum of course credits would be 9, and the expectations for the sophistication of the Master's thesis would be commensurately increased.

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 and Research). In some cases, candidates may be required to undergo an oral examination before a jury appointed by the Director or the Associate Dean.

Thesis Research Writing and Supervision

The Master's thesis is on the University credit system. For all students in the Institute of Comparative Law (ICL) an LL.M. thesis is worth 27 credits, divided over the following five thesis courses:

CMPL 612	(3)	Master's Thesis 1
CMPL 613	(3)	Master's Thesis 2
CMPL 614	(3)	Master's Thesis 3
CMPL 615	(6)	Master's Thesis 4
CMPL 616	(12)	Master's Thesis 5

N.B. Exceptionally and upon the decision of the Associate Dean (Graduate Studies and Research) ICL students may receive 30, 33 or 36 credits for a Master's thesis. They must then also register for one or both of the following courses.

CMPL 617	(3)	Master's Thesis 6
CMPL 618	(6)	Master's Thesis 7

If a student so wishes with a view to completing the Master's program in the minimum prescribed time of three terms, Master's Thesis 1, 2 and 3 may be taken in the Fall and Winter terms of the first year in residence (LL.M. or M.C.L.1), as long as the total number of credits in that term does not exceed 18.

Also in terms that a student devotes entirely to thesis research and writing, the maximum number of credits is 18. Therefore, the thesis courses must necessarily be taken over a minimum of two terms. Where more terms are needed, students may register for "additional sessions", as long as they remain within the University time limits for the completion of Master's theses.

Marks are given by the external and internal thesis examiners for the whole thesis and for all thesis courses together, upon the completion of the last thesis course (Master's Thesis 5). While work on the thesis is in progress, thesis courses on transcripts will be marked IP (in progress).

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 and Research).

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 ICL has particular teaching and research strengths in the following course 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. – 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 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 18 to 21 credits. 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 is a research degree offered by both the ICL and the IASL, with identical requirements. 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 CMPL 641, and a 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 2003-04.

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.

INSTITUTE OF COMPARATIVE LAW 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) The main schools of jurisprudence and the most significant writings, particularly contemporary writings, in legal philosophy.

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) An advanced course on selected topics in legal theory.

CMPL 506 LEGAL THEORY. (3) The philosophical basis of private law, from a comparative and historical perspective.

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) The concept of political justice and its relationship to particular legal and economic institutions, including the moral foundations of theories of justice, the nature of legitimate political authority, and the nature of distributive justice.

CMPL 513 TALMUDIC LAW. (3) Historical sources of Talmudic law, methods of interpretation, selected topics, and relation to various secular legal traditions.

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) The administrative and political structures which generate legislation in the province of Quebec.

CMPL 521 TRADE REGULATION. (3) (Prerequisite: CMPL 543 (Recommended)) (Restriction: Not open to first year students.) Historical contextualization of underlying trade principles; assessment of the interface between multilateral trade dispute resolution and domestic regulatory action in distinct public policy domains; consideration of internationalization claims, harmonization claims and the implications of trade regulation for democratic theory; particular attention to the WTO, selected regional agreements and the UN.

CMPL 524 ENTERTAINMENT LAW. (3) This course is designed to introduce students to the rules governing the Canadian entertainment industry in an international context with particular emphasis on the television, film production and distribution industries. There will also be limited coverage of the law relating to the music industry. The course will consider inter alia the contractual, tax, financial and insurance aspects of the law applicable to the entertainment industry.

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) Comparative study of contemporary problems in the field of private international law.

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) The legal and economic issues relating to the business operations of transnational enterprises.

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) The private law aspects of the seller-buyer relationship, and of the relationship between each part and a financing bank, examined comparatively and in an international setting.

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) The history of Canadian law with emphasis on social history of law and legal history of Canadian society.

CMPL 550 COMPARATIVE CIVIL LIABILITY. (2) A comparative law seminar on selected areas of civil liability such as products liability, medical liability, and environmental liability.

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) The definition and constitutional status of fundamental freedoms under the constitution of one or more foreign jurisdictions (FRG, USA, France, etc.) with comparisons to the Canadian Charter of Rights and Freedoms.

CMPL 558 CONTEMPORARY PRIVATE LAW PROBLEMS 2. (2) Contemporary problems in the field of private law.

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) An international and comparative law approach to the study of the protection of racial, religious, and linguistic minorities.

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) Selected problems in international law such as humanitarian intervention, transnational terrorism, and protection of the environment.

CMPL 580 ENVIRONMENT AND THE LAW. (3) Environmental law, with emphasis on ecological, economic, political, and international dimensions.

LAWG 500 COMPLEX LEGAL TRANSACTIONS 1. (3) In-depth case studies of complex legal transactions, to allow students to learn how areas of law interact in a sophisticated, practical environment, and to permit them to develop their analytical and research skills. Transactions may include land development schemes, national and international issues of securities and complex non-commercial transactions.

LAWG 501 COMPLEX LEGAL TRANSACTIONS 2. (3) In-depth case studies of complex legal transactions, to allow students to learn how areas of law interact in a sophisticated, practical environment, and to permit them to develop their analytical and research skills. Transactions may include land development schemes, national and international issues of securities and complex non-commercial transactions.

COURSES OPEN ONLY TO GRADUATE STUDENTS

CMPL 600 LEGAL TRADITIONS. (3) The concept of a legal tradition; particular legal traditions such as those of the civil and common law; selected other traditions, presented by members of Faculty or guest speakers. Philosophical foundations of particular traditions and their implementation through institutions; reciprocal influence; legal traditions in contemporary society.

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 616 MASTER'S THESIS 5. (12) Completion of thesis.

CMPL 617 MASTER'S THESIS 6. (3) Thesis research report.

CMPL 618 MASTER'S THESIS 7. (6) Thesis research project.

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. (3) Introduction to a variety of theoretical approaches to law, each presented by a Faculty member or guest speaker. The seminar will emphasize the importance of theoretical concerns in legal scholarship, especially in the definition of research objectives, the choice of research methods, and the framing of conclusions.

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 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 ISLAMIC LAW.** (3)
- **ISLA 706D2 ISLAMIC LAW.** (3)

43 Library and Information Studies

Graduate School of Library and Information Studies
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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'dia)

Professional Associate

Eric Bungay; B.Sc., B.A., B.Ed.(Mem.), M.L.I.S.(McG.)

Faculty Lecturers

Gordon Burr; B.A., M.L.I.S.(McG.); Senior Archivist, Records Management, McGill
Louise Carpentier; B.L.S.(Tor.), M.Bibl.(Montr.), M.P.P.P.A. (C'dia); Senior Librarian, Head, Government Documents and Special Collections Services, Webster Library, Concordia
Lisbeth Clemens; B.A., M.A., M.L.I.S.(McG.)
Martin Cohen; B.A.(McG.), Ph.D.(Exeter), M.L.S.(McG.); Bibliographer, Collections, Humanities and Social Sciences Library, McGill
Jocelyn Godolphin; B.A.(Manit.), M.A.(Oregon), M.L.S.(U.B.C.)
Ross Gordon; B.A.(Alta.), M.L.I.S.(McG.), M.A.(Ott.); Manager of Library and Documentation Services, National Archives of Canada
Christine Hiller; B.A.(Ott.), M.L.I.S.(McG.); Associate Director, Donor Research, McGill

Christine Jacobs; B.A.(Carl.), M.L.S.(McG.); Chair, Information and Library Technologies Dept., John Abbot College
Lorie Kloda; B.A., M.L.I.S.(McG.); Instruction Technology Librarian, Health Sciences Library, McGill
Chantal Marcoux; B.A., M.B.S.I.(Montr.); Information Coordinator, Caisse de dépôt et placement du Québec
Ruth Noble; B.Sc., M.L.I.S.(McG.); Information Services Librarian, Concordia
Richard Virr; B.A.(Tulane), M.A.(Queen's), Ph.D.(McG.); Curator of Manuscripts, Rare Books and Special Collections Division, McGill
Kwan Yi; B.A., B.Sc.(Korea), M.Sc.(Ill.), M.Sc.(McG.)

43.2 Programs Offered

The School is an institutional member of the Association for Library and Information Science Education (ALISE) and the Canadian Council of Library Schools (CCLS).

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.

Continuing Education

Workshops and seminars are organized from time to time to meet particular local needs.

Continuing education opportunities apart from regular courses are announced in news releases and special mailings.

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 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.

43.3 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 applicants' 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 4.5 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.

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 4.5 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 4.5 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.
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 4.5 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.

43.4 Application Procedures

All applicants must submit, or arrange for the submission of, the following documents, directly to the School:

1. 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.
2. Official transcripts of the applicant's university record showing degree(s) awarded.
3. 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).
4. A curriculum vitae.
5. Two letters of recommendation, on letterhead.
6. 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.

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 enrol 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.

43.5 Program Requirements

43.5.1 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

1. To provide the intellectual foundation for careers in library and information service.

2. To foster adaptability and competence in managing information resources.
3. To promote appropriate use of technologies to meet the needs of a changing world.
4. To emphasize the role of research in the advancement of knowledge.
5. 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:

1. Demonstrate an understanding of the history and intellectual foundations of librarianship and information science.
2. Articulate the issues concerning access to information, privacy, censorship, and intellectual freedom.
3. Analyze the flow of information through society, and the roles of libraries and information agencies in this process.
4. Analyze the role of the librarian or information specialist as a mediator between users and information resources.
5. Assess and respond to diverse users' information needs and wants.
6. Apply principles of selection, acquisition, organization, storage, retrieval and dissemination of information resources.
7. Undertake the design, the management and the evaluation of information systems and services.
8. Apply management theory, principles and techniques in libraries and information agencies.
9. Understand and apply research principles and techniques.
10. 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 fulfil 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.

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.

M.L.I.S. Program Requirements

Required Courses (24 credits)

GLIS 601	(3)	Information and Society
GLIS 607	(3)	Organization of Information
GLIS 611	(3)	Research Principles and Analysis
GLIS 615	(3)	Bibliographic and Factual Sources
GLIS 616	(3)	Online Information Retrieval
GLIS 617	(3)	Information System Design
GLIS 618	(3)	Information Users and Services
GLIS 620	(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 organisations.

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.

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 (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.

43.5.2 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 individualised 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 43.6 "Courses"](#), with the exception of GLIS 646, GLIS 647, GLIS 689, GLIS 695, GLIS 696 and GLIS 697. NB: Students who wish to register for GLIS 694 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.

43.5.3 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:

- GLIS 695 (6) Research Paper 1
- GLIS 696 (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 GLIS 646, GLIS 647, GLIS 689, and GLIS 694).

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.

43.5.4 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.

43.6 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.

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 2003-04.

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.) Surveyed are the development of writing, alphabets, and books from their inception, and of printing from its invention in the fifteenth century. Historical bibliogra-

phy dealing with the various physical elements in book production, including design.

- **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) Principles and practices of financial management for library and information services. Emphasis is placed on the communication of financial information and use of spreadsheets. Topics include: financial planning; budgeting; cost management; cost-benefit, cost-effectiveness and break-even analysis; accounting basics; strategies for financing services; and the value of information.

GLIS 624 MARKETING INFORMATION SERVICES. (3) The role and use of marketing for information brokers and library or information centres are discussed. Various aspects of the marketing process as applied to information services are analyzed. Students prepare a preliminary marketing plan for an information service of their choice and share similarities and differences in these specific applications.

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 defi-

nition, analysis, design, implementation and evaluation of alternative solutions.

GLIS 632 LIBRARY SYSTEMS. (3) (Prerequisite: GLIS 617) Focuses on applied systems analysis and project management techniques in an operational environment. Includes an in-depth examination of hardware and software installations, LANs, RFPs, automation, system selection, Internet and Intranet applications, and standards for exchanging digital information.

GLIS 633 MULTIMEDIA SYSTEMS. (3) (Prerequisites: GLIS 617 and consent of instructor) Theoretical and applied principles of multimedia systems design. Includes knowledge representation; interfaces; storage and retrieval of text, sound, still images, animation and video sequences; authoring software; hardware options; CD-ROM/DVD and Web based systems; virtual reality; testing and evaluation. Students design and develop a small-scale system.

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 RESEARCH PROJECT. (6) (Students must also register for GLIS 646D2) (No credit will be given unless both GLIS 646D1 and GLIS 646D2 are successfully completed in consecu-

tive 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 646D2 RESEARCH PROJECT. (6)

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 INDEPENDENT STUDY. (3) (Students must also register for GLIS 647D2) (No credit will be given 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 647D2 INDEPENDENT STUDY. (3)

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) (Prereq: GLIS 616)

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 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 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

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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*)

L. White; M.A.(Cantab.), Ph.D.(McG.) (*James McGill Professor*)

Associate Professors

J.D. Bobaljik; B.A.(McG.), Ph.D.(M.I.T.) (*William Dawson Scholar*)

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.)

