

## 56 Otolaryngology

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Chair — M.D. Schloss

### 56.1 Staff

#### *Emeritus Professor*

J.D. Baxter; M.D., C.M., M.Sc.(McG.), F.R.C.S.(C)

#### *Professors*

S. Frenkiel; B.Sc., M.D., C.M.(McG.), F.R.C.S.(C)  
H.L. Galiana; B.Eng., M.Eng., Ph.D.(McG.)  
A. Katsarkas; M.D.(Thess.), M.Sc.(Otol.), F.R.C.S.(C)  
M.D. Schloss; M.D.(Br.Col.), F.R.C.S.(C)  
T.L. Tewfik; M.D.(Alex.), F.R.C.S.(C)

#### *Associate Professors*

M.J. Black; M.D., C.M.(McG.), F.R.C.S.(C)  
N. Fanous; M.B., BCh.(Cairo), F.R.C.S.(C)  
W.R.J. Funnell; B.Eng., M.Eng., Ph.D.(McG.)  
J. Manoukian; M.B., Ch.B.(Alex.), F.R.C.S.(C)  
M. Mendelsohn; B.Sc., M.D., C.M.(McG.), F.R.C.S.(C)  
W.H. Novick; M.D., C.M.(Queen's), F.R.C.S.(C)  
B. Segal; B.Sc., B.Eng., M.Eng., Ph.D.(McG.)  
R.S. Shapiro; M.D., C.M.(McG.), F.R.C.S.(C)  
G.S. Shenouda; M.D.(Cairo), F.R.C.P.(C)

#### *Assistant Professors*

F. Chagnon; M.D.C.M.(McG.), F.R.C.S.(C)  
I. Fried; M.D.(Dal.), F.R.C.S.(C)  
M. Hier; M.D.(McG.), F.R.C.S.(C)  
K. Kost; M.D., C.M.(McG.), F.R.C.S.(C)  
R. Lafleur; M.D.(Ott.), F.R.C.S.(C)  
M.-L. Lessard; M.D.(Laval), F.R.C.S.(C)  
J. Rappaport; M.D.(Dal.), F.R.C.S.(C)  
H. Remy; M.D.(Montr.), F.R.C.S.(C)  
L. Rochon; M.D.(Sher.), F.R.C.P.(C)  
N. Sadeghi; M.D.(McG.), M.Sc.(Otol.), F.R.C.S.(C)  
G. Sejean; M.D.(Beirut), F.R.C.S.(C)  
R. Sweet; M.D., C.M.(McG.)  
L. Tarantino; M.D.(Naples), F.R.C.S.(C)  
A.G. Zeitouni; M.D.(Sher.), M.Sc.(Otol.), F.R.C.S.(C)

#### *Lecturers*

A. Finesilver; M.D.(McG.), F.R.C.S.(C)  
J. Rothstein; M.D.(McG.), F.R.C.S.(C)

#### *Adjunct Professors*

M. Desrosiers; M.D.(Montr.), F.R.C.S.(C)  
J.-J. Dufour; M.D.(Laval), F.R.C.S.(C)

### 56.2 Program Offered

The Master of Science degree in Otolaryngology trains otolaryngologists for clinical or basic-science research in Otolaryngology.

### 56.3 Admission Requirements

Admission to the M.Sc. program requires acceptance by a research supervisor, and the proposed program must be approved by the Departmental Research Committee.

All applicants must be otolaryngologists, or they should be currently enrolled in a residency program leading to certification in Otolaryngology.

### 56.4 Application Procedures

Applications require the following documentation:

1. completed application form and personal statement form;
2. letters of reference from two professors;
3. two official copies of academic transcripts;
4. application fee: \$60;
5. results of Test of English as a Foreign Language (TOEFL) (minimum of 550 on the paper-based test or 213 on the computer-based test) if undergraduate and medical training were carried out in a language other than English or French.

Prospective students should contact research supervisors individually.

### 56.5 Program Requirements

The M.Sc. program comprises a minimum of 45 credits as follows:

#### **Required Courses** (12 credits)

- 540-602 (3) Physiology, Histopathology and Clinical Otolaryngology 1  
540-612 (3) Physiology, Histopathology and Clinical Otolaryngology 2  
540-603 (3) Advanced Scientific Principles of Otolaryngology 1  
540-613 (3) Advanced Scientific Principles of Otolaryngology 2

#### **Complementary Course** (3 credits)

- 513-607 (3) Principles of Inferential Statistics in Medicine or equivalent

#### **Thesis Component – Required** (30 credits)

- 540-690 (3) Thesis 1  
540-691 (3) Thesis 2  
540-692 (6) Thesis 3  
540-693 (6) Thesis 4  
540-694 (12) Thesis 5

When appropriate, courses 540-602, 540-612, 540-603 or 540-613 may be replaced by other basic-science or clinical (500-level or higher) courses of relevance to Otolaryngology, as recommended or approved by the Department.

Students aiming to acquire an interdisciplinary background will be expected to take additional elective courses, at the undergraduate level if necessary.

### 56.6 Graduate Courses

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

**540-602A,B,C PHYSIOLOGY, HISTOPATHOLOGY AND CLINICAL OTOLARYNGOLOGY 1.** (3) (6 hours/week) University and hospital rounds and seminars presenting various topics in Clinical Otolaryngology.

**540-603A,B,C ADVANCED SCIENTIFIC PRINCIPLES OF OTOLARYNGOLOGY 1.** (3) (1.5 hours/week) Lectures in advanced basic-science topics of relevance to the otolaryngologist.

**540-612A,B,C PHYSIOLOGY, HISTOPATHOLOGY AND CLINICAL OTOLARYNGOLOGY 2.** (3) (6 hours/week) University and hospital rounds and seminars presenting various additional topics in Clinical Otolaryngology.

**540-613A,B,C ADVANCED SCIENTIFIC PRINCIPLES OF OTOLARYNGOLOGY 2.** (3) (1.5 hours/week) Lectures in additional basic-science topics of relevance to the otolaryngologist.

**540-690 THESIS 1.** (3) A literature search and research proposal under supervision of the research supervisor that leads to a written proposal.

**540-691 THESIS 2.** (3) Supervised training and research in connection with the Master's thesis.

**540-692 THESIS 3.** (3) Independent research in connection with the Master's thesis.

**540-693 THESIS 4.** (6) A seminar and written report to be presented to an ad hoc committee describing appropriate progress at the end of the first year of training.

**540-694 THESIS 5.** (12) Independent study in connection with the Master's thesis. Presentation of results at a departmental seminar,

or at a scientific meeting. Completion and final acceptance of the M.Sc. Thesis by the Department and Faculty of Graduate Studies.

**513-607A,C,L PRINCIPLES OF INFERENCE IN STATISTICS IN MEDICINE.** (3) Introduction to basic principles of statistical inference.

## 57 Parasitology

Institute of Parasitology  
Macdonald Campus  
21,111 Lakeshore Road  
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Canada

Telephone: (514) 398-7722

Fax: (514) 398-7857

Email: [pargrsec@po-box.mcgill.ca](mailto:pargrsec@po-box.mcgill.ca)

Website: <http://www.parasitology.mcgill.ca/>

Director — Roger Prichard

### 57.1 Staff

#### Professors

Gaétan M. Faubert; B.Sc.(Sher.), M.Sc.(Montr.), Ph.D.(McG.)  
Roger Prichard; B.Sc., Ph.D.(N.S.W.) (*CP Professor of Biotechnology*)

#### Associate Professors

Robin N. Beech; B.Sc.(Nott.), Ph.D.(Edin.)  
Kris Chadee; B.Sc.(Winn.), M.Sc.(Man.), Ph.D.(McG.)  
Elias Georges; B.Sc., Ph.D.(McG.)  
Paula Ribeiro; B.Sc., Ph.D.(York)  
Marilyn E. Scott; B.Sc.(U.N.B.), Ph.D.(McG.)

#### Assistant Professor

Armando Jardim; B.Sc., Ph.D.(Vic. B.C.)

#### Associate Members

Mark A. Curtis; B.Sc., M.Sc., Ph.D.(McG.) (*Natural Resource Sciences, Wildlife Biology*)  
Gregory J. Matlashewski; B.Sc.(C'dia), Ph.D.(Ott.) (*Medicine, Microbiology & Immunology*)  
Manfred E. Rau; B.Sc.(Purdue), M.Sc., Ph.D.(McG.) (*Natural Resource Sciences, Entomology*)  
Mary Stevenson; B.A.(Hood), M.Sc., Ph.D.(Catholic U. of Amer.), (*Medicine, Experimental Medicine*)  
Brian Ward; M.D.(McG.), M.Sc.(Oxon), F.R.C.P.(C) (*Medicine, Experimental Medicine*)

#### Lecturer

James M. Smith, B.Sc.(N.E. London Polytechnic), Ph.D.(McG.)

### 57.2 Programs Offered

M.Sc. and Ph.D. degrees in Parasitology, and Graduate Certificate in Biotechnology.

The Institute of Parasitology teaches and researches the phenomenon of parasitism of man and livestock. Current research involvement includes the biology, biochemistry, pharmacology, control, ecology, epidemiology, immunology, molecular biology, neurobiology, and population and molecular genetics of parasitic organisms, viruses and cancer cells.

The Institute is housed in its own building adjacent to the Macdonald Campus Library, and has well equipped laboratories. The Institute has its own animal rooms and has access to large animal facilities at Macdonald farm. The Institute is affiliated to the McGill Centre for Tropical Diseases at the Montreal General Hospital.

Staff at the Institute of Parasitology also coordinate a 15-credit Graduate Certificate in Biotechnology.

### 57.3 Admission Requirements

Candidates for either the M.Sc. or the Ph.D. degree should possess a Bachelor's degree in the biological or medical sciences with

a cumulative grade point average of 3.2/4.0. Previous experience in parasitology is not essential.

Candidates for the Graduate Certificate in Biotechnology must possess a Bachelor's degree in Biological Sciences or equivalent with a cumulative grade point average of 3.0/4.0 or 3.2/4.0 in the last two full-time years of university study and prerequisites or equivalents. Prerequisites or equivalents: Students are required to have sufficient background in Biochemistry, Cellular Biology and Molecular Biology, equivalent to at least a 200-level course at McGill University.

### 57.4 Application Procedures

Applications for admission and all supporting documents must be sent directly to:

Student Affairs Office (Graduate Studies)  
Macdonald Campus of McGill University  
21,111 Lakeshore  
Sainte-Anne de Bellevue, Q CH9X 3V9  
Canada

Telephone: (514) 398-7925

Fax: (514) 398-7968

Email: [grad@macdonald.mcgill.ca](mailto:grad@macdonald.mcgill.ca)

Applications will be considered upon receipt of a signed and 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.

**Deadlines** – For **international students**, complete applications with supporting documents must reach the Student Affairs Office (Graduate Studies) at Macdonald Campus at least **eight months** prior to the intended start of program. May 1 for January (winter); September 1 for May (summer); January 1 for September (fall). For **domestic students**, it is recommended that complete applications with supporting documents reach the Office at least **six months** (but definitely no later than **three full months**) in advance of the intended start of program – July 1 for January (winter), November 1 for summer, March 1 for September (fall).

**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. **Certified** personal cheque in Cdn.\$ drawn on a Canadian bank;
2. **Certified** personal cheque in U.S.\$ drawn on a U.S. bank;
3. Canadian Money order in Cdn.\$;
4. U.S. Money Order in U.S.\$;
5. Bank draft in Cdn.\$ drawn on a Canadian bank;
6. Bank draft in U.S.\$ drawn on a U.S. bank, negotiable in Canada;
7. Credit card (by completing the appropriate section of the application form).

**Transcripts** – Two official copies of all transcripts are required for admission. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent. **DOCUMENTS SUBMITTED WILL NOT BE RETURNED.**

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. 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.

The minimum cumulative grade point average (CGPA) is 3.0/4.0 (second-class upper) or 3.2/4.0 during the last two full-time years of university study. High grades are expected in courses

considered by the academic unit to be preparatory to the graduate program.

**Letters of Recommendation** – Two letters of recommendation on letterhead 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 (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); department code is 31 (graduate schools), Biological Sciences - Agriculture.

**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 Faculty of Graduate Studies and Research 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 the Faculty of Graduate Studies and Research, **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.**

## 57.5 Program Requirements

### M.Sc. Degree

Candidates are required to write a research proposal in the second term of their registration to fulfill the requirements of 391-600D. While in the Institute, all students are required to register and participate in the seminar courses 391-606 and 391-607. Seminar speakers include students, professors and invited guests. Although emphasis in the graduate program is on research, satisfactory completion of two compulsory 3-credit graduate courses (391-635 and 391-655) is required in the first year of study. Other course work in related subjects may be required, depending upon the candidates' background and research orientation. In total, a minimum of 14 credits of course work is required and a thesis (courses 391-687, 688, 689). The minimum requirement of the M.Sc. degree is 46 credits.

### Ph.D. Degree

In the first year of the doctoral program, the candidates must successfully complete a written thesis proposal and make an oral presentation on their proposed research to fulfill 391-700D. Satisfactory completion of graduate courses 391-635 and 391-655 is required. While in the Institute, all students are required to participate in the seminar courses (391-606, 391-607).

### Graduate Certificate in Biotechnology

For the Graduate Certificate in Biotechnology, students are required to complete 15 credits of courses offered within the Fac-

ulties of Agricultural and Environmental Sciences, Medicine, and Science.

### Required Courses (6 credits)

394-505A (3) Selected Topics in Biotechnology  
394-620A (3) Biotechnology Lab Techniques

### Complementary Courses (9 credits)

One of:

394-621A (3) Biotechnology Management or  
516-511B (3) Joint Venturing with Industry

Two courses chosen from the following:

#### General Topics

177-451A (3) Molecular Biology: Cell Cycle  
177-468B (3) Topics in Human Genome  
177-524A (3) Topics in Molecular Biology  
342-622B (3) Selected Topics in Molecular Biology  
394-501A/B (3) Bioinformatics  
394-691E/G (3) Biotechnology Practicum  
516-602B (3) Advanced Techniques in Molecular Genetics

#### Health

391-635A/B (3) Cell Biology and Infection  
391-675A/B (3) Membrane Proteins in Human Diseases  
516-610B (3) Biochemical Methods in Medical Research  
528-466B (3) Viral Pathogenesis and Immunity  
552-518A (3) Artificial Cells and Immobilization  
Biotechnology

#### Environment and Food

333-535A (3) Food Biotechnology  
336-530B (3) Advanced Food and Fermentation Engineering  
356-500A/B (3) Techniques in Plant Molecular Genetics  
367-600A (3) Plant Microbe Interactions

## 57.6 Courses

The names of course instructors are listed on the Course Timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

□ Denotes limited enrolment.

**The following advanced undergraduate courses are available for graduate students in Parasitology.**

**177-345A PARASITISM AND SYMBIOSIS.** (3) (2 lectures and one lab per week) (Prerequisite: 177-204A or permission of instructor.) The biology of parasites and host-parasite interactions are examined from the cellular, organismal and population perspective. Evolution of symbiosis in relation to life cycle patterns of major taxonomic groups is examined. Modern strategies for parasite control are discussed.

**333-211A BIOCHEMISTRY I.** (3) (3 lectures per week) (Prerequisite: 333-230A) Biochemistry of carbohydrates, lipids, proteins, nucleic acids, enzymes and coenzymes. Introduction of intermediary metabolism.

**344-202B CELLULAR BIOLOGY.** (3) (4 lectures per week) Organization and function of intracellular organelles in eukaryotic cells. Protein synthesis and control of protein transport within the cell. Cell division and DNA replication. Energy metabolism and electron transport. Signal transduction and transmembrane signalling. Differentiation of cells and cancer. Function and components of the immune system.

**360-306A MATHEMATICAL METHODS IN ECOLOGY.** (3) (3 lectures per week) An introduction to mathematical and graphical tools for use in ecology. Representation and interpretation of data and associated statistics in graphs and tables; theoretical modelling in plant and animal ecology, including difference and differential equation models. Introduction to stability analysis and probability theory. Emphasis will be placed on graphical techniques.

**375-410B WILDLIFE ECOLOGY.** (3) (3 lectures per week, and assignments) (Prerequisite: 344-205B or equivalent.) Ecological processes and theories in animal populations. Interrelationships

among biological processes, biotic and abiotic factors, and life history strategies. Topics include population dynamics, optimization strategies, predation, habitat selection, risks and decision making, and social behavior. Application of problem-solving approach to wildlife ecology through individual and group work.

**391-400B EUKARYOTIC CELLS AND VIRUSES.** (3) (4 lectures per week) (Prerequisite: 356-204A) The basic principles of molecular biology and the underlying molecular basis for various methodologies in molecular biology are covered. The molecular genetic basis for viral infections and tumorigenesis will be covered as examples of the use of molecular genetic approaches to address biological problems.

**391-410B ENVIRONMENT AND INFECTION.** (3) (2 lectures per week) (Prerequisites: 177-111A, 344-120A, or equivalents) Infectious pathogens of humans and animals and their impact on the global environment are considered. The central tenet is that infectious pathogens are environmental risk factors. The course considers their impact on the human condition and juxtaposes the impact of control and treatment measures and environmental change.

**391-438A IMMUNOLOGY.** (3) (2 lectures per week) (Prerequisite: 344-202B or permission of instructor.) An in-depth analysis of the principles of cellular and molecular immunology. The emphasis of the course is on host defense against infection and on diseases caused by abnormal immune responses.

#### Courses for Higher Degrees

**202-505A SELECTED TOPICS IN BIOTECHNOLOGY.** (3) (one 3-hour lecture per week) Current methods used in the biotechnology industry and research, as applied to medical, biological, environmental, agricultural and food sciences aspects of biotechnology, will be described and discussed. This multidisciplinary course will include lectures from outstanding biotechnology researchers from industry and McGill professors, and visits to leading centres of biotechnology in the region.

**391-600D THESIS PROPOSAL FOR M.Sc. CANDIDATES.** (4)

**391-606A,B PARASITOLOGY SEMINAR.** (2) A seminar series in which students present seminars covering topics in parasitology, in areas relevant to their research interests. Students register for the course in their second term of residency. Attendance and participation are compulsory for M.Sc. and Ph.D. students.

**391-607A,B PARASITOLOGY RESEARCH SEMINAR.** (2) This is a required course for M.Sc. and Ph.D. students. A seminar course in which students registered at the Institute of Parasitology present seminars on the results of their thesis research. Students register for the course in the final term prior to thesis submission.

**391-635A,B CELL BIOLOGY AND INFECTION.** (3) (Prerequisite: students with some background in molecular biology.) Research articles will be the primary source of information. This course will cover new principles in cell biology. In particular, the mechanisms by which gene expression is regulated through signal transduction pathways initiated at the cell surface will be presented.

**391-655A,B HOST-PARASITE INTERACTIONS.** (3) Lectures, tutorials and laboratory demonstrations of the principal factors which affect levels of parasite infection and treatment of infections in humans and animals. The integration and management of the host-parasite relationship in terms of transmission, population dynamics, environmental management, behaviour, immune responses, pathology, and pharmacology to decrease parasitic disease.

**391-665A,B SPECIAL TOPICS IN PARASITOLOGY.** (3) This course designation will be used for special courses that staff, or visiting professors, may wish to provide when student interest warrants. Examples might include a laboratory techniques course, a mathematical modelling course or a special pharmacology seminar series.

**391-675A,B MEMBRANE PROTEINS IN HUMAN DISEASES.** (3) (Prerequisite: 333-211A or equivalent.) The molecular mechanism of membrane proteins and their role in human diseases. Specific examples of how parasites and mammalian cells use these membrane proteins to manipulate their environment will be reviewed in detail.

**391-687A,B THESIS RESEARCH I.** (10)

**391-688A,B THESIS RESEARCH II.** (10)

**391-689A,B THESIS RESEARCH III.** (12)

**391-700D THESIS PROPOSAL FOR PH.D. CANDIDATES.**

**391-710A,B PARASITOLOGY PH.D. SEMINAR I.** (2)

**391-711A,B PARASITOLOGY PH.D. SEMINAR II.** (2) A seminar series in which students present seminars covering topics in parasitology in areas relevant to their research interests. Attendance and participation are compulsory.

□ **394-501A/B BIOINFORMATICS.** (3) (2 lectures and 1 laboratory per week) This course introduces the application of computer software for analysis of biological sequence information. An emphasis is placed on the biological theory behind analytical techniques, the algorithms used and methods of developing a statistical framework for various types of analysis.

□ **394-620A BIOTECHNOLOGY LABORATORY TECHNIQUES.** (3) (one 8-hour lab per week) Practical training in contemporary methods of molecular and cellular biology. Intended for students with background in molecular biology, biochemistry, or a related area, who are already familiar with theoretical principles of recombinant DNA technologies. Topics include: polymerase chain reaction (PCR), methods for gene cloning and mutagenesis, eukaryotic and prokaryotic gene expression systems, protein purification and methods of eukaryotic cell culture.

**394-621A BIOTECHNOLOGY MANAGEMENT.** (3) (one 3-hour lecture per week) Topics relevant to the management of research in industry are presented by experts working in industry. This course highlights the differences existing between research done in an academic environment and research done within industry.

**394-691E,G BIOTECHNOLOGY PRACTICUM.** (3) (Prerequisite: 394-620A/B) The cooperating employer and the instructor (or designate) will develop an individualized practicum experience program of at least 12 weeks duration for each student.

## 58 Pathology

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Website: <http://www.mcgill.ca/pathology>

Chair — C.C. Compton

Director of Graduate Program — E. Zorychta

### 58.1 Staff

#### *Emeritus Professors*

S. Moore; M.B., Ch.B.(Belf.), F.R.C.P.(C)  
R.H. More; M.Sc.(McG.), M.D.(Tor.), F.R.C.P.(C)

#### *Professors*

M.N. Burnier Jr.; M.D., M.Sc., Ph.D.(Brazil)  
C.C. Compton; B.A. M.D., Ph.D.(Harv.)  
A.M.V. Duncan; B.Sc.(Queen's), Ph.D.(Edin.)  
A. Ferenczy; B.A., B.Sc., M.D.(Montr.)  
R. Fraser; B.Sc., M.D., C.M.(McG.), M.Sc.(Glas.), F.R.C.P.(C)  
A. Fuks; B.Sc., M.D., C.M.(McG.)  
Q.A. Hamid; M.D.(Mosul), Ph.D.(Lond.) (*James McGill Professor*)  
(*joint appt. with Medicine*)  
R.P. Michel; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)  
G. Prud'homme; B.Sc., M.D.(Ott.), F.R.C.P.(C)  
J.B. Richardson; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)

**Associate Professors**

L. Alpert; M.D., Ph.D.(Tufts)  
 J. Arseneau; M.D.(Laval), F.R.C.P.(C)  
 M. Auger; M.D., C.M.(McG.), F.R.C.P.(C)  
 L. Bégin; M.D.(Sher.), F.R.C.P.(C)  
 M.L. Brisson; B.A.(Paris), B.Sc., M.D.(Montr.)  
 B. Case; B.Sc., M.D., C.M., M.Sc.(McG.), Dipl. Occ. Hyg.,  
 F.R.C.P.(C)  
 M.F. Chen; M.B., B.S.(Monash), F.R.C.P.(C)  
 J. Deschênes; M.D.(Laval), F.R.C.P.(C)  
 A. Giaid; D.V.M.S.(Baghdad), Ph.D.(Lond.)  
 R.H. Latt; D.V.M.(Guelph)  
 L.A. Oliva; M.D.(St. Domingue), F.R.C.P.(C)  
 R. Onerheim; M.D.(Alta.), F.R.C.P.(C)  
 L. Rochon; M.D.(Sher.), F.R.C.P.(C)  
 S. Tange; B.A., M.D.(Minn.)  
 M. Trudel; B.Sc., M.D.(Ott.), F.R.C.P.(C)  
 J. Vilorio; M.D.(Philip.), F.R.C.P.(C)  
 K. Watters; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)  
 E.A. Zorychta; B.Sc.(St.F.X.), M.Sc., Ph.D.(McG.)

**Assistant Professors**

S. Albrecht; M.D.(Sher.), F.R.C.P.(C)  
 C. Bernard; M.D.(Sherb.)  
 P.J. Chauvin; M.Sc.(W.Ont.), D.D.S.(McG.)  
 S. Demczuk; B.Sc., M.Sc., Ph.D.(McG.)  
 J. Emond; B.A., M.Sc., M.D.(Montr.)  
 M.-C. Guiot; B.Sc., M.D.(Bordeaux)  
 F. Halwani; M.D.(Iran), Ph.D.(McG.), F.R.C.P.(C)  
 D. Lamoureux; M.D.(Sher.), F.R.C.P.(C)  
 E. Lamoureux; B.Sc., M.D.(Montr.), F.R.C.P.(C)  
 E. MacNamara; M.B., Ch.B.(Trinity), F.R.C.P.(C)  
 A.T. Marcus; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)  
 V.A. Marcus; M.D., C.M.(McG.), F.R.C.P.(C)  
 J. Massé; M.D.(Sher.)  
 A.R. Mehio; M.D.(Leb.)  
 V.-H. Nguyen; M.D.(Montr.), F.R.C.P.(C)  
 D. Pilavdzic; M.D.(Zagreb), F.R.C.P.(C)  
 C. Pothel; M.D.(Haiti), F.R.C.P.(C)  
 I. Roy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C)  
 K. Sircar; M.D., C.M.(McG.), F.R.C.P.(C)  
 G.J. Snipes Jr.; B.Sc.(Emory), M.D., Ph.D.(Vanderbilt) (*joint appt.*  
*with Neurology & Neurosurgery*)  
 H. Srolovitz; B.Sc.(Pitt.), M.D.(Basle)  
 J. St. Cyr; M.D., C.M.(McG.), F.R.C.P.(C)

**Adjunct Professors**

T. Seemayer, University of Nebraska Medical Centre  
 P.D. Winocour, BioChem Therapeutic Inc.

**58.2 Programs Offered**

M.Sc. and Ph.D. degrees in Pathology.

The Pathology Department offers research training in a wide variety of areas such as atherosclerosis, immunology and transplantation, neoplasia, cell biology, pulmonary vascular and airways disease, pulmonary edema, neurodegenerative disorders, and smooth muscle pathophysiology.

Modern techniques and equipment include light, fluorescence and electron microscopy (both transmission and scanning), cell culture, advanced immunological, pharmacological, biochemical and physiological techniques, as well as morphometry and computers.

**58.3 Admission Requirements**

Applicants must have a B.Sc. or the equivalent degree with an extensive background in the physical and biological sciences. An academic record equivalent to or better than a CGPA of 3.2 out of 4 at McGill is required for at least the two final full-time years of undergraduate training with a minimum CGPA of 3.0 overall.

Non-Canadian students may be required to take the GRE and TOEFL examinations in order to properly evaluate their suitability. Students are normally accepted into the M.Sc. program, and those

candidates showing exceptional ability may be permitted to transfer into the Ph.D. program after one year of training.

Applicants who already possess an additional degree (M.Sc., M.D.) and have some research experience may be allowed to register in the Ph.D. program directly.

Prospective students are encouraged to contact the Teaching Office, Department of Pathology, for application forms and a departmental brochure containing the research interests of the academic staff.

**58.4 Application Procedures**

Applications will be considered upon receipt of:

1. application;
2. transcripts;
3. letters of reference;
4. \$60 application fee;
5. test results (GRE, TOEFL).

All information is to be submitted directly to the Pathology Teaching Office.

All applications will be evaluated by the Graduate Students Committee. Candidates found suitable must then be accepted by a research director, and adequate funding must be obtained for both personal support and research expenses.

**58.5 Program Requirements**

All students must take Pathology 546-300B plus a course in statistics if they have not completed these requirements before admission.

Candidates with insufficient background in one of the biomedical sciences will be required to take specific courses to remedy the deficiency. These and additional courses which are relevant to the student's area of research will be chosen in consultation with the research director and Graduate Students Committee.

**M.Sc. Program Requirements**

The program consists of 45 credits, 30 credits obtained by laboratory work and submission of a thesis (546-690, 546-691, 546-692), with the remaining 15 course credits to be distributed as follows: 546-613 or 546-614, 546-620, 546-622, plus any two graduate level courses offered by the Department. A graduate course in another department may be substituted for one of the Pathology graduate courses upon approval by the research director and Graduate Students Committee.

**Ph.D. Program Requirements**

Ph.D. candidates are required to complete courses 546-613, 546-614, 546-620, 546-622, 546-701, plus any three graduate level courses offered by the Department, and any additional courses considered necessary by the research director or the Graduate Students Committee.

Candidates will be evaluated primarily on their ability to conduct independent research and submit a thesis, which must be defended orally.

**58.6 Courses**

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**Advanced Undergraduate**

**546-300B HUMAN DISEASE.** (3) Integrated study of human disease, with emphasis on the major disorders prevalent in North America. Cell injury, inflammation, healing, infection, immune responses, lifestyle and aging, neoplasia, disorders of organ systems.

**Graduate Courses**

The following courses are given in a variable sequence depending on the interests and requirements of graduate students enrolled in the Department.

**546-607B CYTOKINES IN HEALTH AND DISEASE.** (3) Lectures and seminars covering a range of topics in the field of cytokine biology, the role of cytokines in disease pathogenesis and advanced molecular techniques in the expression and regulation of cytokines.

**546-613A,B; -614A,B RESEARCH TOPICS IN PATHOLOGY.** (3)

**546-620A,B RESEARCH SEMINAR I.** (3)

**546-622A,B RESEARCH SEMINAR 2.** (3)

● **546-650A,B IMMUNOPATHOLOGY.** (3)

● **546-651A PATHOBIOLOGY OF THE ARTERIAL WALL.** (3)

● **546-652A,B MOLECULAR BIOLOGY OF DISEASE.** (3)

**546-653A,B READING AND CONFERENCE.** (3) (Offered in conjunction with Human Genetics.) Cytogenetics is the science and art of making and analyzing chromosome preparations. This course focuses on human chromosomes, although methodologies and principles apply broadly to other species as well. Basic facts and mysteries about chromosomes will be explained and discussed in the light of clinical examples.

**546-690A,B,C M.Sc. RESEARCH PROJECT I.** (9)

**546-691A,B,C M.Sc. RESEARCH PROJECT II.** (9)

**546-692A,B,C M.Sc. RESEARCH PROJECT III.** (12)

**546-701D COMPREHENSIVE EXAMINATION FOR PH.D. CANDIDATES.**

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## 59 Pharmacology and Therapeutics

Department of Pharmacology and Therapeutics  
McIntyre Medical Sciences Building  
3655 Promenade Sir-William-Osler, Room 1325  
Montreal, QC H3G 1Y6  
Canada

Telephone: (514) 398-3623

Fax: (514) 398-6690

Email: pmoore@pharma.mcgill.ca

Website: <http://www.pharma.mcgill.ca>

*Chair* — N. Bunnett

*Vice-Chair* — R. Capek

*Chair, Graduate Committee* — TBA

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### 59.1 Staff

#### *Professors*

R. Capek; M.D., Ph.D.(Prague)

B. Collier; Ph.D.(Leeds)

P.B.S. Clarke; M.A.(Cantab.), Ph.D.(Lond.)

A.C. Cuello; M.D.(Buenos Aires), D.Sc.(Oxon), F.R.S.C.

B. Hales; M.Sc.(Phila. Coll. Pharm.), Ph.D.(McG.)

P.J. McLeod; M.D.(Man.), F.R.C.P.(C)

J.B. Richardson; M.D., C.M., Ph.D.(McG.)

B. Robaire; B.A.(UCLA), Ph.D.(McG.)

T.L. Sourkes; M.Sc.(McG.), Ph.D.(C'nell)

M. Szyf; M.Sc., Ph.D.(Hebrew Univ.)

D.R. Varma; M.D.(L'now), Ph.D.(McG.)

#### *Associate Professors*

G. Almazan; Ph.D.(McG.)

N. Bunnett; M.Sc.(Leeds), Ph.D.(Cambridge)

B. Esplin; M.D.(Warsaw)

D. Maysinger; M.Sc.(Zagreb), M.Sc.(Radiop), Ph.D.(S. Calif.)

S. Nattel; M.D. C.M.(McG.)

A.L. Padjen; M.D., Ph.D.(Zagreb)

A. Ribeiro-da-Silva; M.D., Ph.D.(Oporto)

H. Saragovi; Ph.D.(Miami)

B.I. Sasyniuk; Ph.D.(Man.)

J. Trasler; M.D., C.M., Ph.D.(McG.)

E. Zorychta; Ph.D.(McG.)

#### *Associate Members*

M. Aloui - Jamali; Ph.D.(Sorbonne)

G. Batist; M.D., C.M.(McG.)

C. de Montigny; M.D., Ph.D.(Montr.), F.R.C.P.(C)

P. Fiset; M.D.(Ival), F.R.C.P.S.(C)

S. Gauthier; M.D.(Montr.)

Y. Patel; M.D.(Otago) Ph.D.(Monash) F.R.A.C.P., F.R.C.P.(C)

R. Prichard; B.Sc., Ph.D.(N.S.W.)

R. Quirion; M.Sc., Ph.D.(Sher.)

A. Tenenhouse; M.D., C.M., Ph.D.(McG.)

#### *Adjunct Professors*

P. Albert; Ph.D.(Harv.)

S. Chemtob; M.D., Ph.D.(Montr.), F.R.C.P.(C)

Y. de Koninck; Ph.D.(McG.)

L. Garofalo; Ph.D.(McG.)

J. Mancini; M.Sc., Ph.D.(McG.)

K. Metters; Ph.D.(London)

G.S. Robertson; Ph.D.(Dal.)