G.L. Piggott; B.A.(W.I.), M.A., Ph.D.(Tor.)

L. de M. Travis; B.A.(Yale), Ph.D.(M.I.T.)

Assistant Professors

C. Boberg; B.A.(Alta.), Ph.D.(Penn.)

S. Wurmbrand; M.A.(Vienna), 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 and Pragmatics
- LING 371 Syntax 1
- LING 440 Morphology

Graduate courses currently scheduled for 2003-04:

★ **LING 520 SOCIOLINGUISTICS 2.** (3) (Fall) (Prerequisite: LING 320 or permission of instructor.) A seminar on variationist "micro-sociolinguistics", including a survey of the most important primary literature on sociolinguistic variation and introduction to sociolinguistic fieldwork.

LING 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) (Winter) (Prerequisites: LING 370 and PHIL 210 or permission of the instructor) Study of the relationship between language and its contexts of use. Topics to be examined include deixis, presupposition and implicature.

LING 571 SYNTAX 2. (3) (Fall) (Prerequisite: LING 371) This course extends and refines the theory of grammar developed in LING 371, while introducing some primary literature and developments (in certain modules of the grammar such as phrase structure, wh-movement, and binding).

LING 600 M.A. RESEARCH SEMINAR 1. (3)

LING 631 PHONOLOGY 3. (3) (Prerequisite: LING 531 or permission of instructor.) Foundations of phonological theory, focusing on issues in segmental and prosodic structure.

LING 635 PHONOLOGY 4. (3) (Prerequisite: LING 631) Exploration of current topics in phonological theory.

LING 645 MORPHOLOGY: THEORY AND ANALYSIS. (3) (Prerequisite: LING 571 or equivalents) (Corequisite: LING 530 or equivalent) In-depth investigation of current issues in theoretical morphology.

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.) An examination of theoretically informed work on the first language acquisition of phonology.

LING 655 THEORY OF L2 ACQUISITION. (3) (Prerequisite: LING 571 or permission of instructor) This course looks at the availability of principles and parameters of Universal Grammar in second language acquisition.

LING 671 SYNTAX 3. (3) (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) (Prerequisite: LING 671) Continuation of LING 671.

LING 682 SELECTED TOPICS 1. (3)

LING 683 SELECTED TOPICS 2. (3)

LING 700 PH.D RESEARCH SEMINAR 1. (3) (Not open to students who have taken 104-700D.)

LING 702 PH.D RESEARCH SEMINAR 2. (3) (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 771 ADVANCED SEMINAR IN SYNTAX. (3) (Not open to students who have taken LING 775.) (Prerequisite(s): LING 671 or LING 675.) Exploration and in-depth discussion of a current topic in syntactic theory through reading and discussion of primary literature. Topics vary from year to year.

Courses offered in Alternate Years:

LING 521 Dialectology. (3) (Prerequisite: LING 230 and LING 320)

LING 525 Topics in Historical Linguistics. (3) (Not open to students who have taken LING 541.) (Prerequisites: LING 371, LING 425 and LING 571, which can be taken concurrently, or permission of the instructor.)

Other Courses:

LING 531 Phonology 2. (3) (Not open to students who have taken LING 530.) (Prereq.: LING 331 and permission of instructor.)

LING 590 Introduction to Neurolinguistics. (3) (Prerequisite: 12 credits in Linguistics)

LING 601 M.A. Research Seminar 2. (3)

LING 607D1 M.A. Research Paper. (7.5) (Not open to students who have taken LING 697.)

LING 607D2 M.A. Research Paper. (7.5) (Not open to students who have taken LING 697.) (Prerequisite: LING 607D1)

LING 660 Formal Semantics. (3) (Prerequisite: LING 370 and LING 560 or permission of instructor. At least one course in logic strongly recommended.)

LING 640 Fundamentals of Morphology. (3) (Not open to students who have taken LING 440)

LING 688 Tutorial 1. (3) (Permission of instructor.)

LING 690 Seminar in Neurolinguistics. (3) (Prerequisite: LING 671 or permission of instructor)

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 Sociolinguistics. (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 782 Selected Topics 3. (3)

LING 783 Selected Topics 4. (3)

LING 788 Tutorial 2. (3) (Permission of instructor.)

LING 789 Tutorial 3. (3) (Permission of instructor.)

LING 790 Advanced Seminar in Neurolinguistics. (3) (Prerequisite: LING 671 or permission of instructor.)

45 Management

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Dean — Gerald Ross

Associate Dean, Master Programs; Director, M.B.A. — Alfred M. Jaeger

Associate Dean (Academic) and Director, Ph.D. Program — Jan Jørgensen

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
G.A. Whitmore; B.Sc.(Man.), M.Sc., Ph.D.(Minn.); Management Science (*Samuel Bronfman Professor of Management Science*)

Associate Professors

K. Basu; B.Eng.(Calc.), M.Sc.(Flor. I.T.), Ph.D.(Flor.); Marketing; Coordinator, IMPM Program
L. Dubé; B.Sc.(Laval), M.B.A.(HEC), M.P.S., Ph.D.(C'neil); Marketing
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. Jørgensen; 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
C. McWatters; B.A. M.B.A., C.M.A., Ph.D.(Queen's); Accounting

M. Mendonça; B.A., B.Com., M.A.(Bombay), M.B.A.(McG.); Organizational Behaviour (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
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.(Col.); Marketing
L. Lapointe; B.A., M.Sc.(Montr.), Ph.D.(HEC); Information Systems
D. Leisen; B.S.(Mainz), M.S., Ph.D.(Bonn); Finance
F. Liu; B.Eng., M.Eng.(Tianjin, China), Ph.D.(C'dia); Finance
S. Maguire; B.Sc.(Queen's), M.B.A.(Br.Col.); Strategy and Organization
A. Mukherjee; B.Eng.(Jadavpur-India), M.B.A.(Indian Inst. of Mgmt), Ph.D.(Texas-Austin); Marketing
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
L. Rivera-Batiz; B.A.(U. Puerto Rico), M.A., Ph.D.(Chic.); Finance
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 Professors (Special Category)

G. Basselier; B.Com., M.Sc.(HEC); Information Systems
W. Oh; B.A.(SUNY), M.B.A.(Geo.Wash. U.). M.Phil.(Stern); Information Systems
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. Gialloreto; 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
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
S. Sepinwall; B.A.(Sir G. Wms), M.Ed.(McG.); Organizational Behaviour
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.(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

K. Moore; B.Sc.(Ambassador U.), M.B.A.(U.S.C.), Ph.D.(York);
Marketing/Strategy and Organization

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 "M.B.A. Program Requirements", page 232) or a part-time basis (see "M.B.A. Part-time Studies", page 233).
- 2) M.B.A./Law Program offered in cooperation with the Faculty of Law (see "M.B.A./Law Program", page 234).
- 3) M.D./M.B.A. offered in cooperation with the Faculty of Medicine (see "M.D./M.B.A. Program", page 234).
- 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 "Post-M.B.A. Certificate", page 239)
- 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 "Joint Ph.D. in Administration", page 242).
- 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 "Master in Manufacturing Management", page 239).
- 7) Master of Management – International Masters Program in Practising Management (see "International Masters Programs in Practising Management (IMPM)", page 240).
- 8) Graduate Diploma in Public Accountancy (see "Diploma in Public Accountancy (Chartered Accountancy)", page 240).

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 "M.B.A. Program – Admission Requirements" on page 230.

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 "Combined Full-time and Part-time Studies", page 233.

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 (currently under review)

Candidates who hold a Bachelor of Commerce degree from a recognized North American institution with a minimum cumulative grade point average of 3.0 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 Account-

ing). 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/applying/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 "Application Fee Information", page 231);
- 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 "GMAT and TOEFL Information", page 231).

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 "Application Fee Information" on page 231.

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 "M.B.A. Application Procedure", page 231.

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 Admis-

sions, 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, page 234.
- M.D./M.B.A. Program, page 234.
- Master in Manufacturing Management, page 239.
- Post-M.B.A. Certificate, page 239.
- Joint Ph.D. in Administration, page 242.
- International Masters Programs in Practising Management (IMPM), page 240.
- Diploma in Public Accountancy (Chartered Accountancy), page 240.

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 "[Certificat d'acceptation \(C.A.Q.\)/ \(Certificate of Acceptance\)](#)", page 232).

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.

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. MGCR 628 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)		
MGCR 611	Financial Accounting	2
MGCR 612	Organizational Behaviour	2
MGCR 613	Managerial Economics	2

MGCR 614	Management Statistics	2
MGCR 628	Integrative Course	2
Module II (November to February)		
MGCR 616	Marketing	2
MGCR 617	Operations Management	2
MGCR 620	Information Systems	2
MGCR 641	Elements of Modern Finance 1	2
MGCR 628	Integrative Course (continues)	2
Module III (February to April)		
MGCR 618	Human Resource Management	1
MGCR 621	International Environment	2
MGCR 622	Organizational Strategy	2
MGCR 629	Ethics in Business	1
MGCR 640	Management Accounting or	2
MGCR 642	Elements of Modern Finance 2	2
MGCR 628	Integrative Course (concludes)	2

The Integrative Course, MGCR 628, 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:

- 1) 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

- 2) 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 "First Year (M.B.A. I)", page 232 and "Second Year (M.B.A. II)" on page 233.

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 2003-04.

45.6.1 M.B.A. I Year: Course Descriptions

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 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)

While technology per se exists in many domains of the firm, this course focuses on the research and development domain of the firm. This is an essential function - even in low-tech industries, well managed RD&E is essential because this is what provides the attributes and performance capabilities that customers desire in the products and services sold by the firm. Thus, every manager must understand how RD&E applies knowledge to achieve new performance capabilities, producing new products or services or enhancing existing ones. In addition, managers must be aware of the special and challenging issues faced by managers of this domain. Finally, managers must be aware of how they can provide a more effective link with the RD&E function.

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 628 INTEGRATIVE COURSE. (6)

MGCR 628D1 INTEGRATIVE COURSE. (3) (Students must also register for MGCR 628D2) (No credit will be given for this course unless both MGCR 628D1 and MGCR 628D2 are successfully completed in consecutive terms) (MGCR 628D1 and MGCR 628D2 together are equivalent to MGCR 628) 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 628D2 INTEGRATIVE COURSE. (3) (Prerequisite: MGCR 628D1) (No credit will be given for this course unless both MGCR 628D1 and MGCR 628D2 are successfully completed in consecutive terms) (MGCR 628D1 and MGCR 628D2 together are equivalent to MGCR 628)

May be offered as:

MGCR 628J1, MGCR 628J2, and MGCR 628J3

MGCR 629 ETHICS IN BUSINESS. (1) Consideration of ethical issues in management.

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; bootstrapping 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)**

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.

● 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)****● BUSA 635 BUSINESS LAW 1. (3)**

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)

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 541 APPLIED INVESTMENTS.** (3)

FINE 541D1 APPLIED INVESTMENTS. (1.5) (Students must also register for FINE 541D2) (No credit will be given for this course unless both FINE 541D1 and FINE 541D2 are successfully completed in consecutive terms) (FINE 541D1 and FINE 541D2 together are equivalent to FINE 541) Students are exposed to practical aspects of managing investment portfolios. A principal activity of students is participation in the management of a substantial investment fund.

FINE 541D2 APPLIED INVESTMENTS. (1.5) (Prerequisite: FINE 541D1) (No credit will be given for this course unless both FINE 541D1 and FINE 541D2 are successfully completed in consecutive terms) (FINE 541D1 and FINE 541D2 together are equivalent to FINE 541)

May be offered as: **FINE 541J1, FINE 541J2 and FINE 541J3; or FINE 541N1 and FINE 541N2.**

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 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) 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) (Lectures for this course span both the fall and winter semesters) (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 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) Operational problems and policies of financial management in an international context: the international monetary system; foreign exchange and Eurocurrency markets; determining a firm's exposure to exchange rate changes; protecting against exchange losses; multinational sources and cost of capital; multinational capital project analysis; contemporary developments in international finance. The course has a practical orientation, combining basic conceptual readings with applied case analyses.

● **FINE 690 TOPICS IN FINANCE 1.** (3)

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)

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, managerial and strategic topics companies face (what makes their market value increase and what makes this value diminish).

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 ADVANCED TOPICS - SYSTEMS TECHNOLOGY.** (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 BASE SYSTEMS. (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 IS MANAGEMENT OF E-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) 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.

May be offered as: MGCR 610D1 and MGCR 610D2; or MGCR 610J1, MGCR 610J2 and MGCR 610J3.

● **MGMT 690 TOPICS: INTERNATIONAL BUSINESS.** (3)

● **MGMT 690D1 TOPICS: INTERNATIONAL BUSINESS.** (1.5)

● **MGMT 690D2 TOPICS: INTERNATIONAL BUSINESS.** (1.5)

● **MGMT 693 INTERNATIONAL FINANCIAL MANAGEMENT 1.** (3)

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)

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 tech-

niques. 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.