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### 59.2 Programs Offered

The Department of Pharmacology and Therapeutics offers training leading to M.Sc. (thesis), M.Sc. Applied (non-thesis) and Ph.D. degrees.

Pharmacology is a multi-disciplinary science which deals with all aspects of drugs and their interactions with living organisms. Thus, pharmacologists study the physical and chemical properties of drugs, their biochemical and physiological effects, mechanisms of action, pharmacokinetics and therapeutic and other uses. The Department offers broad exposure and training in both basic and clinical research in areas of specialty ranging from neuropharmacology, reproductive, endocrine, receptor, cardiovascular, cancer, developmental, autonomic, clinical and biochemical pharmacology, molecular biology, to toxicology.

The present 38 full and affiliate members of the Department have research laboratories located in the McIntyre Medical Sciences Building and in a variety of hospitals, institutes and industry including the Douglas Hospital Research Center, Allan Memorial Institute, Montreal Children's Hospital, Montreal General Hospital, Royal Victoria Hospital, Montreal Heart Institute, Lady Davis Research Institute and Merck Frosst Canada Inc. The participation of researchers from both industry and government ensures the relevance of the Department's applications-oriented training programs.

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### 59.3 Admission Requirements

Candidates are required to hold a B.Sc. degree in a discipline relevant to the proposed field of study; those with the M.D., D.D.S. or D.V.M. degrees are also eligible to apply. A background in the health sciences is recommended, but programs in biology, chemistry, mathematics, and physical sciences may be acceptable.

Admission is based on a student's academic record, letters of assessment, and, whenever possible, interviews with staff members. Non-Canadian students are required to take the Graduate Record Examination Aptitude Test (GRE) and the Test of English as a Foreign Language (TOEFL) or the equivalents.

Inquiries relating to all aspects of graduate study should be directed to the Graduate Coordinator, Department of Pharmacology and Therapeutics as early as possible in each academic year.

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### 59.4 Application Procedures

Applications will be considered upon receipt of:

1. Completed preliminary or official McGill University application form.
2. Curriculum vitae including a statement of research interests.
3. Two copies of official transcripts sent directly from all universities attended.

- Two confidential letters of recommendation from professors or research-related employers (at least one should be from an academic known to the international scientific community).
- Application fee (\$60 Canadian or U.S. Funds, in money order, certified personal cheque, bank draft, or credit cards) to be enclosed with the official application form.
- Official GRE and TOEFL scores (not required of applicants from Canada).

Applications and all documents should be submitted directly to the Graduate Co-ordinator, Mrs. Pam Moore, in the Department of Pharmacology.

#### Deadlines

September Admission:

- Canadian/Permanent Resident Applicants – June 1st (including interviews with graduate committee members).
- International Applicants (except from China) – April 15th.
- Applicants from China – March 1st.

January Admission:

- Canadian/Permanent Resident Applicants – October 1st (including interviews with graduate committee members).
- International Applicants – August 1st.

### 59.5 Program Requirements

The objective of the M.Sc. (thesis) and Ph.D. degree training programs is to provide in-depth independent research experience in a specific area of pharmacology.

#### M.Sc. (Thesis) (45 credits)

In addition to a M.Sc. Thesis, the specific requirements are as follows:

- Complete 549-601D/E Comprehensive Examination (9 credits)
- Plus 549-712B Statistics for Pharmacologists (3 credits)
- \*549-562A General Pharmacology I and 549-563B General Pharmacology II or their equivalent (6 credits)  
\*Students who have taken 549-562A and 549-563B as part of their undergraduate degree must register for 549-697A/B thesis preparation I (6 credits)
- Two 700-level graduate courses in Pharmacology (3 credits each)

The M.Sc. program consists of 45 credits, a minimum of 18 credits are required in addition to thesis preparation courses 549-696, 549-698 and 549-699 (3, 9 and 12 credits respectively).

#### Ph.D. (Thesis)

Students enrolled in the Ph.D. program must successfully complete or be exempted from the same courses as for the M.Sc. degree, plus one additional 700-level graduate course (for total of 3), in addition to a Ph.D. thesis.

#### M.Sc. (Applied) degree (pending the availability of resources)

The objective of the M.Sc. Applied program is to provide a broad exposure and training in Pharmacology, with two terms of courses and two of research, one of which may be completed during the summer.

The course requirements (45 credits) are as follows: 549-562A and 549-563B, General Pharmacology I and II, or their equivalents; 549-712B, Statistics for Pharmacologists; 549-603A, Drug Discovery and Development; one 700 level Pharmacology graduate course; 549-604, Advanced independent research project in pharmacology; 549-605, Advanced independent research project in applied pharmacology, plus three complementary courses to be chosen from options in Epidemiology, Experimental Medicine, Biotechnology, Bioethics, Biochemistry, Physiology, Microbiology and Immunology, Pathology, and Economics.

### 59.6 Courses for Higher Degrees

The following courses are designed primarily for graduate students in the Department, but may be attended by others under special circumstances. These courses are given in a rotational sequence and students may register according to their specific requirements and interests.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**549-601D,E COMPREHENSIVE EXAM.** (9) Registration for this is required for all students in the M.Sc. (Thesis) and Ph.D. degree programs.

- **549-603A DRUG DISCOVERY AND DEVELOPMENT.** (6)
- **549-604A,B ADVANCED INDEPENDENT RESEARCH PROJECT IN PHARMACOLOGY.** (9)
- **549-605A,B ADVANCED INDEPENDENT RESEARCH PROJECT IN APPLIED PHARMACOLOGY.** (9)
- 549-696A,B THESIS PREPARATION.** (3)
- 549-697A,B THESIS PREPARATION I.** (6)
- 549-698A,B THESIS PREPARATION II.** (9)
- 549-699A,B THESIS PREPARATION III.** (12)

**549-702A,B BIOCHEMICAL PHARMACOLOGY.** (3) Interaction of natural and synthetic chemicals with subcellular or molecular entities in living systems.

- **549-703A,B NEUROPHARMACOLOGY.** (3)
- **549-704A,B DRUG DISTRIBUTION, METABOLISM AND EXCRETION.** (3)
- **549-705A,B CARDIOVASCULAR REGULATION AND DRUG ACTION.** (3)

**549-706A,B CHEMICAL MEDIATORS AND AUTONOMIC DRUGS.** (3) Interactions of drugs and chemical mediators to mimic, augment or inhibit responses to peripheral nerve activity.

- **549-707A,B MOLECULAR PHARMACOLOGY.** (3)
- 549-712B STATISTICS FOR PHARMACOLOGISTS.** (3) Basic theoretical and practical aspects of statistics for pharmacologists.

- **549-713A,B DEVELOPMENTAL PHARMACOLOGY.** (3)
- **549-714A,B ENDOCRINE PHARMACOLOGY.** (3)

## 60 Philosophy

Department of Philosophy  
Leacock Building, Room 908  
855 Sherbrooke Street West  
Montreal, QC H3A 2T7  
Canada

Telephone: (514) 398-6060

Fax: (514) 398-7148

Email: [philo@po-box.mcgill.ca](mailto:philo@po-box.mcgill.ca)

Website: <http://www.arts.mcgill.ca/programs/philo>

Chair — R.P. Buckley

### 60.1 Staff

#### Emeritus Professors

R. Klubansky; M.A.(Oxon.), D.Phil.(Heidel.), F.R.Hist. F.R.S.C.  
(*John Frothingham Emeritus Professor of Logic and Metaphysics*)

A.T. McKinnon; M.A.(Tor.), Ph.D.(Edin.), B.D.(McG.), F.R.S.C., R.D., D.H.L.(St. Olaf) (*William C. Macdonald Emeritus Professor of Moral Philosophy*)

D. Norton; M.A.(Claremont), Ph.D.(Calif.), F.R.S.C.

C. Taylor; M.A., D.Phil.(Oxon.), F.R.S.C.

*Professors*

M.A. Bunge; Ph.D.(LaPlata), F.R.S.C. (*John Frothingham*  
*Professor of Logic and Metaphysics*)  
 G. DiGiovanni; B.A., M.A., S.T.B., Ph.D.(Tor.)  
 S. McCall; B.A.(McG.), B.Phil., D.Phil.(Oxon.)

*Associate Professors*

R.P. Buckley; Ph.D.(Louvain)  
 D. Davies; B.A. (Oxon.), M.A.(Manit.), Ph.D.(W.Ont.)  
 M. Deslauriers; B.A.(McG.), M.A., Ph.D.(Tor.)  
 M. Hallett; B.Sc., Ph.D.(Lond.)  
 A. Laywine; B.A.(Ott.), M.A.(Montr.), Ph.D.(Chic.)  
 E. Lewis; B.A.(C'nell), Ph.D.(Ill. at Chic.)  
 J. McGilvray; B.A.(Carleton College), Ph.D.(Yale)  
 S. Menn; M.A., Ph.D.(Chic.), M.A., Ph.D.(Johns H.)  
 S. Stroud; A.B.(Harv.), Ph.D.(Prin.)

*Assistant Professor*

E. Carson; M.A.(McG.), Ph.D.(Harv.)

*Adjunct Professors*

S. Davis; (Simon Fraser)  
 I. Gold; (Monash)  
 J. Tully; (University of Victoria)

*Auxiliary Professor*

K. Arvanitakis; B.Sc. M.A., M.D., C.M.(McG.), D.Psy., C.I.P.C.,  
 C.C.M.Q., F.R.C.P., R.S.M.A.(UK) (Can. Institute of  
 Psychoanalysis)

*Associate Members*

R. Hayes (Religious Studies); L. Kaplan (Jewish Studies);  
 A. Patten (Political Science)

*Visiting Professor*

G.A. Cohen; (Chicele Professor of Social and Political Theory,  
 University of Oxford).

**60.2 Programs Offered**

The Department offers courses of study leading to the Ph.D. in Philosophy. It also offers, in conjunction with the Biomedical Ethics Unit, a course of study leading to the M.A. degree in Bioethics.

**60.3 Admission Requirements**

**Ph.D.** Students with an Honours B.A. degree in philosophy, or the equivalent, are normally admitted to the Ph.D. program directly at the Ph.D.I level. The Department considers an Honours B.A. degree to include:

- 1) A general knowledge of the history of Western philosophy: Greek, Medieval, Modern.
- 2) A systematic knowledge of the main philosophical disciplines in their contemporary as well as historical contexts: logic, ethics, epistemology, and metaphysics.
- 3) An ability to present, in written form, clear and substantial reconstructions and analyses of the materials normally studied in the areas mentioned in (1) and (2).

To demonstrate their competence in these areas applicants must submit transcripts of academic work, three letters of recommendation from persons with whom they have studied, and at least one substantial example (approximately 15-20 typewritten pages) of their written philosophical work. In addition, applicants from North America whose first language is English are required to submit scores of the Graduate Record Examination.

Students who hold an M.A. degree from another institution should apply for admission at the Ph.D. II level; such students will normally be required to complete two years of course work.

**M.A. (Bioethics)** Students applying to the Bioethics Specialty program must write an M.A. thesis proposal. All applications to this program must also receive the approval of the Director of the Specialty program. Students who apply for this program should note that they must participate in a practicum which continues beyond the end of their second term of classes.

**60.4 Application Procedures**

**Ph.D.:** Applications and all documents **must** be submitted by January 15.

Applications will be considered upon receipt of:

1. duly completed application form;
2. two (2) official transcripts of all post-secondary studies;
3. three (3) original letters of reference;
4. \$60 application fee;
5. test results (GRE, TOEFL);
6. writing sample;
7. statement of purpose.

All information is to be submitted to the Department of Philosophy.

**M.A. specialization in Bioethics:** Applications are made initially through the Biomedical Ethics Unit in the Faculty of Medicine, which administers the program and teaches the core courses.

Applicants must be accepted first by the Department of Philosophy and then by the Bioethics Graduate Studies Advisory Committee.

For information, please contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3690 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514) 398-6980. Fax: (514) 398-8349. Email: Glass\_K@falaw.lan.mcgill.ca

**60.5 Program Requirements**

The course work for the first four terms of the Ph.D. program will include two pro-seminars, in two of the following three areas: Value theory; Metaphysics and Epistemology; History of Philosophy. Each seminar will be led by two members of staff, and the grade for the seminar will be determined jointly by them. Each academic year, the Chair will invite joint proposals from staff for topics for the following year's pro-seminar and will, if necessary, choose among proposals, ensuring that the topics offered in successive years do not fall within the same area as defined above. The Chair will also consult with graduate students in Ph.D. I concerning the topic of the pro-seminar for the following year. The pro-seminar will normally be offered in the fall semester.

The course work taken towards completion of the requirements for the Ph.D. program must satisfy certain distribution requirements. Students must take at least two graduate courses in each of the following three areas: Value Theory; Metaphysics and Epistemology; History of Philosophy. Pro-seminars (6 credits each) may be counted in partial satisfaction of these requirements. The Graduate Director, in consultation with the student's advisory committee, will determine for which area(s) a given course may be counted. Students are entitled to appeal such decisions to the Department as a whole. No student may count a given course towards the satisfaction of the distribution requirements for more than one area.

By the end of the Ph.D. II year, a student must submit a research paper (the "candidacy paper" [3 credits]), which may be worked up from a paper written to fulfill the requirements of a graduate course, to a Thesis Advancement Committee consisting of at least two members of the staff of the Department. The membership of this committee will be determined by the Graduate Director in consultation with the student; it is anticipated that members of this committee would, in principle, direct the student's thesis. This committee assigns a grade to the student's paper and reviews her or his graduate performance; on the basis of its assessment and review, it recommends to the Department as a whole either to permit the student to continue with the Ph.D. program and undertake a thesis or to decline to permit the student to continue. Two necessary conditions for a positive recommendation are that the student (a) receive a grade of at least B+ on the candidacy paper, and (b) have at least a 3.5 GPA (on the undergraduate Grade Point scale) in the course work required for the program. The Department as a whole, taking into account the Thesis Advancement Committee's recommendation and the student's overall academic record in the program, decides whether to permit the student to continue.

Students who do not receive a positive recommendation but who satisfy Graduate Faculty requirements (no courses below a B-minus and completion of 45 credits) will be recommended to the Graduate Faculty by the Department to transfer from the Ph.D. program to the M.A. program.

**M.A. specialization in Bioethics:** The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (3 credit minimum) offered by Philosophy and any graduate courses required or accepted by Philosophy for the granting of a Master's degree, for a total of 18 to 21 credits. A minimum of 45 credits is required including the thesis. For further information refer to the Bioethics entry.

## 60.6 Courses for Higher Degrees

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on [infoMcGill](http://www.mcgill.ca/students/courses/) via the Web <http://www.mcgill.ca/students/courses/>.

Subject to modification. Please consult the up-to-date list in the Departmental Office before registering.

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

- Denotes courses not offered in 2001-02.

### 107-210A INTRODUCTION TO DEDUCTIVE LOGIC. (3)

**107-310B INTERMEDIATE LOGIC.** (3) A second course in logic which will usually cover in detail the basic meta-results concerning first-order logic (sometimes known as the 'limitative results'), such as the Gödel-(Henkin) Completeness Theorem, Church's Theorem, the Gödel Incompleteness Theorems and Tarski's Theorem. Other topics will sometimes be covered instead, such as Intuitionistic or Modal Logic.

- **107-506A SEMINAR: PHILOSOPHY OF MIND.** (3) (Prerequisite: 107-305) (Open only to students as indicated above and to Cognitive Science Minors.)

- **107-507A,B SEMINAR: COGNITIVE SCIENCE.** (3) (Prerequisites: 107-305, 107-415 or written permission of the instructor.)

**107-510A,B SEMINAR: ADVANCED LOGIC II.** (3) (Prerequisite: 107-310 or written permission of the instructor.)

- **107-511A,B SEMINAR: PHILOSOPHY OF LOGIC AND MATHEMATICS.** (3)

- **107-515A,B SEMINAR: PHILOSOPHY OF LANGUAGE.** (3) (Prerequisite: 107-415 or written permission of the instructor.)

**107-519B SEMINAR: EPISTEMOLOGY.** (3) (Prerequisite: 107-420 or written permission of the instructor.) An advanced course devoted to a topic in the theory of knowledge.

- **107-521B SEMINAR: METAPHYSICS.** (3) (Prerequisite: 107-421 or written permission of the instructor.)

**107-534A,B SEMINAR; ETHICS.** (3) (Prerequisite: 107-334 or written permission of the instructor.)

**107-541A,B SEMINAR: PHILOSOPHY OF SCIENCE.** (3) (Prerequisite: 107-441 or other requirements specified by the instructor.) An advanced course devoted to a topic in the philosophy of science. Subject varies from year to year. Topic for 1997-98: An analysis of Karl R. Popper's epistemology and social philosophy: deductivism and fallibilism, freedom and social engineering.

**107-543A,B SEMINAR: MEDICAL ETHICS.** (3) (Prerequisite: 107-343 or written permission of the instructor.) An advanced course devoted to a particular philosophical problem as it arises in the context of medical practice or the application of medical technology.

**107-544B SEMINAR: POLITICAL THEORY.** (3) Topic for 2001-02: Political Philosophy.

- **107-548A,B SEMINAR: PHILOSOPHY OF LAW.** (3) (Prerequisite: 107-348 or written permission of the instructor.)

**107-551A,B SEMINAR: ANCIENT PHILOSOPHY.** (3) (Prerequisite: at least one course in ancient philosophy and the specific requirements of individual instructors.) Topic for 2001-02: TBA.

- **107-556A,B SEMINAR: MEDIEVAL PHILOSOPHY.** (3) (Prerequisite: 107-345 or 357 or written permission of the instructor.)

**107-560A,B SEMINAR: SEVENTEENTH CENTURY PHILOSOPHY.** (3) (Prerequisite: 107-360 or written permission of the instructor.) An advanced course on a seventeenth-century philosopher or philosophical issue.

**107-561B SEMINAR: EIGHTEENTH-CENTURY PHILOSOPHY.** (3) (Prerequisite: 107-361 or written permission of the instructor.) An advanced course on eighteenth-Century philosopher or philosophical issue.

**107-567B SEMINAR: NINETEENTH-CENTURY PHILOSOPHY.** (3) (Prerequisite: 107-366 or 367 or written permissions of the instructor.) An advanced course on nineteenth-century philosophy or philosophical issue.

- **107-570B SEMINAR: CONTEMPORARY ANALYTIC PHILOSOPHY.** (3) (Prerequisite: 107-370 or 415 or written permission of the instructor.)

**107-575A SEMINAR: CONTEMPORARY EUROPEAN PHILOSOPHY.** (3) (Prerequisite: 107-475 or written permission of the instructor.) An advanced course on contemporary European philosopher or some important issue in the Continental tradition. Topic for 2001-02: TBA.

**107-581A,B SEMINAR: PROBLEMS OF PHILOSOPHY.** (3)

- **107-590A,B SEMINAR: SPECIAL TOPICS IN PHILOSOPHY.** (3) (Prerequisites: one course in philosophy.)

### Department of Philosophy Graduate Seminars

Not all offered every year. Please consult the Department for current listing.

- **107-601A,B SEMINAR IN THE HISTORY OF PHILOSOPHY I.** (3)

- **107-602A,B SEMINAR IN THE HISTORY OF PHILOSOPHY II.** (3)

- **107-603A,B SEMINAR IN METAPHYSICS AND EPISTEMOLOGY I.** (3)

- **107-605A,B SEMINAR IN VALUE THEORY I.** (3)

- **107-606A,B SEMINAR IN VALUE THEORY II.** (3)

**107-607A PRO-SEMINAR I.** (6) A series of seminars on selected topics designed for professional training to graduate students. Topics will be selected from the general area of Value Theory.

**107-608B PRO-SEMINAR II.** (6) A series of seminars on selected topics designed for professional training to graduate students. Topics will be selected from the general area of Value Theory.

- **107-640A,B SEMINAR IN FOUNDATIONS OF SCIENCE, I.** (3)

- **107-641A,B SEMINAR IN FOUNDATIONS OF SCIENCE, II.** (3)

**107-682A PRO-SEMINAR III.** (6) A series of seminars on selected topics designed to provide professional training to graduate students. Topics will be selected from the general area of Metaphysics/Epistemology.

**107-683B PRO-SEMINAR IV.** (6) A series of seminars on selected topics designed to provide professional training to graduate students. Topics will be selected from the general area of Metaphysics/Epistemology.

**107-685A,B FUNDAMENTALS OF LOGIC.** (3) A course in intermediate logic for graduate students in Philosophy, covering such topics as axiomatic systems, formal semantics, consistency, completeness, the limitative results, intuitionistic logic, formal theories of truth, aspects of the development of logic.

**107-690A,B CANDIDACY PAPER.** (3)

**107-693A M.A. THESIS RESEARCH I.** (5) Submission of thesis topic and detailed bibliography.

**107-694B M.A. THESIS RESEARCH II.** (5) Detailed thesis proposal.

**107-695A M.A. THESIS RESEARCH III.** (14) Completion of thesis.

- 107-696A GRADUATE SEMINAR I.** (1) Attendance at graduate students' presentations.
- 107-697B GRADUATE SEMINAR II.** (1) Attendance at graduate students' presentations.
- 107-698A GRADUATE SEMINAR III.** (1) Presentation of the thesis and attendance at other thesis presentations.
- 107-705A GUIDED RESEARCH IN ETHICS.** (3)
- 107-706B GUIDED RESEARCH IN ETHICS.** (3)
- 107-710A GUIDED RESEARCH IN LOGIC.** (3)
- 107-711B GUIDED RESEARCH IN LOGIC.** (3)
- 107-720A GUIDED RESEARCH IN PHILOSOPHY OF SCIENCE.** (3)
- 107-721B GUIDED RESEARCH IN PHILOSOPHY OF SCIENCE.** (3)
- 107-730A GUIDED RESEARCH IN PHILOSOPHY OF RELIGION.** (3)
- 107-731B GUIDED RESEARCH IN PHILOSOPHY OF RELIGION.** (3)
- 107-740A GUIDED RESEARCH IN ANCIENT PHILOSOPHY.** (3)
- 107-741B GUIDED RESEARCH IN ANCIENT PHILOSOPHY.** (3)
- 107-750A GUIDED RESEARCH IN MEDIEVAL PHILOSOPHY.** (3)
- 107-751B GUIDED RESEARCH IN MEDIEVAL PHILOSOPHY.** (3)
- 107-760A GUIDED RESEARCH IN HISTORY OF PHILOSOPHY.** (3)
- 107-761B GUIDED RESEARCH IN HISTORY OF PHILOSOPHY.** (3)
- 107-770A GUIDED RESEARCH IN PHILOSOPHY OF POLITICS.** (3)
- 107-771B GUIDED RESEARCH IN PHILOSOPHY OF POLITICS.** (3)
- 107-780A GUIDED RESEARCH IN EPISTEMOLOGY AND METAPHYSICS.** (3)
- 107-781B GUIDED RESEARCH IN EPISTEMOLOGY AND METAPHYSICS.** (3)

Several courses primarily philosophical in content are available in other departments. Note in particular the offerings in Classics, Jewish Studies, Islamic Institute, and Political Science.

## 61 Physical and Occupational Therapy

School of Physical and Occupational Therapy  
3654 Promenade Sir-William-Osler  
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Canada

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Website: <http://www.medserv.mcgill.ca/spot/>

Director — R.W. Dykes

Associate Director, Graduate Program — TBA

### 61.1 Staff

#### Professors

Hugues Barbeau; B.Sc.(P.T.), M.Sc., Ph.D.(Laval)  
Erika Gisel; B.A.(Zur.), B.S.O.T., M.S., Ph.D.(Temple)  
Sharon Wood-Dauphinee; B.Sc.(P.T.), Dip.Ed., M.Sc.A.,  
Ph.D.(McG.)

#### Associate Professors

Edith P. Aston-McCrimmon; B.Sc.(P.&O.T.), Dip.Ed.,  
M.Sc.A.(McG.)  
Katherine Berg; B.P.T., B.Sc. P.T., M.Sc.(Rehab Sc.),  
Ph.D.(McG.)  
Robert Dykes; B.A.(UCLA), Ph.D.(Johns H.)  
Eva Kehayia; B.A., M.A., Ph.D.(McG.)  
Nicol Korner-Bitensky; B.Sc.(O.T.), M.Sc., Ph.D.(McG.)  
(part-time)  
Annette Majnemer; B.Sc.(O.T.), M.Sc., Ph.D.(McG.)  
Nancy Mayo; B.Sc.(P.T.)(Queen's), M.Sc., Ph.D.(McG.)  
Patricia McKinley; B.A., M.A., Ph.D.(U.C.L.A.)  
Diane St. Pierre; B.Sc.(P.T.)(McG.), M.Sc., Ph.D.(Montr.)  
Patricia Wells; Dip.Ed.(Tor.), B.Sc.(P.T.), M.Sc.A.(McG.)  
(on leave)

#### Assistant Professors

Sophie De Serres; B.Eng., M.Eng.(Ecole Polytech.), Ph.D.(Alta.)  
Joyce Fung; B.Sc.(P.T.)(Hong Kong Polytech. U), Ph.D.(McG.)  
Isabelle Gélinas; B.Sc.(O.T.)(Montr.), M.Sc.(Virginia),  
Ph.D.(Rehab.Sc.)(McG.)  
Bernadette Nedelec; B.Sc.(O.T.), Ph.D.(Alta.)  
Nicole Paquet; B.Sc.(P.T.), M.Sc.(Laval), Ph.D.(McG.)  
Laurie Snider; B.Sc.(O.T.)(McG.), M.A.(Br.Col.), Ph.D.(Tor.)

### 61.2 Programs Offered

#### Master of Science (Applied) in Rehabilitation Science

A two-year program in Rehabilitation Science (Applied) is available to graduates who hold a B.Sc. or equivalent in Physical or Occupational Therapy or related health professions. Two years of clinical experience is required when applying for the M.Sc. (Applied). The program consists of required and elective course work and a directed practicum.

#### Master of Science in Rehabilitation Science

The full curriculum consists of approximately two years of study for graduates who hold a Bachelor of Science degree in one of the medical rehabilitation disciplines or a related field. The program consists of required and elective course work and a research thesis.

#### Doctorate in Rehabilitation Science

The Ph.D. program curriculum consists of three to four years of study, on average, for graduates with Master's level training in one of the medical rehabilitation disciplines or a related field. The program consists of required and elective course work, a comprehensive written examination, a research proposal and a doctoral thesis.

### 61.3 Admission Requirements

#### Master of Science in Rehabilitation Science

1. A B.Sc. degree or equivalent in physical or occupational therapy or related fields from a university of recognized reputation.
2. Evidence of a high academic achievement equivalent to a B standing, or a McGill CGPA of 3.0 (70-74%).
3. Prerequisite courses may be required in statistics, anatomy, physiology, psychology, sociology, neurophysiology or other areas, depending on the student's anticipated specialization.
4. Non-Canadian applicants to the Faculty of Graduate Studies and Research whose mother tongue is not English and who have not completed an undergraduate degree using the English language are required to submit documented proof of competency in oral and written English, by appropriate exams, e.g. TOEFL. (Test of English as a Foreign Language) with a minimum score of 250 on the computer-based test (School requirement), or the equivalent in other tests.
5. The GRE Test is mandatory for the following applicants:
  - those who do not have a B.Sc. or equivalent from a Canadian University;
  - those who have been out of university for 5 years or more;
  - those whose GPA is below 3.0.

Only the General Test is mandatory. For consideration, students must obtain a minimum score of 550 in each category. For enquiries about Graduate Records Examination, please contact GRE - Educational Testing Service, Princeton, NJ 08540, (609) 683-2002. Applicants are responsible for ensuring that their scores are sent to the School of Physical and Occupational Therapy.

#### Master of Science, Applied in Rehabilitation Science

1. to 5. as above, plus
6. Two years of clinical experience is required.

#### Doctorate in Rehabilitation Science

1. An M.Sc. degree in a rehabilitation-related discipline from a university of recognized reputation.

- Evidence of a high academic achievement equivalent to a B<sup>+</sup> standing, or a McGill CGPA of 3.3 (75-79%) is required.
- Proof of proficiency in English.
- GRE Test with a minimum score of 600 in each category. The GRE Test is mandatory for the following applicants:
  - those who do not have a B.Sc. or equivalent from a Canadian University;
  - those who have been out of university for 5 years or more;
  - those whose GPA is below 3.0.

If a graduate student accepted into the M.Sc. program demonstrates superior performance in the first year, the Graduate Committee, in consultation with the thesis supervisor, may recommend waiving the M.Sc. thesis requirement, and allow the student to proceed directly to the Ph.D. program.

### 61.4 Application Procedures

Application forms for admission to the Faculty of Graduate Studies and Research, for the degree of M.Sc., M.Sc.A., or Ph.D. in Rehabilitation Science, may be requested directly from the School.

Once completed, the application form and required documents should be returned to the Associate Director, Graduate Program, School of Physical and Occupational Therapy.

Applications will be considered upon receipt of:

- application form,
- official transcripts,
- letters of reference,
- \$60 application fee,
- test results (GRE, TOEFL).

Deadline: February 15.

### 61.5 Program Requirements

#### Elective Courses (for all programs)

In addition to courses offered by the School of Physical and Occupational Therapy, students may choose courses given in other units. A complete list of suitable electives can be obtained from the Graduate Program Coordinator.

#### MASTER OF SCIENCE IN REHABILITATION SCIENCE

(45 credits)

The program requires a minimum of three terms of full-time residence study. It is not uncommon for a student to take two or more years to complete the degree.

#### Required Courses (10 credits)

- 582-610A,B (3) Research Methodology
- 582-614A,B (3) Selected Topics in Rehabilitation Science
- 582-616D (1) Seminars in Rehabilitation Science
- 582-631A,B (3) Research Proposal

A research proposal is to be submitted in written form and defended in front of a supervisory committee. Research proposals should be completed by the beginning of the second full-time year.

#### Elective Courses (6 credits)

Courses which pertain to the student's area of specialization.

#### Thesis Component – Required (29 credits)

- 582-696A,B,C (2) Thesis Research
- 582-697A,B,C (6) Thesis Research
- 582-698A,B,C (9) Thesis Research
- 582-699A,B,C (12) Thesis Research.

The student carries out a research study in an approved subject area under the guidance of an internal supervisor (from within the School) or an external supervisor (from outside the School).

All four of these courses must be registered for within the first three terms of full-time study. The course 582-699A,B,C is carried as IP "in progress" until completion of thesis.

#### MASTER OF SCIENCE, APPLIED IN REHABILITATION SCIENCE (45 credits)

For Master's programs structured as Course, Project or Non-thesis options, residence requirements are fulfilled when students complete all course requirements in their respective programs and pay the fees accordingly. This would normally be completed in four terms.

#### Required Courses (13 credits)

- 582-602A,B (3) Educational Methodology (or equivalent)
- 582-603A,B,C (3) Directed Practicum
- 582-610A,B (3) Research Methodology
- 582-614A,B (3) Selected Topics in Rehabilitation Science
- 582-616D (1) Seminars in Rehabilitation Science

#### Complementary Course (3 credits)

one 3-credit course in Statistics

#### Elective Courses (15 credits)

Courses at the 500 and 600 level, related to the student's area of specialization; one or two 300 and 400-level courses may also be included upon approval of the Associate Director.

#### Project Component – Required (14 credits)

- 582-661A,B,C (6) Research Project I
- 582-662A,B,C (8) Research Project II

### DOCTORATE IN REHABILITATION SCIENCE

Doctoral students will be required to pursue at least three years of full-time residence study in the graduate program of the School of Physical and Occupational Therapy.

The curriculum will be divided as follows:

#### Required Courses (15 credits)

- 582-602A,B\* (3) Educational Methodology (or equivalent)
- 582-610A,B\* (3) Research Methodology
- 582-614A,B\* (3) Selected Topics in Rehabilitation Science
- 582-620A,B (3) Measurement in Rehabilitation I
- 582-630B (3) Measurement in Rehabilitation II

Of the five required courses, at least two\* will already have been completed by students with an M.Sc. in Rehabilitation Science from McGill.

#### Elective Courses (6 credits)

Courses which pertain to the student's area of specialization; chosen by the student in consultation with his/her supervisor and upon approval of the Associate Director of the Graduate Program.

#### Comprehensive Examination

- 582-701D Ph.D. Comprehensive Examination

The student must successfully pass a written comprehensive examination by the end of the second academic year. The format will be three questions to be answered in essay style over a five-day period. An additional requirement may include an oral component.

#### Thesis Component - Required

The student carries out a research study in an approved subject area under the guidance of an internal supervisor (from within the School) or an external supervisor (from outside the School).

#### Research Proposal

A research proposal is to be submitted in written form and defended in front of a supervisory committee. Research proposals should be completed during the second full-time year, following the comprehensive examination.

### 61.6 Courses

The names of course instructors are listed on the Course Timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**582-508A,B PLASTICITY IN REHABILITATION.** (3) (Prerequisite: 582-455B or equivalent.) A seminar course designed to provide students with a review of current research on plasticity in the central and peripheral nervous systems. Particular emphasis is placed on the mechanisms involved in the recovery of function after injury.