May be offered as: MRKT 657D1 and MRKT 657D2.

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 INDUSTRIAL MARKETING. (3) Focus on formulating policy and implementing decisions for marketing to organizations. Essentially practice and problem oriented. Topics include: concepts of market selection and product planning; pricing; distribution; buyer-seller relations; industrial buyer behaviour.

MRKT 690 TOPICS IN MARKETING. (3) ()

MRKT 698 INTERNATIONAL MARKETING MANAGEMENT. (3) Marketing management considerations of a company seeking to extend beyond the confines of its domestic market. A review of product, pricing, channels of distribution and communications policies to develop an optimum strategy (between adapting completely to each local environment and standardizing across them) for arriving at an integrated and profitable operation. Particular attention to international marketing and exporting in the Canadian context.

ORGB 525 COMPENSATION MANAGEMENT. (3) Compensation policies and practices, consistent with motivational theories, are examined. Topics include: design and evaluation of job evaluation systems, salary structures, and performance-based pay; compensation of special employee groups; and current pay equity laws. Projects and simulations provide "hands-on" experience in the use of compensation techniques.

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 behaviors. 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 GROUP DYNAMICS AND INTERPERSONAL BEHAVIOUR.

(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 LEADERSHIP, POWER AND INFLUENCE. (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 be 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)

- MGCR 611 (2) Financial Accounting
- MGCR 612 (2) Organizational Behaviour
- MGCR 616 (2) Marketing
- MGCR 641 (2) Elements of Modern Finance 1
- MGSC 608 (3) Data Decisions and Models

General Business and Management – Complementary Courses (6 credits)

Two of the following courses:

- INDR 603 (3) Industrial Relations
- ORGB 625 (3) Managing Organizational Change
- ORGB 632 (3) Group Dynamics and Interpersonal Behaviour
- ORGB 633 (3) Managerial Negotiations
- ORGB 640 (3) Leadership, Power and Influence
- ORGB 685 (3) Cross Cultural Management

Manufacturing and Supply Chain – Required Courses (15 credits)

- MECH 524 (3) Computer Integrated Manufacturing
- MGSC 602 (3) Manufacturing Strategy
- MGSC 603 (3) Logistics Management
- MGSC 605 (3) Total Quality Management
- MGSC 631 (3) Analysis of Manufacturing Systems

Manufacturing and Supply Chain – Complementary Courses (12 credits)

Two of the following four courses (6 credits):

- MECH 526 (3) Manufacturing and the Environment
- MGSC 601 (3) Management of Technology in Manufacturing
- MGSC 615 (3) The Internet and Manufacturing
- MGSC 675 (3) Applied Time Series Analysis Managerial Forecasting

and one of the following two options (6 credits):

Discrete Manufacturing Option

- MECH 528 (3) Product Design
- MECH 529 (3) Discrete Manufacturing Systems

Process Manufacturing Option

- CHEE 571 (4) Chemical Reaction Engineering
- CHEE 641 (3) Small Computer Applications: Chemical Engineering

Industry – Required Courses (12 credits)

- MECH 627 (9) Manufacturing Industrial Stage
- MECH 628 (2) Manufacturing Case Studies
- MECH 629 (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

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:

- ACCT 351 Intermediate Financial Accounting 1
- ACCT 352 Intermediate Financial Accounting 2
- ACCT 361 Intermediate Management Accounting 1
- ACCT 362 Intermediate Management Accounting 2
- ACCT 385 Principles of Taxation
- ACCT 453 Advanced Financial Accounting
- ACCT 454 Financial Reporting
- ACCT 455 Development of Accounting Thought
- ACCT 475 Principles of Auditing
- ACCT 486 Business Taxation 2
- INSY 332 Accounting Information Systems
- MGCR 272 Statistics 2
- MGCR 293 Managerial Economics
- MGCR 341 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.

- ACCT 486 Business Taxation 2
- CCAU 511 Auditing 1
- CCFC 511 Financial Accounting 1
- CCFC 512 Financial Accounting 2
- CCFC 513 Financial Accounting 3
- CCFC 514 Accounting Theory and Practice
- CCMA 511 Management Accounting 1
- CCMA 522 Management Accounting 2
- CEC2 532 Business Economics
- CFIN 512 Introduction to Corporate Finance
- CMS2 521 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.
 - 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 \$200 (certified cheque or money order) deposit. This fee is non-refundable and will be applied to the student's fee account.

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

ACCT 651	Financial Accounting 4
ACCT 655	Auditing 2
ACCT 657	Systems Audit
ACCT 659	Business Communications
ACCT 671	C.A. Law

Level II

ACCT 679	Business Advisory Services - Core
ACCT 681	Financial Accounting 5
ACCT 683	Tax Planning and Decision Making
ACCT 685	Auditing 3 (4 credits)
ACCT 689	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 2003-04

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)

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 300 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 specialization phase focuses on one applied area and one support field. The applied area could be one of the basic ones listed in Phase I (for example, management policy 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 (MGMT 707, 3 credits) or equivalent course as defined by Program Committee.
- Seminar in Pedagogy (MGMT 706, 3 credits), or Teaching and Learning in Higher Education (EDPH 689, 3 credits).
- Comprehensive Examination (MGMT 701, 0 credits).
- A publishable research paper (MGMT 720, 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 certain cases, North American candidates without a related Master's degree but with exceptional backgrounds may be considered for the program.

GMAT (or GRE) 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 (213 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) 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. application form;
2. two official transcripts of all undergraduate and graduate degrees;
3. two letters of reference (free format);
4. test results: TOEFL (if applicable), GMAT (or GRE);
5. personal background form (questions);
6. c.v.

Applications and all supporting documents must be submitted by February 1st for September admission. January admissions are rarely allowed.

Completed McGill application forms should be sent 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,
 Faculty of Commerce and Administration,
 1455 de Maisonneuve Blvd West, Montreal, QC H3G 1M8

École des Hautes Études Commerciales,
 3000 Chemin de la Cote Ste-Catherine,
 Montréal, QC 3T 2A7

Université du Québec à Montréal,
 Département des Sciences Administratives,
 315 Ste-Catherine Est, Montréal, QC H3C 4R2

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 2003-04

BEHAVIORAL 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)

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)

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 703 STOCHASTIC PROCESSES AND APPLICATIONS. (3)

POLICY SPECIALIZATION

MGPO 701 SEMINAR IN QUALITATIVE METHODS. (3)

● MGPO 704 ORGANIZATIONAL THEORY SEMINAR. (3)

● MGPO 705 SEMINAR IN POLICY. (3)

MGPO 706 PERSPECTIVES ON INNOVATION. (3)

46 Mathematics and Statistics

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 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 — E.Z. Goren

46.1 Staff

Emeritus Professors

M. Barr; A.B., Ph.D.(Penn.) (*Peter Redpath Emeritus Professor of Pure Mathematics*)

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.(Manit.), M.A.(Minn.), Ph.D.(Tor.)

V. Seshadri; B.Sc, M.Sc.(Madras), Ph.D.(Oklahoma)

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.)

M. Bunge; M.A., Ph.D.(Penn.)
 H. Darmon; B.Sc.(McG.), Ph.D.(Harv.)
 S. Drury; M.A., Ph.D.(Cantab.)
 K. GowriSankaran; B.A., M.A.(Mad.), 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 3^e 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.)
 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)
 V. Jaksic; B.S.(Belgrade), Ph.D.(Caltech)
 W. Jonsson; M.Sc.(Manit.), Dr.Rer.Nat.(Tubingen)
 I. Klemes; B.Sc.(Tor.), Ph.D.(Cal.Tech.)
 J. Labute; B.Sc.(Windsor), M.A., Ph.D.(Harv.)
 J. Loveys; B.A.(St.Mary's), M.Sc., Ph.D.(S. Fraser)
 R. Ramakrishna; B.A.(C'nell), Ph.D.(Prin.) (*Canada Research Chair*)
 R. 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. Jakobson; B.Sc.(M.I.T.), Ph.D.(Prin.) (*William Dawson Scholar*)
 D. Leisen; B.Sc.(Mainz), M.Sc., Ph.D.(Bonn) (*joint appoint. with Management*)
 Nilima Nigam; B.Sc.(I.I.T. - Bombay), M.S., Ph.D.(Delaware)
 R. Steele; B.S., M.S.(Carnegie Mellon), Ph.D.(Wash.)
 A. Vandal; B.Sc., M.Sc.(McG.), Ph.D.(Auckland)
 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*)

Faculty Lecturers

J. Correa; M.Sc.(Wat.), Ph.D.(Carleton)
 Axel Hundemer; M.Sc., Ph.D.(Munich)

Adjunct Professors

D.A. Dawson, V.P. Havin, R. Murty, R.A. Seely

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, 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 Year.

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

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 for a total of at least 22 credits, and the project option, which requires a project (15 credits) and 8 approved courses 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:

- For students in applied mathematics: at least two of the following course sequences: MATH 487 and MATH 560; MATH 578 and MATH 579; MATH 586 and MATH 585.
- For 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 and, if they intend to continue in a doctoral program, they should also take MATH 587 and MATH 589.

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)

MATH 600	(6)	Master's Thesis Research 1
MATH 601	(6)	Master's Thesis Research 2
MATH 604	(6)	Master's Thesis Research 3
MATH 605	(6)	Master's Thesis Research 4
MATH 669D1	(.5)	CSE Seminar
MATH 669D2	(.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:

CIVE 602	(4)	Finite Element Analysis
COMP 522	(4)	Modelling and Simulation
COMP 540	(3)	Matrix Computations
COMP 566	(3)	Discrete Optimization 1
MATH 578	(4)	Numerical Analysis 1
MATH 579	(4)	Numerical Differential Equations

List B - Applications and Specialized methods Courses:

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 514	(3)	Structural Mechanics
CIVE 572	(3)	Computational Hydraulics
CIVE 603	(4)	Structural Dynamics
CIVE 613	(4)	Numerical Methods: Structural Engineering
COMP 505	(3)	Advanced Computer Architecture
COMP 557	(3)	Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Optimizing Compilers
COMP 642	(4)	Numerical Estimation

ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 651	(4)	Asymptotic Expansion and Perturbation Methods
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics
MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 545	(3)	Advanced Stress Analysis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Computer Graphics and Geometrical Modelling
MECH 577	(3)	Optimum Design
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 620	(4)	Advanced Computational Aerodynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics
MECH 650	(4)	Heat Transfer
MECH 654	(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.

Courses currently scheduled for 2003-04:

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) Simple random sampling, domains, ratio and regression estimators, superpopulation models, stratified sampling, optimal stratification, cluster sampling, sampling with unequal probabilities, multistage sampling, complex surveys, nonresponse.

MATH 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 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 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) Existence, uniqueness, smoothness, and dependence on initial conditions of solutions of systems of ordinary differential equations. Dynamical systems. Stable and unstable manifold theorem, Hartman-Grobman Theorem. Classification of equilibria. Liapunov functions. Limit sets, limit cycles and the Poincaré-Bendixson Theorem. The van der Pol equation. Strange attractors and Hopf bifurcation. Applications.

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 problems, 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 586 APPLIED PARTIAL DIFFERENTIAL EQUATIONS. (4) (Fall or Winter) (Prerequisites MATH 316, MATH 375 or equivalent) Linear and nonlinear partial differential equations of applied mathematics. Classification and appropriate partial initial and/or boundary conditions for elliptic, hyperbolic and parabolic equations. Method of characteristics for first-order systems and quasi linear equations. Transform methods. Introduction to generalized functions. Special techniques for finding exact solutions of nonlinear 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 592 MATHEMATICAL LOGIC 2. (4) (Winter) (Prerequisites: MATH 488 or equivalent or consent of instructor) Introduction to recursion theory; recursively enumerable sets, relative recursiveness. Incompleteness, undecidability and undefinability theorems of Gödel, Church, Rosser and Tarski. Some of the following topics: Turing degrees, Friedberg-Muchnik theorem, decidable and undecidable theories.

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) Homology and Cohomology theories. Duality theorems. Higher homotopy groups.

MATH 627 ADVANCED GROUP THEORY 2. (4) A continuation of the topics listed in the description of MATH 626.

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 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 681 TIME SERIES ANALYSIS. (4) Stationary stochastic processes. Autocovariance and autocovariance generating functions. The periodogram. Model estimation. Likelihood function. Estimation for autoregressive moving average and mixed processes. Computer simulation; diagnostic checking, tests with residuals. Estimation of spectral density; Bartlett, Daniell, Blackman-Tukey spectral windows. Asymptotic moments of spectral estimates.

MATH 685D1 STATISTICAL CONSULTING. (2) (Prerequisites: MATH 423, MATH 523, MATH 556, MATH 557. Equivalents may be substituted at instructor's discretion) (Password required) (Students must also register for 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 685D2 STATISTICAL CONSULTING. (2) (Prerequisite: MATH 685D1) (No credit will be given for this course unless both MATH 685D1 and MATH 685D2 are successfully completed in consecutive terms) See MATH 685D1 for course description.

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 700 PH.D. PRELIMINARY EXAMINATION PART A. (0)

MATH 701 PH.D. PRELIMINARY EXAMINATION PART B. (0)

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 743 TOPICS IN ANALYSIS 4. (4) This course covers an advanced topic in some branch of analysis.

MATH 744 TOPICS IN ANALYSIS 5. (4) This course covers an advanced topic in some branch of analysis.

MATH 762 TOPICS IN APPLIED MATHEMATICS 2. (4) This course covers an advanced topic in applied mathematics.

MATH 763 TOPICS IN APPLIED MATHEMATICS 3. (4) This course covers an advanced topic in applied mathematics.

MATH 764 TOPICS IN APPLIED MATHEMATICS 4. (4) This course covers an advanced topic in applied mathematics.

MATH 784 TOPICS IN STATISTICS AND PROBABILITY 3. (4) This course covers an advanced topic.

Other courses:

MATH 555 Fluid Dynamics. (4)

MATH 566 Advanced Complex Analysis. (4) (Prerequisites: MATH 466, MATH 564)

MATH 561 Analytical Mechanics. (4) (Prerequisites: MATH 354 and MATH 380 or instructor's approval)

MATH 575 Partial Differential Equations. (4) (Prerequisite: MATH 375)

MATH 585 Integral Equations and Transforms. (4)

MATH 591 Mathematical Logic 1. (4) (Prerequisites: MATH 488 or equivalent or consent of instructor)

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 651 Asymptotic Expansion and Perturbation Methods. (4)

MATH 669D1 CSE Seminar. (0.5)

MATH 669D2 CSE Seminar. (0.5)

MATH 669N1 CSE Seminar. (0.5)

MATH 669N2 CSE Seminar. (0.5)

MATH 671 Applied Stochastic Processes. (4)

MATH 674 Experimental Design. (4)

MATH 676 Multivariate Analysis. (4)

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)

MATH 682 Matrix Theory - Statistical and Other Applications. (4)

MATH 683 Linear Models. (4)

MATH 612 Algebraic Curves. (4)

MATH 622 Categories 1. (4)

MATH 626 Advanced Group Theory 1. (4)

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 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 704 Topics in Mathematical Logic 1. (4)

MATH 706 Topics in Geometry and Topology 1. (4)

MATH 721 Topics in Algebra 2. (4)

MATH 722 Topics in Algebra 3. (4)

MATH 723 Topics in Algebra 4. (4)

MATH 723D1 Topics in Algebra 4. (2)

MATH 723D2 Topics in Algebra 4. (2)

MATH 724 Topics in Algebra 5. (4)

MATH 725 Topics in Algebra 6. (4)

MATH 726 Topics in Number Theory 1. (4)

MATH 726D1 Topics in Number Theory 1. (2)

MATH 726D2 Topics in Number Theory 1. (2)

MATH 727 Topics in Number Theory 2. (4)

MATH 728 Topics in Number Theory 3. (4)

MATH 729 Topics in Number Theory 4. (4)

MATH 729D1 Topics in Number Theory 4. (2)

MATH 729D2 Topics in Number Theory 4. (2)

MATH 740 Topics in Analysis 1. (4)

MATH 742 Topics in Analysis 3. (4)

MATH 745 Topics in Analysis 6. (4)

MATH 761 Topics in Applied Mathematics 1. (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 785 Topics in Statistics and Probability 4. (4)

47 Mechanical Engineering

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Chair — A.K. Misra

Chair of Graduate Program — M. Nahon

47.1 Staff

Emeritus Professors

W. Bruce; B.A.Sc., M.A.Sc.(Tor.), Eng.
R. Knystautas; B.Eng., M.Eng., Ph.D.(McG.), Eng.
M.P. Paidoussis; B.Eng.(McG.), Ph.D.(Canlab.), 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.

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.
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.
J.H.S. Lee; B.Eng.(McG.), M.Sc.(M.I.T.), Ph.D.(McG.), Eng.
D.F. Mateescu; M.Eng.(Poli. Univ. Buch.), Ph.D.(Rom. Acad. Sci.),
Doctor Honoris Causa (Poli. Univ. Buch.), AFAIAA, FCASI
A.K. Misra; B.Tech.(I.I.T., Kgp.), Ph.D.(Br.Col.), P.Eng.
M. Ostojca-Starzewski; M.Eng., Ph.D.(McG.), F.A.S.M.E.
S.J. Price; B.Sc., Ph.D.(Brist.), P.Eng.

Associate Professors

M. Buehler; M.Sc., Ph.D.(Yale)
L. Cortelezzi; M.Sc., Ph.D.(Caltech)
D.L. Frost; B.A.Sc.(Br.Col.), M.S., Ph.D.(Caltech.), P.Eng.
T. Lee; M.S.(Portland State), 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.(Ecole Poly.), Ph.D.(U.B.C.)
R. Mongrain; B.Sc., M.Sc.(Montr.), Ph.D.(Ecole Poly.) Eng.
L. Mydlarski; B.Sc.(Wat.), Ph.D.(C'nell)
S. Nadarajah; B.Sc.(Kansas), M.S., Ph.D.(Stan.)

Associate Members

R.E. Kearney (Biomedical Engineering Unit), B.H.K. Lee,
M. Tanzer

Adjunct Professors

R. Edwards, G. Guévremont, Z. Liu, K. MacKenzie, W.D. May,
A. Pavillet, M.P. Robichaud, 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: mechanics of the human musculoskeletal system and design of joint prostheses.

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.

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.

Robotics and automation: artificial intelligence based simulation of industrial processes, design optimization of manipulators, finite automata, geometric modeling 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 manipulators and tethered satellites.

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.

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)

All information is to be submitted directly to the Graduate Program Secretary in the Mechanical Engineering Department

Deadlines:

- February 1st for Fall admission;
- May 15th for Winter admission.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

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)

- MECH 609 (1) Seminar
- MECH 691 (3) M.Eng. Thesis Literature Review
- MECH 692 (4) M.Eng. Thesis Research Proposal
- MECH 693 (3) M.Eng. Thesis Progress Report 1
- MECH 694 (6) M.Eng. Thesis Progress Report 2
- MECH 695 (12) M.Eng. Thesis

MECH 691 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.

Students who do not hold an undergraduate engineering (or equivalent) degree and who are accepted into this option will register for the M.Sc. degree in Mechanical Engineering. This applies particularly to students engaged in interdisciplinary research. 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 - Computational Science and Engineering (CSE) Option (46 credits)

Required Courses (30 credits)

MATH 669D1	(.5)	CSE Seminar
MATH 669D2	(.5)	CSE Seminar
MECH 609	(1)	Seminar
MECH 691	(3)	M.Eng. Thesis Literature Review
MECH 692	(4)	M.Eng. Thesis Research Proposal
MECH 693	(3)	M.Eng. Thesis Progress Report 1
MECH 694	(6)	M.Eng. Thesis Progress Report 2
MECH 695	(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:

CIVE 602	(4)	Finite Element Analysis
COMP 522	(4)	Modelling and Simulation
COMP 540	(3)	Matrix Computations
COMP 566	(3)	Discrete Optimization 1
MATH 578	(4)	Numerical Analysis 1
MATH 579	(4)	Numerical Differential Equations

List B - Applications and Specialized methods Courses:

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 514	(3)	Structural Mechanics
CIVE 572	(3)	Computational Hydraulics
CIVE 603	(4)	Structural Dynamics
CIVE 613	(4)	Numerical Methods: Structural Engineering
COMP 505	(3)	Advanced Computer Architecture
COMP 557	(3)	Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Optimizing Compilers
COMP 642	(4)	Numerical Estimation
ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 651	(4)	Asymptotic Expansion and Perturbation Methods
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics
MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 545	(3)	Advanced Stress Analysis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Computer Graphics and Geometrical Modelling
MECH 577	(3)	Optimum Design
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 620	(4)	Advanced Computational Aerodynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics

MECH 650	(4)	Heat Transfer
MECH 654	(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)

MECH 605	(4)	Applied Mathematics 1
MECH 610	(4)	Fundamentals of Fluid Mechanics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics
MECH 603*	(6)	Design Project 1
MECH 604*	(6)	Design Project 2
MECH 609*	(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.

Students holding an undergraduate degree in engineering other than Mechanical Engineering are also eligible to apply for this degree. 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)

MECH 687	(3)	Aerospace Case Studies
MECH 688	(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)

- MGCR 611 (2) Financial Accounting
- MGCR 612 (2) Organizational Behaviour
- MGCR 616 (2) Marketing
- MGCR 641 (2) Elements of Modern Finance 1
- MGSC 608 (3) Data Decisions and Models

General Business and Management – Complementary Courses (6 credits)

Two of the following courses:

- INDR 603 (3) Industrial Relations
- ORGB 625 (3) Managing Organizational Change
- ORGB 632 (3) Group Dynamics and Interpersonal Behaviour
- ORGB 633 (3) Managerial Negotiations
- ORGB 640 (3) Leadership, Power and Influence
- ORGB 685 (3) Cross Cultural Management

Manufacturing and Supply Chain – Required Courses

(15 credits)

- MECH 524 (3) Computer Integrated Manufacturing
- MGSC 602 (3) Manufacturing Strategy
- MGSC 603 (3) Logistics Management
- MGSC 605 (3) Total Quality Management
- MGSC 631 (3) Analysis of Manufacturing Systems

Manufacturing and Supply Chain – Complementary Courses (12 credits)

Two of the following four courses (6 credits):

- MECH 526 (3) Manufacturing and the Environment
- MGSC 601 (3) Management of Technology in Manufacturing
- MGSC 615 (3) The Internet and Manufacturing
- MGSC 675 (3) Applied Time Series Analysis Managerial Forecasting

and one of the following two options (6 credits):

Discrete Manufacturing Option

- MECH 528 (3) Product Design
- MECH 529 (3) Discrete Manufacturing Systems

Process Manufacturing Option

- CHEE 571 (4) Chemical Reaction Engineering
- CHEE 641 (3) Small Computer Applications: Chemical Engineering

Industry – Required Courses (12 credits)

- MECH 627 (9) Manufacturing Industrial Stage
- MECH 628 (2) Manufacturing Case Studies
- MECH 629 (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 2003-04.

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 to 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)

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)

□ **MECH 528 PRODUCT DESIGN.** (3) (3-0-6) A study of the design issues present in product life cycle demands. Computer-aided systems. Rapid prototyping. Design for manufacturability. Integra-

tion 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)

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) (Prerequisite: MECH 533)

MECH 532 AIRCRAFT PERFORMANCE, STABILITY AND CONTROL. (3) (3-1-5) (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) 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)

● **MECH 537 HIGH-SPEED AERODYNAMICS.** (3) (3-0-6)

MECH 538 UNSTEADY AERODYNAMICS. (3) (3-0-6) Fundamental equations of unsteady compressible flows in fixed or moving reference frames. Unsteady flows past bodies in translation and having oscillatory motions. Oscillations of cylindrical pipes or shells subjected to internal flows. Vortex theory of oscillating aerofoils in incompressible flows. Theodorsen's method. Unsteady compressible flow past oscillating aerofoils.

MECH 539 COMPUTATIONAL AERODYNAMICS. (3) (3-0-6) (Prerequisite: MECH 309 or permission of the instructor.) 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) 3-D geometric modelling for design; principles and practice. Selected topics/case studies requiring use of: 3-D CAD; component selection and integration; use of machine element design analysis software; practice in developing simple applications. Use of modern software for design decision making. Introduction to mechanism animation. Introduction to design for NC production.

MECH 541 KINEMATIC SYNTHESIS. (3) (3-0-6) (Prerequisite: MECH 309 or permission of the instructor.) Outline of kinematic synthesis and its applications. Degree of freedom, kinematic pairs and bonds. Function-generation problems: Synthesis matrix, transmission quality, six-bar linkages. Rigid-body guidance problem: Planar and spherical Burmester problem; centre-point and circle-point curves. Path generation problem and planar, spherical and spatial coupler curves. Cam mechanisms.

MECH 542 SPACECRAFT DYNAMICS. (3) (3-0-6) 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) Material systems/selection process. Cost vs performance. Laminate layup procedures. Theory and application of filament winding of composite cylinders. Regular oven and

autoclave oven curing, analysis of resulting material performance. Practical design considerations and tooling. Analysis of environmental considerations. Joining techniques. Analysis of test methods. Theory of repair techniques.

MECH 545 ADVANCED STRESS ANALYSIS. (3) (3-1-5) 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 552 ADVANCED APPLIED MATHEMATICS. (3) (3-1-5) (Prerequisite: Permission of instructor.) Solutions of ordinary differential equations using integral methods; asymptotic series, Stirling's approximation. Bessel and Laguerre functions. Green's functions. Laplace, Helmholtz, diffusion, wave, telegraph partial differential equations. Variational methods. Numerical solutions to partial differential equations.