**582-602A,B EDUCATIONAL METHODOLOGY.** (3) (Course equivalent: 449-689 Teaching and Learning.) Process of learning, methods of communication and teaching strategies for classrooms and clinical settings.

**582-603A,B,C DIRECTED PRACTICUM.** (3) A tutorial with directed practical experience in a clinical setting related to the student's clinical specialization, including curriculum development, and emphasizing current thought in rehabilitation.

● **582-604A CURRENT TOPICS IN PEDIATRICS.** (3) (Prerequisite: 582-233A, or permission from the instructors.)

**582-610A,B RESEARCH METHODOLOGY.** (3) (Prerequisite: 204-305B or 513-607A, or 416-675A and 416-676B, or equivalent.) An advanced lecture and seminar course. The philosophy of scientific inquiry, principles of research design, and application of statistical techniques are discussed with special consideration given to research studies in health care and rehabilitation.

**582-614A,B SELECTED TOPICS IN REHABILITATION SCIENCE.** (3) A weekly lecture and seminar course taught by staff, designed to provide an overview of current research issues in rehabilitation.

**582-616D SEMINARS IN REHABILITATION SCIENCE.** (1) A weekly seminar course given by staff and invited speakers in different areas of research related to rehabilitation science. Students are expected to participate by reading pertinent literature prior to seminars and asking questions at each seminar. Attendance is compulsory, and the course is graded pass/fail based on participation.

**582-618A,B,C TOPICS IN REHABILITATION.** (3) This is a directed reading course on a topic in rehabilitation science. The student will acquire extensive knowledge in the topic of interest and understand the strengths and limitations of the current body of work in the area.

**582-620A,B MEASUREMENT IN REHABILITATION I.** (3) (Prerequisite: 582-220B and permission from the instructor.) Theoretical and practical basis for utilization of electronic equipment for quantitative measurement in rehabilitation research. Ambulatory assistive devices, electronic plates and instrumentation to assess normal and pathological human movement will be used to demonstrate the application of theory and techniques for quantitative analysis of human performance. Recording, reduction and analysis of electromyographic, kinetic and kinematic data included.

● **582-622A,B PATHOKINESIOLOGY.** (3) (Prerequisites: 582-620 and 582-630B)

**582-630B MEASUREMENT IN REHABILITATION II.** (3) (Prerequisite: 513-607 or 204-305 or equivalent.) Theoretical and practical basis for measurement in rehabilitation research. Introduction to measurement theory, scale development and related statistics, approaches and instruments used to assess outcomes in patients with musculoskeletal, neurological, cardiovascular, respiratory, psychiatric or psychologic conditions.

**582-631A,B RESEARCH PROPOSAL.** (3) The course covers issues involved in the development of a research protocol. The presentation of a written thesis proposal is required by the end of the course. This document will serve as the basis for an oral presentation to the student's Supervisory Committee which will also review the written proposal.

**582-661 RESEARCH PROJECT I.** (6)

**582-662 RESEARCH PROJECT II.** (8)

**582-701D PH.D. COMPREHENSIVE EXAMINATION.**

## 62 Physical Education

Department of Physical Education  
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Fax: (514) 398-4186

Website: [http://www.education.mcgill.ca/phys\\_ed/default.html](http://www.education.mcgill.ca/phys_ed/default.html)

Chair — Hélène Perrault

M.A. Program Director — Dr. H. Perrault  
Telephone: (514) 398-4184 (ext. 0477)

### 62.1 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)  
A. Edward Wall; B.Ed., M.A.(McG.), Ph.D.(Alta.)

#### 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.)  
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.)

### 62.2 Programs Offered

The Physical Education Department offers thesis and non-thesis options leading to a Master of Arts. There are two main areas of concentration in each option of the M.A. program: Applied Sport Science and Applied Behavioral Science.

The Applied Sport Science option includes exercise physiology and biomechanics; the Applied Behavioural Science option includes adapted physical activity, psychology of sport and motor behaviour as well as pedagogy. The program usually involves two years of study.

The M.A. with thesis route provides the opportunity to acquire critical skills and knowledge related to systematic research in an area of specialization.

The M.A. course-based (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.

### 62.3 Admission Requirements

1. An undergraduate degree with a Major in Physical Education, Kinesiology or equivalent from a recognized university is required.
2. A minimum academic standing equivalent to a C.G.P.A. of 3.0 out of 4.0.

### 62.4 Application Procedure

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. \$60.00 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 6 months prior to the official deadline indicated above.

All documentation is to be submitted directly to the Graduate Program Director in the Department of Physical Education.

### 62.5 Program Requirements

**M.A. PHYSICAL EDUCATION (Thesis Option)** (45 credits)

**Required Courses** (6 credits)

416-676 (3) Intermediate Statistics II or equivalent  
434-605 (3) Research Methods

**Complementary Courses** (6 credits)

6 credits, two courses from either the Applied Sport Science or the Applied Behavioural Science list.

**Thesis Component – Required** (24 credits)

- 434-691 (6) Thesis Research I
- 434-692 (6) Thesis Research II
- 434-693 (6) Thesis Research III
- 434-694 (6) Thesis Research IV

**Elective Courses** (9 credits)

9 credits of courses chosen in consultation with an advisor.

**M.A. PHYSICAL EDUCATION (Non-thesis Option)** (45 credits)**Project Component – Required** (15 credits)

- 434-608 (15) Special Project

**Complementary Courses** (18 credits)

6 credits, two of the following:

- 416-575 (3) Educational Measurement
- 434-605 (3) Research Methods
- 431-630 (3) Qualitative & Ethnographic Studies
- or 411-692 (3) Qualitative Research Methods

12 credits, four courses from either the Applied Sport Science or the Applied Behavioural Science list.

**Elective Courses** (12 credits)

12 credits of courses chosen in consultation with an advisor.

**Applied Sport Science Course List**

- 434-553 (3) Physiological Assessment in Sport
- 434-566 (3) Biomechanical Assessment in Sport
- 434-652 (3) Cardiorespiratory Exercise Physiology
- 434-662 (3) Metabolic & Neuromuscular Responses to Exercise
- 434-663 (3) Application of Exercise Physiology to Sport
- 434-667 (3) Sport Science – Seminar
- 434-668 (3) Data Acquisition in Sport Science

**Applied Behavioral Sciences Course List**

- 434-504\* (3) Health & Lifestyle Education
- 434-505\* (3) Sport & Physical Education in Society
- 434-550 (3) Analyzing Instructional Behaviors
- 434-607\* (3) Curriculum Innovation and Change
- 434-650 (3) Teaching in Physical Education
- 434-654 (3) Sport Psychology
- 434-655 (3) Program Development in Adapted Physical Activity
- 434-664 (3) Motor Learning
- 434-665 (3) Motor Performance of Disabled Persons

\* All courses on this list are available for both M.A. thesis and non-thesis options with the exception of 434-504, 434-505 and 434-607 which are only available for the non-thesis option.

**62.6 Courses**

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

- Denotes courses not offered in 2001-02.
- **434-502A SPECIAL ISSUES.** (3) (Undergraduate students require instructor's permission prior to registration.)
- **434-504A HEALTH & LIFESTYLE EDUCATION.** (3)
- **434-505A SPORT AND PHYSICAL EDUCATION IN SOCIETY.** (3)
- 434-550 ANALYZING INSTRUCTIONAL BEHAVIORS.** (3) Students will investigate generic and specialized data collection instruments used in the supervision of and research into teaching and coaching. Practical experience will include the selection and use of the appropriate tools, establishment of observer reliability, critical analysis of observational systems, and application of systematic observation to pertinent research questions.

**434-553A PHYSIOLOGICAL ASSESSMENT IN 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.

- **434-566B BIOMECHANICAL ASSESSMENT IN SPORT.** (3)

**434-605A RESEARCH METHODS.** (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.

- **434-607 CURRICULUM INNOVATION AND CHANGE.** (3)

- **434-608 SPECIAL PROJECT.** (15)

- **434-650B TEACHING IN PHYSICAL EDUCATION.** (3)

**434-652A CARDIORESPIRATORY EXERCISE PHYSIOLOGY.** (3) A comprehensive review of the basic physiological responses of the circulatory and respiratory systems to acute and chronic exercise and a brief discussion of regulatory mechanisms.

**434-654 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.

**434-655A PROGRAM DEVELOPMENT IN ADAPTED PHYSICAL ACTIVITY.** (3) An examination of program development and evaluation in adapted physical activity along the segregated-integration continuum. Assessment techniques for persons who are disabled, pedagogical considerations and evaluation via single-subject designs. Existing curriculum models and the program development literature within selected special populations are studied.

**434-662 METABOLIC AND 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.

- **434-663 APPLICATION OF EXERCISE PHYSIOLOGY TO SPORT.** (3)

- **434-664B MOTOR LEARNING.** (3)

- **434-665 MOTOR PERFORMANCE OF DISABLED PERSONS.** (3)

- **434-667 SPORT SCIENCE – SEMINAR.** (3)

- **434-668 DATA ACQUISITION IN SPORTS SCIENCE.** (3)

**434-603D READING COURSE.** (6)

**434-616A,B READING COURSE.** (3)

**434-671A,B 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.

**434-672D EXPERIMENTAL PROBLEMS.** (6) See 434-671. This course, however, is more intensive and comprehensive in nature.

**434-691 THESIS RESEARCH I.** (6) A comprehensive literature review in the general area of the thesis topic. Independent work under the supervision of the thesis advisor(s).

**434-692 THESIS RESEARCH II.** (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.

**434-693 THESIS RESEARCH III.** (6) Ongoing research pertaining to the thesis under the direction of the thesis advisor(s).

**434-694 THESIS RESEARCH IV.** (6) Independent work under the supervision of the thesis advisor(s). Final submission and approval of the thesis.

## 63 Physics

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Chair — J. Barrette

Director of Graduate Studies — S.K. Mark

### 63.1 Staff

#### Emeritus Professors

M.P. Langleben; B.Sc., M.Sc., Ph.D.(McG.), F.R.S.C.

E.R. Pounder; B.Sc., Ph.D.(McG.), F.R.S.C.

R.T. Sharp; B.Sc., M.Sc., Ph.D.(McG.)

P.R. Wallace; B.A., M.A., Ph.D.(Tor.), F.R.S.C.

M.J. Zuckermann; M.A., D.Phil.(Oxon.), F.R.S.C.

#### Post-Retirement

A.P. Contogouris; B.A.(Nat. Tech. Athens), Ph.D.(C'nell)

W.B. Muir; B.Sc.(McG.), M.Sc.(W.Ont.), Ph.D.(Ott.)

#### Professors

J. Barrette; M.Sc., Ph.D.(Montr.)

C. Burgess; B.Sc.(Wat.), Ph.D.(Texas)

M. Cohen; B.Sc., Ph.D.(Lond.), A.R.C.S.; Faculty of Medicine

J.E. Crawford; B.A., M.A.(Tor.), Ph.D.(McG.)

S. Das Gupta; B.Sc., M.Sc.(Calc.), Ph.D.(McM.)

N.B. DeTakacsy; B.Sc., M.Sc.(Montr.), Ph.D.(McG.)

M. Grant; B.Sc.(P.E.I.), M.Sc., Ph.D.(Tor.)

H. Guo; B.Sc.(Sichuan), M.Sc., Ph.D.(Pitt.)

R. Harris; B.A.(Oxon.), Ph.D.(Sus)

C.S. Lam; B.Sc.(McG.), Ph.D.(M.I.T.)

J.K.P. Lee; B.Eng., M.Sc., Ph.D.(McG.)

S. Lovejoy; B.Sc.(Cantab.), Ph.D.(McG.)

S.K. Mark; B.Sc., M.Sc., Ph.D.(McG.)

R.B. Moore; B.Eng., M.Sc., Ph.D.(McG.)

R. Myers; B.Sc.(Wat.), M.A., Ph.D.(Prin.)

P.M. Patel; B.Sc., M.Sc.(Manc.), Ph.D.(Harv.)

D.G. Ryan; B.Sc., M.Sc.(Queen's), Ph.D.(Birm.)

D.G. Stairs; B.Sc., M.Sc.(Queen's), Ph.D.(Harv.)

J.O. Strom-Olsen; B.A., M.Sc., Ph.D.(Cantab.)

M. Sutton; B.Sc., M.Sc., Ph.D.(Tor.)

J.M. Trischuk; B.Eng.(McG.), Ph.D.(Cal. Tech.)

#### Associate Professors

F. Corriveau; Ph.D.(Zür.)

C. Gale; B.Sc.(Ott.), M.Sc., Ph.D.(McG.)

P. Grutter; Diploma, Ph.D.(Basel) (*William Dawson Scholar*)

D. Hanna; B.Sc.(McG.), M.A., Ph.D.(Harv.)

V. Kaspi; B.Sc.(McG.), M.A., Ph.D.(Prin.)

K. Ragan; B.Sc.(Alta.), Ph.D.(Geneva)

D.H. Ryan; B.A., Ph.D.(Dub.)

#### Assistant Professors

J. Cline; B.Sc.(Calif.), M.Sc., Ph.D.(Cal. Tech.)

M. Hilke; B.Sc., M.Sc., Ph.D.(Geneva)

S. Jeon; B.Sc.(Korea), M.Sc., Ph.D.(Washington)

#### Lecturers

Z. Altounian, F. Buchinger

#### Associate Members

R. Davies (Atmospheric and Oceanic Sciences);

B.C. Eu (Chemistry); G. Fallone (Radiation Oncology);

M. Mackey (Physiology); E. Podgorsak (Radiation Oncology);  
D. Ronis (Chemistry)

### 63.2 Programs Offered

M.Sc. and Ph.D.

#### FIELDS OF RESEARCH

##### High-Energy Physics

**Theoretical:** The McGill high energy theorists have interests in a wide range of problems pertaining to all fundamental interactions: strong, electromagnetic, weak and gravitational. The research program extends from studies closely connected with experimental data to purely theoretical questions. Ongoing projects involve: particle phenomenology, quantum chromodynamics, electroweak baryogenesis, group theory, astroparticle physics, quantum gravity, grand unification and string theory.

**Experimental High Energy Physics** The experimental high energy physics group is engaged in a number of experiments at the research frontiers of the field, both in subatomic physics and in high energy astrophysics. These include:

- BaBar: The group played a major role in constructing installation and commissioning of the drift chamber. The full detector has been operational and taking data since summer 1999. The physics interests of the group center on CP violation in B-meson decays to CP eigenstates and in the determination of CKM matrix elements  $V_{cb}$  and  $V_{ub}$ .
- STACEE: Members of the group are currently constructing and installing a major air Cherenkov detector for the study of high energy gamma rays emitted by astrophysical objects such as supernova remnants and active galactic nuclei. In 1999, a partially instrumented version of the detector (located at Sandia National Labs in Albuquerque, New Mexico) operated and successfully observed the Crab Nebula, providing a proof-of-principle of this novel technique. By the end of 2000, we expect to be operating the full-size detector and entering into a multi-year campaign of astrophysical observations.
- ZEUS: A group working at the world's first electron-proton collider (HERA, at DESY, Hamburg) studies lepton-quark interactions at high energy. The physics topics of interest to the group include deep inelastic scattering (proton structure, forward jet production and low-x physics) and flavour (strange, charm) production.

Thus, graduate students at the M.Sc. and Ph.D. levels are offered a strong program of research in a challenging and rapidly advancing field. Short term Master's projects are based mainly on instrumentation or data analysis conducted on Campus, while Ph.D. research may involve an extended stay at one of the world's major research laboratories.

##### Nuclear Physics

**Theoretical:** Transport equations for heavy ion collisions at intermediate energy; nuclear equation of state from heavy ion collisions; fragmentation at intermediate energy; electromagnetic probes in relativistic heavy ion collisions; effective lagrangians for hadronic systems at finite temperature; pion-nucleus interactions.

**Experimental:** Current research programs in experimental nuclear physics at McGill are focussed on two main axes:

- The study of heavy-ion reactions at relativistic energies to determine the properties of nuclear matter at high density. This program is being performed at the Brookhaven National Laboratory. McGill physicists are part of a major experiment at the new heavy-ion collider RHIC, presently under construction at BNL.
- The study of ground state properties of unstable nuclei using laser spectroscopy techniques and ion traps. This work is being carried out using the Canadian Penning trap facility at the Argonne National Laboratory and at the accelerator ISOLDE (CERN).

Furthermore, the Nuclear Physics Group has an active in-house research program that applies the ion trap and laser techniques to the detection of trace quantities of material and contaminants, and to ion spectroscopy.

### Condensed-Matter Physics

**Theoretical:** Programs of research are in progress on the properties of dilute alloys and amorphous metals, including magnetic systems and "spin-glasses"; on nonequilibrium characteristics of quantum devices; on kinetics of pattern formation during first order phase transitions, on structured fluids and polymers, on the statistical mechanics of biological membranes and growth problems; and on interface instabilities in dendritic crystal growth. Research is being done by nonlinear analysis and large-scale computational modelling.

**Experimental:** Lines of research include structural, transport, Mössbauer and other magnetic properties of metallic glasses and rapidly quenched metals, and certain crystalline metal alloys. High resolution X-ray diffraction using synchrotrons to study the time evolution of non-equilibrium structures and to study thin films and buried interfaces. Scanning tunneling and atomic force microscopy.

### Astrophysics

The Department has a new program in astrophysics. At present this group does research in radio and X-ray observation of neutron stars and ground-based gamma-ray astronomy. The research program in X-ray astrophysics uses various X-Ray observatories including the RXTE, Chandra and the XMM satellites. Among the scientific issues addressed in this program are the properties of young neutron stars, both pulsars and "magnetars", pulsar wind nebulae, and supernova remnants.

### Nonlinear Variability in Geophysics

This group studies nonlinear dynamical processes in the atmosphere and other geophysical systems, especially those associated with turbulent, chaotic and extremely variable behaviour. Emphasis is placed on multifractal analysis and modelling as well as the development of new theories and techniques covering wide ranges of scale in time and space. Data from a variety of in situ and remotely sensed sources are used. This includes satellite data of the earth's atmosphere and surface as well as high quality precipitation data from the McGill Radar Weather Observatory.

## 63.3 Admission Requirements

### M.Sc.

Normal requirement is a B.Sc. in Physics, or equivalent, with high standing.

### Ph.D.

Normal requirement is a M.Sc. in Physics or equivalent. Candidates in good standing may have the option of transferring into this program from the M.Sc. program after one year.

## 63.4 Application Procedures

An application package is available upon request. It includes a brochure with a detailed description of the research activities in the Department, application forms for admission to graduate studies and information concerning requirements for the M.Sc. and Ph.D. degrees. Inquiries should be addressed to the Graduate Coordinator.

Applications will be considered upon receipt of:

1. application;
2. transcripts;
3. letters of reference;
4. \$60 application fee;
5. test results (GRE, TOEFL).

All information is to be submitted to Paula Domingues, Department of Physics.

Applications and supporting documents should be submitted by:

February 1st – international applicants,  
March 15th – Canadian applicants.

### Financial Assistance

Subject to the availability of funds, financial assistance will be offered to students in the form of a bursary, Teaching and Research assistantships. For new students, financial support will be offered at the time of acceptance and arrival. Forms are given and filled out on registration day.

## 63.5 Program Requirements

### M.Sc.

Candidates must successfully complete five 3-credit courses, plus 198-691A or B, 198-692 A or B and 198-690D (M.Sc. Thesis), in addition to all the other normal requirements of the Graduate Faculty. The M.Sc. program in Physics carries 48 credits in total.

### Ph.D.

Candidates must successfully complete two one-semester courses and a Preliminary examination and submit a Ph.D. thesis, in addition to all the normal requirements of the Graduate Faculty. (Courses taken as part of the M.Sc. program at McGill may be accepted as substitutes for the two required courses.) Normally one of the courses must be a 600 or 700-level course in the candidate's area of specialization.

## 63.6 Advanced Undergraduate and Graduate Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**198-514B GENERAL RELATIVITY.** (3) (3 hours) Transition from special to general relativity. Non-Euclidian geometry. The basic laws of physics in covariant form. Einstein's equations. Newton's theory of gravitation as an approximation. Propagation of gravitation. Rigorous solutions of the field equations. Cosmology.

**198-521A ASTROPHYSICS.** (3) (3 hours) A quantitative course in galactic and extragalactic astrophysics. Topics include observational techniques, stars and stellar evolution, compact objects, galaxy structure, kinematics and evolution, and cosmology if time permits. (Awaiting University approval)

**198-551A QUANTUM THEORY.** (3) (3 hours) General formulation, scattering theory, WKB approximation, time-dependent perturbation theory and applications, angular momentum, relativistic wave equations.

**198-557A NUCLEAR PHYSICS.** (3) (3 hours) General nuclear properties, nucleon-nucleon interaction and scattering theory, radioactivity, nuclear models, nuclear reactions.

**198-558A SOLID STATE PHYSICS.** (3) (3 hours) Properties of crystals, lattice vibrations and thermal properties of insulators, free electron model and band structure, semiconductors, metals, optical properties.

**198-559A STATISTICAL MECHANICS.** (3) (3 hours) Bose and Fermi gas; cluster expansions; hydrodynamics of superfluids; second sound; Fermi liquid theory; phase transitions; the Ising model; fluctuations; the Fokker-Planck equation; the Onsager relation.

**198-562B ELECTROMAGNETIC THEORY.** (3) (3 hours) (Prerequisites: U1 or U2 Honours Physics or permission of instructor.) Electrostatics, dielectrics, magnetostatics, time-varying fields, relativity, radiating systems, fields of moving charges.

**198-567B PARTICLE PHYSICS.** (3) (3 hours) Survey of elementary particles; hadrons, leptons and hadrons' constituents (quarks). Invariance principles and conservation laws. Detectors and accelerators. Phenomenology of strong, electromagnetic and weak interactions.

**198-610A ADVANCED QUANTUM MECHANICS.** (3) (3 hours) Relativistic wave equations for spin-0, spin-1/2, and spin-1 particles. Review of Lagrangian and Hamiltonian formalisms for classical mechanics. Canonical, Feynman path-integral, and Schwinger external-source quantization techniques. Relativistic quantum field theories for free spin-0, spin-1/2, and spin-1 particles. Interactions, perturbation theory, and Feynman diagrams.

● **198-612A ADVANCED MATHEMATICAL PHYSICS.** (3) (3 hours)

**198-616A,B MULTIFRACTALS AND TURBULENCE** (3) (3 hours) This course assumes knowledge of basic probability theory and Fourier analysis. The subjects covered are: scale invariant sets: fractal geometry, scale invariant fields: multifractal fields and processes, aspects of hydrodynamic turbulence, multifractal data analysis techniques, generalized scale invariance, space/time scaling, causality.

**198-618B QUANTUM THEORY OF SOLIDS.** (3) (3 hours) Includes some of the following topics; excitations in solids, phonons, the electron gas, superconductivity and phase transitions.

● **198-619A,B THEORETICAL SOLID STATE PHYSICS.** (3) (3 hours)

**198-620B EXPERIMENTAL METHODS OF SUBATOMIC PHYSICS.** (3) (3 hours) Basic techniques of experimentation in nuclear and particle physics. Accelerators, beam optics, detection systems, major experiments, Monte-Carlo simulation, data acquisition and data analysis.

● **198-658A,B ADVANCED CONDENSED MATTER PHYSICS.** (3) (3 hours)

**198-659B EXPERIMENTAL CONDENSED MATTER.** (3) (3 hours) To obtain an active understanding of the principles, the possibilities and the limitations of various experimental techniques. Possible topics include vacuum and low-temperature techniques; transport, thermal, magnetization and de Haas van Alphen measurements; scattering techniques; Mossbauer spectroscopy, NMR, scanning probe microscopy, electron microscopy; surface science methods.

● **198-673B THEORETICAL HIGH ENERGY PHYSICS.** (3) (3 hours)

**198-690D M.Sc. THESIS.** (24)

**198-691A,B. THESIS PREPARATION.** (3) Directed study of research papers and experimental or theoretical techniques in the student's designated area of research under the supervision of the graduate studies committee of the Department.

**198-692A,B THESIS PROJECT.** (6) Independent work under the direction of the student's supervisor on a research problem in the student's designated area of research leading to a project report or seminar.

**198-700A,B PRELIMINARY PH.D. EXAMINATION.**

● **198-718A,B SPECIAL TOPICS IN SOLID STATE PHYSICS I.** (3) (3 hours)

● **198-719A,B SPECIAL TOPICS IN SOLID STATE PHYSICS II.** (3) (3 hours)

● **198-729A,B SELECTED TOPICS IN NUCLEAR PHYSICS.** (3)

● **198-730A SPECIAL TOPICS IN HIGH ENERGY PHYSICS I.** (3) (3 hours)

● **198-731A SPECIAL TOPICS IN HIGH ENERGY PHYSICS II.** (3) (3 hours)

**563-601A RADIATION PHYSICS.** (3) The production and properties of ionizing radiation and their interactions with matter; basic theoretical and experimental aspects of radiation dosimetry.

## 64 Physiology

Department of Physiology  
McIntyre Medical Sciences Building  
3655 Promenade Sir-William-Osler  
Montreal, QC H3G 1Y6  
Canada

Telephone: (514) 398-4343

Fax: (514) 398-7452

Website: <http://www.physio.mcgill.ca>

Chair — A. Shrier

Chair of Graduate Program — J. Orłowski

### 64.1 Staff

*Emeritus Professor*

Geoffrey Melvill Jones; B.A., M.A., M.B., B.Ch., M.D.(Cantab.)

*Professors*

Catherine Bushnell; B.A.(Maryland), M.A., Ph.D.(American U.)  
(*Harold Griffith Professor of Anaesthesia*) (joint appt. with Dentistry)

Thomas M.S. Chang; B.Sc., M.D., C.M., Ph.D.(McG.), F.R.C.P.(C)  
Munroe W. Cohen; B.Sc., Ph.D.(McG.)

Ellis J. Cooper; B.Eng.(Sir G.Wms.), M.Sc.(Surr.), Ph.D.(McM.)

Mony Frojmovic; B.Sc., Ph.D.(McG.)

Leon Glass; B.S.(Brooklyn), Ph.D.(Chic.)

Phil Gold; M.Sc., Ph.D., M.D., C.M.(McG.), F.R.C.P.(C.) (joint appt. with Medicine)

David Goltzman; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C) (*Antoine G. Massabki Professor of Medicine*) (joint appt. with Medicine)

John Hanrahan; Ph.D.(Br.Col.)

James L. Henry; B.Sc.(Tor.), M.Sc., Ph.D.(W.Ont.)

Robert E. Kearney; B.Eng., M.Eng., Ph.D.(McG.) (joint appt. with Biomedical Engineering)

Kresmir Krnjevic; B.Sc., Ph.D., M.B., Ch.B.(Edin.) (joint appt. with Anaesthesia Research)

Wayne S. Lapp; M.S.A.(Tor.), Ph.D.(McG.)

Mortimer Levy; B.Sc., M.D., C.M.(McG.), F.R.C.P.(C) (joint appt. with Medicine)

Michael Mackey; B.A., Ph.D.(Wash.)

Jacopo P. Mortola; M.D.(Milan)

John Orłowski; B.Sc.(McG.), M.Sc., Ph.D.(Queen's)

Premysl Ponka; M.D., Ph.D.(Prague)

Alvin Shrier; B.Sc.(C'dia), Ph.D.(Dal.) (*Hosmer Professor of Physiology*)

Douglas G.D. Watt; M.D., Ph.D.(McG.)

*Associate Professors*

Kathleen Cullen; B.Sc.(Brown), Ph.D.(Chic.)

Riaz Farookhi; B.Sc., M.Sc.(M.I.T.), Ph.D.(Tufts)

Mladen Glavinovic; B.Sc.(Zagreb), M.Sc.(Tor.), Ph.D.(McG.) (joint appt. with Anaesthesia Research)

Michael Guevara; Ph.D.(McG.)

Sheldon Magder; M.D.(Tor.) (joint appt. with Medicine)

Ursula Stochaj; Ph.D.(Cologne)

Teresa Trippenbach; M.D., Ph.D.(Warsaw)

Ann Wechsler; B.A.(Tor.), M.Sc., Ph.D.(McG.)

Peter Weldon; B.Sc., Ph.D.(McG.)

John White; B.Sc., M.Sc.(Car.), Ph.D.(Harv.)

*Adjunct Professors*

John Milton, Serge Rossignol, Malmur Sairam

*Associate Members*

Anaesthesia: Steven Backman

Dentistry: James Lund

Medicine: Andrey Cybulsky, Samuel O. Freedman,

Abraham Fuks, Claude Gagnon, Raymond Gagnon,

Harry L. Goldsmith, Alex Grassino, Geoffrey Hendy, Max Katz,

Peter T. Macklem, James Martin, Shree Mulay,

Mariana Newkirk, Barry Posner, Shafaat Rabbani, Ian Shrier,

J.Enrique Silva, Alan Sniderman, Mary Stevenson,  
Simon Wing, Hans Zingg  
Neurology and Neurosurgery: Albert Aguayo, Massimo Avoli,  
Charles Bourque, Sal Carbonetto, Pierre Drapeau,  
Daniel Guitton, Michael Rasminsky  
Otolaryngology: Bernard Segal  
Pediatrics: Immanuela Moss  
Psychiatry: Bernardo Dubrovsky, Christina Gianoulakis

## 64.2 Programs Offered

The Physiology Department offers training leading to M.Sc. and Ph.D. degrees. The scope of the ongoing research, and close connections with the McGill teaching hospitals, offer excellent opportunities for collaborations with hospital based scientists.

All graduate students in Physiology receive financial support. Any faculty member who agrees to supervise a student who does not hold a fellowship, is obliged to provide financial support.

## 64.3 Admission Requirements

Admission to the Graduate Program is based on an evaluation by the Graduate Student Admissions and Advisory Committee (G.S.A.A.C.), and on being accepted by a research supervisor.

Candidates for the M.Sc. degree must hold a B.Sc. degree or its equivalent. Candidates who have completed an M.Sc. may be admitted directly to the Ph.D. program. M.Sc. students interested in a Ph.D., may transfer to the Ph.D. program after 12-18 months, if all of the transfer requirements have been fulfilled. The M.Sc. thesis requirement is then waived. Candidates with exceptional academic records may be considered to proceed directly to the Ph.D. degree from the B.Sc. degree.

The GRE General Test is required for anyone who does not have a degree from a Canadian University. The TOEFL is required for anyone whose university studies were completed in a language other than English outside of Canada. A minimum CGPA of 3.2 on 4.0 is required for a file to be considered.

## 64.4 Application Procedures

The G.S.A.A.C. will only consider applications upon receipt of all of the following documentation:

1. application form;
2. personal statement;
3. CV;
4. letters of reference, not more than six months old, from two professors;
5. two official copies of all university transcripts;
6. \$60 application fee;
7. results of the G.R.E. (Graduate Record Exam) General Test, for applicants whose undergraduate degree is not from a Canadian university.
8. results of the Test of English as a Foreign Language (TOEFL), minimum score of 600 on paper-based test (or 250 on computer-based test), if the undergraduate studies were carried out in a language other than English outside of Canada.

Applications should be submitted to the Student Affairs Officer as early as possible in order to facilitate processing. However, no applications will be considered after the following deadlines:

May 1st for the September Term  
Oct. 1st for the January Term  
March 1st for the Summer Term (M.Sc. only)

Deadlines are six months earlier for international students.

Interested candidates should contact the Department for an application package.

## 64.5 Program Requirements

### M.Sc.

The M.Sc. program is comprised of a minimum of 49 credits:

- 552-601A,B (1) M.Sc. Proposal Seminar
- 552-602A,B,C (3) Literature Search and Research Proposal
- 552-607A,B,C (3) Laboratory Research I
- 552-608A,B,C (3) Laboratory Research II
- 552-618A (3) Research Topics in Physiology I
- 552-619B (3) Research Topics in Physiology II
- 552-620A,B,C (3) Progress and Research
- 555-621A,B,C (12) Thesis I
- 552-622A,B,C (15) Thesis II
- 552-623A,B,C (3) M.Sc. Seminar

Additional course work may be required depending upon background of the candidate.

Students in the M.Sc. Program are required to:

1. fulfill the course requirements specified at the time of admission;
2. present a proposal seminar 3 months after starting the program, and a seminar based on the research project 2 months prior to submission of the thesis;
3. submit a thesis.

Each student will have a supervisory committee which will monitor the progress of the studies.

### Transfer to the Ph.D Program

After 18 months students may transfer to the Ph.D. program if all of the transfer requirements have been fulfilled. This includes completion of the Ph.D. Preliminary Exam and the successful completion of a transfer seminar. The M.Sc. thesis requirement is then waived.

### Ph.D.

Students in the Ph.D. Program are required to:

1. complete the Ph.D. Departmental Seminar Course and any other course requirements specified at the time of admission;
2. present a proposal seminar 3 months after starting the program, and a "work in progress" seminar every year until submission of the thesis;
3. pass the Ph.D. Preliminary Exam within 6-12 months of admission to the program;
4. submit a thesis and defend it orally.

Each student will have a supervisory committee which will monitor the progress of the studies.

## 64.6 Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

● Denotes courses not offered in 2001-02.

□ Denotes limited enrolment.

**552-502B EXERCISE PHYSIOLOGY.** (3) (Prerequisites: 552-311A, 552-312B, 552-313B) Behaviour of physiological processes in response to physical effort, in areas such as structural basis of muscle contraction, thermoregulation during exercise, mechanics and energetics of muscle contraction, fuel utilization, fatigue, physiological adjustments during exercise and influence of training.