● **MECH 554 MICROPROCESSORS FOR MECHANICAL SYSTEMS.** (3) (2-3-4)

MECH 557 MECHATRONIC DESIGN. (3) (3-1-5) 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) 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) 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) (Not open to students who have taken MECH 573) Manipulator hardware structure, kinematics, statics, dynamics planning and control. Rigid-body, three-dimensional statics, kinematics and dynamics. Direct and inverse kinematics and dynamics. Trajectory planning subject to constraints. Manipulator control. In depth study of serial manipulators with extension to more complex robotic devices.

MECH 573 MECHANICS OF ROBOTIC SYSTEMS. (3) (3-0-6) (Prerequisite: MECH 309 or permission of the instructor) Numerical methods for the kinematic inversion of serial manipulators. The handling of redundancies and singularities. Kinematics and dynamics of parallel manipulators, manipulator performance evaluation and optimization, multifingered hand grasping and manipulation, robot compliant and constrained motion. Obstacle avoidance.

MECH 576 COMPUTER GRAPHICS AND GEOMETRICAL MODELLING. (3) (2-3-4) Review of pertinent linear algebra and projective geometry. Explicit, implicit and parametric polynomial forms. Splines: curves and surfaces. Properties: curvature, twist, continuity. Ruled surfaces and other quad patches. Constructive solid models; Octree/Voxel, sweep wire frame, Boolean, boundary representation. Mechanical Engineering applications.

● **MECH 577 OPTIMUM DESIGN.** (3) (2-3-4) (Prerequisite: MECH 309 or permission of the instructor.)

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 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 MANUFACTURING CASE STUDIES. (1) (Students must also register for 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 628D2 MANUFACTURING CASE STUDIES. (1) (Prerequisite: MECH 628D1) (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)

● **MECH 629 MANUFACTURING INDUSTRIAL SEMINAR.** (1) (Restricted to students in the M.M.M. Program)

MECH 629D1 MANUFACTURING INDUSTRIAL SEMINAR. (0.5) (Students must also register for 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 629D2 MANUFACTURING INDUSTRIAL SEMINAR. (0.5) (Prerequisite: MECH 629D1) (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)

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 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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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.)
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. Patrocinio; B.Sc.(C'dia), M.Sc.(McG.), M.C.C.P.M.
N. Sharoubim; B.Eng.(Ain Shams)
W. Wierzbicki; M.Sc.(Warsaw), Ph.D.(Montr.)

Associate Member

R.B. Richardson; B.Sc.(Lond.), M.Sc.(Aberdeen), Ph.D.(Bristol)

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 2004 must be submitted by March 1, 2004.

Applications being made to McGill University graduate programs for September 2004 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/apply/graduate.

Applicants should apply on-line for consideration for programs beginning in September 2004. However, a PDF file may be made available by e-mail (special request). Mailed applications for the M.Sc. program in medical physics (September 2004) will be accepted at the Medical Physics Unit Graduate Office from September 2003 until March 2004.

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 the PDF application, the fee must be remitted in negotiable form payable to McGill University, such as a bank draft, money order, etc.

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.

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.

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, brachytherapy, quality assurance, calibration and thermoluminescent dosimetry.

MDPH 607 INTRODUCTION TO MEDICAL IMAGING. (3) (3 hours lectures/week) (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, radioactiv-

ity, radiation spectrometry, the scintillation camera, image analysis and data processing in nuclear medicine, single photon emission tomography, and positron emission tomography.

MDPH 616D1 SELECTED TOPICS IN MEDICAL PHYSICS. (0.5) (Students must also register for MDPH 616D2) (No credit will be given for this course unless both MDPH 616D1 and MDPH 616D2 are successfully completed in consecutive terms) 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 616D2 SELECTED TOPICS IN MEDICAL PHYSICS. (0.5) (Prerequisite: MDPH 616D1) (No credit will be given for this course unless both MDPH 616D1 and MDPH 616D2 are successfully completed in consecutive terms)

MDPH 625D1 M.Sc. THESIS RESEARCH. (16) (Students must also register for MDPH 625D2) (No credit will be given for this course unless both MDPH 625D1 and MDPH 625D2 are successfully completed in consecutive terms)

MDPH 625D2 M.Sc. THESIS RESEARCH. (16) (Prerequisite: MDPH 625D1) (No credit will be given for this course unless both MDPH 625D1 and MDPH 625D2 are successfully completed in consecutive terms)

May be offered as: MDPH 625N1 and MDPH 625N2.

49 Medicine, Experimental

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Chair, Department of Medicine — D. Goltzman

Director, Division of Experimental Medicine — G. Price

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.)
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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.)
 G.B. Price; B.A.(Kansas St.), Ph.D.(Tenn.)
 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.(Z[u.r.]), Ph.D.(Marburg)
 D. Courmoyer; 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)
 E.A. Faust; B.Sc., Ph.D.(McG.)
 M.S. Featherstone; B.Sc., M.Sc.(Ott.), Ph.D.(McG.)
 R. Gagnon; B.Sc.(Montr.), M.D.(Laval), D.Phil.(Oxon)
 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.)
 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'nell)
 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. Spurlin; 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.)
 K. Dewar; B.Sc., M.Sc.(Tor.), Ph.D.(Laval)
 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.(Columbia, NY); 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.)
 A. Sherker; M.D.(Queen's), F.R.C.P.(C)
 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, S. Chevalier, M. Chevette, T. Chow, H. Clarke, E. Colle, J. Desbarats, D. Dufort, R. Farookhi, M.M. Frojmovic, C. Gagnon, A. Gaid, C. Goodyer, P. Goodyer, I. Gupta, B.J. Jean-Claude, W. Lapp, S. Lehnert, B. Massie, M. Miller, M. Nagano, A. Pause, 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. Jolicoeur, 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 EXMD 701 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: EXMD 604D1/EXMD 604D2 Recent Advances in Cellular and Molecular Biology; EXMD 610 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 enroll 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 2003-04.

EXMD 502 ADVANCED ENDOCRINOLOGY. (3) (Fall) This course is designed for U3 students who are in a major or honours program in anatomy, biology, biochemistry or physiology and for graduate students. A multidisciplinary approach will be used to teach biosynthesis and processing of hormones, their regulation, function and mechanism of action. The material will cover hypothalamic, pituitary, thyroid, atrial and adrenal hormones as well as prostaglandins and related substances.

EXMD 503 ADVANCED ENDOCRINOLOGY. (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) 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) Offered in conjunction with the Department of Physiology. Current topics, methods and techniques for studying the cardiovascular system. Basic and applied cardiac electrophysiology, mechanisms of pacemaker activity, arrhythmias, the effects of drugs on cardiac functions, fetal circulation, coronary circulation, mechanics of blood flow, cardiovascular diseases, renal and neural control of the circulation, and cardiac assist devices.

EXMD 507 ADVANCED APPLIED RESPIRATORY PHYSIOLOGY. (3) (Fall) (Prerequisite: PHGY 313) Offered in conjunction with the Department of Physiology. In depth coverage of respiratory biology including: functional anatomy of the respiratory system, pulmonary statics and dynamics, chest wall and respiratory muscles, ventilation and perfusion, control of breathing, and defense mechanisms. This course is aimed at providing a solid grounding in pulmonary biology and its research applications.

EXMD 508 ADVANCED TOPICS IN RESPIRATION. (3) (Winter) (Prerequisite: EXMD 507) Offered in conjunction with the Department of Physiology. In depth coverage of developmental physiology, pulmonary vascular physiology, biology of airway smooth muscle, respiratory epithelium and molecular biology of respiratory muscles. Dyspnea, mechanical ventilation and respiratory failure will also be covered. This course emphasizes application of respiratory biology to basic and applied research and touches on pulmonary pathophysiology.

EXMD 509 GASTROINTESTINAL PHYSIOLOGY AND PATHOLOGY. (3) (Fall and Winter) (Prerequisite: Graduate students, U3 undergraduates) Course deals with various aspects of gastrointestinal and hepatic function in health and altered physiological states. The principal focus is on the recent literature pertaining to cell and molecular mechanisms underlying the motility secretory process, absorption and secretion. The molecular biology of the hepatic viruses and various aspects of colonic neoplasia will also be considered.

EXMD 510 BIOANALYTICAL SEPARATION METHODS. (3) (Fall) The student will be taught the capabilities and limitations of modern separation methods (gas and high-performance liquid chromatography, capillary electrophoresis, hyphenated techniques). Application of these techniques to solve analytical problems relevant to biomedical research will be emphasized, with special attention being paid to the processing of biological samples.

EXMD 511 JOINT VENTURING WITH INDUSTRY. (3) (Winter) (Offered in conjunction with the Centre for Continuing Education) Using problem-based learning, the course examines the various business interactions between researchers and their business partners in support and development of research into commercial endeavours using models such as venture capital, business partnerships, or grants-in-aid.

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 RECENT ADVANCES IN CELLULAR AND MOLECULAR BIOLOGY. (3) 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 604D2 RECENT ADVANCES IN CELLULAR AND MOLECULAR BIOLOGY. (3)

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)

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 SEMINARS IN ONCOLOGY.** (3) 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 611D2 SEMINARS IN ONCOLOGY. (3)

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 pharmacoeconomics 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 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 EXPERIMENTAL/CLINICAL ONCOLOGY. (3) 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 635D2 EXPERIMENTAL/CLINICAL ONCOLOGY. (3)

EXMD 640 EXPERIMENTAL MEDICINE TOPIC 1. (3) Study, through guided reading, visits, practicals, assignments, of an elected and approved topic of importance in medical science.

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)

May be offered as: **EXMD 701D1** and **EXMD 701D2.**

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

Department of Microbiology and Immunology
3775 University Street
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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.)
M.S. Dubow; B.Sc.(S.U.N.Y.), M.A., Ph.D.(Ind.)
J. Hiscott; B.Sc., M.Sc., Ph.D.(W. Ont.)
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.)
G.J. Matlashewski; B.Sc(C' dia), Ph.D.(OH.)

Assistant Professors

B. Cousineau; B.Sc., M.Sc., Ph.D.(Montr.)
S. Fournier; Ph.D.(Montr.)
A. Gagnon; M.Sc., Ph.D.(Toulouse)
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.)

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: M. Gotte, A.E. Koromilas, S. Richard

Pathology: G. Prud'homme

Surgery: N.V. Christou, A.R. Poole

Adjunct Professors

V. Dave, A. Descoteaux, P. Hugo, G. Kukulj, P. Lau, 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 MIMM 611, MIMM 612, MIMM 613, MIMM 614, MIMM 615 and two of the following courses: MIMM 616, MIMM 617, MIMM 618 and MIMM 619 (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 MIMM 701, MIMM 711, MIMM 712, MIMM 713, MIMM 714, MIMM 715 and MIMM 716 and three or the following courses: MIMM 704, MIMM 705, MIMM 706, MIMM 707 (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 509 INFLAMMATORY PROCESSES. (3) (Winter) (3 hours of seminar) (Prerequisite: MIMM 314. Corequisite: PHGY 513 or MIMM 414) (This course will be given in conjunction with the Division of Experimental Medicine) This course concentrates on the non-specific aspects of the immune response, an area which is not adequately covered by the other immunology courses presented at the university. Interactions between guest researchers (from McGill and other universities) and students will be furthered.

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) May be offered as: **MIMM 701D1** and **MIMM 701D2.**

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) 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.

May be offered as: **MIMM 721D1** and **MIMM 721D2.**

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.

May be offered as: **MIMM 722D1** and **MIMM 722D2.**

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.

May be offered as: **MIMM 723D1** and **MIMM 723D2.**

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.

May be offered as: **MIMM 724D1** and **MIMM 724D2.**

51 Mining, Metals and Materials Engineering

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Department Chair — R.A.L. Drew

Director, Mining Engineering Program — F.P. Hassani

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.

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., A.R.S.M., Eng., F.C.I.M.
F.P. Hassani; B.Sc., Ph.D.(Nott.), C.Eng.(U.K. Reg.)

J.J. Jonas; B.Eng.(McG.), Ph.D.(Cantab.), F.A.S.M., F.R.S.C., Eng.

H.S. Mitri; B.Sc.(Cairo), M.Eng., Ph.D.(McM.), Eng.

J. Szpunar; B.Sc., M.Sc., Ph.D., D.Sc.(Krakow)

Associate Professors

M.L. Bilodeau; B.A.Sc.(Montr.), M.Sc.A., Ph.D.(McG.), Eng.

R. Harris; B.Sc.(Q'ld), M.Eng., Ph.D.(McG.)

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.(Ecole Poly.), Eng.