□ **552-508A ADVANCED RENAL PHYSIOLOGY.** (3) (Prerequisite: 552-312B or the equivalent.) Offered in conjunction with the Department of Medicine. Lectures and seminars will cover advanced concepts in selected areas of kidney physiology (glomerular and tubular function) as well as membrane and epithelial transport. Students will be expected to critically discuss

selected experimental papers. Open to advanced undergraduate and graduate students.

**552-513B CELLULAR IMMUNOLOGY.** (3) (4 hours lectures plus term paper) (Prerequisites: 528-314B, or permission of the instructor.) This course deals with cellular interactions, regulation and effector mechanisms of the normal immune response in relation to diseases and pathogenic processes. It is taught at an advanced level.

**552-515A PHYSIOLOGY OF BLOOD I.** (3) (2 hours lecture plus 1 hour seminar weekly) (Prerequisites: 552-313B, or permission of the instructor.) Study of the cell and molecular physiology of hemostasis and its pathophysiology (bleeding and thrombosis). Emphases on molecular mechanisms regulating clot formation, fibrinolysis, and cell adhesion/aggregation. Experimental approaches and specific clinical disorders will be analyzed. Weekly discussions, and a major term paper.

**552-516B PHYSIOLOGY OF BLOOD II.** (3) (2 hours lecture plus 1 hour seminar weekly) Bone marrow hematopoiesis, with emphasis on regulation of stem cell proliferation and differentiation along hematopoietic pathways. Formation and differentiation of red and white blood cells and some of the diseases associated with hematopoiesis will be covered. Emphasis will be given to the molecular mechanisms involved in the normal and pathological conditions.

● **552-517B ARTIFICIAL INTERNAL ORGANS.** (3) (Prerequisite: permission of instructors. Password required)

□ **552-518A ARTIFICIAL CELLS & BIOTECHNOLOGY.** (3) (Prerequisite: Permission of instructors; password required) Physiology, biotechnology, chemistry and biomedical application of artificial cells, immobilized enzymes, microorganisms and cells, blood substitutes, hemoperfusion, and artificial kidneys. 517B and 518A when taken together, will give a complete picture of this field. However, the student can select one of these. Given jointly with the Artificial Cells and Organs Research Centre.

● **552-520B ION CHANNELS.** (3) (1½ hour lecture, 1½ hour seminar) (Prerequisites: 552-311A. Priority to Graduate and Honours students; others by permission of instructors. Password required.) (Offered in odd numbered years only.)

**552-531B TOPICS IN APPLIED IMMUNOLOGY.** (3) (Permission of the instructor; U3 Interdept. Honours Immunology students and graduate students with strong immunology background i.e. 552-513A and 507-503B.) Seminar format course in which experts in immunologic mechanisms of resistance against a variety of infectious diseases, including AIDS, malaria, and tuberculosis oversee student moderators in their presentation of recent scientific literature in the field.

□ **552-550A PHYSIOLOGY OF BONE.** (3) (1 hour lecture, 2 hours per week) (Prerequisites: 552-311A, and 177-202B or equivalent) Preference given to Physiology graduate students, others by permission of instructor; password required.) Students will develop a working knowledge of cartilage and bone. Discussion topics will include: molecular and cellular environment of bone; heritable and acquired skeletal defects; research models used to study metabolic bone disease.

□ **552-552B ADVANCED TOPICS IN CELLULAR AND MOLECULAR PHYSIOLOGY.** (3) (1 hour lecture, 2 hours seminar weekly) (Prerequisite: 552-311A. Preference will be given to Physiology Honours and Graduate students.) Discussions of recent significant advances in our understanding of the gene products involved in diverse cellular signalling pathways. Topics will include cell-surface hormone receptors, nuclear steroid hormone receptors, and ion channels and transporters. Students will present and critically evaluate experimental approaches, results and interpretations of selected research publications.

**552-556B TOPICS IN SYSTEMS NEUROSCIENCE.** (3) (Permission of the instructor required. Limited enrolment. Password required.) (Not open to students who have taken 552-456B.) Topics of current interest in systems neurophysiology and behavioural neuroscience including: the neural representation of sensory information and motor behaviours, models of sensory motor integration, and the computational analysis of problems in motor control and per-

ception. Students will be expected to present and critically discuss journal articles in class.

**552-601A,B M.Sc. PROPOSAL SEMINAR.** (1)

**552-602A,B,C LITERATURE SEARCH AND RESEARCH PROPOSAL.** (3)

**552-607A,B,C LABORATORY RESEARCH I.** (3)

**552-608A,B,C LABORATORY RESEARCH II.** (3)

**552-610A,B SEMINARS IN THEORETICAL BIOLOGY.** (3) (Prerequisite: permission of the instructor.) A series of seminars in selected topics in theoretical biology and biomathematics.

**552-618A RESEARCH TOPICS IN PHYSIOLOGY I.** (3) (Enrolment limited to new M.Sc. and Ph.D. students in Physiology.) Specific topics of current interest in physiology will be considered using molecular, cellular and systems level approaches. Students will be expected to critically discuss journal articles in class.

**552-619B RESEARCH TOPICS IN PHYSIOLOGY II.** (3) (Enrolment limited to new M.Sc. and Ph.D. students in Physiology.) Specific topics of current interest in physiology will be considered using molecular, cellular and systems level approaches. Students will be expected to critically discuss journal articles in class.

**552-620A,B,C PROGRESS IN RESEARCH.** (3)

**552-621A,B,C THESIS I.** (12)

**552-622A,B,C THESIS II.** (15)

**552-623A,B,C M.Sc. SEMINAR.** (3)

**552-701D Ph.D. PRELIMINARY EXAMINATION.**

**552-702A,B Ph.D. PROPOSAL SEMINAR.** (1)

**552-703A,B Ph.D. PROGRESS SEMINAR I.** (1)

**552-704A,B Ph.D. PROGRESS SEMINAR II.** (1)

**552-720A,B Ph.D. SEMINAR COURSE I.** (1) Required for Ph.D. students. Coordinated in conjunction with the weekly Departmental seminar series, students will meet for one hour before each seminar to critically discuss papers on the subject of the weekly seminar. Students will take turns introducing the papers and leading discussions on an overview of the research topic, some of the methodologies, results and conclusions.

**552-721A,B Ph.D. SEMINAR COURSE II.** (1) Same as 552-720A,B

**552-722A,B Ph.D. SEMINAR COURSE III.** (1) Same as 552-720A,B

**552-723A,B Ph.D. SEMINAR COURSE IV.** (1) Same as 552-720A,B

**552-724A,B Ph.D. SEMINAR COURSE V.** (1) Same as 552-720A,B

**552-725A,B Ph.D. SEMINAR COURSE VI.** (1) Same as 552-720A,B

#### COURSES OFFERED BY OTHER UNITS –

##### Department of Medicine, Division of Experimental Medicine:

**516-502A ADVANCED ENDOCRINOLOGY.** (3)

**516-503B ADVANCED ENDOCRINOLOGY.** (3)

**516-506B ADVANCED CARDIOVASCULAR PHYSIOLOGY.** (3)

**516-507A ADVANCED RESPIRATORY PHYSIOLOGY.** (3)

**516-508B TOPICS IN ADVANCED RESPIRATION.** (3)

**516-509A GASTROINTESTINAL PHYSIOLOGY AND PATHOPHYSIOLOGY.** (3)

**516-612D SEMINARS IN MEMBRANE BIOLOGY.** (3)

**516-615B BIOCHEMISTRY OF COMPLEX CARBOHYDRATES.** (3)

##### Biomedical Engineering:

**399-519B INTRODUCTION TO THE ANALYSIS OF BIOMEDICAL SYSTEMS AND SIGNALS.** (3)

## 65 Plant Science

Department of Plant Science  
Macdonald Campus  
21,111 Lakeshore Road  
Sainte-Anne de Bellevue, Q CH9X 3V9  
Canada

Telephone: (514) 398-7851  
Fax: (514) 398-7897  
Email: [plantscience@macdonald.mcgill.ca](mailto:plantscience@macdonald.mcgill.ca)  
Website: <http://www.agrenv.mcgill.ca/plant>

Chair — M.G. Fortin

### 65.1 Staff

#### Emeritus Professors

R.H. Estey; B.Ed.(U.N.B.), M.S.(Maine), D.I.C.(Imp. Coll.),  
B.Sc.(Agr.), Ph.D.(McG.), F.L.S.  
W.F. Grant; B.A., M.A.(McM.), Ph.D.(Va), F.L.S.  
W.E. Sackston; B.S.A.(Man.), M.Sc.(McG.), Ph.D.(Minn.),  
F.C.P.S., F.A.P.S.  
H.A. Steppeler; B.S.A.(Man.), M.Sc., Ph.D.(McG.), F.A.I.C.

#### Professors

D.J.I. Buszard; B.Sc.(Bath), Ph.D.(Lond.)  
D.L. Smith; B.Sc., M.Sc.(Acad.), Ph.D.(Guelph)  
A.K. Watson; B.Sc.(Agr.), M.Sc.(Br.Col.), Ph.D.(Sask.)

#### Associate Professors

D.J. Donnelly; B.Sc.(Agr.) (McG.), M.Sc.(U.B.C), Ph.D.(S.Fraser)  
P. Dutilleul; L.Sc., D.Sc.(Louvain)  
M.G. Fortin; B.Sc.(Pl.Sc.), M.Sc.(Laval), Ph.D.(McG.) (*William  
Dawson Scholar*)  
S. Jabaji-Hare; B.Sc.(Beirut), M.Sc.(Guelph), Ph.D.(Wat.)  
A.C. Kushalappa; B.Sc., M.Sc.(B'Loire), Ph.D.(Flor.)  
D. Mather; B.Sc.(Agr.) (McG.), M.Sc., Ph.D.(Guelph)  
T.C. Paulitz; B.Sc.(Cal.St.Pom.), Ph.D.(U.Cal.Riv.)  
S.A. Sparace; B.S.(C'nell), Ph.D.(Wyoming)  
K.A. Stewart; B.Sc.(Agr.) (Br.Col.), Ph.D.(R'dg)  
M. Waterway; B.A.(Grand Rapids), M.S.(Wis.), Ph.D.(C'nell)

#### Assistant Professor

P. Seguin; B.Sc.(Agr.), M.Sc.(McG), Ph.D.(Minn.)

#### Faculty Lecturers

S. Lussier; B.Sc.(Agr.) (McG.)  
D. Wees; B.Sc.(Agr.), M.Sc.(McG.)

#### Associate Member

T. Johns

#### Adjunct Professors

M.R. Bullen, T.L. Capson, O. Carisse, D. Cloutier, W.K. Coleman,  
B.E. Coulman, S. Jenni, S. Khanizadeh, J.-F. Laliberté, C. Morris,  
L. O'Donoghue, T. Ouellet

### 65.2 Programs Offered

The Department offers an M.Sc. and Ph.D. in Plant Science and provides for study in all fields of the plant sciences. Research facilities – both field and laboratory – are available for investigations in plant breeding, crop physiology, crop management, plant ecology, the epidemiology and biology of plant diseases, the physiology of diseased plants, cytogenetics, biosystematics, recombinant DNA technology, mycology, weed biology, tissue culture and plant biochemistry.

An advisory committee is named for each student, having the responsibility for developing the program of study appropriate to the student's background and area of specialization.

### 65.3 Admission Requirements

#### General

An equivalent cumulative grade point average of 3.0/4.0 is required.

#### Ph.D.

Ph.D. candidates are required to have an M.Sc. degree in an area related to the chosen field of specialization for the Ph.D. program. Outstanding M.Sc. students may be permitted to transfer to the second year of the Ph.D program following one year of study.

### 65.4 Application Procedures

Applications for admission and all supporting documents must be sent directly to:

Student Affairs Office (Graduate Studies)  
Macdonald Campus of McGill University  
21,111 Lakeshore  
Sainte-Anne de Bellevue, Q CH9X 3V9  
Canada

Telephone: (514) 398-7925  
Fax: (514) 398-7968  
Email: [grad@macdonald.mcgill.ca](mailto:grad@macdonald.mcgill.ca)

Applications will be considered upon receipt of a signed and 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.

**Deadlines** – For **international students**, complete applications with supporting documents must reach the Student Affairs Office (Graduate Studies) at Macdonald Campus at least **eight months** prior to the intended start of program. May 1 for January (winter); September 1 for May (summer); January 1 for September (fall). For **domestic students**, it is recommended that complete applications with supporting documents reach the Office at least **six months** (but definitely no later than **three full months**) in advance of the intended start of program – July 1 for January (winter), November 1 for summer, March 1 for September (fall).

**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. **Certified** personal cheque in Cdn.\$ drawn on a Canadian bank;
2. **Certified** personal cheque in U.S.\$ drawn on a U.S. bank;
3. Canadian Money order in Cdn.\$;
4. U.S. Money Order in U.S.\$;
5. Bank draft in Cdn.\$ drawn on a Canadian bank;
6. Bank draft in U.S.\$ drawn on a U.S. bank, negotiable in Canada;
7. Credit card (by completing the appropriate section of the application form).

**Transcripts** – Two official copies of all transcripts are required for admission. Transcripts written in a language other than English or French must be accompanied by a certified translation. An explanation of the grading system used by the applicant's university is essential. It is the applicant's responsibility to arrange for transcripts to be sent. **DOCUMENTS SUBMITTED WILL NOT BE RETURNED.**

It is desirable to submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. 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.

The minimum cumulative grade point average (CGPA) is 3.0/4.0 (second-class upper) or 3.2/4.0 during the last two full-time years of university study. High grades are expected in courses considered by the academic unit to be preparatory to the graduate program.

**Letters of Recommendation** – Two letters of recommendation on letterhead or bearing the university seal and with original signatures from two instructors familiar with the applicant's work, prefer-

ably 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 (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); department code is 31 (graduate schools), Biological Sciences - Agriculture.

**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 Faculty of Graduate Studies and Research 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 the Faculty of Graduate Studies and Research, **but not as candidates for a degree**. Only one qualifying year is permitted. **Successful completion of a qualifying program does not guarantee admission to a degree program.**

## 65.5 Program Requirements

### M.Sc.

Candidates must complete a 45-credit course and research program established by their advisory committee. The program will consist of:

1. Two 3-credit graduate level courses or their equivalent;
2. M.Sc. Thesis I 367-664A,B,C;
3. M.Sc. Thesis II 367-665A,B,C;
4. M.Sc. Thesis III 367-666A,B,C;
5. Attendance at 367-665, 367-666, 367-767 and 367-768; and at invitational seminar (367-690).
6. Additional courses may be required at the discretion of the candidate's supervisory committee.

Plant Science research programs normally require two years for completion.

### Ph.D.

Students will follow the program of study established by their advisory committee. This program will consist of:

1. Ph.D. comprehensive examination 367-701D,N, which must be taken within 1 year of registering;
2. Ph.D. Thesis I (367-766A,B,C);
3. Ph.D. Thesis II (367-767A,B,C);
4. Ph.D. Thesis III (367-768A,B,C);
5. Other courses deemed necessary for the chosen area of specialization.
6. Attendance at all thesis progress and program reports (367-665, 367-666, 367-767 and 367-768) and at invitational seminar (367-690).

Students who have taken their M.Sc. degree at McGill University will be required to spend one term in study at another research institution.

## 65.6 Courses for Higher Degrees

The names of course instructors are listed on the Course timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

Courses may not be offered every year. Please see course availability at <http://www.agrenv.mcgill.ca/plant>

### 356-500A,B,E TECHNIQUES IN PLANT MOLECULAR GENETICS. (3)

This two-week intensive course uses an experimental, laboratory-based approach to provide basic training in the analysis of plant genes and gene products. Some of the techniques covered will include DNA purification, restriction analysis, cloning, hybridization and protein expression.

### 356-501B TOPICS IN PLANT MOLECULAR BIOLOGY AND GENETICS. (3)

Photosynthesis, plant development, plant genome mutagenesis and analysis, and plant stress are discussed. Journal articles and reviews on all aspects of plant molecular biology and genetics.

### 360-611B EXPERIMENTAL DESIGNS. (3) (3 hours lectures and 1 hour conference) (Prerequisite 360-310 or equivalent) (Given in alternate years.)

General principles of experimental design, incomplete block designs and unbalanced designs, analysis of repeated measures, multivariate and modified univariate analysis of variance, spatial heterogeneity and experimental design, plasticity experiments and genotype-by-environment interaction.

### 360-614B TEMPORAL AND SPATIAL STATISTICS. (3) (3 hours lectures) (Prerequisite 360-310 or equivalent) (Given in alternate years)

Temporal statistics: analysis in the time domain, Box-Jenkins forecasting methodology, analysis in the frequency domain; Spatial statistics: mapping, autocorrelogram analysis, geostatistics; Statistical inference with autocorrelated sample data.

### 367-525B ADVANCED MICROPROPAGATION. (3) (one 3-hour lecture)

A detailed study of the principles and techniques of plant micropropagation.

### 367-535B PLANT BREEDING. (3) (Given in alternate years)

Principles and practices of plant breeding, including reproduction of crop plants; plant hybridization; sources of genetic variation; selection methods used for self- and cross-pollinated crops and for clonally reproduced crops; breeding for disease and pest resistance; and applications of biotechnology in plant breeding.

### 367-600A PLANT-MICROBE INTERACTIONS. (3) (3 hours lectures)

This course examines in detail the advances in several areas of plant-microbe research; signalling (recognition phenomena) and regulatory interactions between plants and microbes (including symbionts), biochemical and molecular plant response to biotic and abiotic stress and mechanisms of defense reactions.

**367-603A POMOLOGY. (3)** The biology of pomological species, and the technology of orchard and small fruit production; major aspects, significant research, recent advances.

**367-604A VEGETABLE CROPS. (3)** Discussion and reading assignments on the application of plant physiology and other sciences to the production of vegetable crops.

**367-614A,B ADVANCED PLANT BREEDING. (3)** Directed readings and discussion on the application of genetics to the development of improved crop cultivars.

**367-619A,B CROP PHYSIOLOGY. (3) (3 hours conference)** Growth and development of crops, with emphasis on canopy structure and arrangement, light interception, temperature, water and salt stress.

### 367-622A,B BIOLOGICAL CONTROL OF UNDESIRABLE VEGETATION. (3)

Directed reading and discussion on the use of plant-feeding organisms and disease to reduce the density of undesirable vegetation in favour of more useful plant species.

### 367-623A,B BIOCHEMISTRY AND PHYSIOLOGY OF HERBICIDES. (3)

Mechanisms of penetration, translocation, selectivity and modes of action of herbicides and their interactions with the environment.

**367-626A BIOCHEMISTRY AND PHYSIOLOGICAL ROLE OF PLANT LIPIDS.** (3) (2 hours lectures) A detailed study of the current theories and models of the structure, biogenesis and function of plant membranes and lipids.

**367-628B HIGHER PLANT NITROGEN FIXATION AND MYCORRHIZAL ASSOCIATIONS.** (3) A detailed examination of the chemistry, biochemistry, anatomy, physiology, ecology and agricultural application of biological nitrogen fixation and mycorrhizal associations in higher plants.

**367-633A,B PLANT PATHOGENIC FUNGI.** (3) Techniques to diagnose plant diseases based on culturing and identification of plant pathogenic fungi in the laboratory. Students will make a collection of fungi, and become familiar with monographs, host indices, taxonomic keys, and other literature for fungal identification.

**367-636B EPIDEMIOLOGY AND MANAGEMENT OF PLANT DISEASE.** (3) Concepts and principles of plant disease epidemiology. Quantification of factors influencing epidemiological processes. Influence of host, pathogen and environmental factors on the rate of disease development. Disease forecasting and timing fungicide application. Management of crop diseases, including chemical and biological control. Immunological and molecular techniques to detect pathogens.

**367-650B ADVANCED SYSTEMATIC BOTANY.** (3) This course deals with the literature and philosophy of plant classification, processes of speciation in higher plants, sources and interpretation of data, biosystematic methods and plant nomenclature.

**367-662A OR B LABORATORY RESEARCH INSTRUMENTATION.** (3) (3 hours lab) Physical and chemical methods applied to biology. Students are required to perform a formal project centered around the use of one or more instruments covered and provide a written and/or oral report of the project.

**367-664A,B,C M.Sc. THESIS I.** (12) Written and oral presentation of thesis proposal to the research supervisory committee.

**367-665A,B,C M.Sc. THESIS II.** (12) Oral presentation of a proposal to the department and progress report on the thesis research project to the supervisory committee.

**367-666A,B,C M.Sc. THESIS III.** (15) Preparation and submission of an acceptable thesis. Oral presentation of the thesis research to the department.

**367-670A OR B SPECIAL TOPICS I.** (3) Prescribed reading, conference and practical work on selected topics in the student's area of specialization.

**367-687A,B SEMINAR IN PLANT SCIENCE.** (3) (2 hours seminar) This course is designed to develop seminar presentation skills in graduate students. The course consists of instruction on audio-visual preparation, speaking style, and organization of content, plus practice presentations by students.

**367-690D,N AND 367-691D,N RESEARCH HORIZONS IN PLANT SCIENCE.** A series of seminars presented by invited speakers, staff and senior graduate students. The topics are selected to integrate the many fields of plant science.

**367-701D,N DOCTORAL COMPREHENSIVE EXAMINATION.**

**367-766A,B,C PH.D. THESIS I.** Written and oral presentation of thesis proposal to the research supervisory committee.

**367-767A,B,C PH.D. THESIS II.** Oral presentation of a proposal to the Department and progress report on the thesis research project to the supervisory committee.

**367-768A,B,C PH.D. THESIS III.** Preparation and submission of an appropriate final thesis. Oral presentation of the thesis research and thesis defense to the Faculty.

**367-770A OR B SPECIAL TOPICS II.** (3) Prescribed reading, conference and practical work on selected topics in the student's area of specialization.

## 66 Political Science

Department of Political Science  
Stephen Leacock Building  
855 Sherbrooke Street West  
Montreal, QC H3A 2T7  
Canada

Telephone: (514) 398-4800

Fax: (514) 398-1770

Website: <http://www.arts.mcgill.ca/programs/polisci>

Chair — Christopher Manfredi

Director of Graduate Program — TBA

### 66.1 Staff

#### Emeritus Professors

James Mallory; B.A., M.A.(UNB), LL.B.(Edin.), M.A.(Dal.)

Baldev Raj Nayar; B.A., M.A.(Punj.), M.A., Ph.D.(Chic.)

#### Professors

Mark R. Brawley; B.A., M.A., Ph.D.(Calif.)

Michael Brecher; B.A.(McG.), M.A., Ph.D.(Yale), F.R.S.C.

(on leave winter 2002)

Alain-G. Gagnon; B.A.(Que.), M.A.(S. Fraser), Ph.D.(Carl.)

Elisabeth Gidengil; B.A.(Lond.), M.A.(N.Y.), Ph.D.(McG.)

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

T. V. Paul; B.A., M.A.(Kerala), M.Phil.(J. Nehru U.), M.A., Ph.D.(Calif.)

Filippo Sabetti; B.A.(McM.), Ph.D.(Ind.) (on leave 2001-02)

Richard Schultz; B.A.(York), M.A.(Manc.), Ph.D.(York)

Blema Steinberg; M.A.(C'nell), Ph.D.(McG.)

Harold M. Waller; M.S.(Northwestern), Ph.D.(Georgetown)

#### Associate Professors

Jerome H. Black; B.A.(Tor.), M.A.(Kent & Roch.), Ph.D.(Roch.)

Rex Brynen; B.A.(Vic.,B.C.), M.A., Ph.D.(Calg.)

(on leave 2001-02)

Barbara Haskel; A.M., Ph.D.(Harv.)

Antonia Maioni; M.A.(Carl.), Ph.D.(Northwestern) (*James McGill Professor*)

Hudson Meadwell; B.A.(Man.), M.A., Ph.D.(Duke)

Paul Noble; B.A.(Montr.), Ph.D.(McG.) (on leave fall term 2001)

Samuel J. Noumoff; B.A.(Clark), M.A., Ph.D.(N.Y.)

Philip Oxhorn; B.A.(Redlands), M.A.(Cant.), Ph.D.(Harv.)

#### Assistant Professors

Catherine Lu; Ph.D.(Tor.)

Alan Patten; M.A., Ph.D.(Oxf.) (on leave 2001-02)

Dietlind Stolle; M.A.(Claremont), Ph.D.(Prin.)

Narendra Subramanian; B.A.(Prin.), M.A., Ph.D.(M.I.T.)

### 66.2 Programs Offered

The Department offers programs leading to the M.A. (with or without thesis) and Ph.D. degrees. These programs combine depth of specialization in a particular field with breadth of knowledge in related fields. The staff offers courses and supervises research on most of the important areas of political science. Students may specialize in any of the following: Canadian Government and Politics; Comparative Politics of Developed or Developing Countries, Political Theory and International Relations.

The Department awards a number of teaching assistantships each year and students who are admitted to the graduate program are automatically considered for such an award. The announcements listing the positions expected to be available will be posted by October 15 for Winter Term courses and March 31 for Fall and Full Year courses.

Because this Calendar is prepared early in the year, changes may take place after it has been printed. Students are advised to contact the Department Office for supplementary information which may be important to their choice of program.

### 66.3 Admission Requirements

All applicants, including those who have done their undergraduate work at McGill, must submit at least two letters of reference. Transcripts from all universities attended must be sent to the Department.

#### Master's

Students holding a B.A. degree may be eligible for admission to the M.A. program. Preparation equivalent to a McGill Honours Program in Political Science is desirable. Students who have inadequate preparation in Political Science but are otherwise judged to be qualified are admitted to a qualifying year, in which they undertake advanced undergraduate work.

#### Ph.D.

Students holding a Master's degree in Political Science may be eligible for admission to the Ph.D. program. In some instances, students may be admitted directly into the Ph.D. program without having completed an MA degree. They will be considered Ph.D.1 and some previous political science course work could be applied to the requirements of the program, provided that it did not count towards any other degree.

#### GRE and TOEFL Exams

GRE results are required for applications to the Doctoral Program; this includes McGill Master's students applying to the Doctoral Program. GRE results are not required for students applying to the Master's Program or Qualifying term or year.

Non-Canadian students from countries where English is not the first language and who have not studied at a university in which teaching is conducted in English must submit TOEFL scores. A minimum score of 600 on the paper-based test (250 on the computer-based test) is required for admission. Files will not be considered unless TOEFL scores are received before the application deadline.

GRE information booklets and, when appropriate, TOEFL information booklets are included in the application package mailed to prospective students.

### 66.4 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. transcripts;
3. two letters of reference;
4. \$60 application fee;
5. test results: TOEFL (if applicable) and GRE (for Ph.D. applicants).

All applications should be submitted to the Graduate Coordinator in the Department of Political Science.

The normal deadline for applications for admission to the Department is January 31. Applications must be received by that time in order to guarantee the fullest consideration. Later applications will be considered up to April 15.

### 66.5 Program Requirements

#### Requirements for the M.A. Degree (48 credits)

Students may select Option A (Thesis Option) or Option B (Research Project Option) in completing M.A. degree requirements. Students may switch from one option to the other while completing their coursework.

In addition, the Department offers an M.A. Research Project Option in Social Statistics.

#### A. Thesis Option

There are two requirements:

1. Five one-semester courses (5 x 3 credits). Where special requirements of a student's area of concentration so warrant, the Director of Graduate Studies may allow one of these courses to be taken at the upper undergraduate level. The substitution of one course outside Political Science in related

disciplines may also be allowed if it is appropriate to the program.

2. A thesis to demonstrate proficiency in research. The thesis is normally about 100 pages long, and is subject to evaluation by one examiner internal to the Department and one examiner external to the Department.

#### B. Research Project Option

1. Seven one-semester courses (7 x 3 credits). Where special requirements of a student's area of concentration so warrant, the Director of Graduate Studies may allow one of these courses to be taken at the upper undergraduate level. The substitution of up to two courses outside Political Science in related disciplines may also be allowed if appropriate to the program.
2. A research paper to demonstrate proficiency in research. The research paper is normally about 50 pages in length and involves revision of a paper written for one of the graduate courses completed in the program. The research paper is evaluated by two faculty members in the Department.

For both of the above options, all students must take a graduate-level course in empirical methods (normally 160-612) OR a political theory course at the 500, 600 or 700-level BUT preferably both.

#### M.A. Project Option in Social Statistics

The program complements disciplinary training with statistical research. Students will normally complete program course requirements, supplemented by further statistical courses, as advised by the Option advisor, and subject to approval by the Department.

Entrance to this option is by application to the Social Statistics Option Committee *subsequent to acceptance into the Department program*.

All students must take a political theory course at the 500, 600 or 700-level OR 160-612 or a suitable more advanced empirical methods course BUT preferably both. In addition, students MUST take 160-688 Research Seminar in Social Statistics (or equivalent).

Candidates for the M.A. degree follow a program approved on an individual basis by the Department. All students who wish to be considered for the Ph.D. program are evaluated on the basis of their M.A. program. Only a small number of students are permitted to go on for their doctorate and students currently enrolled in the M.A. program must formally re-apply for admission into the Ph.D. program. A pass for the M.A. degree does not necessarily imply permission to proceed to the doctorate.

#### Requirements for the Ph.D. Degree

Superior applicants, normally understood as students who are at least in the top 10 percent of their graduating class or who have a CPGA of at least 3.5 or its equivalent, will be eligible for admission into the Ph.D. track and receive a Ph.D. degree after successfully completing the requirements of the Ph.D. track. These are:

- A. Successful completion of 13 3-credit courses.
- B. Distribution of Courses:
  1. Two major fields in political science (satisfied by four courses and a written comprehensive examination in each field, as well as one integrated oral comprehensive examination covering both major fields).
  2. One minor field (satisfied by 2 courses). Minor fields can be in any one of the five fields offered by the Department. Students may also petition the Graduate Committee to approve as a minor some special combination of courses which is suitable to a particular student's planned course of study.
  3. An additional 3-credit course in either of the student's major fields or minor field, according to what best meets the particular student's needs.
  4. Students are required to take one 700-level Ph.D. Research Seminar in each major field, as part of the four course requirement. In each of these 700-level seminars, students are

expected to complete a paper which focuses on a clearly defined research problem and is comparable in scope to an article in a professional journal. The papers should demonstrate the student's familiarity with the relevant scholarly work and his/her ability to carry out research and organize the results of the research. Each paper will be evaluated by two faculty members in the Department.

5. Methodology Requirements: All students are required to take at least one course in political theory at the 500, 600 or 700-level and a course on methods (160-612). Students who are given an exemption from a methodology course requirement because of course work completed prior to entering the M.A.-Ph.D. program will still be required to complete 13 3-credit courses.
- C. Advanced Research Tools: The Department feels that it is essential that its Ph.D. students demonstrate a high level of proficiency in one of the two principal research tools of modern political science: languages or quantitative methods. Language Requirement: Students must pass an advanced-level translation test from a language other than English. In selecting a language to fulfill this requirement, the student must demonstrate in writing how the chosen language is related to the research. Quantitative Methods: To fulfill this requirement, students must complete a course in advanced statistical methods. For additional information, students should consult the "Information Bulletin for Ph.D. Program".
- D. All students in the Ph.D. program are expected to take their written comprehensives and their oral comprehensive in the second semester of their third year in the program. Students are expected to have completed all of their required course work in their major and minor fields, as well as their methodology requirement (13 one-semester courses), by no later than the end of the first semester of their third year.
- E. Students are expected to submit dissertation proposals by the end of the second semester of their third year in the program.
- F. The student must write a doctoral dissertation which makes an original contribution to knowledge in the discipline.

**Transfer students and students with Master's degrees from other universities:** Transfer students will be treated as M.A. students who change tracks. Previous course work at the graduate level can be applied towards the requirements of the program, provided the Admission Committee is confident that the quality of such work is on par with McGill standards. Students transferring into the M.A.-Ph.D. track must fulfill a minimum residency requirement of two years, including a minimum of 6 courses and at least one 700-level Ph.D. research paper. All students will be required to pass the comprehensive written and oral exams.

## 66.6 Courses for Higher Degrees

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

**Undergraduate Courses for Qualifying Program and Graduate Students** When it is appropriate to their programs, graduate students may take an undergraduate course approved by the Director of Graduate Studies. These courses are listed in the Calendar of the Faculties of Arts and Science and in the annual course list prepared by the Department in the fall.

The names of course instructors are listed on the Course Time-table available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**160-521B SEMINAR: CANADIAN POLITICS AND GOVERNMENT.** (3) (Open to graduate students, final year honours students, and other advanced undergraduates with the permission of the instructor.) (Prerequisite: at least one upper-level course in Canadian Politics.) Selected problems of Canadian socio-economic and political

structures, political culture, constitutional development, and governmental structure. Topic for 2001-02: The Welfare State.

**160-522A SEMINAR: THE POLITICS OF DEVELOPING AREAS.** (3) (Open to graduate students, final year honours students, and other advanced undergraduates with the permission of the instructor.) (Prerequisite: at least one upper level course in the politics of developing areas.) Topic for 2001-02: Gender and Community.