S. Yue; B.Sc., Ph.D.(Leeds)

Lecturer

J. Mossop; B.Eng.(McG.)

Adjunct Professors

M. Betournay, W. Caley, R. Dimitrakopoulos, B. Harris,

A. Hemami, R. Jassim, E. Lifshin, M. Pugh, J.H. Root,

W.T. Thompson, R. Thom, V. Vaidya, A.E. Wraith

Liaison Officer, Mining Co-op Program — M. Vachon

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 treatment, mineral processing and related surface chemistry, metal casting, materials engineering, composites, ceramics and mechanical metallurgy.

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 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 MIME 673 Mining Engineering Seminar), selected in consultation with the Program Adviser 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.

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 (MIME 670) 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 MIME 420 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 (MIME 673) 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 metallurgy and materials courses
- 70 to 79 seminars

The course credit weight is given in parentheses after the title.

- Denotes courses not offered in 2003-04.

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)
- 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) 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) Gold recovery (as a Professional Development Seminar): methods of recovery (gravity, flotation, cyanidation), refractory gold (roasting, pressure oxidation, bacterial leaching), dissolved gold recovery (Merrill-Crowe) and activated carbon methods. Sampling: definition of errors, sample extraction, size, and processing. Mass balancing: basic considerations, definition of networks, software. Blending: auto-correlation functions, transfer functions, blending systems. Effect of feed variability.

- **MIME 551 ELECTROCHEMICAL PROCESSING.** (3) (3-2-4) (Prerequisite: MIME 352)

MIME 553 IMPACT OF MATERIALS PRODUCTION. (3) (3-0-6) (Prerequisite: Permission of instructor.) Impact on the environment of the production of major materials. Pollution control practices, emerging technologies, cost, resources and conservation. Review of flowsheets for various production methods. Analysis of the use of materials, prices, consumption, fabrication, and recycling of waste materials.

- **MIME 555 THERMAL REMEDIATION OF WASTES.** (3) (3-0-6) (Prerequisites: CHEM 111 and MIME 212 or equivalent)

MIME 560 JOINING PROCESSES. (3) (3-3-3) (Prerequisite: MIME 361 or equivalent) Physics of joining; interfacial requirements; energy sources, chemical, mechanical and electrical; homogeneous hot-joining, arc-, Mig-, Tig-, gas-, thermite- and Plasma-welding; Autogeneous hot-joining, forge-, pressure-, friction-, explosive-, electron beam- and laser-welding; Heterogeneous hot-joining, brazing, soldering, diffusion bonding; Heterogeneous cold joining, adhesives, mechanical fastening; Filler materials; Joint metallurgy; Heat affected zone, non-metallic systems; joint design and economics; defects and testing methods.

MIME 561 ADVANCED MATERIALS DESIGN. (3) (0-4-5) (Prerequisite: MIME 362 or equivalent) Advanced topics in materials design problems. Discussion and laboratory work, supplemented by detailed technical reports. Special attention is given to selection, design and failure problems in various materials systems.

MIME 563 HOT DEFORMATION OF METALS. (3) (2-2-5) (Prerequisite: MIME 463 or equivalent.) High temperature deformation processing of metallic materials. Topics include static and dynamic recrystallization, recovery, precipitation; effect of deformation on phase transformations and microstructural evolution during industrial processing. Mathematical modelling of microstructural evolution.

MIME 564 X-RAY DIFFRACTION ANALYSIS OF MATERIALS. (3) (2-3-4) (Prerequisite: MIME 317 or equivalent) The techniques of X-ray and neutron diffraction are discussed as applied to the minerals and materials production industries. Special emphasis is placed upon automated X-ray powder diffractometry as employed for determining the structure and composition of materials. The application of X-ray techniques to studies of crystal structure, crystal orientation, residual stress, short-range order in liquid metals, phase diagram determination, order-disorder transformation and chemical analysis are presented.

MIME 566 TEXTURE, STRUCTURE & PROPERTIES OF POLYCRYSTALLINE MATERIALS. (3) (2-3-4) (Prerequisite: MIME 317) Concepts and quantitative methods for the description of the structure of minerals and materials are discussed. Special emphasis is placed on experimental techniques of texture measurement. Procedures are demonstrated for the control of deformation and recrystallization textures in order to obtain the properties required of industrial products. Finally, the correlation between texture and the anisotropy of elastic, plastic and magnetic properties of engineering materials is described and analyzed.

- **MIME 567 ALUMINUM CASTING ALLOYS.** (3) (3-0-6) (Prerequisite: MIME 361 or equivalent)

● **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 MATERIALS HANDLING IN MINES. (3) (Prerequisite: permission of instructor) 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 624D2 MATERIALS HANDLING IN MINES. (3) (Prerequisite: MIME 624D1)

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 which is examined internally, by the supervisor and at least one other staff member.

May be offered as: MIME 628D1 and MIME 628D2, or MIME 628N1 and MIME 628N2.

MIME 629 MINERAL ENGINEERING PROJECT 2. (6) Continuation of Mining Engineering Project.

May be offered as: MIME 629D1 and MIME 629D2, or MIME 629N1 and MIME 629N2.

MIME 634 MINERAL ENGINEERING PROJECT 3. (3) Continuation of Mining Engineering Project 1.

May be offered as: MIME 634D1 and MIME 634D2, or MIME 634N1 and MIME 634N2.

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. Tailings 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.

May be offered as: MIME 640D1 and MIME 664D2.

● **MIME 650D1 ADVANCED EXTRACTIVE METALLURGY.** (3)

● **MIME 650D2 ADVANCED EXTRACTIVE METALLURGY.** (3)

MIME 652 AQUEOUS PROCESSING. (3) Advanced treatment of the chemical and engineering principles governing aqueous dissolution, purification and deposition operations. Topics include: ionic activities of dilute and concentrated solutions; solution and solid-liquid equilibria; analysis of complexation and redox reactions; high temperature solution thermodynamic kinetics; solvent extraction, equilibria and mass transfer kinetics; nucleation, growth and agglomeration phenomena in aqueous precipitation systems.

● **MIME 653 TRANSPORT PHENOMENA - PROCESS METALLURGY.** (3)

● **MIME 657 ADVANCED EXTRACTIVE METALLURGY.** (3)

MIME 670 RESEARCH SEMINAR. (6) For students registered for a Master's degree in Mining and Metallurgical Engineering.

May be offered as: MIME 670D1 and MIME 670D2, or MIME 670N1 and MIME 670N2.

MIME 672D1 ROCK MECHANICS SEMINAR. (3) Theoretical and practical aspects of ground control practice using the case study method.

MIME 672D2 ROCK MECHANICS SEMINAR. (3) (Prerequisite: MIME 672D1)

MIME 673 MINING ENGINEERING SEMINAR. (6) For students registered in the Graduate Diploma or Master's programs in Mining.

May be offered as: MIME 673D1 and MIME 673D2, or MIME 673N1 and MIME 673N2.

MIME 681D1 METALLURGICAL/MATERIALS ENGINEERING PROJECT 2. (3)

MIME 681D2 METALLURGICAL/MATERIALS ENGINEERING PROJECT 2. (3) (Prerequisite: MIME 681D1)

MIME 682 METALLURGICAL/MATERIALS ENGINEERING PROJECT 3. (3)

MIME 690 THESIS RESEARCH 1. (6) (For Master's students only.)

May be offered as: MIME 690D1 and MIME 690D2, or MIME 690N1 and MIME 690N2.

MIME 691 THESIS RESEARCH 2. (3) (For Master's students only.)

MIME 692 THESIS RESEARCH 3. (6) (For Master's students only.)

May be offered as: MIME 692D1 and MIME 692D2, or MIME 692N1 and MIME 692N2.

MIME 693 THESIS RESEARCH 4. (3) (For Master's students only.)

May be offered as: MIME 693D1 and MIME 693D2.

MIME 694 THESIS RESEARCH 5. (6) (For Master's students only.)

May be offered as: MIME 694D1 and MIME 694D2, or MIME 694N1 and MIME 694N2.

MIME 695 THESIS RESEARCH 6. (3) (For Master's students only.)

May be offered as: MIME 695D1 and MIME 695D2.

MIME 701 PH.D. THESIS RESEARCH PROPOSAL. (0) For students registered in a Ph.D. program in Mining and Metallurgical 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 Metallurgy.

May be offered as: MIME 771D1 and MIME 771D2, or MIME 771N1 and MIME 771N2.

MIME 776 RESEARCH SEMINAR. (6) For students registered in a Ph.D. program in Mining.

May be offered as: MIME 776D1 and MIME 776D2, or MIME 776N1 and MIME 776N2.

52 Music

Faculty of Music
Strathcona Music Building
555 Sherbrooke Street West
Montreal, QC H3A 1E3
Canada

Telephone: (514) 398-4469

Fax: (514) 398-8061

Web site: www.mcgill.ca/music

Dean, Faculty of Music — Don McLean

Acting 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

Dale Bartlett; A.R.A.M.(Lond.), LL.D.(Leth.)
Theodore Baskin; B.Mus.(Curtis), M.Mus.(Auckland); Principal
Oboe, Montreal Symphony
Denys Bouliane; B.Mus., M.Mus.(Laval)
Julie Cumming; B.A.(Col.), M.A., Ph.D.(Berkeley)
Kevin Dean; B.M.E.(Iowa), M.Mus.(Miami)
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 Kestenber
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.)
Antonio Lysy; P.P.(Royal Northern Coll.), Dip.(Menuhin Academy,
Gstaad), Performer's Dip.(Maast. Cons., Nether.)
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 Montréal),
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 Stublely; B.Mus.(Tor.), M.Mus.(Bran.), Ph.D.(Ill.)

Julian Wachner; B.Mus., Mus.Doc.(Boston Univ.)

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, Conservatoire de Musique de
Québec

Assistant Professors

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
Ichiro Fujinaga; B.Mus., B.Sc.(Alta.), M.A., Ph.D.(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.)
Richard Roberts; B.Mus.(Ind.); Concertmaster, Montreal
Symphony
Dixie Ross-Neill; B.Mus.(N. Carolina), M.Mus.(Texas)
André Roy; Montreal Symphony
Joe Sullivan; B.A.(Ott.), M.M.(New England Cons.)
Marcelo Wanderley; B.Sc.(UFPR), M.Sc.(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

MUCO 260 Instruments of the Orchestra
MUMT 202 Fundamentals of New Media
MUMT 203 Introduction to Digital Audio
MUMT 232 Introduction to Electronics
MUMT 300D1/MUMT 300D2 Introduction to Music Recording
MUMT 339 Introduction to Electroacoustics

One of (Complementary):

MUMT 302 New Music Production 1
MUMT 306 Music and Audio Computing 1

Faculty of Science

PHYS 224 Physics and Psychophysics of Music
PHYS 225 Musical Acoustics

Prerequisite Undergraduate Courses for M.Mus. – Performance

Piano Accompaniment

An undergraduate major in Piano.
MUHL 570 Research Methods in Music

One of:

MUHL 372 Solo Song outside Germany and Austria
MUHL 390 The German Lied

Two of:

MUPG 210 Italian Diction (or equivalent)
MUPG 211 French Diction (or equivalent)
MUPG 212 English Diction (or equivalent)
MUPG 213 German Diction (or equivalent)

Orchestral Conducting

MUCO 260 Instruments of the Orchestra
MUCO 261 Elementary Orchestration
MUCO 460D1/MUCO 460D2 Advanced Orchestration
MUHL 389 Orchestral Literature
MUHL 570 Research Methods in Music

MUIT 201 String Techniques
MUIT 202 Woodwind Techniques
MUIT 203 Brass Techniques
MUIT 204 Percussion Techniques
MUPG 315D1/MUPG 315D2 Introduction to Orchestral Conducting (or equivalent)

Choral Conducting

GERM 202 German Language, Beginners
MUCO 260 Instruments of the Orchestra
MUCO 261 Elementary Orchestration
MUCT 415 Choral Conducting 2 (or equivalent)
MUHL 397 Choral Literature after 1750
MUHL 570 Research Methods in Music
MUIN 220 Practical Instruction 3

Wind Band Conducting

An undergraduate major in Wind or Percussion instruments.
MUCO 260 Instruments of the Orchestra
MUCO 261 Elementary Orchestration
MUHL 398 Wind Ensemble Literature after 1750
MUHL 570 Research Methods in Music
MUIT 202 Woodwind Techniques
MUIT 203 Brass Techniques
MUIT 204 Percussion Techniques
MUIT 415 Advanced Instrumental Conducting (or equivalent)

Jazz Performance

MUHL 393 History of Jazz
MUJZ 440D1/MUJZ 440D2 Advanced Jazz Composition
MUJZ 461D1/MUJZ 461D2 Advanced Jazz Arranging
MUJZ 493 Jazz Performance Practice

Early Music

MUHL 570 Research Methods in Music
MUPP 381 Topics: Performance Practice before 1800
Plus 6 credits from the following with a least one course from each group:

Group 1:

MUHL 380 Medieval Music
MUHL 381 Renaissance Music
MUHL 382 Baroque Music
MUHL 383 Classical Music

Group 2:

MUHL 398 Keyboard Literature before 1750
MUHL 591D1/MUHL 591D2 Paleography

Organ/Harpsicord:

MUPG 272D1/MUPG 272D2 Continuo

Voice

Two of:

MUPG 210 Italian Diction (or equivalent)
MUPG 211 French Diction (or equivalent)
MUPG 212 English Diction (or equivalent)
MUPG 213 German Diction (or equivalent)

Orchestral Training

MUHL 389 Orchestral Literature
MUHL 570 Research Methods in Music

Piano (Solo and Chamber Music)

MUHL 570 Research Methods in Music

One of:

MUHL 366 The Era of the Fortepiano
MUHL 396 Era of the Modern Piano

Voice (Vocal Opera Coach, Opera Performance, Vocal Pedagogy and Vocal Performance)

MUHL 570 Research Methods in Music
MUPG 210 Italian Diction
MUPG 211 French Diction
MUPG 212 English Diction
MUPG 213 German Diction

Two of :

MUHL 372 Solo Song outside Germany and Austria
MUHL 377 Baroque Opera
MUHL 387 Opera from Mozart to Puccini

MUHL 388 Twentieth-Century Opera
MUHL 390 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

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. letters of reference;
4. \$60 application fee;
5. \$50 audition fee for Performance degrees;
6. submissions appropriate to area of specialization;
7. TOEFL test results.

All information is to be submitted to Veronica Slobodian, Admissions Officer, Faculty of Music.

Deadline date for submission of application and accompanying documentation is December 15.

McGill's on-line application form for graduate program candidates is available at www.mcgill.ca/applying/graduate.

52.5 Program Requirements

MASTERS' DEGREES

The minimum residence requirement for Masters' programs is 1½ years (3 full-time terms); for Sound Recording, 2 years (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)

MUCO 622D1/MUCO 622D2 Composition Tutorial.

Two of MUCO 631, MUCO 632, MUCO 633, MUCO 634, MUCO 635, MUCO 636 Seminars in 20th-Century Music.

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)

MUMT 605 Digital Sound Synthesis & Audio Processing.

Two of MUMT 610, MUMT 611, MUMT 612, MUMT 613, MUMT 614, MUMT 615 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.

MUHL 529 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)

MUMT 629D1/ MUMT 629D2 Technical Ear Training

MUMT 667 Digital Studio Technology,

MUMT 668 Digital/Analog Audio Editing,

MUMT 669D1/MUMT 669D2 Topics: Classical Music Recording,

MUMT 670D1/MUMT 670D2 and MUMT 671D1/MUMT 671D2

Recording Theory and Practice,

MUMT 672D1/MUMT 672D2 Analysis of Recordings,

MUMT 674 Electronic and Electroacoustic Measurement,

MUMT 677D1/MUMT 677D2 Audio for Video Post-Production,

MUMT 678 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 MUTH 658 History of Music Theory 1 or MUTH 659 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 MUHL 529 Proseminar in Musicology.

For students in the Theory Area, one of the courses must be MUTH 658 History of Music Theory 1 or MUTH 659 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.

MUGS 614 Reading Course 1 and MUGS 615 Reading Course 2.

MUGS 635 Research Paper 1 and MUGS 636 Research Paper 2.

Master of Music – Performance: Solo – Guitar, Orchestral Instruments, Organ, Conducting (45 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693,

MUPP 694 or MUPP 695 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:

MUPG 660 Solo Recital 1 and MUPG 667 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.)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 661 Chamber Music Recital 1 and MUPG 668 Chamber Music Recital 2 (one of these could optionally include some solo music).

Ensembles:

Three terms of MUEN 660 Chamber Music Ensemble.

Master of Music – Performance: Solo Piano (49 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

MUPG 681 and MUPG 682 Piano Seminars.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 660 Solo Recital 1 and MUPG 667 Solo Recital 2 (one of these could optionally include some chamber music).

Ensembles:

Three credits from the following: MUEN 579 Song Interpretation before 1800, MUEN 660 Chamber Music Ensemble, MUEN 679 Advanced Song Interpretation, MUEN 684 Studio Accompanying, MUEN 694 Contemporary Music Ensemble, MUEN 697 Orchestra.

Master of Music – Performance: Chamber Music - Piano

(49 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

MUPG 681 and MUPG 682 Piano Seminars.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 661 Chamber Music Recital 1 and MUPG 668 Chamber Music Recital 2 (one of these could optionally include some solo music).

Ensembles:

Three credits from the following: MUEN 579 Song Interpretation before 1800, MUEN 660 Chamber Music Ensemble, MUEN 679 Advanced Song Interpretation, MUEN 684 Studio Accompanying, MUEN 694 Contemporary Music Ensemble, MUEN 697 Orchestra.

Master of Music – Performance

Piano Accompaniment (45 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 Performance Practice Seminar **or** MUPG 690 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:

MUPG 665D1/MUPG 665D2 Accompanying Recital 1 and MUPG 663 Quick Study Examination (to be successfully completed before the first recital is performed).

Ensembles:

Two terms of MUEN 679 Advanced Song Interpretation and MUEN 684 Studio Accompanying.
or three terms of MUEN 596 Opera Repetiteur.

Master of Music – Performance: Orchestral Training

(45 credits) (All orchestral instruments except Harp.)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 660 Solo Recital 1

MUPG 664 Repertoire Examination.

Ensembles:

Three terms of MUEN 697 Orchestra.

Master of Music – Performance: Opera Performance

(45 credits)

MUPG 620, MUPG 621 and MUPG 622 Performance Tutorials.

MUIN 600, MUIN 601 and MUIN 602 Vocal Repertoire Coaching.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694, or MUPP 695 Performance Practice Seminar, or MUPG 690 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 MUPG 690, MUPG 691, MUPG 692, MUPG 693, or MUPG 694).

Recitals:

MUPG 656 Vocal Quick Study

MUPG 657 Opera Performance Exam 1

MUPG 658 Opera Performance Exam 2

Master of Music – Performance: Vocal Opera Coach

(45 credits)

MUPG 620, MUPG 621 and MUPG 622 Performance Tutorials.

MUPG 646 and MUPG 647 Score- and Sight-Reading.

MUPG 670 and MUPG 671 Advanced Continuo.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694, or MUPP 695 Performance Practice Seminar, or MUPG 690 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 MUPG 690, MUPG 691, MUPG 692, MUPG 693, or MUPG 694).

Recitals:

MUPG 653 Opera Coach Exam 1

MUPG 654 Opera Coach Exam 2

MUPG 655 Opera Coach Quick Study

Master of Music – Performance: Vocal Performance

(49 credits)

MUPG 620, MUPG 621 and MUPG 622 Performance Tutorials.

MUIN 600 and MUIN 601 Vocal Repertoire Coaching.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694, or MUPP 695 Performance Practice Seminar, or MUPG 690 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 MUPG 690, MUPG 691, MUPG 692, MUPG 693, or MUPG 694).

Recitals:

MUPG 660 Solo Recital 1*
MUPG 667 Solo Recital 2*

* **One** of MUPG 660 or MUPG 667 may be replaced by MUPG 657 Opera Performance Exam 1 or MUPG 658 Opera Performance Exam 2 and MUPG 656 Vocal Quick Study.

Master of Music – Performance: Vocal Pedagogy (47 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.
MUPG 693 Vocal Treatises and Methods
MUPG 694 Vocal Physiology for Singers

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 Performance Practice Seminar or MUPG 690 Vocal Styles and Conventions.

One of MUIN 600 or MUIN 601 Vocal Repertoire Coaching.

Electives:

One graduate 3-credit seminar with the prefix MUCO, MUGS, MUGT, MUHL, MUPP, MUTH.

Recitals:

MUPG 650 Voice Lecture - Demonstration
MUPG 660 Solo Recital 1
MUPG 611 Directed Voice Teaching 1
MUPG 612 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)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 660 Solo Recital 1 and MUPG 662 Solo and Chamber Music Recital.

Ensembles:

Three terms of MUEN 661 Early Chamber Music Ensemble (harpsichord players must satisfy the corequisite of MUPG 372D1/MUPG 372D2 Continuo).

Master of Music – Performance: Church Music - Organ

(45 credits)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

One of MUPP 690, MUPP 691, MUPP 692, MUPP 693, MUPP 694 or MUPP 695 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:

MUPG 660 Solo Recital 1.

Courses:

MUPG 676D1/MUPG 676D2 Special Project in Performance 2

Ensembles:

Three terms of MUEN 693 Choral Ensemble.

Master of Music – Performance: Jazz Performance

(47 credits) (Saxophone, Trumpet, Trombone, Drums, Piano, Guitar, Bass, Voice)

MUPG 620, MUPG 621, MUPG 622 Performance Tutorials.

Recital:

MUPG 660 Solo Recital 1
MUPG 659 Performance in Recording Media

Ensemble:

Two terms of MUEN 695 Jazz Ensemble

Courses:

MUJZ 601 Jazz Pedagogy
MUJZ 640D1/MUJZ 640D2 Jazz Composition and Arranging

Courses approved as electives for M.Mus. students in Performance:

MUCO 623 Electronic Music Seminar 1
MUCO 624 Electronic Music Seminar 2
MUCO 631 Seminar in 20th-Century Music 1
MUCO 632 Seminar in 20th-Century Music 2
MUCO 633 Seminar in 20th-Century Music 3
MUCO 634 Seminar in 20th-Century Music 4
MUCO 635 Seminar in 20th-Century Music 5
MUCO 636 Seminar in 20th-Century Music 6
MUGT 610 Seminar - Music Education 1
MUGT 611 Seminar - Music Education 2
MUGT 612 Seminar - Music Education 3
MUGT 613 Seminar - Music Education 4
MUHL 591D1/MUHL 591D2 Paleography
MUHL 653 Music Aesthetics and Criticism
MUHL 680 Seminar in Musicology 1
MUHL 681 Seminar in Musicology 2
MUHL 682 Seminar in Musicology 3
MUHL 683 Seminar in Musicology 4
MUHL 684 Seminar in Musicology 5
MUHL 685 Seminar in Musicology 6
MUHL 692 Seminar in Music Literature 1
MUHL 693 Seminar in Music Literature 2
MUHL 694 Seminar in Music Literature 3
MUHL 695 Seminar in Music Literature 4
MUHL 696 Seminar in Music Literature 5
MUHL 697 Seminar in Music Literature 6
MUPP 690 Performance Practice Seminar 1
MUPP 691 Performance Practice Seminar 2
MUPP 692 Performance Practice Seminar 3
MUPP 693 Performance Practice Seminar 4
MUPP 694 Performance Practice Seminar 5
MUPP 695 Performance Practice Seminar 6
MUTH 652 Seminar in Music Theory 1
MUTH 653 Seminar in Music Theory 2
MUTH 654 Seminar in Music Theory 3
MUTH 655 Seminar in Music Theory 4
MUTH 656 Seminar in Music Theory 5
MUTH 657 Seminar in Music Theory 6
MUTH 658 History of Music Theory 1
MUTH 659 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.

MUCO 722D1/MUCO 722D2 Doctoral Composition Tutorial (for two years).

Four approved 3-credit graduate electives or the equivalent.

MUGS 701 Comprehensive Examination Part 1 and MUGS 702 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):
MUPG 720, MUPG 721, MUPG 722, MUPG 723, MUPG 724,

MUPG 725

OR MUPG 730, MUPG 731, MUPG 732, MUPG 733

Vocal Repertoire Coaching (4 terms, voice candidates only):

MUIN 700, MUIN 701, MUIN 702, MUIN 703

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.

MUGS 701 Comprehensive Examination Part 1 and

MUGS 702 Comprehensive Examination Part 2.

Recitals:

MUPG 760 Doctoral Recital 1

MUPG 767 Doctoral Recital 2

MUPG 770 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 technology). 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, MUGS 701 Comprehensive Examination Part 1 and MUGS 702 Comprehensive Examination Part 2. The language reading examinations must be passed before a candidate will be permitted to sit the Comprehensive Examinations.

Participation in MUGS 705 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 2003-04.

SEMINARS

Enrolment in seminars will normally be limited to 10. Each year a selection of the following courses are offered:

MUCO 631 Seminar in 20th-Century Music 1. (3) (3 hours)

MUCO 632 Seminar in 20th-Century Music 2. (3) (3 hours)

MUCO 633 Seminar in 20th-Century Music 3. (3) (3 hours)

MUCO 634 Seminar in 20th-Century Music 4. (3) (3 hours)

MUCO 635 Seminar in 20th-Century Music 5. (3) (3 hours)

MUCO 636 Seminar in 20th-Century Music 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)

MUMT 690 Media Theory and Practice Seminar 1. (3) (3 hours)

MUMT 691 Media Theory and Practice Seminar 2. (3) (3 hours)

MUMT 692 Media Theory and Practice Seminar 3. (3) (3 hours)

MUMT 693 Media Theory and Practice Seminar 4. (3) (3 hours)

MUMT 694 Media Theory and Practice Seminar 5. (3) (3 hours)

MUMT 695 Media Theory and Practice 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)

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.**

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.