**160-524B SEMINAR: THE POLITICS OF DEVELOPED AREAS.** (3) (Open to graduate students, final year honours students, and other advanced undergraduates with the permission of the instructor.) (Prerequisite: at least one upper level course in the politics of developed areas.) This seminar deals with various aspects of the politics of developed areas. Topic for 2001-02: TBA

**160-561B SEMINAR: POLITICAL THEORY.** (3) (Open to graduate students, final year honours students, and other advanced undergraduates with the permission of the instructor.) (Prerequisite: at least one upper level course in political philosophy.) A topic in political philosophy such as democracy, liberty, property or nationalism, or a political philosopher, is studied to enable students to research a topic in depth, to present their papers to the seminar, and to engage in and profit from discussion and debate. Topic for 2001-02: Justice and Reconciliation.

**160-575A SEMINAR: INTERNATIONAL POLITICS.** (3) (Open to graduate students, honours students and to other advanced undergraduates with the permission of the instructor.) A research oriented seminar dealing with selected topics in the field of International Politics. Topic for 2001-02: The Politics of Nuclear Proliferation.

**160-599A/B PRACTICUM IN POLITICAL SCIENCE.** (3) (Open, with permission, to final-year Honours and Joint Honours students, M.A. and Ph.D. students. The course does not count as a 500-level seminar under the Honours requirements.) The practicum shall consist of a minimum of 180 hours of work over a period of 12 weeks, plus a major research project based on the practicum. The major project will ordinarily consist of a major research paper, plus a substantial written record of the work conducted during the practicum.

**160-099A,B TEACHING METHODS.** (3) This registration is available to graduate students at the M.A. or Ph.D. level who have satisfactorily completed work as a Teaching Assistant for at least a two-thirds appointment over the course of two semesters.

**160-612B EMPIRICAL METHODS.** (3) Fundamental principles of empirical research, in which the emphasis will be placed on acquainting the student with the techniques most commonly used by political scientists. The topics include the design of research projects, procedure in carrying out research, problems of measurement, survey research, scaling, data processing, and data analysis.

**160-613A SELECTED THEMES IN POLITICAL THEORY.** (3) A seminar on a theme in contemporary political theory or in the history of political theory.

- **160-615A CLASSICAL POLITICAL PHILOSOPHY AND ITS CONTEMPORARY INTERPRETATION.** (3)

- **160-616A MODERN POLITICAL ANALYSIS.** (3)

**160-617A PROBLEMS IN POLITICAL THEORY.** (3) An introduction to central normative issues in the study of politics. The seminar consists of lectures, oral presentations, discussion and research papers.

- **160-618A COMPARATIVE FEDERALISM.** (3)

**160-619A IMMIGRATION AND MULTICULTURALISM.** (3) A consideration of the different dimensions of politics associated with immigration and ethnoracial diversity. The course will emphasize the Canadian case in comparative perspective.

- **160-620B SOCIETY AND POLITICS IN CANADA.** (3)

**160-621B INTERPRETING THE CANADIAN POLITICAL PROCESS.** (3) Strategies for studying the Canadian political process. Pluralist, Marxian and state autonomist approaches for analysing the relative significance and inter-relationships of basic components of the Canadian political system. Although one purpose of the course is

to survey the literature on individual topics, a broader purpose is to employ individual research strategies to develop conclusions about the nature, distribution, and exercise of power in Canada.

● **160-622A TOPICS IN CANADIAN POLITICS.** (3)

**160-623A JUDICIAL POLITICS AND THE CONSTITUTION.** (3)

A research-oriented introduction to selected theoretical and empirical works on Canadian constitutionalism and judicial politics. The substantive focus of the course concerns the politics of constitutional change and the political impact of constitutional decisions by Canadian courts.

● **160-624B COLLECTIVE/RATIONAL CHOICE THEORY.** (3)

● **160-625A COMPARATIVE POLICY ANALYSIS.** (3)

**160-628B APPROACHES TO COMPARATIVE POLITICS.** (3) An introduction for graduate students to the sub-discipline of comparative politics. The logic of comparative analysis as well as a number of alternative paradigms for analyzing and comparing political systems and processes.

● **160-629A APPROACHES TO THE STUDY OF SOVIET AND POST-SOVIET POLITICS.** (3)

● **160-630A TOPICS IN EUROPEAN POLITICS.** (3)

**160-632B VOTING BEHAVIOR/PUBLIC OPINION.** (3) A critical examination of major debates within the comparative literature on voting behavior and public opinion. The work discussed will draw primarily on research conducted in the United States, Canada and Western Europe.

**160-635B THEORIES OF U.S. POLITICS.** (3) A critical examination of some of the major theoretical analyses of U.S. politics. The course will focus on several key issues in the study of American political life, including distribution of power, the policy process, state and society, and bargaining and coalition building.

● **160-636A QUEBEC POLITICS AND SOCIETY.** (3) (This course will be conducted both in English and French; a reading knowledge and an ability to understand the two languages is recommended)

● **160-639A TOPICS IN THE POLITICS OF DEVELOPED AREAS.** (3)

**160-640A MIDDLE EAST POLITICS.** (3) Examination of political and socio-economic development in the Middle East, with particular emphasis on the Arab world. Topics to be addressed include state formation and consolidation; Arab nationalism; civil society and state-society relations; the politics of Islam; petro-politics; the political economy of economic liberalization; and future patterns of political change.

**160-641A POLITICAL CHANGE IN SOUTH ASIA.** (3) This course examines major political and social changes in South Asia. Explores such topics as colonialism and nationalism; trends in mass mobilization and electoral politics; regime changes; economic policies and their impact; and conflicts over authority patterns, policy agendas, and national boundaries.

● **160-642B AFRICAN POLITICS.** (3)

**160-646B TOPICS IN THE POLITICS OF DEVELOPING AREAS.** (3)

A specific problem area in the Comparative Politics of Developing Areas. The topic for 2001-02 will be: Democracy and the Market.

**160-647A POLITICAL ECONOMY OF DEVELOPMENT:** (3) Incorporation of subordinate groups into national systems in the developing countries of Africa, Asia, and Latin America. Specific topics include state formation, the emergence of civil society, modernization and dependency theories, alternative development models, democracy, authoritarianism, sustainable development and gender.

**160-648B LATIN AMERICAN POLITICS.** (3) This course explores changing patterns of social, economic and political relations in Latin America, especially at the level of civil society. It examines such topics as state formation, institutional development, regime transformation and the insertion of Latin American countries in both the international capitalist economy and the inter-state system.

**160-649A THE MASS APPROACH TO POLITICAL DEVELOPMENT: CHINA.** (3) The strategy of political and socio-economic development in contemporary China. Topics include: cultural and ideolog-

ical foundations of socialization. The consequences of the disintegration of the USSR and the socialist countries of Europe, and the balance sheet of the post-1978 reform.

● **160-650B PEACEBUILDING.** (3)

**160-651A THE EU & POLITICAL INTEGRATION.** (3) Theories from both comparative and international politics will be drawn upon to analyze the development, politics, institutions and policies of the EU. The internal political economy and external relations of the EU will be analyzed.

● **160-670A TOPICS IN INTERNATIONAL RELATIONS.** (3)

**160-671A INTERNATIONAL RELATIONS THEORY.** (3) This course is designed to give students a thorough background in the basic theories and models used in International Relations. It emphasizes breadth, in order to ground students in the variety of approaches employed in the field of international politics.

**160-672B INTERNATIONAL POLITICAL ECONOMY.** (3) For students in international and comparative politics, a course in IPE in two senses: 1) the use of the economic model of purposive behaviour to examine international phenomena; 2) the politics of global economic issues such as production, trade, finance, debt, technology transfer, economic coordination. Connections between domestic political economies and the IPE, alternative strategies of state adjustment to a changing IPE.

● **160-673B THE INTERNATIONAL POLITICS OF NORTH-SOUTH RELATIONS.** (3)

● **160-674A COMPARATIVE FOREIGN POLICY.** (3)

● **160-675B INTERNATIONAL SYSTEMS.** (3)

● **160-676B POLITICS AND PSYCHOLOGY.** (3) (Prerequisites: No previous course work in psychology is required. In addition to political science graduate students who are specializing in international relations and, subject to limitations of class size, this seminar is open to other interested political science graduate students and third year honours undergraduates in political science, history and psychology.)

● **160-677A INTERNATIONAL CRISIS, CONFLICT, WAR.** (3)

● **160-678A STATE BEHAVIOUR.** (3)

**160-679B INTERNATIONAL SECURITY.** (3) Covers theoretical and historical literature on international security, strategy, war, and cooperation. Includes systemic, societal and normative explanations or war, peace, security, and change.

● **160-688A SEMINAR ON SOCIAL STATISTICS.** (3)

**160-690A,B READING IN POLITICAL SCIENCE.** (3) A graduate student may take a one-term reading course per academic year in a particular field and under the supervision of a member of staff.

**160-693A,B M.A. RESEARCH PROPOSAL.** (3)

**160-694A,B RESEARCH PREPARATION I.** (6)

**160-695A,B RESEARCH PREPARATION II.** (6)

**160-696A,B RESEARCH PREPARATION III.** (3)

**160-697A,B RESEARCH PREPARATION IV.** (3)

**160-698A, B, D MASTER'S THESIS SUBMISSION.** (12) A thesis to demonstrate proficiency in research. The thesis is normally about 100 pages long, and is subject to evaluation by one examiner internal to the Department and one examiner external to the Department.

**160-699A, B, D MASTER'S RESEARCH ESSAY.** (6) The Master's research paper should explore a clearly defined problem, show familiarity with the most important work previously done in the field, and demonstrate the ability to carry out research, organize results and present them in good literary style. Normally the paper will flow out of a previous graduate seminar and will be approximately 50 pages in length.

**160-701A,B,D PH.D GRADUATE GENERAL WRITTEN EXAMINATION.** First Field.

**160-702A, B,D PH.D GRADUATE GENERAL WRITTEN EXAMINATION.** Second Field.

**SEMINARS**

● **160-715B ISSUES IN CONTEMPORARY POLITICAL PHILOSOPHY.** (3)

● **160-720B TOPICS IN CANADIAN POLITICAL ECONOMY.** (3)

● **160-727B ÉTUDES SUR LA SOCIÉTÉ QUÉBÉCOISE.** (3) (The seminar will be given both in French and English; a reading ability and understanding of both languages is required.)

● **160-728B RESEARCH SEMINAR IN COMPARATIVE POLITICS.** (3) (Suggested prerequisites: 160-612B and 160-628A.)

● **160-731A POLITICAL IDEOLOGIES.** (3)

● **160-747B DEPENDENCE AND DEVELOPMENT.** (3)

**160-771B SECURITY AND DEVELOPMENT.** (3) (Prerequisites: A graduate-level course in international relations or comparative politics/developing areas.) A seminar focusing on the multiple security concerns of developing states including developmental (political, economic) and traditional (military, power political) pressures; linkages between internal and external vulnerabilities; the changing security environment of the post Cold War era; alternative external/internal strategies. These issues will be examined in comparative perspective.

● **160-777A RESEARCH SEMINAR ON INTERNATIONAL CRISES.** (3)

**160-778A SECURITY AND POLITICAL ECONOMY WORKSHOP.** (3) A workshop intended to help M.A. and Ph.D. students prepare their thesis proposals and chapters. Writing techniques and methodology will be covered. Students critique seminar presentations by leading scholars on their new works.

**160-780A READING SEMINAR.** (3) A research seminar on a topic that is not covered in the regular seminars, but which is of interest to a group of students and a faculty member. The exact topic for the research papers will be determined by mutual agreement among students and faculty members involved.

**160-781B READING SEMINAR.** (3) A research seminar on a topic that is not covered in the regular seminars, but which is of interest to a group of students and a faculty member. The exact topic for the research papers will be determined by mutual agreement among students and faculty members involved.

**160-799A,B,D PH.D. ORAL COMPREHENSIVE EXAMINATION.**

**67 Psychiatry**

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Website: <http://www.mcgill.ca/Psychiatry/mscprog.html>

Chair — J. Paris

Chair of Graduate Program — J. Rochford

**67.1 Staff**

*Emeritus Professor*

T.L. Sourkes; M.Sc.(McG.), Ph.D.(C'neil)

*Professors*

F. Abbott; B.Sc.(Trent), M.Sc., Ph.D.(McG.)

L. Annable; B.Sc.(Liver.), Dipl. in Stat.(Edin.)

C. Benkelfat; M.D.(Rabat)

P. Blier; B.Sc.(Bishop's), M.Sc., Ph.D., M.D.(Montr.)

P. Boksa; B.Sc., Ph.D.(Montr.)

G. Chouinard; B.A., M.D.(Montr.), Dipl.Psych.(McG.)

C. de Montigny; B.A., M.D., Ph.D.(Montr.)

M. Dongier; M.D.(Aix-Marseille), Dipl.Psych.(McG.)

F.R. Ervin; B.S.(Texas), M.D.(Tulane)

S. Gauthier; B.A., M.D.(Montr.)

A.M. Ghadirian; M.Sc.(Ohio), M.D.(Tabriz)

H.A. Guttman; M.D.(Geneva)

L.T. Hechtman; B.Sc., M.D., C.M.(McG.)

J. Henry; B.Sc.(Tor.), M.Sc., Ph.D.(W.Ont.)

L.J. Kirmayer; B.Sc., M.D.,C.M., Dipl.Psych.(McG.)

S. Lal; M.B., B.S.(Lond.), Dipl.Psych.(McG.)

E.P. Lester; M.D. (Athens);Dipl.Psych.(McG.)

M.J. Meaney; B.A.(Loyola), M.A., Ph.D.(C'dia.) (*James McGill Professor*)

K. Minde; M.D.(Munich), M.A.(Col.)

B.E. Murphy; M.D.(Tor.), Ph.D.(McG.)

V.N.P. Nair; M.B., B.S.(Kerala), D.P.M.(Mys.)

J.C. Negrete; M.D.C.M., (Tucuman) Dipl.Psych.(McG.)

R. Palmour; B.A., Ph.D.(Texas)

J. Paris; M.D.(McG.); Chair

J.C. Perry; M.D.(Duke)

G. Pinard; B.A.(Loyola), M.D., Dipl.Psych.(Montr.)

J. Poirier; Ph.D.(Montr.)

R. Quirion; B.Sc., M.Sc., Ph.D.(Sher.)

J.J. Sigal; B.Sc., B.Ed.(Alta.), M.A., Ph.D.(Montr.)

A. Young; B.A., M.A., Ph.D.(Penn.)

S. Young; B.A.(Oxon.), M.Sc., Ph.D.(Lond.)

*Associate Professors*

E.E. Corin; Ph.D.(Louvain)

B.O. Dubrovsky; M.D.(Buenos Aires)

N. Frasure-Smith; B.A., Ph.D.(Johns H.)

C. Gianoulakis; B.Sc.(Sir G.Wms.), Ph.D.(Rutgers)

K. Gill; B.Sc.(Br.Col.), M.A., Ph.D.(C'dia)

A. Gratton; Ph.D.(C'dia)

S. King; M.Ed., Ph.D.(Va.)

C. Mercier; B.A., M.Sc.(Laval), Ph.D.(Stras.)

J. Rochford; M.A.(Queen's), Ph.D.(C'dia)

L.K. Srivastava; B.Sc., M.Sc.(Alld.), Ph.D.(New Delhi)

S. Steinberg; M.D., C.M.(McG.)

C.-D. Walker; B.Sc., Ph.D.(Geneva)

M. Zoccolillo; B.Sc.(New Orleans), M.D.(Norfolk)

*Assistant Professors*

L. Beauclair; B.Sc., M.D.(Laval)

P. Beaudry; M.D.(Sher.), Dipl.Psych.(McG.)

S. Beaulieu; M.D./Ph.D.(Laval)

D. Bloom; B.Sc.(Regina), M.D.(Queen's)

D. Boivin; Ph.D.(Montr.)

D. Charney; M.D.(McG.)

G. Debonnel; M.D.(Lyon)

J.B. Debruille; M.D.(Paris), Ph.D.(U Pierre et Marie Curie)

M. Elie; M.D.(McG.)

G. Galbaud du Fort; M.D., Ph.D.(Paris) (*joint appt. with Epidemiology and Biostatistics*)

S. Kar; Ph.D.(Lond.)

M. Leyton; Ph.D.(C'dia)

S. Lupien; Ph.D.(Montr.)

R. Tempier; M.D.(Aix-Marseille II)

S. Williams; Ph.D.(Montr.)

*Adjunct Professors*

L. Gaston; Ph.D.(Montr.)

S. Welner; Ph.D.(McG.)

*Associate Members*

R.G. Barr; M.A.(Tor.), M.D., C.M.(McG.) (*Pediatrics*)

R.O. Pihl; B.A.(Law.), M.A., Ph.D.(Ariz.) (*Psychology*)

**67.2 Programs Offered**

Master of Science (M.Sc.)

The M.Sc. program in Psychiatry is designed (1) to provide a mechanism for the training of medical scientists who intend to pursue a research career in psychiatry and (2) to provide a focus for basic science or social science students wishing to obtain advanced training in areas particularly relevant to psychiatric research. Students in this program receive no clinical training in psychiatry.

### 67.3 Admission Requirements

A B.Sc., B.A., B.N. or M.D. degree.

A strong background in science and/or social science, as demonstrated by academic achievement equivalent to a GPA of 3.0 (on a 4 point scale).

A written statement of purpose, describing the specific reasons for seeking a Master of Science degree in Psychiatry.

An outline of the proposed thesis research, to be written by the prospective student in collaboration with an appropriate research supervisor.

Two letters of reference.

Proficiency in written English or French.

### 67.4 Application Procedures

Applications will be considered upon receipt of:

1. a completed application form;
2. two official transcripts;
3. two letters of reference;
4. Cdn \$60.00 application fee;
5. written agreement from the proposed research supervisor, and student's statement of purpose

All information is to be submitted directly to the Graduate Secretary at the address above.

#### Deadlines:

January term:

September 1 (August 15 for international students)

Summer term:

February 1 (January 15 for international students)

September term:

May 1 (April 15 for international students)

### 67.5 Program Requirements

**Formal coursework:** The M.Sc. in Psychiatry requires 45 credits, of which 36 are Thesis Research and 9 are to be taken in graduate level courses approved by the student's Supervisory Committee. These courses are selected on the basis of the area of research interest and the background of the student, and shall include a course in statistical analysis, if this is not presented upon admission.

**Original research.** Each student shall complete an original investigation of a scope appropriate to the presentation of a Master's Thesis. This thesis will be reviewed by the Supervisory Committee prior to its submission to the Graduate Faculty, and shall then be reviewed by external referees according to the usual regulations of the Faculty of Graduate Studies and Research.

**Supervisory Committees.** The M.Sc. in Psychiatry is administered by a the Graduate Training Committee, which meets with each student during the first term of residence to assign a Supervisory Committee composed of the research supervisor plus 2-4 other faculty who are knowledgeable about the student's research area and who can advise both on appropriate coursework and on the thesis research project. The student will meet with this committee at least once during each year of matriculation for the purpose of evaluating academic and research progress of the student. The Supervisory Committee will also act as a resource body for the student, both with respect to academic and administrative matters.

**Residence.** Three terms of full-time study. No part-time study allowed.

### 67.6 Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

□ Denotes limited enrolment.

#### □ 555-500B ADVANCES IN THE NEUROBIOLOGY OF MENTAL

**DISORDERS.** (3) (3 hours) (Prerequisites: 507-212B and 507-311A, or 507-312B, or 177-200A and 177-210B, or 552-311A, or 204-422B, or 204-308A and an upper level biological science course with permission of the instructors, or equivalent. Basic knowledge of cellular and molecular biology is required. Open to U3 and graduate students only. Strongly recommended for M.Sc. students in Psychiatry.) Current theories on the neurobiological basis of most well known mental disorders (e.g. schizophrenia, depression, anxiety, dementia).

**555-502A BRAIN EVOLUTION & PSYCHIATRY.** (3) (Prerequisites: 177-115B or equivalent as authorized by instructor.) The course will focus on the transcendental importance of evolution of nervous systems for normal and pathological behavior. Studies of allometric brain growth and recent evolutionary theories of brain organization as they relate to normal and abnormal behavior will be emphasized.

**555-630B STATISTICS FOR NEUROSCIENCES.** (3) Statistics needed for analysing the types of data generated in a laboratory setting, with emphasis on the neurosciences, will be covered. Hypothesis testing, parametric and non-parametric statistics will be studied with a practical approach, using data generated by the students. Computer analysis will be introduced.

**555-691A,B,D THESIS RESEARCH IN PSYCHIATRY I.** (12)

**555-692A,B,D THESIS RESEARCH IN PSYCHIATRY II.** (12)

**555-693A,B,D THESIS RESEARCH IN PSYCHIATRY III.** (12)

**555-696A,B,D SPECIAL TOPICS IN PSYCHIATRY.** (3) Supervised reading and discussion of selected issues and topics in contemporary psychiatry. Students will be responsible for assigned readings and for preparation of a graded paper.

**555-711D CULTURAL PSYCHIATRY.** (3) (Prerequisites: Knowledge of psychiatry and anthropology). Topics covered: cross-national epidemiological and ethnographic research of major and minor psychiatric disorders; culture-bound syndromes and idioms of distress; culture, emotion and social interaction; psychological and symbolic healing; mental health of immigrants and refugees; psychiatric theory and practice as cultural constructions; methods of cross-cultural research

**555-713C PSYCHIATRIC EPIDEMIOLOGY.** (3) (Prerequisites: 513-606 or equivalent or permission of instructor.) An overview of the applications of epidemiology in psychiatry, including instruments and methods used in community studies; major recent population surveys of psychiatric disorders; study of treatment-seeking, pathways to care and use of services; interaction between psychological distress and physical health; methods used in specific populations; evaluation of treatment.

## 68 Psychology

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Chair — A.A.J. Marley

### 68.1 Staff

#### *Emeritus Professors*

A.S. Bregman; M.A.(Tor.), Ph.D.(Yale)

V. Douglas; B.A.(Qu.), M.A., M.S.W., Ph.D.(Mich.)

G.A. Ferguson; B.A.(Dal.), M.Ed., Ph.D.(Edin.), F.R.S.C.

W.E. Lambert; M.A.(Colgate), Ph.D.(N. Carolina), F.R.S.C.

R. Melzack; B.Sc., M.Sc., Ph.D.(McG.) (*E.P. Taylor Emeritus Professor of Psychology*)  
P. Milner; B.Sc.(Leeds), M.Sc., Ph.D.(McG.)

#### Professors

F.E. Aboud; B.A.(Tor.), M.A., Ph.D.(McG.)  
I.M. Binik; B.A.(N.Y.U.), M.A., Ph.D.(Penn.)  
B. Ditto; B.S.(Iowa), Ph.D.(Ind.)  
K.B.J. Franklin; B.A., M.A.(Auck.), Ph.D.(Lond.)  
F.H. Genesee; B.A.(W.Ont.), M.A., Ph.D.(McG.)  
A.A.J. Marley; B.Sc.(Birm.), Ph.D.(Penn.)  
D.S. Moskowitz; B.S.(Kirkland), M.A., Ph.D.(Conn.)  
D.J. Ostry; B.A.Sc., M.A.Sc., Ph.D.(Tor.)  
L.A. Petitto; B.S.(Ramapo State), M.A.(N.Y.U.), Ph.D.(Harv.)  
M. Petrides; B.Sc., M.Sc.(Lond.), Ph.D.(Cantab.)  
R.O. Pihl; B.A.(Lawrence), Ph.D.(Ariz.)  
J.O. Ramsay; B.Ed.(Alta.), Ph.D.(Prin.)  
B. Sherwin; B.A., M.A., Ph.D.(C'ida) (*James McGill Professor*)  
T.R. Shultz; B.A.(Minn.), Ph.D.(Yale)  
Y. Takane; B.L., M.A.(Tokyo), Ph.D.(N. Carolina)  
D.M. Taylor; M.A., Ph.D.(W.Ont.)  
N. White; B.A.(McG.), M.A., Ph.D.(Pitt.)  
D.C. Zuroff; B.A.(Harv.), M.A., Ph.D.(Conn.)

#### Associate Professors

A.G. Baker; B.A.(Br.Col.), M.A., Ph.D.(Dal.)  
M. Baldwin; B.A.(Tor.), M.A., Ph.D.(Wat.)  
A. Chaudhuri; B.Sc., M.Sc.(Tor.), Ph.D.(U.C.Berk.)  
D. Donderi; B.A., B.Sc.(Chic.), Ph.D.(C'nell.)  
K. Dunbar; B.A., M.A., (U.C.D.), Ph.D.(Tor.)  
R. Koestner; B.A., Ph.D.(Roch)  
J. Lydon; B.A.(Notre Dame), M.A., Ph.D.(Wat.)  
M.J. Mendelson; B.Sc.(McG.), A.M., Ph.D.(Harv.)  
M. Shapiro; B.A.(Colby Col.), M.A., Ph.D.(Johns H.)  
F.E. Wilkinson; B.A.(McG.), M.A., Ph.D.(Dal.)

#### Assistant Professors

J. Abela; B.A.(Brown), M.A., Ph.D.(Penn.)  
B. Knauper; Dr.phil.(Germany)  
D.J. Levitin; A.B.(Stan.), M.S., Ph.D.(Oregon)  
G. O'Driscoll; B.A.(Wellesley), Ph.D.(Har.)

#### Lecturers

N. Allard; R. Amsel

#### Associate Members

F. Abbott (*School of Nursing, Psychiatry*)  
C. Baker, F.A.A. Kingdom, K. Mullen (*McGill Vision Research Centre*)  
T. Coderre (*Clinical Research Institute of Montreal*)  
R. Hess, B. Jones, M. Jones-Gotman, B. Milner, T. Paus, V. Sziklas, R. Zatorre (*Montreal Neurological Institute*)  
V. Patel (*Centre for Medical Education*)  
H. Steiger (*Douglas Hospital Research Centre*)

#### Part-Time Appointments

I. Bradley; Ph.D.  
J. MacDougall; Ph.D.  
Y. Oshima-Takane; Ph.D.  
C. Schopflocher; M.A.  
Z. Rosberger; Ph.D.  
C. Zacchia; Ph.D.  
P. Zelazo; Ph.D.

#### Clinical Consultants

F. Cramer-Azima, S. Burstein, C. Garson, P. Gregoire,  
Z. Rosberger, D. Sookman, M. Spevack, H. Steiger, A. Surkis

## 68.2 Programs offered

M.A. and M.Sc. degrees may be awarded in Experimental Psychology, but only as a stage in the Ph.D. in Experimental Psychology program.

Ph.D. in Clinical Psychology (there is no M.A. or M.Sc. program).

The aim of the Experimental program is to provide students with an environment in which they are free to develop skills and expertise that will serve during a professional career of teaching and

research as a psychologist. Course work and other requirements are at a minimum. Success in the program depends on the student's ability to organize unscheduled time for self-education. Continuous involvement in research planning and execution is considered a very important component of the student's activities. Students are normally expected to do both Master's and Doctoral study.

The Clinical program adheres to the scientist-practitioner model and as such is designed to train students for careers in university teaching or clinical research, and for service careers – working with children or adults in a hospital, clinical, or educational setting. Most of our clinical graduates combine service and research roles. While there are necessarily many more course requirements than in the experimental program, the emphasis is again on research training. There is no Masters program in Clinical Psychology; students are expected to complete the full program leading to a doctoral degree.

Research interests of members of the Psychology Department include animal learning, behavioural neuroscience, clinical, child development, cognitive science, health psychology, psychology of language, perception, quantitative psychology, social psychology, and personality psychology.

Facilities for advanced research in a variety of fields are available within the Department itself. In addition, arrangements exist with the Departments of Psychology at the Montreal Neurological Institute, Allan Memorial Institute, Douglas Hospital, Jewish General Hospital, Lakeshore General Hospital, Lethbridge Rehabilitation Centre, MacKay Centre, Montreal Children's Hospital and the Montreal General Hospital, to permit graduate students to undertake research in a hospital setting.

For full information about all programs and financial aid, and for application forms, contact the Graduate Program Co-ordinator, Department of Psychology.

### Ph.D. Option in Language Acquisition (LAP)

Information about this option is available from the Department and on the following website: <http://www.psych.mcgill.ca/lap/html>.

## 68.3 Admission Requirements

Admission to the graduate program depends on an evaluation of students' research interests and their aptitude for original contributions to knowledge and, if applicable, for professional contributions in the applied field.

The usual requirement for admission is an Honours or Majors degree (B.A. or B.Sc.) in Psychology. This usually includes an introductory course plus twelve courses in psychology (each equivalent to three semester hours). Courses in experimental psychology, the theoretical development of modern ideas in psychology, and statistical methods as applied to psychological problems (equivalent to an introductory course) are essential. Applicants' knowledge of relevant biological, physical, and social sciences is considered.

Applicants who hold a Bachelor's degree but who have not met these usual requirements should consult the Graduate Program Director to determine which (if any) courses must be completed before an application can be considered. Students with insufficient preparation for graduate work may register as special students in the Faculty of Arts or the Faculty of Science, and follow an appropriate course of study. Such registration requires the permission of the Department but carries no advantage with respect to a student's eventual admission to graduate studies.

## 68.4 Application Procedures

Applicants must submit to the Graduate Program Secretary in Psychology:

1. a completed application form;
2. two official copies and one photocopy of all university transcripts;
3. three letters of recommendation, preferably from professors of psychology;

4. a fee of \$60, in Canadian funds, by cheque or money order made payable to McGill University;
5. a completed application summary sheet for the Psychology Department;
6. a personal statement with their full name outlining their interests in psychology and their career goals; and
7. official reports and a photocopy of scores on the General and Subject Graduate Record Examination (GRE).

All applicants must take the GRE if they have studied at an English speaking University. Canadians who have not studied in English are not required to submit either GRE or TOEFL. Non-Canadians whose first language is not English and who have not studied at university in English must take the "Test of English as a Foreign Language" (TOEFL). Canadian citizens are not required to take the TOEFL.

Applicants should note that the deadline for many scholarships and fellowships is about four months earlier than the application deadline and that applications for fellowships and scholarships should be submitted through their home university.

The application deadline is January 15th.

## 68.5 Program Requirements

### Master's (M.A. and M.Sc. Degrees – 45 credits each)

There is no M.A. or M.Sc. program in Clinical psychology. M.A. and M.Sc. degrees may be awarded in Experimental Psychology, but only as a stage in the Ph.D. program.

Candidates must demonstrate a sound knowledge of modern psychological theory, of its historical development, and of the logic of statistical methods as used in psychological research. Candidates will be expected to have an understanding of the main lines of current work in areas other than their own field of specialization. The primary concern of the candidate is research. Final standing for the degree is based mainly on the student's research progress and on the results of course work and other required assignments. All first year students, Experimental and Clinical must submit a General Comprehensive paper on a topic related to their research interests.

### Ph.D.

All candidates for the Ph.D. degree must demonstrate broad scholarship, mastery of current theoretical issues in psychology and their historical development, and a detailed knowledge of their special field. Great emphasis is placed on the development of research skills, and the dissertation forms the major part of the evaluation at the Ph.D. level.

All Ph.D. 2 and 3 students must register for at least one graduate seminar each term (see course numbers 204-710A/B to 204-758A/B); the seminars are conducted by different staff members each year and their content changes accordingly.

A special (doctoral) comprehensive examination is written in one of the following areas of psychology: clinical, behavioral neuroscience, learning and motivation, personality and social psychology, development and language, perception and cognition, quantitative and individual differences, or any other appropriate area.

Ph.D. students in clinical psychology must fulfill similar requirements to Ph.D. students in the experimental program and must also take a variety of specialized courses which include practicum and internship experiences.

The Department of Psychology does not ordinarily require an examination in a foreign language. It should be noted, however, that all students planning to practice in clinical psychology in the province of Quebec will be examined on their proficiency in French before being admitted to the professional association.

## 68.6 Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

● Denotes courses not offered in 2001-02.

● **204-501B AUDITORY PERCEPTION.** (3) (2 lectures) (Prerequisite: 204-212 or equivalent, or permission of instructor.)

**204-505A THE PSYCHOLOGY OF PAIN.** (3) (2 lectures; 1 conference) (Prerequisites: any two of the following: 204-308, 204-311, 204-318, 204-422, 504-321, 177-306, 552-314 or permission of instructor.) An introduction to pain research and theory, with emphasis on the interactions of psychological, cultural and physiological factors in pain perception. The role of these factors in clinical pain and its management by pharmacological and non-pharmacological means will be discussed. (revision Awaiting University Approval)

*Section 01 Limited to Psychology students*

*Section 02 Limited to non-Psychology students (CAPPED)*

**204-510A STATISTICAL ANALYSIS OF TESTS.** (3) (2 lectures) (Prerequisites: 204-305 or 435B, 204-406 or permission of instructor.) This course aims to introduce students interested in developing or appraising tests to the important statistical problems and modern techniques associated with testing data. Testing situations discussed will range from one-shot classroom tests through special purpose scales to the highly refined large scale tests such as the SAT.

● **204-511B INFANT COMPETENCE.** (3) (one 3-hour seminar) (Prerequisites: 204-351A or 204-352B or 204-353A or 204-380D or 204-450D and permission of instructor.)