Seminar in Musicology: Beethoven Style Periods; The "Roman de Fauvel"; The German Lied; Problems in Verdi Studies; Studies in the Wagner Operas.

Seminar in Music Literature: 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.

Seminar in Music Theory: Theory and Analysis of Classical Form; Mathematical Set and Group Theory Models; Theories of Musical Rhythm and Meter; The Late Music of Igor Stravinsky.

Seminar in Performance Practice: Performance Practice of the Beethoven Piano Sonatas; Performance Practice and the Standard Repertoire (18th and early 19th century); 20th-century Performance Practice.

Seminar in Music Education: Music Criticism and Music Education; Musical Ability; Aesthetics, Music, and Music Education.

Seminar in Twentieth Century Music: Music After 1945; The Symphony in the Twentieth Century; The Music of Olivier Messiaen.

OTHER COURSES

MUCO 622D1 COMPOSITION TUTORIAL. (3)

MUCO 622D2 COMPOSITION TUTORIAL. (3)

MUCO 722D1 DOCTORAL COMPOSITION TUTORIAL. (3)

MUCO 722D2 DOCTORAL COMPOSITION TUTORIAL. (3) (Prerequisite: MUCO 722D1) (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 a 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)

May be offered as: MUGS 635D1 and MUGS 635D2.

MUGS 636 RESEARCH PAPER 2. (9)

May be offered as: MUGS 636D1 and MUGS 636D2.

MUGS 675 SPECIAL PROJECT. (3) (Requires Departmental approval)

May be offered as: MUGS 675D1 and MUGS 675D2.

MUGS 676 SPECIAL PROJECT. (6) (Requires Departmental approval)

May be offered as: MUGS 676D1 and MUGS 676D2.

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)

May be offered as: MUGS 701D1 and MUGS 701D2.

MUGS 702 COMPREHENSIVE EXAMINATION PART 2. (0)

May be offered as: MUGS 702D1 and MUGS 702D2. description.

MUGS 705D1 COLLOQUIUM. (0)

MUGS 705D2 COLLOQUIUM. (0)

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 programs by permission of instructor) (Normally alternates with MUHL 591) Study of selected methodologies in musicology through critical examination of significant texts. Topics may include approaches to historiography, biography, editing and source studies, as well as aesthetics, literary criticism, semiology, feminist musicology, and ideology critique. Works by Adler, Adorno, Dahlhaus, Kerman, McClary, Meyer, Nattiez, and Subotnik, among others, will be addressed.

MUHL 570 RESEARCH METHODS IN MUSIC. (3) (3 hours) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Additional prerequisite: one MUHL or MUPP course at the 300 level or higher, or permission of instructor) Survey and critical evaluation of research- and performance-related tools: composers' collected editions, monuments of music, bibliographies of music and music literature, discographies, directories, and databases. Topics will include: developing bibliographies, structuring written arguments, assessing academic and popular writings about music, and understanding the task of the music editor.

● **MUHL 591D1 PALEOGRAPHY.** (1.5) (1 hour) (Prerequisites: MUHL 184 and MUHL 185 and MUTH 211 OR MUCO 240 and MUSP 231) (Normally alternates with MUHL 529)

● **MUHL 591D2 PALEOGRAPHY.** (1.5)

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)

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) A course intended to guide the student towards an individual musical style. A variety of jazz compositional and arranging techniques will be explored.

May be offered as: **MUJZ 640D1** and **MUJZ 640D2.**

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 629D1 TECHNICAL EAR TRAINING. (2) (1 hour tutorial, 2 hours laboratory) 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.

MUMT 629D2 TECHNICAL EAR TRAINING. (2)

MUMT 631D1 ADVANCED TECHNICAL EAR TRAINING. (2) (1 hour tutorial, 2 hours laboratory) (Prerequisite: MUMT 629) 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.

MUMT 631D2 ADVANCED TECHNICAL EAR TRAINING. (2)

MUMT 667 DIGITAL STUDIO TECHNOLOGY. (3) (3 hours lecture) Technical and operational characteristics of different digital recording systems currently employed by the recording industry.

MUMT 668 DIGITAL/ANALOG AUDIO EDITING. (3) (1 hour tutorial, 3 hours studio time) 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.

MUMT 669 TOPICS: CLASSICAL MUSIC RECORDING. (3) (3 hours lecture) 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.

MUMT 669D1 TOPICS: CLASSICAL MUSIC RECORDING. (1.5) 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.

MUMT 669D2 TOPICS: CLASSICAL MUSIC RECORDING. (1.5)

MUMT 670D1 RECORDING THEORY AND PRACTICE 1. (5) (3 hours seminar, 6 hours studio time) (Prerequisite: MUMT 300) 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.

MUMT 670D2 RECORDING THEORY AND PRACTICE 1. (5)

MUMT 671D1 RECORDING THEORY AND PRACTICE 2. (5) (3 hours seminar, 6 hours studio time) (Prerequisite: MUMT 670) 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.

MUMT 671D2 RECORDING THEORY AND PRACTICE 2. (5)

MUMT 672D1 ANALYSIS OF RECORDINGS. (3) (3 hours) The analysis of recording engineering, production, performance, aesthetics and technical quality of selected recordings.

MUMT 672D2 ANALYSIS OF RECORDINGS. (3)

MUMT 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.

● **MUMT 674D1 ELECTRONIC AND ELECTROACOUSTIC MEASUREMENT.** (1.5)

● **MUMT 674D2 ELECTRONIC AND ELECTROACOUSTIC MEASUREMENT.** (1.5)

● **MUMT 676 AUDIO INDUSTRY EXPERIENCE.** (3)

● **MUMT 676D1 AUDIO INDUSTRY EXPERIENCE.** (1.5)

● **MUMT 676D2 AUDIO INDUSTRY EXPERIENCE.** (1.5).

MUMT 677D1 AUDIO FOR VIDEO POST-PRODUCTION. (3) (3 hours seminar, 4 hours studio time) 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.

MUMT 677D2 AUDIO FOR VIDEO POST-PRODUCTION. (3)

MUMT 678 ADVANCED DIGITAL EDITING AND POST-PRODUCTION. (3) (3 hours) (Prerequisite: MUMT 668) 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.

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 615 MASTER CLASS-ORCHESTRAL CONDUCTING.** (3) (3 hours)

● **MUPG 616 MASTER CLASS-CHORAL CONDUCTING.** (3) (3 hours)

MUPG 620 PERFORMANCE TUTORIAL 1

TO MUPG 624 PERFORMANCE TUTORIAL 5. Each: (4 credits)

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.

May be offered as: MUPG 656D1 and MUPG 656D2.

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.

May be offered as: MUPG 657D1 and MUPG 657D2.

MUPG 658 OPERA PERFORMANCE EXAMINATION 2. (6) Staged performance of a complete operatic role from the specialized repertoire.

May be offered as: MUPG 658D1 and MUPG 658D2.

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.

May be offered as: MUPG 659D1 and MUPG 659D2.

MUPG 660 SOLO RECITAL 1. (12)

May be offered as: MUPG 660D1 and MUPG 660D2.

MUPG 661 CHAMBER MUSIC RECITAL 1. (12)

May be offered as: MUPG 661D1 and MUPG 661D2.

MUPG 662 SOLO AND CHAMBER MUSIC RECITAL. (12)

May be offered as: MUPG 662D1 and MUPG 662D2.

MUPG 663 QUICK STUDY EXAMINATION. (6) (To be successfully completed before the first recital is performed)

May be offered as: MUPG 663D1 and MUPG 663D2.

MUPG 664 REPERTOIRE EXAMINATION. (6)

May be offered as: MUPG 664D1 and MUPG 664D2.

MUPG 665D1 ACCOMPANYING RECITAL 1. (6)

MUPG 665D2 ACCOMPANYING RECITAL 1. (6)

MUPG 667 SOLO RECITAL 2. (12)

May be offered as: MUPG 667D1 and MUPG 667D2.

MUPG 668 CHAMBER MUSIC RECITAL 2. (12)

May be offered as: MUPG 668D1 and MUPG 668D2.

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 LITURGICAL IMPROVISATION.** (1.5)

● **MUPG 672D2 LITURGICAL IMPROVISATION.** (1.5)

MUPG 675 SPECIAL PROJECT IN PERFORMANCE 1. (3) (Requires Departmental approval)

May be offered as: MUPG 675D1 and MUPG 675D2.

MUPG 676D1 SPECIAL PROJECT IN PERFORMANCE 2. (3)

MUPG 676D2 SPECIAL PROJECT IN PERFORMANCE 2. (3)

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) Studies in the role of the pianist in partnership with an instrumentalist or singer, with emphasis given to preparation of works for performance. These studies will include a survey of repertoire, comparison of styles, and a basic knowledge of other instruments. Performance of work(s) studied is a requirement for the course.

● **MUPG 685 MASTER CLASS - 20TH-CENTURY PIANO MUSIC.** (3)

MUPG 686 MASTER CLASS - STRING CHAMBER MUSIC. (3) (3 hours) Advanced studies of the chamber music repertoire, intended for graduate string players. Students will gain firsthand experience playing, reading (in rotation) and studying works both

with their colleagues and occasionally with the instructor; discussion of master recordings and active listening with scores.

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) An anatomical study of the entire vocal mechanism; how to keep it functioning in a healthy manner, the various possible dysfunctions and how to diagnose and treat them.

MUPG 720 D.MUS. PERFORMANCE TUTORIAL 1

TO MUPG 721 D.MUS. PERFORMANCE TUTORIAL 7.

Each: (4 credits) Individual instrumental or vocal tutorial.

Advanced technical and interpretive training as well as recital preparation.

MUPG 730 D.MUS. PERFORMANCE TUTORIAL 8

TO MUPG 733 D.MUS. PERFORMANCE TUTORIAL 11.

Each: (6 credits) 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.

□ **MUTH 502 THEORY REVIEW 2.** (3) (3 hours) (For incoming graduate students who, on the basis of placement tests, are deemed deficient in tonal theory and analysis; may not be taken by students enrolled in B.Mus. programs; may not be taken as elective in M.Mus. and M.A. programs) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Analytical approaches to larger forms of 18th- and 19th-century repertoire, particularly sonata and other forms in solo, chamber, and orchestral genres. Various analytical methods are applied to the study of advanced chromatic vocabulary and syntax, and to large-scale tonal and formal design.

□ **MUTH 503 THEORY REVIEW 3.** (3) (3 hours) (For incoming graduate students who, on the basis of placement tests, are deemed deficient in post-tonal theory and analysis; may not be taken by students enrolled in B.Mus. programs; may not be taken as elective in M.Mus. and M.A. programs) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) Analytical approaches to 20th-century repertoire in extended tonal, atonal, twelve-tone, and later idioms. Analysis of pitch and pitch-class structure, and of rhythmic, timbral, and formal developments in 20th-century compositions.

□ **MUTH 523D1 ADVANCED HARMONY.** (3) (3 hours) (Prerequisites: MUTH 304 and MUTH 327 OR MUCO 240) An investigation of pitch systems from the late 19th Century to the present with special reference to Fauré, Mahler, Berg, Scriabin, Delius and Messiaen. The students' work will consist equally of analysis and short written exercises.

MUTH 523D2 ADVANCED HARMONY. (3)

□ **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) Introduction to the principles and techniques of Schenkerian analysis. Interpretation and construction of reductive graphs through the analysis of a diversified repertoire of tonal works. Comparison with traditional methods of harmonic analysis (Rameau, Riemann, etc.).

□ **MUTH 529 PROSEMINAR IN MUSIC THEORY 1.** (3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) (Corequisites: MUTH 327 and MUHL 570 OR permission of instructor. Preference given to students in Honours Theory) A survey of various topics in contemporary music theory, including experimental aesthetics, indeterminacy, information theory, linguistics, microtonality, music technology, psycho-acoustics, and rhythmic theory.

□ **MUTH 538 MATHEMATICAL MODELS/MUSICAL ANALYSIS.** (3) (3 hours) (Prerequisites: MUTH 211 or MUCO 240 and MUSP 231 and MUSP 171) A survey of the theoretical and analytical writings from 1955 to the present, with emphasis on the following topics: a) atonal music (the works of Forte, Lewin, Rahn, Clough, Benjamin); b) twelve-tone music (Babbitt, Lewin, Mead); c) contour theory (Friedmann, West Marvin, Morris); and d) mathematical groups and transformational models (Lewin, Morris, Starr).

● **MUTH 658 HISTORY OF MUSIC THEORY 1.** (3) (3 hours)

● **MUTH 659 HISTORY OF MUSIC THEORY 2.** (3) (3 hours)

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 MUTH 501, MUTH 502 and MUTH 503, 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