**204-522B NEUROCHEMICAL BASIS OF BEHAVIOR.** (3) (2 lectures) (Prerequisites: any two of the following 204-308, 204-311, 204-318, 504-321, 552-314, 177-306) (Restrictions: Not open to students who have taken or are taking 549-562A.) Anatomical, biochemical and physiological aspects of neurotransmitter systems in the brain, current theories of the function of these systems in normal and abnormal behaviour, and the actions of psychotropic drugs. (revision Awaiting University Approval)

**204-526A ADVANCES IN VISUAL PERCEPTION.** (3) (2 lectures) Examines in detail the structure of the visual system, and its function as reflected in the perceptual abilities and behaviour of the organism. Parallels are also drawn with other sensory systems to demonstrate general principles of sensory coding.

**204-530A APPLIED TOPICS IN DEAFNESS.** (3) (3 hour lectures) (Prerequisites: 204-304 or 204-316 or equivalent, and permission of instructor.) (Undergraduate enrolment limited.) Covers fundamental topics in deafness (sensory, perceptual, cognitive, social, linguistics, education and health issues) from an applied psychological perspective. Lectures and seminar presentations plus field work involving ASL/ASQ.

● **204-531B STRUCTURAL EQUATION MODELS.** (3) (one 2-hour lecture plus one lab) (Prerequisite: 204-435B, 204-651B, or equivalent, or permission of instructor.)

**204-532A COGNITIVE SCIENCE.** (3) (Prerequisites: Admission to the Cognitive Science Minor or permission of instructor. Students should ideally have some cognitive science background in at least two disciplines.) The multi-disciplinary study of intelligent systems. Problems in vision, memory, categorization, choice, problem solving, cognitive development, syntax, language acquisition, and rationality. Rulebased and connectionist approaches.

**204-533A PSYCHOLOGY AND WORLD HEALTH.** (3) (Prerequisites: 204-305 and 204-215 or 204-429 or 204-304 or 151-227 and permission of instructor.) (Limited enrolment, password required.) Focus on health and illness in developing countries, in particular, on health problems (malnutrition, alcohol abuse, mental illness, family planning, and HIV) where psychosocial factors play a large role in the problem and the solution. Attempted solutions based on community participation, health education, non-governmental and international agencies.

- **204-534A COMMUNITY PSYCHOLOGY.** (3) (Prerequisites: 204-337 and 204-338 and permission of instructor.) (Open to graduate students or U3 undergraduates in Psychology.) (Enrolment limited)
- **204-535B ADVANCED TOPICS IN SOCIAL PSYCHOLOGY.** (3) (Prerequisites: 204-215 and 204-333 and one additional course from social and personality area of specialization or 204-380D and permission of instructor.) (Enrolment limited, password required.)
- 204-536B CORRELATIONAL TECHNIQUES.** (3) (Prerequisites: 204-204 and 204-305 or their equivalents, and 189-133 or equivalent and permission of instructor. Password required). The statistical analysis of relations among a number of variables in situations common in psychology, ecology, and other fields. Methods include regression analysis, principal components analysis, and other techniques for modelling the structure of correlation matrices.
- **204-540A COMPUTATIONAL MODELLING OF REASONING.** (3) (3 hours) (Prerequisites: one course in cognitive psychology, and knowledge of LISP or a willingness to teach it to oneself. Not open for credit to students who have taken 308-426B, 304-625B, or a graduate course in Artificial Intelligence.)
- **204-561A METHODS IN DEVELOPMENTAL PSYCHOLINGUISTICS.** (3) (one 3-hour lecture) (Prerequisites: 204-340, 204-343 and 204-305A,B or permission of the instructor.) (Limited enrolment.)
- 204-601D GENERAL COMPREHENSIVE.** (6) Reference number for comprehensive examination written by all first-year graduate students.
- 204-615D DIAGNOSTIC METHODS (CHILDREN).** (3)
- 204-616D PRACTICUM – CHILD DIAGNOSTICS.** (3)
- 204-617D DIAGNOSTIC METHODS (ADULTS).** (3)
- 204-618D PRACTICUM – ADULT DIAGNOSTICS.** (3)
- 204-620D PRACTICUM – PSYCHOTHERAPY.** (6) A professional training course including dealing with patients under supervision, and a "case conference" seminar.
- 204-625G RESEARCH IN CLINICAL PSYCHOLOGY** (3) (Summer)
- 204-630A PSYCHOPATHOLOGY.** (4) Review of major types of psychopathology with emphasis on research findings.
- 204-641D BEHAVIOUR DEVIATIONS.** (6) Appraisal and Modification. Psychotherapy, Theory and Research: traditional treatment modalities, cognitive therapy, family therapy, behaviour therapy, group therapy, etc.
- 204-650A ADVANCED STATISTICS I.** (3) A course in advanced statistics with specialization in experimental design.
- 204-651B ADVANCED STATISTICS II.** (3) A course in advanced statistics with specialization in multivariate techniques.
- 204-660D PSYCHOLOGICAL THEORY.** (6) Professors representing the various research areas within the Department discuss critical issues and developments within their fields of expertise.
- 204-690D MASTER'S RESEARCH I.** (15) Development of research topic, study and review of previous literature, preliminary experimental and/or theoretical thesis research.
- 204-699A/C MASTER'S RESEARCH II.** (12) Continuation of 204-690D. Further experimental and/or theoretical research. Data analysis (as needed). Writing of thesis.
- 204-701D DOCTORAL COMPREHENSIVE EXAM.** (6)
- 204-706G CLINICAL PRACTICUM.** (15)
- 204-707H CLINICAL INTERNSHIP I.** (15)
- 204-708H CLINICAL INTERNSHIP II.** (15)
- 204-710A/B TO 715A/B BEHAVIORAL NEUROSCIENCE SEMINARS.** (3)
- 204-716A/B TO 721A/B LEARNING AND MOTIVATION SEMINARS.** (3)
- 204-722A/B TO 727A/B PERSONALITY AND SOCIAL PSYCHOLOGY SEMINARS.** (3)
- 204-728A/B TO 733A/B CLINICAL PSYCHOLOGY SEMINARS.** (3)

- 204-734A/B TO 739A/B DEVELOPMENT AND LANGUAGE SEMINARS.** (3)
- 204-740A/B TO 745A/B PERCEPTION AND COGNITION SEMINARS.** (3)
- 204-746A/B TO 751A/B QUANTITATIVE AND INDIVIDUAL DIFFERENCES SEMINARS.** (3)
- 204-752D PSYCHOTHERAPY AND BEHAVIOUR CHANGE.** (6) A practice-oriented course. Staff and students discuss current cases being treated with a variety of psychotherapeutic and behavioural change techniques.
- 204-753A/B TO 758A/B HEALTH PSYCHOLOGY SEMINARS.** (3)
- 204-780D SPECIAL TOPICS IN CLINICAL PSYCHOLOGY.** (6)
- 204-797A/B TEACHING METHODS FOR PSYCHOLOGY I.** (3) Development of teaching skills for graduate students in psychology under the supervision of academic staff. Relevant skills: stating objectives and sequencing content; preparation and delivery of lectures; running discussion and laboratory sessions; techniques for preparing, marking and assessing evaluation instruments; obtaining feedback on teaching skills.
- 204-798A/B TEACHING METHODS FOR PSYCHOLOGY II.** (3) Continuation of 204-797A/B.

## 69 Quebec Studies/Études sur le Québec

Quebec Studies Program / Programme d'études sur le Québec  
Peterson Hall, Room 314  
3460 McTavish Street  
Montreal, QC H3A 1X9  
Canada

Telephone: (514) 398-3960

Fax: (514) 398-3959

Website: <http://www.arts.mcgill.ca/programs/qs>

*Director* — Alain-G. Gagnon; B.A.(Que.), M.A.(S. Fraser), Ph.D.(Carl.)

*Visiting Professor Desjardins* — TBA

In 1963-64 McGill University established a French Canada Studies Program. Some of the energies and resources of the Program are devoted to research on Quebec and French Canada. In 1992, the name of the program was changed to Quebec Studies to reflect its central focus.

The program is offered at the undergraduate level. Should their main field of study be Quebec, graduate students must apply to the relevant departments.

Graduate students taking courses dealing in whole or in part with Quebec, or who are studying Quebec as their special field of study, are welcome to make use of the facilities of the Quebec Studies Program.

En 1963-64, le programme d'études canadiennes-françaises fut créé à l'Université McGill. En collaboration avec les autres départements de l'Université, le programme a notamment pour but de développer la recherche sur divers aspects du Québec et du Canada français. Depuis 1992, l'appellation du programme a été modifiée pour celle de programme d'études sur le Québec afin de refléter clairement les objectifs poursuivis.

Les activités du programme se concentrent au premier cycle. Les étudiants qui désirent poursuivre des études en vue de l'obtention d'une maîtrise ou d'un doctorat portant sur le Québec ou le Canada français doivent s'adresser aux départements concernés.

Les étudiants dont les cours portent, en tout ou en partie, sur le Canada français ou qui se spécialisent dans ce domaine, sont toutefois invités à se prévaloir des services du programme d'études sur le Québec.

## 70 Religious Studies

Faculty of Religious Studies  
3520 University Street  
Montreal, QC H3A 2A7  
Canada

Telephone: (514) 398-4121

Fax: (514) 398-6665

Website: <http://www.mcgill.ca/religion>

Dean, Faculty of Religious Studies — B. Barry Levy

### 70.1 Staff

#### Emeritus Professors

G.B. Baum; B.A.(McM.), M.A.(Ohio), D.Th.(Fribourg)  
D.J. Hall; B.A.(W.Ont.), M.Div., S.T.M., Th.D.(U.T.S., N.Y.),  
D.D.(Queen's), LL.D.(Wat.), D.D.(Presb. Coll.)  
J.C. McLelland; B.A.(McM.), M.A.(Tor.), B.D.(Knox, Tor.),  
Ph.D.(Edin.), D.D.(Mtl. Dio.Coll.), D.D. (Knox, Tor.)

#### Professors

M. Boutin; B.A., B.A., B.A., (Montr.), D.Th. (Munich)  
(*J.W. McConnell Professor of Philosophy of Religion*)  
R.C. Culley; B.A.(Tor.), B.D.(Knox, Tor.), M.A., Ph.D.(Tor.),  
D.D.(Mtl. Dio.Coll.)  
B. Barry Levy; B.A., M.A., B.R.E.(Yeshiva), Ph.D.(N.Y.U.)  
A. Sharma; B.A.(Alld.), M.A.(Syr.), M.T.S., Ph.D.(Harv.) (*Henry  
Birks Professor of Comparative Religion*)  
F. Wisse; Ing.(Utrecht), B.A., B.D.(Calvin, Mich.),  
Ph.D.(Claremont)  
K.K. Young; B.A.(Vt.), M.A.(Chic.), Ph.D.(McG.)

#### Associate Professors

R.P. Hayes; B.A.(Carl.), M.A., Ph.D.(Tor.)  
I.H. Henderson; B.A.(Man.), B.D.(St. Andrews), M.A.(McM.),  
D.Phil.(Oxon.)  
G.V. Hori; B.A.(York), M.A.(Tor.), Ph.D.(Stan.)  
P.G. Kirkpatrick; B.A.(McG.), M.Th.(Lond.), D.Phil.(Oxon.)

#### Assistant Professors

D.B. Farrow; B.R.E.(Providence), M.Div.(Grace), M.Th.(Regent),  
Ph.D.(Lond.)  
T. Kirby; B.A. (King's, Halifax); M.A. (Dal.); D.Phil (Oxon.)  
L. Turner; B.A.(Winn.), M.A.(Man.), M.A., Ph.D.(Southern Calif.)  
(*joint appt. with Biomedical Ethics*)

### 70.2 Programs Offered

The Faculty of Religious Studies offers programs leading to the degrees of Master of Sacred Theology (S.T.M.), Master of Arts (M.A.) (thesis) and (non-thesis), and Doctor of Philosophy (Ph.D.).

The purpose of the M.A. (thesis) degree is to encourage advanced study and research in one of the disciplines of religious studies (see below) for those who wish to become scholars or teachers, or will be engaged in some field of religious or public service. An option in the M.A. (thesis) program is the M.A. in Religious Studies with specialization in Bioethics offered in collaboration with the Biomedical Ethics Unit, see section 10.

The M.A. without thesis is intended to ensure a student's well-rounded exposure to several religions and to several of the disciplinary approaches currently used in their academic study.

The S.T.M. is meant for those who intend to enter the ministry of the Christian Church or another religious institution, or proceed to a teaching career or to some form of social work. The S.T.M. program is fully accredited by the Association of Theological Schools in the U.S. and Canada.

The purpose of the Ph.D. program is to engage students in advanced academic studies normally in preparation for an academic career.

Adequate library facilities are available in the William and Henry Birks Building and elsewhere in the University for the courses listed, and for research.

### Specializations are offered in the following disciplines:

Hebrew Bible and Old Testament Studies; New Testament Studies; Church History; Christian Theology; Philosophy of Religion; Religious Ethics; Hinduism; Buddhism.

The M.A. (thesis) with specialization in Bioethics is offered in conjunction with the Biomedical Ethics Unit.

### 70.3 Admission Requirements

#### Master of Arts (M.A.) (thesis)

Applicants must possess a B.A. with a Major or Honours in Religious Studies or a Bachelor of Theology (B.Th.), or a Master of Divinity (M.Div.) degree, normally with a minimum CGPA of 3.3/4.0 (B+) from an accredited university or college. Applicants with less than 30 appropriate credits in Religious Studies or Theology are normally required to take a Qualifying Program before entering the M.A.

#### Master of Arts (M.A.) (thesis) in Religious Studies with specialization in Bioethics

– for information contact the Chair, Master's Specialization in Bioethics, Biomedical Ethics Unit, 3690 Peel Street, Montreal, QC, H3A 1W9. Telephone: (514) 398-6980; Fax: (514) 398-8349; Email: [Glass\\_K@falaw.lan.mcgill.ca](mailto:Glass_K@falaw.lan.mcgill.ca)

#### Master of Arts (M.A.) (non-thesis)

Applicants must possess a B.A. with a Major or Honours in Religious Studies or a Bachelor of Theology (B.Th.), or a Master of Divinity (M.Div.) degree, normally with a minimum CGPA of 3.3/4.0 (B+) from an accredited university or college. Applicants with less than 30 appropriate credits in Religious Studies or Theology are normally required to take a Qualifying Program before entering the M.A.

#### Master of Sacred Theology (S.T.M.)

Applicants must possess a B.A., normally with at least a good second class standing (B+ or CGPA 3.3/4.0), in a major or honours program in religious studies or theology from an accredited university or college. Those who have a McGill B.Th. or an equivalent degree in addition to a B.A. degree with a second class standing may be admitted to the second year of the S.T.M. program.

#### Doctor of Philosophy (Ph.D.)

Entry into the doctoral program is limited to applicants who have earned an academic Master's degree in Religious Studies or Theology in a recognized graduate program, or those who have finished the course requirements of such a program, with a minimum CGPA of 3.5/4.0 (A-).

Advanced standing (Ph.D. 2) may be granted if the completed Master's level work is in the same area as that of the intended doctoral specialization and involved not less than six (6) courses (18 credits).

It is recommended that French and/or German be included in the bachelor's or master's work preceding doctoral study.

Applicants for doctoral programs are requested to submit a substantial sample of their scholarly writing (15-20 pages) with their applications. The application should specify one of the specializations listed in section 70.2

### 70.4 Application Procedures

Application forms for admission should be obtained from and submitted to the Graduate Admissions Office of the Faculty of Religious Studies.

The following items must be submitted before the application can be considered by the Faculty's Graduate Admissions Committee:

1. application form;
2. \$60 Application fee (certified cheque or money order);
3. two copies of the official transcripts of all post-secondary courses taken and degrees completed;
4. two academic letters of recommendation addressed to the Chair of the Graduate Admissions committee;
5. non-Canadian applicants whose mother tongue is not English are required to submit documented proof of competency in

oral and written English, e.g. TOEFL (Test of English as a Foreign Language) with a minimum score of 577 on the paper-based test (233 on the computer-based test).

The application deadline for September admission is February 1. The deadline for January admission is October 1.

## 70.5 Program Requirements

### Language Requirements

Graduate work in Old Testament studies requires competence in Hebrew; New Testament studies requires competence in Greek; Hindu and Buddhist studies normally require competence in Sanskrit, and, where relevant, Classical Chinese, Japanese, Pali and/or a modern Indian language.

Candidates for the M.A. are required to demonstrate a reading proficiency in a modern language, normally French or German, but students may apply to be examined in another modern language if it is more relevant to their specialty. Those entering M.A.1 are expected to pass the modern language requirement by the end of their second term. Exemption from these requirements is granted to those who have proof of reading competence in the language.

Doctoral candidates are required to demonstrate reading proficiency in two modern languages (usually French and German) by the end of their Ph.D. 2 year. It is recommended that one or both of these languages be included in the bachelor's or master's work preceding doctoral study.

### MASTER OF ARTS (M.A.) (thesis) (48 credit program)

The normal residence requirement is three semesters of full-time resident study. Students may apply to do the third semester during the summer of their first year. Students may also register on a half-time basis.

Candidates are required to complete satisfactorily a minimum of six, one-term courses (18 credits) and write a thesis (30 credits) embodying the results of their research. The minimum pass mark in courses is 65% (B-) for M.A. students.

Research may be undertaken in the areas of specialization listed in section 70.2.

All students must consult with an adviser in the chosen area of study for selection of courses before registration.

Candidates who have studied only one major religious tradition before entering the M.A. program should do some course work in another major religious tradition. It may prove appropriate for a student to take one or more graduate seminars in other McGill Departments, e.g., in Jewish Studies, Classics, Philosophy, East Asian Studies, Islamic Studies, etc. Access is also possible to courses in the other universities in Montreal.

For language requirements, see above.

A thesis proposal (approved by the supervisor) must be submitted to the Graduate Committee for approval.

The dissertation may be submitted at the end of the third term provided all course work and language requirements have been successfully completed. Candidates must complete the degree within three years of initial full-time registration. A maximum one year extension may be granted.

### Master of Arts (M.A.) (thesis) in Religious Studies with specialization In Bioethics

The curriculum is composed of required courses (for 6 credits) offered in the Biomedical Ethics Unit, bioethics courses (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.

Registration Requirements: Depending upon the requirements of the base discipline, a minimum of three terms is required for completion of the program, including course work and thesis.

Thesis Supervision: Thesis supervision for students in the specialization is provided by a participating faculty member in the program. Those students whose supervisors are not appointed to a student's base discipline will have a co-supervisor appointed from the base discipline. Thesis examination will be conducted according to the base discipline norms.

### Required Courses – Biomedical Ethics Unit (6 credits)

508-680A (3) Bioethics Theory  
508-681B (3) Bioethics Practicum

### Required Course – for students based in the Faculty of Religious Studies (3 credits)

260-571 (3) Bioethics and World Religions

### Complementary Courses (12 credits)

the remaining credits are to be taken in any graduate courses required or accepted by the base faculty for the granting of a Master's degree

### Thesis Component – Required (24 credits)

508-690 (3) Thesis Literature Survey  
508-691 (3) Thesis Research Proposal  
508-692 (6) Thesis Research Progress Report  
508-693 (12) Thesis

### MASTER OF ARTS (M.A.) (non-thesis) (45 credit program)

The normal residence requirement is three semesters of full-time resident study. Students may apply to do the third semester during the summer of their first year. Students may also register on a part-time basis.

The program requires completing a total of 45 credits taken at the 500 and 600 level. The student is required to take 36 credits in course work, normally by taking four courses per semester for three semesters. The minimum pass mark in courses is 65% (B-) for M.A. students.

For language requirements, see above.

All students must consult with a faculty adviser for selection of courses before registration.

The remaining 9 credits are to be earned by writing three research papers, each based on a reading list. Of these papers, one is to be in one specific religious tradition, a second in another religious tradition different from the first, and the third in methods used in the comparative study of religions. Each of these papers is worth three credits and each is graded on a PASS/FAIL basis.

### MASTER OF SACRED THEOLOGY (S.T.M.) (48 credit program)

**ATS Accreditation** The S.T.M. program is fully accredited by the Association of Theological Schools in the U.S. and Canada.

The normal requirement is two years (of two terms each) of full-time study, but the degree may, by permission, be taken on a part-time basis.

Note: Ordination requirements for S.T.M. graduates will normally involve a further year of professional pastoral studies (the In-Ministry Year) provided by the Joint Board of Theological Colleges affiliated with the Faculty of Religious Studies.

Candidates are required to complete satisfactorily twelve one-term courses (36 credits) and pass four Area Studies courses (12 credits) chosen from the following areas:

- 1) Biblical Theology (260-520A);
- 2) Church History (260-530B);
- 3) Christian Theology (260-531B);
- 4) Philosophy of Religion (260-540A);
- 5) Theological Ethics (260-541B);
- 6) Comparative Religion (260-550A).

Normally six 3-credit courses and two Area Studies courses shall be taken in each academic session. The pass mark in courses is 65% (B-) for S.T.M. students. Normally graduate courses should be chosen from at least four different specialty areas in Religious Studies. Applicants who are admitted directly into S.T.M. 2 are required to complete six one-term courses (18 credits) and two Area Studies (6 credits).

Students who take the S.T.M. as part of their ordination requirements are to choose their courses in consultation with the Principal of the Theological College with which they are associated. Course selection for all S.T.M. students needs the approval of the Chair of the Religious Studies Graduate Committee.

Courses are offered by the Department in the areas of specialization listed in section 70.2.

Related courses are also available in other departments.

For language requirements, see above.

**DOCTOR OF PHILOSOPHY (PH.D.)**

Residency for a candidate admitted to Ph.D. I is 3 consecutive years (6 terms) of full-time study and research. Half-time study may be permitted upon request. Residency for candidates admitted to Ph.D. II is 2 consecutive years (4 terms).

Candidates admitted to Ph.D. 1 take a minimum six graduate seminars during their first year and four seminars during their Ph.D. 2 year; those admitted to Ph.D. 2, must take a minimum of four graduate seminars. If possible, two seminars should be in their area of specialization, and at least one should be at the 700-level.

**Supervision:** One of the professors in the area of specialization acts as program adviser of each candidate in that area until a thesis supervisor is selected. Candidates must meet with their adviser or supervisor prior to registration to select their courses and to obtain advice concerning the requirements they are obliged to meet (e.g. courses, modern languages, ancient languages, and comprehensive examinations). A thesis proposal (approved by the supervisor) must be submitted to the Religious Studies Graduate committee for approval by the time the course work is finished, or as soon as possible afterwards. The candidate is expected to be present for the discussion of the proposal. The thesis should be submitted no later than the Ph.D. 6 year, though an extension may be granted if there is evidence of significant progress on the thesis.

**Comprehensive Examinations** These examinations are designed to ensure that candidates are adequately prepared to undertake the research required for a doctoral thesis and to teach university level courses in their chosen field. They are meant to test students' competence in: 1) their chosen field, 2) one or two cognate areas. The latter are areas related to the chosen field and are to be determined by the supervisor in consultation with the candidate. Comprehensives may take the form of a written examination, a major essay, a project, an oral examination, or a combination of these.

**Doctoral Colloquium (Doktorklub)** As one of their requirements all Ph.D. students in residence shall attend the monthly graduate colloquium, at which time a student's thesis project is formally presented and discussed.

**70.6 Courses Offered**

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Time-table available on [infoMcGill](http://www.mcgill.ca/students/courses/) via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**AREA A (BIBLICAL)**

**260-520A BIBLICAL THEOLOGY.** (3) For S.T.M. students. Tutorials and guided reading in the field of Biblical Theology.

- **260-601B STUDIES IN BIBLICAL APOCALYPTIC.** (3)
- **260-604B THE FORMATION OF POST-EXILIC JUDAISM.** (3)
- **260-605B INTERPRETERS OF THE RELIGION AND FAITH OF ANCIENT ISRAEL.** (3)
- **260-606A STUDIES IN BIBLICAL POETRY.** (3)

**260-607B STUDIES IN THE BIBLICAL NARRATIVE TRADITIONS.** (3)  
Topic for 2002: Genesis 1-3.

**260-611A PAULINE THEOLOGY.** (3) A study of the nature, background, origins, development and expression of the theological ideas in the Pauline literature and the connection between these ideas and other early Christian thought.

- **260-613B THE MINISTRY OF JESUS.** (3)
- **260-617A GNOSTICISM.** (3)
- **260-618A THE CHURCH IN THE NEW TESTAMENT.** (3)

**135-510A HISTORY OF JEWISH BIBLE INTERPRETATION I.** (3)

**135-511B HISTORY OF JEWISH BIBLE INTERPRETATION II.** (3)

**AREA B (HISTORICAL AND THEOLOGICAL)**

**260-530B AREA STUDIES – CHURCH HISTORY.** (3) Limited to S.T.M. students. Tutorials and guided reading in the field of church history.

**260-531B AREA STUDIES – CHRISTIAN THEOLOGY.** (3) Limited to S.T.M. studies. Tutorials and guided reading in the field of Christian Theology.

- **260-623B THE ECUMENICAL MOVEMENT** (3)

**260-625B CREEDS AND CONFESSIONS.** (3) An examination of selected credal and confessional statements from earliest extant confessional expressions to twentieth century creeds.

- **260-626B SECULAR DIMENSIONS OF THE REFORMATION.** (3)
- **260-627A THE CHURCH IN CONFLICT.** (3) (From the French Revolution to World War II.)
- **260-630A THEOLOGICAL FOUNDATIONS.** (3)
- **260-631B THE THEOLOGY OF THE CROSS.** (3)
- **260-632B THE THOUGHT OF REINHOLD NIEBUHR.** (3)
- **260-633A THE THEOLOGY OF KARL BARTH.** (3)
- **260-634B MOVEMENTS IN CONTEMPORARY THEOLOGY.** (3)

**260-635A CHRISTOLOGY AND ECCLESIOLOGY.** (3) Studies in the relation between two central theological loci, with special attention to their trinitarian, sacramental and eschatological frame of reference.

- **260-636B THEOLOGICAL METHOD.** (3)
- **260-637A THEOLOGY OF NATURE.** (3)
- **260-639B FEMINIST THEORY AND THEOLOGY.** (3) (Prerequisite: 320A and 327A or 333B and 434A or equivalent.)

**260-683A RESEARCH IN CHRISTIAN THEOLOGY.** (3) Theologies of Religious Pluralism.

- **260-732A SEMINAR IN REFORMATION THEOLOGY.** (3) (For doctoral students.)

**AREA C (RELIGION AND CULTURE)**

**260-540A AREA STUDIES – PHILOSOPHY OF RELIGION.** (3) (Limited to S.T.M. students.) Tutorials and guided reading in the field of Philosophy of Religion.

- **260-541B AREA STUDIES – THEOLOGICAL ETHICS.** (3) (Limited to S.T.M. students.)

**260-571B BIOETHICS AND WORLD RELIGIONS.** (3) Every world religion has its own way of understanding what we now call "bioethical" problems (surrogacy, abortion, euthanasia, circumcision, cloning). A selected problem will be studied in connection with the ethical system of religions such as Hinduism, Buddhism, Confucianism, Taoism, Judaism, Christianity and Islam.

- **260-641B MODERN PHILOSOPHY OF RELIGION.** (3)
- **260-642B PHILOSOPHY OF RELIGION IN THE TWENTIETH CENTURY.** (3) Intuition, Concept, Experience.

**260-643A PROBLEMS IN PHILOSOPHY OF RELIGION.** (3) Faith and skepticism.

- **260-671A CHRISTIAN SOCIAL RESPONSIBILITY: SOME MAJOR ISSUES.** (3)
- **260-672A CONTEMPORARY VALUE SYSTEMS IN CHRISTIAN PERSPECTIVE.** (3)
- **260-673B INTERPRETERS OF CHRISTIAN VALUES IN THE MODERN WORLD.** (3)
- **260-684B SPECIAL STUDIES IN PHILOSOPHY OF RELIGION.** (3)

□ **260-745B MEANING AND INTERPRETATION.** (3) (This course is available only to students in Ph.D. 2 or higher.) An interdisciplinary seminar on hermeneutical problems.

**AREA D (COMPARATIVE STUDY)****397-531D SURVEY OF THE DEVELOPMENT OF ISLAMIC THOUGHT.**

(6) A survey of the development of the major intellectual traditions of Islamic civilization in medieval and modern times.

**260-546B INDIAN PHILOSOPHY.** (3) (Prerequisites: 6 credits in Indian religions or philosophy of religion, or permission of the instructor.) A study of orthodox systems of Hindu philosophy leading up to Vedanta, i.e. Nyaya, Vaisheshika, Sankhya, Yoga and Mimamsa, including discussion of the ground of belief and disbelief in God, the nature of revelation and the means of knowledge.

● **260-547B HINDU PHILOSOPHY II.** (3) (Prerequisite: 6 credits in Indian religions, philosophy of religion, philosophy, or permission of the instructor.)

● **260-548A INDIAN BUDDHIST METAPHYSICS.** (3) (Prerequisites: 260-252A or 260-342A/B or permission of instructor.)

● **260-549A TOPICS IN EAST ASIAN PHILOSOPHY.** (3) (Prerequisites: 260-253B and 260-342A or 260-344B, or approval of instructor.)

**260-550B AREA STUDIES – COMPARATIVE RELIGION.** (3) For S.T.M. students. Tutorials and guided reading in the field of Comparative Religion.

● **260-552A ADVAITA VEDANTA.** (3) (Prerequisite: 6 credits in Indian religions.)

● **260-553A RELIGIONS OF SOUTH INDIA I.** (3) (Prerequisites: 6 credits in Indian religions.)

● **260-554B RELIGIONS OF SOUTH INDIA II.** (3) (Prerequisite: 260-553A)

**260-555B HONOURS COLLOQUIUM.** (3) (For Religious Studies Honours students or with permission of the Chair of the Religious Studies B.A. Committee.) Religion and Pluralism Debates: Foucault, Said and Feminists will be used to explore the presuppositions and methods of current scholars reflecting on the nature of pluralism from the perspectives of particular religious traditions, comparative studies, metaphysics, politics, ethics and law.

**260-556A,B CRITICAL ISSUES IN BUDDHIST STUDIES.** (3) (Prerequisite: permission of instructor.) A graduate seminar taught by the Numata Visiting Professor on critical issues in contemporary Buddhist Studies. Emphasis will be placed on the intensive application of different methods – philological, philosophical or social scientific – to some area of modern Buddhist research.

**260-557A ASIAN ETHICAL SYSTEMS.** (3) (Prerequisites: 260-252A, 260-253B, or permission of instructor.) An examination of the ethical ideals that have evolved in Asia with reference to Hinduism, Buddhism, Confucianism, and Taoism. Issues to be explored include competing views of the individual's duties to social and political institutions, the individual's right to non-conformity, the relationship between morality and metaphysics, and a comparison of moral principles in theistic and atheistic contexts.

● **260-650B GENDER AND WORLD RELIGIONS.** (3) (Prerequisites: 260-338B or 260-339A, or permission of the instructor.)

● **260-651B INDIAN BUDDHIST EPISTEMOLOGY.** (3) (Prerequisite: two years of Sanskrit or Pali, or permission of the instructor.)

● **260-653A VISISTADVAITA VEDANTA.** (6) (Prerequisite: 260-357D, or permission of the instructor.)

● **260-655B BUDDHIST METAPHYSICS.** (3) (Prerequisite: 260-651A)

● **260-658A JAPANESE BUDDHIST PHILOSOPHY.** (3) A close reading of the major texts of the Kyoto School.

● **260-751A TUTORIAL ON A SELECTED TOPIC.** (3)

● **260-752D TUTORIAL ON A SELECTED TOPIC.** (6)

**SPECIAL STUDIES\***

**260-680A,680B,690D OLD TESTAMENT.** (3/3/6)

**260-681A,681B,691D NEW TESTAMENT.** (3/3/6)

**260-682A,682B,692D HISTORY OF CHRISTIANITY.** (3/3/6)

**260-683A,683B,693D CHRISTIAN THEOLOGY.** (3/3/6)

**260-684A,684B,694D PHILOSOPHY OF RELIGION.** (3/3/6)

**260-685A,685B,695D ETHICAL PROBLEMS.** (3/3/6)

**260-687A,687B,697D COMPARATIVE RELIGION.** (3/3/6)

\* These are normally tutorial courses designed to meet the research needs of individual students at Master's or Doctoral level in the various disciplines. Students wishing to take them must obtain the permission of their advisers or supervisors (in the case of S.T.M. students, the Chair of the Faculty's Graduate Committee), as well as that of the instructor.

**M.A. RESEARCH (NON-THESIS)**

**260-660A,B M.A. RESEARCH PAPER I.** (3)

**260-661A,B M.A. RESEARCH PAPER II.** (3)

**260-663A,B M.A. RESEARCH PAPER III.** (3)

**M.A. RESEARCH (THESIS)**

**260-688A,B,C THESIS RESEARCH I.** (3)

**260-689A,B,C THESIS RESEARCH II.** (3)

**260-698A,B,C THESIS RESEARCH III.** (12)

**260-699A,B,C THESIS RESEARCH IV.** (12)

**Elective Courses in Other Units**

The Institute of Islamic Studies offers a variety of courses in the history, philosophy, theology and languages of Islam that may be taken as part of the Graduate program in Comparative Study.

Scriptural languages such as Arabic, Greek, Hebrew, Pali, Sanskrit, on the advanced level, may also be taken as part of this program.

With the consent of the Dean of Religious Studies and the instructor concerned, graduate students may choose related courses in any other department of the University.

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**71 Russian and Slavic Studies**

Department of Russian and Slavic Studies  
688 Sherbrooke Street West, Suite 341  
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Canada

Telephone: (514) 398-3639

Fax: (514) 398-8239

Email: [lynda.bastien@mcgill.ca](mailto:lynda.bastien@mcgill.ca)

Website: <http://www.arts.mcgill.ca/programs/russian>

Chair — Paul M. Austin

Graduate Director — Laura Beraha

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**71.1 Staff***Associate Professors*

P.M. Austin; M.A.(C'nell), B.A., Ph.D.(Tor.)

L. Beraha; B.A., M.A., Ph.D.(McG.)

T. Patera; M.Sc.(Moscow), M.A., Ph.D.(McG.) (*on leave 2001-02*)

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**71.2 Programs Offered****Master's and Ph.D. in Russian.**

Two fields of graduate work are recognized – Russian language and Russian literature respectively. However, due to the smaller size of the Department, it must be stressed that our specialties lie mostly in the area of Russian literature.

**Ph.D. Language Tests**

Ph.D. candidates in other departments who require Russian for research and in satisfaction of the language requirement should contact the Department for recommended courses.

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**71.3 Admission Requirements**

The general rules of the Faculty apply and are outlined in the General Information and Faculty Regulations section of the Calendar.

The minimum academic requirement is normally a high standing in Honours Russian. Further, the Department must be convinced that the candidate for admission has an aptitude for research work and will be able to make an original contribution to knowledge.

A working knowledge of French is recommended for the Ph.D. program.

Any necessary preparation to fulfill these requirements will be offered within the Department or elsewhere at McGill. On a reciprocal basis certain graduate courses may be taken by arrangement at the Université de Montréal.

#### 71.4 Application Procedures

Applications will be considered upon receipt of:

1. general application form;
2. two certified copies of all university transcripts;
3. two letters of recommendation;
4. \$60 application fee;
5. test results (GRE (recommended); TOEFL required of all candidates whose mother tongue is not English and who have not completed an undergraduate degree using the English language);
6. a sample of written work.

All information must be submitted to the Administrative Secretary, Department of Russian and Slavic Studies.

Deadline: March 1.

#### 71.5 Program Requirements

Original research work and the scholarly qualities of the thesis are the principal criteria for conferring a graduate degree in Russian.

##### Master's

The M.A. requirements are 48 credits comprised of:

- 18 credits in graduate courses in Russian and Slavic Studies
- 30 credits in M.A. thesis courses:
  - 141-691D (6 credits); 141-692D (24 credits)

##### Ph.D.

Details of the requirements for the Ph.D. degree may be obtained by applying directly to the Administrative Secretary.

#### 71.6 Courses

The names of course instructors are listed on the Course Time-table available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

- 141-610D CHURCH SLAVONIC. (6)
- 141-650D HISTORY OF THE RUSSIAN LANGUAGE. (6)
- 141-660D PRE-PETRINE RUSSIAN LITERATURE. (6)
- 141-670D RUSSIAN LITERATURE OF THE 18TH CENTURY. (6)
- 141-680D SEMINAR ON SPECIAL AUTHORS OF THE 19TH CENTURY. (6)
- 141-681D SEMINAR ON RUSSIAN ROMANTICISM. (6)
- 141-682D RUSSIAN MODERNISM: VERSIONS AND SUBVERSIONS. (6)
- 141-684A YURI TRIFONOV AND HIS TIMES. (3)
- 141-685B NEW VOICES IN RUSSIAN POST-SOCIALIST REALISM. (3)
- 141-690D DEVELOPMENT OF RUSSIAN LITERARY CRITICISM. (6)
- 141-691D M.A. THESIS PROPOSAL. (6)
- 141-692D M.A. THESIS. (24)
- 141-700D PH.D. PRELIMINARY EXAMINATION.
- 141-701D PH.D. COMPREHENSIVE EXAMINATION.
- 141-710D SEMINAR: PH.D. COMPREHENSIVE EXAMINATION.
- 141-720D FIRST SEMINAR ON SPECIAL TOPICS. (6)
- 141-721D SECOND SEMINAR ON SPECIAL TOPICS. (6)
- 141-722D THIRD SEMINAR ON SPECIAL TOPICS. (6)

**141-790D RUSSIAN LANGUAGE REQUIREMENT FOR PH.D.** See "Doctoral Language Requirements" in the General Information and Faculty Regulations section and consult the Department.

## 72 Social Studies of Medicine

Department of Social Studies of Medicine  
McIntyre Medical Sciences Building  
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Website: <http://www.mcgill.ca/ssom/>

Chair — Allan Young

### 72.1 Staff

#### Professors

Donald G. Bates; M.A., M.D.(W.Ont.), Ph.D.(Johns H.)

Margaret Lock; B.Sc.(Leeds), M.A., Ph.D.(Calif.)

George Weisz; M.A., Ph.D.(N.Y. St.), Dr. 3rd Cy(Paris)

Allan Young; M.A.(Wash.), B.A., Ph.D.(Penn.)

#### Associate Professors

Alberto Cambrosio; M.A.(Sher.), Ph.D.(Montr.)

Faith E. Wallis; M.A., M.L.S.(McG.), Ph.D.(Tor.)

### 72.2 Programs Offered

The Department (SSOM) offers graduate studies in three programs:

- one in medical anthropology, given jointly with the Department of Anthropology;
- one in medical history, given jointly with the Department of History; and
- one in medical sociology, given jointly with the Department of Sociology.

In each program, the student may work towards the M.A. and Ph.D. degrees. All degrees are awarded by the relevant Faculty of Arts department. For further information regarding those departments, please consult the Anthropology, History, or Sociology sections.

The Department (SSOM) is interdisciplinary, having faculty in the fields of medical anthropology, medical history, and medical sociology. In its programs of graduate studies, it attempts to provide two things: a training that is solidly grounded in the discipline of the chosen program, i.e. in anthropology, history or sociology; and, through seminars and interaction with Department members and other graduate students, an exposure to the other disciplines that are represented in the Department. The Department aims to instill in its graduates a combination of disciplinary competence and interdisciplinary perspective.

### 72.3 Admission Requirements

#### M.A. in Medical Anthropology

The program is open to students with backgrounds in the social sciences, the medical professions, or the medical sciences.

#### M.A. in the History of Medicine

Candidates must have a background in either history (Honours B.A. in History, or equivalent) or a degree in one of the health professions.

#### M.A. in Medical Sociology

The program is open to students with a background in social sciences, health professions or health sciences. It aims to prepare candidates for a career of teaching and research in medical sociology, and there is consequently a preference for applicants with the potential to proceed to the doctoral degree.

**Ph.D. Programs**

Candidates for a Ph.D. will normally have taken their M.A. in the same field. Please refer to the appropriate Department – Anthropology, History, or Sociology.

**72.4 Application Procedures****M.A. in Medical Anthropology**

Admission is granted by a joint admissions committee made up of representatives from Anthropology and SSOM.

For details concerning applications, teaching assistantships, fellowships, etc. see Department of Anthropology.

**M.A. in the History of Medicine**

Application is made directly to the History Department. For details see Department of History.

Besides applying for Graduate Faculty Major Fellowships, students to this program may apply to the Hannah Institute for the History of Medicine. Note: The deadline is currently November 1, i.e., three months before the deadline for graduate faculty fellowships. Further details and applications may be obtained from SSOM.

**M.A. in Medical Sociology**

Admission is granted by a joint admissions committee made up of representatives from Sociology and SSOM. For details concerning applications, teaching, assistantships, fellowships, etc., see Department of Sociology.

**Ph.D. Programs**

Please refer to the appropriate Department – Anthropology, History, or Sociology.

**72.5 Program Requirements****M.A. IN MEDICAL ANTHROPOLOGY**

With the medical anthropology program, candidates will apply for permission to take either of two courses of study, M.A. thesis or non-thesis.

For Anthropology courses, see Department of Anthropology. For SSOM seminars, see below.

**a) M.A. in Medical Anthropology with thesis (48 credits)****Required Courses (42 credits)**

522-605 (3) Seminar in Medical Anthropology  
151-615 (3) Seminar in Medical Anthropology  
151-694/695 (12) M.A. Thesis Tutorial  
151-699 (24) M.A. Thesis

**Complementary Courses (6 credits)**

Two Anthropology courses.

**b) M.A. in Medical Anthropology, without thesis (45 credits)****Required Courses (45 credits)**

522-605 (3) Seminar in Medical Anthropology  
151-615 (3) Seminar in Medical Anthropology  
151-602 (3) Theory I  
151-609 (6) Proseminar  
151-611 (3) Research Design  
151-660 (3) Research Methods  
151-665 (3) Quantitative Methods in Anthropology  
151-685/686 (6) Research Tutorial I and II  
151-696 (15) MA Research Paper

**M.A. IN THE HISTORY OF MEDICINE**

The M.A. degree in Medical History does not have a thesis option.

The program requires the completion of 48 credits, composed of three full-year graduate seminars, plus a major research paper, (30 credits) (101-691, 101-692 in the first year and 101-693, 101-694 in the second year).

Graduate seminars offered in the History of Medicine include

101-619A (3) Ancient Medicine Seminar I  
101-620B (3) Ancient Medicine Seminar II

101-636A (3) Early Modern Medicine Seminar I

101-637B (3) Early Modern Medicine Seminar II

For SSOM seminars, see below.

**M.A. IN MEDICAL SOCIOLOGY**

Students may choose between two programs: M.A. thesis or non-thesis.

For Sociology courses, see Department of Sociology. For SSOM seminars, see below.

**M.A. in Medical Sociology (thesis) (48 credits)**

This includes 18 credits of course work and a research thesis that is based on original research (30 credits)

**Required Courses (12 credits)**

166-652A (3) Current Sociological Theory  
166-580A (3) Design and Practice of Social Research  
166-504B (3) Seminar: Quantitative Methods I  
166-540B (3) Qualitative Research Methods

**Complementary Courses (6 credits)**

one of:

166-515B (3) Medicine and Society  
166-538B (3) Selected Topics in the Sociology of Biomedical Knowledge

one course in the History of Medicine

**Thesis Component – Required (30 credits)**

166-690 (3) M.A. Thesis I  
166-691 (6) M.A. Thesis II  
166-692 (3) M.A. Thesis III  
166-693 (3) M.A. Thesis IV  
166-695 (15) M.A. Thesis VI

**M.A. in Medical Sociology (non-thesis) (45 credits)**

This includes 21 credits of course work and a research paper based on original research (24 credits).

**Required Courses (12 credits)**

166-652A (3) Current Sociological Theory  
166-580A (3) Design and Practice of Social Research  
166-504B (3) Seminar: Quantitative Methods I  
166-540B (3) Qualitative Research Methods

**Complementary Courses (9 credits)**

one of:

166-515B (3) Medicine and Society  
166-538B (3) Selected Topics in the Sociology of Biomedical Knowledge

two courses in the Social Studies of Medicine, one of which must be in the History of Medicine

**Research Component – Required (24 credits)**

166-696 (3) Research Paper I  
166-697 (3) Research Paper II  
166-698 (6) Research Paper III  
166-699 (12) Research Paper IV

**PH.D. PROGRAMS**

For information on the doctoral programs, please refer to the appropriate Department – Anthropology, History, or Sociology.

**72.6 SSOM Courses**

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

**522-604A,B HISTORY OF MEDICINE.** (3) Tutorial.

**522-605A MEDICAL ANTHROPOLOGY.** (3)

**522-606A,B MEDICAL ANTHROPOLOGY.** (3) Tutorial.

**522-609A,B SOCIAL SCIENCES OF MEDICINE.** (3) Tutorial.

**522-610B SOCIOLOGY OF MEDICINE.** (3)

**522-611B SOCIOLOGY OF BIOMEDICAL KNOWLEDGE.** (3)

## 73 Social Work

School of Social Work  
Wilson Hall  
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Telephone: (514) 398-7070

Fax: (514) 398-4760

Website: <http://www.arts.mcgill.ca/programs/socialwork/>

Director — William Rowe

### 73.1 Staff

#### Emeritus Professor

David E. Woodsworth; B.A., Dipl.S.W.(Tor.), M.A.(Mich.),  
Ph.D.(Brandeis)

#### Professors

Peter Leonard; B.Sc., M.Sc., Dipl. Mental Health(Lond.)

William Rowe; B.A.(Waterloo), M.S.W.(George Wms. Coll.),  
D.S.W.(Adelphi)

James Torczyner; B.H.L.(Yeshiva), M.S.W., D.S.W.(Calif.)

Barry Trute; B.A.(Sask.), M.S.W.(McG.), Ph.D.(Calif.) (*Philip S.  
Fisher Professor of Social Work*)

#### Associate Professors

Ben Zion Dalfen; B.A., M.S.W., Dip. Adv. Soc. Wk. Practice(McG.)

Linda Davies; B.S.W., M.S.W.(McG.), Ph.D.(N. Lond. Poly.)

Sydney Duder; B.Sc., M.S.W., Dipl. Adv. Soc. Wk. Practice,  
Ph.D.(McG.)

Estelle Hopmeyer; B.A., M.S.W.(McG.)

Carol Cumming Speirs; B.A.(Sir G.Wms.), M.S.W.(McG.)

Ingrid Thompson; B.A.(Sir G.Wms.), M.S.W.(McG.),  
Ph.D.(Cantab.)

#### Assistant Professors

Shari Brotman; B.S.W., M.S.W.(McG.), Ph.D.(Tor.)

Lindsay John; B.A.(Guelph), M.S.W.(W. Laur.), M.Sc.(McM.),  
Ph.D.(Tor.)

Julia Krane; B.A.(Ott.), B.S.W.(McG.), M.S.W., Ph.D.(Tor.)

Lucyna Lach; B.A., M.S.W.(Tor.)

Margaret-Ann Smith; B.A.(Montr.), M.S.W.(McG.)

Samantha Wehbi; B.A.(York), M.S.W.(Tor.), Ph.D.(McG.)

Robin Wright; B.A./B.S.W.(McM.), M.S.W., Ph.D.(Tor.)

#### Director of Field Education

Natalie Beauregard

### 73.2 Programs Offered

Master of Social Work, a Joint M.S.W. and Law degree, and a Ph.D. program offered jointly with Université de Montréal.

The McGill School of Social Work is a member of the International Association of Schools of Social Work, the Canadian Association of Schools of Social Work, and of the Rassemblement des Unités de Formation Universitaire en Travail Social du Québec.

The School of Social Work is a professional school whose primary objective is to prepare students for careers and for leadership in the fields of social work and social welfare.

#### M.S.W. Program

M.S.W. students should develop an understanding of the social theories which inform practice. The goal of the program is to educate students so that they may contribute not only to established social services but also to new and less developed areas of service provision. Through this degree students should develop critical and innovative approaches to practice competence and to policy analysis.

The global objective of the Master's program is the provision of advanced professional training by means of integrated learning experiences. At a more specific level, the educational goals are to develop:

1. deepened and advanced competence in practice and research;
2. a capacity for critical understanding of social theory, social problems and emergent issues, population groups in need, institutional structures, and policy initiatives and processes.

#### Joint Ph.D. Program in Social Work

The Schools of Social Work at the Universities of Montréal and McGill offer a third cycle joint program in social work and social policy.

Students are free to seek admission from either university. Students accepted into the program have access to the resources offered by both schools.

### 73.3 Admission Requirements

#### M.S.W. Program

Students who have successfully completed a B.S.W., with a minimum B average (GPA 3.0), may be admitted to the Master of Social Work program. Normally they will have had professional experience in social service work, **or** related experience, subsequent to obtaining the B.S.W.

As a general rule, students admitted to the M.S.W. program will have completed course work in statistics and in research methods at the undergraduate level.

#### Joint M.S.W./Law Program

Students must apply separately for admission to each Faculty, specifying their interest in this joint degree. Students must meet or surpass the requirements for admission to both the M.S.W. program and to Law and must submit a brief statement explaining their interest in this joint program.

#### Joint Ph.D. Program

Students are free to seek admission to either McGill or the University of Montréal. Students accepted into the program have access to the resources offered by both schools.

Applicants applying to the joint Ph.D. program must hold a Master's degree in social work or, exceptionally, a Bachelor's degree in social work with a Master's degree in a related subject from an accredited program. Candidates must be proficient in French and English to be able to understand teaching and class discussion in both languages and to carry out necessary reading.

Criteria considered in weighing applications include:

- 1) demonstrated intellectual ability and critical capacity;
- 2) relevant experience;
- 3) admissibility and quality of the student's project.

### 73.4 Application Procedures

Applications are available by mid-September from the School of Social Work. The deadline to apply is February 1.

Applications will be considered upon receipt of all required documents.

International applicants are required to submit documented proof of competency in English, e.g. TOEFL (Test of English as a Foreign Language) minimum score of 550 on the paper-based test (213 on the computer-based test) or an equivalent test. Applicants from the U.S.A. are exempt.

All documents must be submitted to the School of Social Work, attention: Ms. Lillian Iannone, Student Affairs Coordinator.

### 73.5 Program Requirements

#### MASTER OF SOCIAL WORK

The M.S.W. is a second cycle of professional study in which students pursue programs at an advanced level, building upon their first professional degree (B.S.W.) and their subsequent practice experience.

Each student works out a study plan in consultation with her/his academic advisor in relation to the student's identified study goals. Broadly speaking, these include Child and Family Welfare, Health and Well-Being Through the Life Cycle, and Community Development.

There are two options, non-thesis (practicum and independent study project) and thesis (thesis, no practicum). Both options carry a weight of 45 credits, and, taken on a full-time basis, both options involve three terms of study. In both options, part-time study can be arranged (see section on Duration and Time Limitations below).

#### **M.S.W. (Non-Thesis Option) (45 credits)**

This option is designed for students who are interested in developing skills in specialized practice and policy analysis. Requirements are:

A practicum (12 credits) (407-650, -651 and 660). This permits the student to develop and demonstrate professional competence at an advanced level. (N.B. Students without the ability to use French may find their choice of placements restricted.)

Classroom work, eight courses (24 credits) normally selected from the list below. Students are required to take course 407-612 Knowledge, Values and Practice and one of the research methods courses. Tutorials may be arranged to suit a student's learning priorities.

Research (9 credits). An independent study project (407-690) culminating in a formal written report. This may take any one of a number of forms, for example a critical review of scholarship, or an empirical study involving collection of original data, either qualitative or quantitative.

#### **M.S.W. (Thesis Option) (45 credits)**

This option is designed for students who have strong research interests.

Requirements are a thesis (27 credits) (407-698, 407-699), plus six courses (3 credits each). Field work is not available in this option. Three courses are required:

- 407-612 Knowledge, Values and Practice
- 407-643 Quantitative Research Methods
- 407-653 Qualitative Research Methods

or equivalent courses offered in other departments. The remaining three courses may be any of the 500 or 600 level courses in the list below (except 407-650, 651, 660 or 690).

#### **Courses Taken Outside of the Department**

Students in both M.S.W. options are invited to take up to two courses in other departments of the University in areas of study not offered in the School of Social Work. Students also have the option of taking equivalent research methodology courses offered in other departments to fulfill the research requirement. All students must secure the approval of their academic advisor prior to registration for such courses.

#### **Duration and Time Limitations**

Taken on a full-time basis, both M.S.W. options involve three terms of study. The third term may optionally be taken in the summer, in which case the entire program may be completed in one calendar year.

In both options, part-time study can be arranged. In the thesis option, a student may register for half-time studies, in which case the program may be completed in six semesters. In the non-thesis option, students may arrange to register course by course, so that greater flexibility is possible. When residency requirements are complete, students may, if necessary, register for additional sessions for research advising only.

The Faculty of Graduate Studies and Research sets time limitations for students pursuing masters programs at McGill. Full-time students must complete the M.S.W. degree within three years of initial registration, and part-time students must complete the degree within five years of initial registration. Under certain exceptional conditions, an extension may be permitted. These conditions are described in the General Information section of the Faculty of Graduate Studies Calendar.

#### **JOINT DEGREE IN SOCIAL WORK AND LAW (M.S.W./B.C.L./L.L.B.)**

The M.S.W. degree (non-thesis option) may also be taken in combination with law.

It is expected that students will complete the joint degree in three calendar years (rather than the four calendar years it would take to attain both degrees separately).

Students will take 116 course credits over the three calendar year period:

Eighty-seven (87) credits of Law courses;

Twenty-seven (27) credits will consist of regular Social Work courses (including a 12-credit practicum to be completed during the summer of the first or second year). Students in the joint Social Work/Law program are required to take course 407-612 Knowledge, Values and Practice, and one of the research methods courses.

Twelve (12) credits will consist of a major social work-law research paper to be jointly credited in both degree programs. The research paper is a key component of this joint degree proposal.

#### **JOINT Ph.D. PROGRAM IN SOCIAL WORK**

The Schools of Social Work at the Universities of Montréal and McGill have established a third cycle joint program in social work and social policy in order to respond to the pressing needs for professors, social policy analysts and researchers in Canada and Québec. This bilingual program presents characteristics unique among Canadian doctoral programs in social work.

Specifically, this program aims to:

- 1) Prepare graduates for careers in university teaching and research, in policy development, in evaluation of practice, in intervention, consultation, or management of human services;
- 2) Permit students to acquire the ability to apply scientific methods of research to the study of normative, analytical, and methodological questions;
- 3) Stimulate original research on pressing social concerns; and
- 4) Facilitate exchanges among academics in a bilingual (French and English) and multicultural perspective.

Of particular value and importance is the opportunity for students to be exposed throughout their program to the multicultural and multiracial character of Montreal.

The program consists of 90 credits – 15 course credits (five 3-credit courses), and the remainder (75) for the comprehensive examination and the dissertation. Candidates needing additional knowledge of research methods may be required to take additional courses.

#### **Duration of Program**

Regulations of both universities will be interpreted in a flexible way in order to remain as equitable as possible for all students.

McGill Graduate Faculty Regulations prescribe a minimum of three years' residence after the master's degree for a doctoral degree.

#### **73.6 Courses**

The names of course instructors are listed on the Course Timetable available on *infoMcGill* via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.
- **407-530A SOCIAL PERSPECTIVES ON AGING I. (3)**
- **407-531B SOCIAL PERSPECTIVES ON AGING II. (3)**
- 407-532A INTERNATIONAL SOCIAL WORK. (3)** Discussion based upon intensive study and reports on problems in selected countries. Particular emphasis on identifying major social problems, understanding the social forces bearing on those problems and considering appropriate professional approaches to aid in their solution.  
*Section 03 – Graduate students*
- **407-539B HEALTH 2 – CHRONIC AND TERMINAL ILLNESS. (3)**

**407-542B INTEGRATED STUDIES IN HIV.** (3) An examination of HIV prevention, care and treatment with an interdisciplinary health profession's focus practice with women as mothers.

**407-600A MOTHERING AND SOCIAL WORK PRACTICE.** (3) This course will explore the ideology and reality of mothering in patriarchal society. The intervention of social work and how this has tended to reproduce dominant attitudes towards mothers and mothering will be analyzed as a prerequisite to the development of alternative modes of practice.

**407-601B THE CONSTRUCTION OF SUBJECTIVITY.** (3) This course will present a critical approach to understanding how personality is constructed within the major social relations of class, gender and race. Relevance to students' research and practice interests will be explored.

**407-604A CRITICAL ISSUES: SOCIAL POLICY.** (3) With the erosion of the contemporary welfare state, analysts have argued that state responsibility for social and economic well-being has been shifted to the private sphere, notably families. This course explores how social policies and practices contribute to this shift, and how gender, class and inequalities are thereby reinforced.

**407-606B PRACTICE IN CHILD WELFARE.** (3) Reflection on current practices in child welfare. An overview of contemporary theoretical frameworks and students' experiences in the field will form the basis of class discussion. Topics include: the construction of abuse and neglect; the risk ethos, families'/mothers' experiences of child welfare services; the reflective practitioner and resistance.

● **407-607A SCHOOL SOCIAL SERVICES.** (3)

**407-608A SEMINAR IN CORRECTIONS.** (3) An examination of theories of criminal behaviour and their implications for social work practice. Analysis of selected correctional programs, their theoretical bases and their effectiveness in modifying criminal behaviour.

● **407-609B HEALTH AND SOCIAL WORK.** (3) (Not open to students who have taken 407-354.)

**407-610B FAMILY TREATMENT.** (3) (Prerequisite 407-622A) An advanced seminar on techniques and practice of current therapies.

**407-611B SUBSTITUTE CARE: CHILD/ADOLESCENT.** (3) (Not open to students who have taken 407-541.) Policy and practice implications for children and adolescents of out-of-home care (family foster care, adoption, residential care), child day care and reproductive technology. Umbrella concepts of family preservation, permanency planning, and the continuum of care will be addressed, also the effects of legal mandates on child welfare practice.

**407-612A KNOWLEDGE, VALUES AND PRACTICE.** (3) (Required course) Introduction of the current debate about the status of knowledge in the social sciences, especially issues of scientific objectivity, cultural differences and their implications for social work practice.

**407-615B APPLIED CLINICAL RESEARCH.** (3) This is a research course for clinical social work practitioners which includes research design and analysis with small samples, for applied clinical research and service evaluation; empirical measures for client assessment and treatment outcomes; professional and ethical issues in applied clinical research.

**407-622A FAMILY ASSESSMENT AND TREATMENT.** (3) A seminar on current techniques of family diagnosis and therapy.

**407-623A COUPLE COUNSELLING.** (3) Triadic perspective on couple counselling. Topics include: value issues; origins of intimate conflict; characteristics of troubled couples; presenting couple complaints; separation; treatment techniques: alliances, coalitions, hierarchies, third party positioning, neutrality, secrets, counsellor symmetry and power, resistance.

● **407-624A COMMUNITY AND SOCIAL ACTION.** (3)

● **407-625B PLANNING THEORY/SERVICE DELIVERY.** (3)

**407-627B SOCIAL WORK PRACTICE WITH GROUPS.** (3) This seminar will explore topics related to social work practice with groups including concepts of race, culture, gender and sexual orientation; authority and empowerment, ethical issues in practice; work with

hard to reach and involuntary populations; termination and evaluation. It will be concerned with both theoretical issues and intervention strategies.

**407-628A VIOLENCE AGAINST WOMEN.** (3) Discussion of the psychological, social and political factors which create and maintain a society where male violence against the women they love occurs. A feminist theoretical perspective will be developed and analyzed. Treatment approaches will be considered focussing on interventive strategies to help both the battered and the batterers.

**407-631B SUPERVISION/MANAGEMENT.** (3) Every human service organization is characterized by the need to manage people, information and resources. This course will provide an overview of the nature and function of these fundamental supervision and management processes.

**407-633A PROGRAM EVALUATION.** (3) The theoretical and practical problems involved in evaluating the impact of social work services and social welfare programs. Topics include goal definition, comparison of experimental and non-experimental designs, data sources, qualitative and quantitative approaches, and outcome measures.

**407-635B ADVANCED CLINICAL PRACTICE.** (3) Advanced clinical seminar to develop detailed, assessment theories, skills that apply to direct work – primarily with children and young adults. Critical examination of child meta-psychology, attachment and British object relations theories in light of research and current Canadian realities. Students expected to provide current practice examples for analysis and discussion.

**407-636A,B TUTORIAL IN SOCIAL WORK.** (3) An individual or small group tutorial in which students will work independently in conjunction with the instructor. The student will undertake a major project related to the area of specialization.

**407-642A,B TUTORIAL IN SOCIAL WELFARE.** (3) This tutorial permits students to pursue studies in special areas not covered in other courses offered, or to study in greater depth subjects covered in earlier work. Emphasis is on the content, operation and analysis of social welfare programs.

**407-643B QUANTITATIVE RESEARCH METHODS.** (3) A comparative review of the research methods and data sources that are used in social work and social welfare, with consideration of the statistical methods and computer programs that are appropriate for each. Topics will include experimental and nonexperimental designs, questionnaire construction, data analysis and reporting research.

**407-646D EMPLOYEE ASSISTANCE PROGRAMS.** (3) A seminar on social work practice in industrial and other occupational settings. The work milieu in Canada; work-related personal and family problems; specific problems associated with particular work environments; delivery of services under workplace auspices.

**407-648A,B SPECIAL TOPICS IN SOCIAL WORK.** (3) This course will be offered from time to time to deal with topics of current interest in social work, that are not covered in other courses. Specific content will differ from year to year.

**407-649A,B SPECIAL TOPICS IN SOCIAL WELFARE.** (3) This course will be offered from time to time to deal with topics of current interest in social welfare, that are not covered in other courses. Specific content will differ from year to year.

**407-650A,B FIELD WORK PRACTICUM.** (3) Supervised educational experience in social work practice integrating practice with theoretical knowledge characteristic of the specialized field. Individual and group instruction. Involves approximately 115 hours of work in a field setting.

**407-651A,B FIELD WORK PRACTICUM.** (3) See 407-650 above.

**407-653A QUALITATIVE RESEARCH METHODS.** (3) Qualitative methodologies concerned with description and interpretation of social phenomena, including participant observation, structured and unstructured interviewing. Student research projects will form the basis for class discussion.

**407-655A SEMINAR ON AGING.** (3) Advanced graduate seminar which focuses on a critical examination of historical and contem-

porary theories and practice models in gerontological social work. Specific content will vary from year to year to allow for in-depth explorations of current topics in aging such as women, ethno-racial communities and health and disability. Particular emphasis will be placed on issues of caregiving in each one of these larger topic areas.

● **407-656A POLITICS OF THE THIRD SECTOR.** (3)

**407-657B MENTAL HEALTH POLICY & PRACTICE.** (3) The definition and management of madness during the last 200 years or so of Western societies. Focuses upon relevant dimensions of intellectual and social history, particularly the histories of what we now think of as mental health professions. Particular attention is paid to the history of current controversies about involuntary commitment, chemotherapy, and so forth.

**407-658A MODELS OF DIRECT PRACTICE.** (3) Comparison of theories underlying contemporary clinical social work. Casework approaches. Brief treatment models. Family systems views. Behavioural, cognitive, conflict, feminist perspectives. Topics include: major concepts, value assumptions, hypotheses about causality; assessment goals, treatment methods; contraindications; and applicability to various client populations, organizational contexts, to independent practice and with non-voluntary clients.

● **407-659B FEMINIST PERSPECTIVES ON PRACTICE.** (3)

**407-660A,B FIELD WORK PRACTICUM.** (6) See 407-650 above. Involves approximately 220 hours of work in a field setting.

● **407-663B SOCIAL WORK APPLIED TO ALCOHOLISM.** (3)

**407-664B MULTICULTURAL PRACTICE.** (3) This course will examine current theory in "multicultural" social work and explore alternative models of practice based on anti-racist/anti-oppression principles. Of special interest in this course are the issues of access and equity in human services. Students are encouraged to develop critical analyses and to develop projects based on practice issues.

**407-668A LIFE-THREATENING ILLNESS AND BEREAVEMENT.** (3) This seminar addresses the psycho-social concerns of patients and family members living with life threatening illness. An interdisciplinary theoretical perspective is combined with clinical practice interventions. Topics discussed include phases of the illness (diagnosis, chronic, terminal), bereavement, suicide, euthanasia, AIDS and cultural factors related to illness. Special attention will be given to the role of the social worker.

**407-669B DISABILITY AND REHABILITATION.** (3) This seminar focusses on social work practice with individuals who experience various disabilities. It examines the societal reaction to disability and the history of these values and attitudes and provides an overview of historical and contemporary perspectives regarding intervention. As well, it critically reviews and analyzes recent legislation and advances in the integration of the disabled into the social contexts of the family, school, work force, community, and society at large.

**407-690A,B,D INDEPENDENT STUDY PROJECT.** (9) An independent study project on a topic of interest in a comprehensive and creative fashion. The project is completed by the student following initial guidance from her/his advisor. It systematically examines a theoretical, substantive or empirical matter, using appropriate methodology.

**407-691A,B,D SOCIAL WORK/LAW RESEARCH PROJECT.** (12) Students will produce an essay consisting of: 1) identifying a substantive area which integrates core legal and social work knowledge; 2) analyzing the legal and behavioural science information in each substantive area; 3) developing and applying relevant theoretical frameworks; 4) developing research questions to be examined by qualitative or quantitative methods; 5) integrating research findings.

**407-698A,B,D THESIS RESEARCH.** (12) Independent research work under the direction of a supervisor.

**407-699A,B,D THESIS RESEARCH.** (15) Independent research work under the direction of a supervisor.

**407-701A COMPREHENSIVE EXAMINATION.** (Open only to students in the joint Social Work Ph.D. program.)

**407-720A THOUGHT AND THEORY DEVELOPMENT IN SOCIAL WORK.** (3) (Open only to students in the joint Social Work Ph.D. program.) The purpose of this seminar is to explore the origins and historical development of social work theory. Included in the analysis of this development will be the impact of material, cultural and ideological shifts within society in general and social welfare in particular. Attention will also be given to the effect of changes within relevant social science disciplines on the process of social work theory development and its relation to intervention.

**407-721B DISSERTATION SEMINAR.** (3) (Open only to students in the joint Social Work Ph.D. program.) The objective of this seminar is to provide an opportunity for doctoral students and faculty to explore a range of issues arising from students' research projects. Particular attention will be given to the relationship between research objectives and research methodology, and to situating the project in its historical context. The implications for intervention of students' research in terms of "Who benefits?" will also be an important focus of the seminar. It is to be given every other week throughout the two consecutive terms following completion of comprehensives.

**407-722A ADVANCED SEMINAR ON SOCIAL WORK INTERVENTION.** (3) (Open only to students in the joint Social Work Ph.D. program.) Comparative study of certain models of social work intervention from the point of view of their internal logical structure and their practical effectiveness. The models to be presented will be analyzed in terms of their origins, their underlying values, their objectives, their modes of intervention, and their effectiveness.

**407-723B ADVANCED SEMINAR ON SOCIAL POLICY.** (3) (Open only to students in the joint Social Work Ph.D. program.) Analysis of social policies and their impact on social work practice and on the clientele that they affect. Study of the interaction between social policies and styles of management of social work organizations responsible for their application.

**407-724B ADVANCED RESEARCH METHODS AND ANALYSIS OF QUANTITATIVE DATA.** (3) (Open only to students in the joint Social Work Ph.D. program.) Problems encountered in the use of quantitative methods in social work research. Types of quantitative research useful in social welfare policy analysis and discussion of yield from alternative analytic methods.

**407-725B ADVANCED QUALITATIVE RESEARCH METHODS AND DATA ANALYSIS.** (3) (Open only to students in the joint Social Work Ph.D. program.) Review of the principal methods comprised under the area of qualitative research and problems related to the utilization of those methods. Particular attention to analysis arising from these methods.

**407-726A,B INDEPENDENT STUDY.** (3) (Open only to students in the joint Social Work Ph.D. program.)

## 74 Sociology

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Montreal, QC H3A 2T7  
Canada

Telephone:

Graduate Program and Admission Information: (514) 398-6847

Fax: (514) 398-3403

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Graduate Program and Admission Information:

franca.cianci@mcgill.ca

Website: <http://www.arts.mcgill.ca/programs/sociology>

Chair — John A. Hall

Graduate Program Director — Suzanne Staggenborg

Graduate Admissions Director — Michael R. Smith

## 74.1 Staff

### *Emeritus Professor*

Maurice Pinard; B.A., LL.L., M.A.(Montr.), Ph.D.(Johns H.), F.R.S.C.

### *Professors*

John A. Hall; B.A.(Oxon.), M.A.(Penn. St.), Ph.D.(L.S.E.) (*James McGill Professor*)

Michael Smith; B.A.(Leic.), M.A., Ph.D.(Brown)

Suzanne Staggenborg; B.A.(Miami), M.A.(Wash.), Ph.D. (Northwestern)

Axel P.M. van den Berg; Kand.Doc.(Amsterdam), Ph.D.(McG.)

Morton Weinfeld; B.A.(McG.), Ed.M., Ph.D.(Harv.) (*Chair, Canadian Ethnic Studies*)

### *Associate Professors*

Lucia Benaquisto; B.A.(S.U.N.Y., Albany), A.M. Ph.D.(Harv.)

Alberto Cambrosio; M.A.(Sher.), Ph.D.(Montr.) (*Social Studies of Medicine*) (*on leave Fall 2001*)

Roger G. Krohn; B.A.(St. Olaf), M.A., Ph.D.(Minn.)

Uli Locher; V.D.M.(Berne), S.T.M., Ph.D.(Yale) (*on leave 2001-02*)

Anthony Masi; A.B.(Colgate), M.A., Ph.D.(Brown)

Prue Rains; B.A.(Lake Forest), M.A., Ph.D.(Northwestern)

Steven L. Rytina; B.G.S., Ph.D.(Mich.)

Donald von Eschen; A.B.(Beloit), M.A.(Chic.), Ph.D.(Johns H.)

### *Assistant Professor*

Jessie M. Tzeng; B.A.(Tunghai), M.Sc., Ph.D.(Wisconsin-Madison) (*on leave 2001-02*)

### *Adjunct Professors*

Catherine Montgomery, B.A.(Carleton), M.Sc., Ph.D.(Montr.)

Rodney Nelson; B.A.(Regina), M.A.(Wash.), Ph.D.(Tor.)

### *Associate Members*

David Aberbach (Religious Studies)

Gregory Baum (Religious Studies)

## 74.2 Programs Offered

The Department offers training leading to the degrees of Master of Arts in Sociology (thesis and non-thesis options), Master of Arts in Medical Sociology with the Social Studies of Medicine Department (thesis and non-thesis options), and the Doctor of Philosophy in Sociology.

Theses and dissertations are normally supervised in one of the following areas of Department research concentration: states and social movements; economy and society; social inequality (class, ethnicity and gender) and deviance and social control.

### **Availability of Funding**

Prospective students may apply for a variety of fellowships administered by the University, through research-granting agencies in Quebec, Canada, or in their home countries. Other sources of funding include private companies, agencies, foundations, other provincial and federal government agencies, as well as foreign governments and organizations. Detailed information on other funding sources is available on the McGill website, <http://www.mcgill.ca/fgsr/fellowships/>

The Department offers a limited number of teaching assistantships of \$3,328 per term. Teaching assistantships require 12 hours of work per week in the fall and winter terms. Students who wish to be considered for such assistantships should inform the Graduate Admissions Director, Professor Michael R. Smith, Leacock 814, in writing and preference will be given to those dossiers completed by February 15th.

A limited number of differential fee waivers are also available for international students. Several research assistantships may be available from faculty members.

## 74.3 Admission Requirements

For admission, applicants must have a Bachelor's degree with a standing equivalent to a Cumulative Grade Point Average (CGPA) of 3.3 or better, out of a possible 4.0. The degree may be either in Sociology – in which case it should be equivalent to the Honours

B.A. degree at McGill – or it may be in another relevant social science. In the latter case, applicants may be required to take some additional Sociology courses to fill gaps in their background.

All in all, the strength of an applicant's academic record is of primary importance in consideration of an applicant's dossier. For a detailed description of courses open to graduates and undergraduates, and of preparation required of McGill University honours students, candidates should consult the Undergraduate Calendar via the Web at <http://www/aro.mcgill.ca>

For an application to be considered, applicants not registered at Canadian universities must submit with their applications the results of the Verbal and Quantitative aptitude tests of the Graduate Record Examination. Canadian students are also encouraged to submit the results of this test with their application. Arrangements to take the Graduate Record Examination should be made directly with the Educational Testing Service, Box 955, Princeton, New Jersey 08540, USA. The Test of English as a Foreign Language (TOEFL) is also required of all non-Canadian students whose mother tongue is not English. The minimum acceptable score for the TOEFL exam is 580 on the paper-based test or 237 on the computer-based test.

In addition, all applicants are asked to submit two letters of recommendation and two certified copies of their university-level grades along with an example of their written work. Applicants who have received a Master's degree at a university other than McGill should submit a copy of their thesis or evidence of equivalent research experience with their application for admission. The applicant's dossier must be completed by February 15th to be considered for the McGill Awards Competition and the internal Teaching Assistantship competition.

Candidates who lack sufficient preparation in the social sciences, but whose academic record justifies consideration for eventual admission to the Master's graduate program, must register for a qualifying year during which they are required to take courses to broaden their knowledge of sociology. Candidates must achieve a final mark of at least a B in these courses and an average in all courses of at least B+; in general, they must, in the opinion of the Department, have achieved sufficient preparation in the subject matter of sociology before they will be allowed to proceed further into graduate work. All candidates are expected to have taken courses in statistics, research methods and sociological theory at the undergraduate level.

The program of study is designed to give students an advanced understanding of a major field in sociology, of current methods of sociological research, and of some principal theoretic issues in the discipline. Three terms of residence study is the minimum requirement for a Master's degree.

### **M.A. in Medical Sociology**

The program is open to students with a social sciences, health professions or health sciences background. It is interdisciplinary in nature and includes required courses offered by both participating departments as well as a research thesis based on original research. For additional information concerning this program, please consult the Social Studies of Medicine section or the website, <http://www.mcgill.ca/ssom/>.

## 74.4 Application Procedures

Please note that the dossier must be complete with ALL of the following information before the applicant will be considered for entrance to the graduate program:

1. Application form.
2. Statistics, Theory, Methods form.
3. Two certified copies of undergraduate and graduate level transcripts. Please provide an official translation if the original is not in English or French.
4. Two letters of reference on the departmental forms enclosed with the graduate application package.
5. Test results (Graduate Record Examination (GRE) / Test of English as a Foreign Language (TOEFL) (if applicable) minimum score: 580 on the paper-based test or 237 on the computer-based test.

6. Statement of Academic Background - a brief statement of the applicant's interests and the areas of sociology he/she wishes to study at McGill.
7. One or two samples of written work. This can be in the form of a graded paper or a chapter from a thesis and must be at least 15 typewritten pages in length translated into English or French.
8. M.A. Option Form (for M.A. applicants only).
9. \$60 application fee (certified cheque, money order or credit card payment).
10. Two address labels which will serve to acknowledge both the receipt of the application and the decision taken by the Graduate Committee.

Applications can be obtained by contacting the Graduate Secretary, Department of Sociology at (514) 398-6847, sending a fax to (514) 398-3403, emailing [franca.cianci@mcgill.ca](mailto:franca.cianci@mcgill.ca) or sending a request in writing to the Sociology Department Office.

#### **M.A. in Medical Sociology**

Admission is granted by a joint admissions committee made up of representatives from Sociology and Social Studies of Medicine.

### **74.5 Program Requirements**

#### **M.A. PROGRAM OPTIONS**

The M.A. degree has five options:

- non-thesis option consisting of seven required courses plus a research paper;
- thesis option with five required courses and a thesis;
- M.A. program thesis option in Medical Sociology, which requires six courses plus a thesis;
- M.A. program in Medical Sociology non-thesis which requires seven courses plus a research paper; and
- M.A. program in Social Statistics non-thesis which requires seven courses (supplemented by further statistical courses) plus a statistics-based research paper.

Although the non-thesis option requires more course work, students taking this option are likely to obtain the M.A. more rapidly than those in the thesis option because of the difficulty and length of time involved in completing an M.A. thesis. The expectation is that most students will choose the non-thesis Master's program so as to progress in their career more quickly, especially those pursuing a doctoral degree. The programs are described in more detail below.

#### **M.A. Degree Program Non-Thesis Option (45 credits)**

##### **Required Courses (12 credits)**

All students must have taken, or take during the first year of the program, the following four courses:

- |          |     |   |
|----------|-----|---|
| 166-652A | (3) | Current Sociological Theory               |
| 166-580A | (3) | Design and Practice of Social Research    |
| 166-540B | (3) | Qualitative Methods of Social Research    |
| 166-504B | (3) | Quantitative Methods of Social Research I |

Should a student be granted an exemption from any one or more of these courses by the Graduate Studies Committee, another substantive seminar must be substituted in its place.

##### **Elective Courses (9 credits)**

Students are required to choose three elective courses, one of which may be in a cognate field, subject to the approval of the Graduate Committee.

##### **Research Paper Component – Required (24 credits)**

- |         |      |                                 |
|---------|------|---------------------------------|
| 166-696 | (3)  | Research Paper I (first term)   |
| 166-697 | (3)  | Research Paper II (second term) |
| 166-698 | (6)  | Research Paper III (third term) |
| 166-699 | (12) | Research Paper IV (third term)  |

The research paper will normally, but not necessarily, flow out of a paper written for one of the graduate seminars or an independent reading course. Comparable to an article in a professional journal, the paper ought to focus on a clearly defined research problem, demonstrating in the process familiarity with the most important relevant scholarly work and the ability to carry out research and organize the results of the research. This paper is expected to be

no more than 30 pages in length, exclusive of footnotes and bibliography.

#### **M.A. Degree Program Thesis Option (48 credits)**

##### **Required Courses (12 credits)**

All students must have taken, or take during the first year of the program, the following four course:

- |          |     |   |
|----------|-----|---|
| 166-580A | (3) | Design and Practice of Social Research    |
| 166-652A | (3) | Current Sociological Theory               |
| 166-504B | (3) | Quantitative Methods of Social Research I |
| 166-540B | (3) | Qualitative Methods of Social Research    |

Should a student be granted an exemption from any one or more of these courses by the Graduate Committee, another course must be substituted in its place.

##### **Elective Courses (3 credits)**

Students are required to choose one course, which may be in a cognate field, subject to the approval of the Graduate Committee.

##### **Thesis Component – Required (33 credits)**

- |         |      |                              |
|---------|------|------------------------------|
| 166-690 | (3)  | M.A. Thesis I (first term)   |
| 166-691 | (6)  | M.A. Thesis II (second term) |
| 166-692 | (3)  | M.A. Thesis III              |
| 166-693 | (3)  | M.A. Thesis IV (second term) |
| 166-694 | (18) | M.A. Thesis V (third term)   |

To provide students with some research experience, all candidates must present a thesis based on their own research. While not necessarily requiring an exhaustive review of work in the particular field of study, or a great deal of original scholarships, the thesis must show familiarity with previous work in the field and must normally demonstrate the ability to carry out research and to organize results, all of which must be presented in good literary style. The thesis will consist of between 50-75 pages of text, exclusive of footnotes and bibliography, which must be completed no later than August 31st of the second year in the program.

#### **M.A. Degree Program Non-Thesis Option in Social Statistics**

The program complements disciplinary training with research experience applying statistical methods to Statistics Canada data (or equivalent). Students will complete normal program course requirements under the M.A. non-thesis program, supplemented by further statistical courses, as advised by the option advisor, and subject to approval by the home department. Students will complete a statistics-based M.A. research paper (Economics, Political Science, Sociology) or thesis (Geography) in conjunction with an interdisciplinary capstone seminar.

Acceptance into the program is by application to the Social Statistics Option Committee and is contingent on acceptance into the M.A. program in one of the participating departments (Economics, Geography, Political Science, Sociology).

#### **M.A. Degree in Medical Sociology**

The Department offers M.A. programs in Medical Sociology which are given jointly by the Sociology Department and the Department of Social Studies in Medicine (SSOM). Both the thesis and non-thesis options are available.

#### **Sociology/Neotropical Environment M.A. and Ph.D. Programs (Awaiting University Approval)**

McGill University and the Smithsonian Tropical Research Institute (STR) are joining forces to offer graduate studies in neotropical environment. The Neotropical Environment Option (NEO) consists of a cross-disciplinary M.A. (thesis option) and a Ph.D. option. These are offered as options within existing programs in Anthropology, Political Science, and Sociology. Advisors will be McGill professors and STRI scientists. The degrees are granted by McGill University.

Students must meet the Faculty of Graduate Studies and Research admission requirements, enter through one of the participating departments and meet the M.A./Ph.D. requirements of that unit. In addition, to meet the option requirements, students will take two core courses and an interdisciplinary graduate seminar. These specific NEO courses will be taught in Panama. The thesis

fieldwork must be conducted in Latin America on a topic approved by the NEO coordinating committee.

#### REQUIREMENTS FOR THE PH.D. DEGREE

A minimum of three years of study is required. There is one year of course work consisting of six courses. It is important to note that students admitted without any one or more of the required courses or their equivalent at the M.A. level (166-580, 166-652, 166-504, and 166-540) will be expected to make up any deficiencies in addition to the regular course requirements.

**Course Requirements:** Ph.D. students are required to take six additional courses, the only required course being 166-505B Quantitative Methods of Social Research II. The other five courses can be chosen from among the elective courses listed in the Sociology Department course offerings.

**Examination Requirements:** Ph.D. Candidates must take examinations in two subfields of sociology. These fields will be chosen from the Department's areas of specialization.

Examinations must be completed and the student's candidacy for the degree established no later than the end of the third year of graduate study.

**Language Requirement:** Ph.D. Candidates must demonstrate ability to read French with high proficiency or to read another language which is relevant to the candidate's field of research. The language requirement should be met by the end of the third year and may be satisfied by taking the French language course for Ph.D. students at the Centre for French Language and Literature at McGill, or by having a written examination in the Department or by exemption.

**Thesis Requirement:** Ph.D. Candidates are required to submit a thesis on an approved topic. The topic must be approved by a dissertation proposal committee convened by the student's dissertation supervisor. The thesis should be completed within five years after the initial residency period of two years.

Further details on the requirement and regulations for the thesis and the fields in which the Department is prepared to direct research may be obtained from the Graduate Coordinator of the Department at [sharon.barqueiro@mcgill.ca](mailto:sharon.barqueiro@mcgill.ca) or via the Web at <http://www.mcgill.ca/fgsr/gso/thesis.htm>.

#### 74.6 Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

All 300, 400 and 500-level Sociology courses listed in the Faculty of Arts Calendar are open to graduate students and can be taken for graduate credit provided appropriate work load adjustments are agreed upon with the instructor.

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

- Denotes courses not offered in 2001-02.

**N.B.:** As this Calendar is prepared early in the year, it is subject to change. Students are advised to check with the Department prior to registration.

**166-504B SEMINAR: QUANTITATIVE METHODS I.** (3) (Prerequisites: 166-350 and 166-461 or equivalents.) Analysis of quantitative information, especially in large, survey-type data sets. Use of computer programs such as SPSS and SAS. Topics include: cross tabulations: multi-dimensional tables, multiple correlation and regression, and the relationship between individual and aggregate level statistical analyses. Special reference to demographic techniques.

**166-505B SEMINAR: QUANTITATIVE METHODS II.** (3) (Prerequisite: 166-504) Topics include: problems – and solutions – in regression analysis, models for categorical dependent variables, including logit, log-linear, and linear probability models, measurement mod-

els, structural equation models with latent variables (LISREL), and time series and panel analysis.

**166-510A SEMINAR IN SOCIAL STRATIFICATION.** (3) (Prerequisites: 166-333 and 166-350 or equivalents.) Recent theoretical and empirical developments in the field of social stratification and inequality. Review of the dominant approaches to the study of social class; anomalous findings on heterogeneity in labour markets and the labour process, status attainment processes, and the socio-political and industrial attitudes of the working class. Students will prepare quantitative analysis of Canadian survey material as well as critical qualitative reviews.

- **166-511A SEMINAR: MOVEMENTS/COLLECTIVE ACTION.** (3)

**166-515B SEMINAR: MEDICINE AND SOCIETY.** (3) (Prerequisite: Undergraduate students require permission of instructor.) The sociology of health and illness. Reading in areas of interest, such as: the sociology of illness, health services occupations, organizational settings of health care, the politics of change in national health service systems, and contemporary ethical issues in medical care and research.

- **166-516B ADVANCED PSYCHOLOGICAL SOCIOLOGY.** (3)

- **166-519A SOCIOLOGY OF ETHNIC CONFLICT.** (3)

- **166-520B MIGRATION AND IMMIGRANT GROUPS.** (3) (Prerequisite: 15 credits in the Social Sciences)

- **166-529B SOCIAL INEQUALITY & PUBLIC POLICY.** (3)

- **166-530A SEX AND GENDER.** (3) (Restriction: Open to Honours Sociology students and to Sociology Majors with the permission of instructor.)

- **166-535A SOCIOLOGY OF THE FAMILY.** (3) (Restriction: Undergraduate students require permission of instructor.)

- **166-538B SELECTED TOPICS IN THE SOCIOLOGY OF BIOMEDICAL KNOWLEDGE.** (3)

**166-540B QUALITATIVE RESEARCH METHODS.** (3) Qualitative methodology, mainly participant observation, structured and unstructured interviewing. Students begin a research project using these techniques and submit field notes once a week.

*Section 02: Open to Sociology graduate students.*

- **166-545B SELECTED TOPICS.** (3) (Password required.)

**166-550B SOCIOLOGY OF DEVELOPING SOCIETIES.** (3) Comparison of alternative explanations of underdevelopment and strategies for change. Impact of social inequalities. Relations of domination and subordination between nations. The market strategy of development. Strategies emphasizing the environment, local cooperation, and appropriate technology. Students will write and present a research paper, and participate extensively in class discussion. Password required.

- **166-555A COMPARATIVE HISTORICAL SOCIOLOGY.** (3) (Restriction: Undergraduates require permission of instructor.)

- **166-560A GENDER AND ORGANIZATION.** (3) (Prerequisite: Permission of instructor.)

- **166-565B SOCIAL CHANGE IN PANAMA.** (3) (Prerequisite: 166-218 and 166-350 or equivalents. Corequisites: 170-451, 177-453, and 336-450.) (Restriction: location in Panama. Students must register for a full term in Panama.)

**166-571A DEVIANCE AND SOCIAL CONTROL.** (3) The seminar focuses on how social groups enforce rules (and maintain social order) through coercion and socialization. It reviews current research and critiques key theoretical approaches to social control. Included are discussions of regulating institutions such as prisons and mental asylums and the roles of gossip, manners and etiquettes. Password required.

**166-580A DESIGN & PRACTICE OF SOCIAL RESEARCH.** (3) (Open to U3 and graduate students.) Asking researchable sociological questions and evaluation of different research designs used to answer such questions. Development of cogent research proposals, including data collection procedures. Principles, dynamics, strengths and practical limitations of research designs. Examples from recent publications.

**166-590A CONFLICT & STATE BREAKDOWN.** (3) (Restriction: open to graduate students in Sociology, Political Science, Anthropology and History. Undergraduate students require permission of the instructor.) Survey of central theories of ethnic conflict, state breakdown, and warlordism in the developing world. Emphasis on the conflicts of the 1990s in Africa, the former Soviet Union, and the Balkans.

● **166-612B INDUSTRIAL SOCIOLOGY.** (3) (Restriction: Only open to graduate students.)

● **166-626B SEMINAR: LABOUR MARKET STRUCTURE AND STRIKES.** (3) (Pre- or co-requisite: 166-504)

**166-627A SEMINAR: POLITICAL SOCIOLOGY.** (3) Key theories and empirical areas of political sociology. Major works relevant to each theme will be read and analyzed. Topics include: political socialization, the social psychology of political behaviour, class and politics, political organizations, elite studies. A research paper in one of the areas covered will be required.

**166-629B SEMINAR: ETHNICITY AND PUBLIC POLICY.** (3) Major themes in the theoretical literature on ethnicity. Public policies with direct and indirect implications for inter-ethnic relations will be studied. Policies affecting areas such as language, education, immigration, employment and promotion, multiculturalism and welfare. Examples drawn from several multi-ethnic societies. Political, constitutional, and economic problems associated with these policy initiatives.

**166-652A CURRENT SOCIOLOGICAL THEORY.** (3) (Prerequisite: 166-330) Examination of works in some major areas of Sociology with a focus on: antecedent thought and research in the area; the internal structure and consistency of these works; the validity of the major claims made; and the implications for future theoretical development and research.

● **166-661A SEMINAR: THE SOCIOLOGY OF KNOWLEDGE.** (3)

● **166-682A SEMINAR: TOPICS IN ECONOMY AND SOCIETY.** (3)

**166-688 SEMINAR ON SOCIAL STATISTICS.** (3) (Restriction: open only to students in the M.A. Social Statistics Option, or with permission of instructor. Not open to students who have taken 160-688, 166-668 or 183-688.) Special topics in social statistics and presentations of ongoing research by students pursuing the M.A. Option in Social Statistics in any of the participating disciplines.

**166-690A,B M.A. THESIS I.** (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Exploratory thesis research for the selection of a thesis topic.

**166-691A,B M.A. THESIS II.** (6) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Preparation, submission and approval of the thesis proposal by the student to his/her committee.

**166-692A,B M.A. THESIS III.** (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Fieldwork and data analysis on the thesis. Progress report to the supervisor.

**166-693A,B M.A. THESIS IV.** (3) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Fieldwork and data analysis on the thesis. Progress report to the supervisor.

**166-694A,B,C M.A. THESIS V.** (18) (Restriction: Open only to graduate students registered in the M.A. thesis program of the Sociology Department.) Completion, submission, and approval of the M.A. Thesis by the committee and the Faculty of Graduate Studies and Research.

**166-695A,B,C M.A. THESIS VI.** (15) (Restriction: Open only to graduate students registered in the Medical Sociology thesis program.) Completion, submission and approval of the M.A. Thesis by the committee and by Faculty of Graduate Studies and Research.

**166-696A,B RESEARCH PAPER I.** (3) (Restriction: Open only to graduate students registered in the M.A. non-thesis program of the Sociology Department.) Exploratory research for the selection of a research topic.

**166-697A,B RESEARCH PAPER II.** (3) (Restriction: Open only to graduate students registered in the M.A. non-thesis program of the Sociology Department.) Preparation, submission and approval of the proposal by the student to his/her supervisor.

**166-698A,B,C RESEARCH PAPER III.** (6) (Restriction: Open only to graduate students registered in the M.A. non-thesis program of the Sociology Department.) Fieldwork and data analysis on the research.

**166-699A,B,C RESEARCH PAPER IV.** (12) (Restriction: Open only to graduate students registered in the M.A. non-thesis program of the Sociology Department.) Completion, submission and approval of the research paper by the committee.

**166-700A,B,T PH.D. AREA EXAMINATION 1.** (3) (Restriction: only open to Ph.D. students in the Sociology Department.) The examination assesses the student's breadth of knowledge in one substantive area. This is the first of two required comprehensive examinations for the Ph.D. program. (Awaiting University approval)

**166-701A,B,T PH.D. AREA EXAMINATION 2.** (3) (Restriction: only open to Ph.D. students in the Sociology Department.) The examination assesses the student's breadth of knowledge in one substantive area. This is the second of two required comprehensive examinations for the Ph.D. program. (Awaiting University approval)

**166-702A,B,T PH.D. THESIS PROPOSAL.** (3) (Restriction: open only to Sociology Ph.D. students.) Presentation of the Thesis Proposal by the student to the Departmental Ph.D. proposal committee. (Awaiting University approval)

**166-720A,B READING IN SOCIAL THEORY.** (3)

**166-730A,B READING AND RESEARCH.** (3)

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## 75 Surgical Research

Department of Surgery (Division of Surgical Research)  
Montreal General Hospital  
1650 Cedar Avenue, Room C9-160  
Montreal, QC H3G 1A4  
Canada

Telephone: (514) 937-6011 ext. 2837

Fax: (514) 934-8289

Email: irenes@med.mcgill.ca

Website: <http://www.surgery-research.mcgill.ca>

*Chair, Department of Surgery* — J.L. Meakins

*Director, Division of Surgical Research* — L. Rosenberg

*Associate Director, Division of Surgical Research* — A. Philip

---

### 75.1 Staff

#### *Professors*

J.L. Meakins; B.Sc.(McG.), M.D.(W.Ont.), D.Sc.(Cinc.)  
L. Rosenberg; M.Sc., M.D., Ph.D.(McG.)  
M. Aebi; B.Sc., M.D.(Switz.) F.R.C.S.(C)  
P. Brodt; B.Sc.(Bar-Ilan), M.Sc.(Ott.), Ph.D.(McG.)  
R.A. Brown; B.Sc., M.D., M.Sc.(McG.)  
R.C.-J. Chiu; M.B.(Taiwan), Ph.D.(McG.)  
N.V. Christou; B.Sc., M.Sc., Ph.D., M.D.(McG.)  
M.M. Elhilali; M.B., B.Ch., D.S., DU, M.Ch.(Cairo), Ph.D.(McG.)  
G.M. Fried; B.Sc., M.D.(McG.)  
C. Gagnon; B.Sc., M.Sc., Ph.D.(Montr.)  
F. Glorieux; M.D.(Louvain), M.Sc.(Montr.), Ph.D.(McG.)  
D.S. Mulder; M.D.(Sask.), M.Sc.(McG.)  
A.R. Poole; B.Sc., Ph.D.(R'dg)  
P.J. Roughley; B.Sc., Ph.D.(Nott.)  
H. Shennib; M.D.(Cairo), F.R.C.S.(C), Ph.D.(McG.)  
H.B. Williams; B.A.(Acadia), M.D.(McG.)

#### *Associate Professors*

J. Barkun; M.D., M.Sc.(McG.)  
O. Blaschuk; B.Sc.(Winn.), M.Sc.(Man.), Ph.D.(Tor.)

J.D. Bobyng; B.Sc., M.Sc.(McG.), Ph.D.(Tor.)  
 S. Chevalier; B.Sc., M.Sc., Ph.D.(Montr.)  
 D. Fleiszer; B.Sc., M.D., C.M.(McG.)  
 J.M. Laberge; M.D.(Laval)  
 L. Lessard; B.Sc., M.D.(Laval), F.R.C.S.(C)  
 J.S. Mort; B.Sc.(McG.), Ph.D.(McM.)  
 R. St.-Arnaud; Ph.D.(Laval)  
 J. Sampalis; M.Sc., Ph.D.(McG.)  
 T. Taketo-Hosotani; B.Sc., M.Sc., Ph.D.(Kyoto)  
 C.I. Tchervenkov; B.Sc., M.D.C.M.(McG.), F.R.C.S.(C)  
 J.I. Tchervenkov; M.D.C.M.(McG.), F.R.C.S.(C)  
 D. Zukor; M.D., B.Sc.; C.M.(McG.)

#### Assistant Professors

A. Philip; M.Sc., Ph.D.(McG.)  
 M. Chevette; B.Sc., M.Sc., Ph.D.(Laval)  
 H. Flageole; M.D., M.Sc.(McG.)  
 R.C. Hamdy; M.Sc., M.D.(Egypt), F.R.C.S.(C)  
 K.J. Lachapelle; M.Sc., M.D.(McG.)  
 E. Lee; B.A.(Boston), M.Sc., Ph.D.(McG.)  
 S. Meterissian; M.D., C.M., M.Sc.(McG.)  
 A.D. Recklies; B.Sc.(McG.), Ph.D.(McM.)  
 K. Shaw; M.D., C.M., M.Sc.(McG.)  
 D. Shum-Tim; M.Sc., M.D.(McG.)  
 T. Steffen, M.D. (Switz.), Ph.D. (McG.)

## 75.2 Programs Offered

The Department of Surgery offers graduate programs leading to M.Sc. and Ph.D. degrees.

The main research interests in the Department include projects in islet cell differentiation and islet transplantation, tissue engineering of cardiac muscle, immunopathogenesis of liver xenograft rejection, lung transplantation; tissue repair and engineering for plastic surgery applications; cartilage regeneration, osteoinduction and biomechanics; sepsis and multi-organ failure; biology of cancer; sexual dysfunction, prostate cancer and kidney stones; and surgical epidemiology.

A list of research directors and a description of their research topics, as well as application forms may be obtained from Mrs. Irene Sidorenko, Division of Surgical Research, Montreal General Hospital, Rm. C9-160 (937-6011 x 2837) email: irenes@med.mcgill.ca

## 75.3 Admission Requirements

### Graduate Diploma in Surgical Health Care Research

The program is open to all graduate students in the Division of Surgical Research, but is specifically designed for surgical residents who have allotted time during their residency training. To be accepted into the Graduate Diploma Program students must be accepted into the Division of Surgical Research; fulfill the minimum requirements for admission of the Faculty of Graduate Studies and Research; identify an acceptable and feasible research project; and identify an accredited faculty member willing to support the research and supervise the student. The program is under the responsibility of Professor John Sampalis.

### M.Sc. Program

Usually a B.Sc., M.D. or M.V.D. degree, with a minimum CGPA of 3.2. Applications will be accepted from candidates sponsored by a research supervisor willing to provide laboratory space and direction for their research work.

### Ph.D. Program

Admission is usually from the M.Sc. program either upon completion of the M.Sc. degree, or by transfer from the first year of M.Sc. to the second year of Ph.D. studies. Request for such transfer is to be made in writing by the thesis supervisor during the candidate's first year of M.Sc. studies, not later than March 30th for students enrolled in September, or November 1st for those registered in January. **Transfer is granted on the basis of an examination administered by the student's Research Supervisory Committee.**

Students with an M.Sc. degree from other departments or from other recognized universities, whose M.Sc. topic is closely related to the subject of their Ph.D. research, may be given credit for one year of their M.Sc. and be admitted directly into the Ph.D. program, at the level of Ph.D.2, at the discretion of the Department. Exceptional students with a Master's degree unrelated to their proposed research may be admitted to Ph.D.1 directly.

## 75.4 Application Procedures

Applicants must submit a completed application form including a brief curriculum vitae, a short description of the proposed thesis research (prepared by the student and/or the prospective research director), a cheque for \$60 payable to McGill University, as well as two copies of all academic transcripts and two letters of recommendation mailed directly to the Department.

Deadline for receipt of complete applications:

May 1st for the September term.  
 October 1st for the January term.  
 February 2nd for International students.  
 March 1st for Diploma program.

## 75.5 Program Requirements

### Graduate Diploma in Surgical Health Care Research

This diploma program consists primarily of coursework, however a research project must be completed to obtain the required 30 credits. The program is designed to be completed within one year.

#### Required Courses (18 credits)

519-606A (3) Statistics for Surgical Research  
 519-601D (6) Seminars in Surgical Research  
 519-637A (9) Research Project

#### Complementary Courses (12 credits)

at least 3 credits from the following courses:

513-656C (3) Health Care Technology Assessment  
 513-679C (3) Topics in Clinical Epidemiology  
 516-631L (3) Advanced Topics in Economic Evaluation  
 513-633L\* (2) Pharmacoepidemiology I: Introduction  
 513-631L\* (2) Pharmacoepidemiology II: Methods

\* Must be taken in tandem for a total of four credits.

at least 9 credits from the following courses:

513-606A,B,C (3) Epidemiology: Principles and Methods  
 513-607A (3) Principles of Inferential Statistics  
 513-610A (3) Occurrence of Health Events  
 513-463A (1) Substantive Epidemiology; Health Policy  
 513-655A (3) Epidemiology in Public Health  
 513-668A (2) Special Topics: Trauma  
 582-630B (3) Measurement in Rehabilitation  
 513-643C (1) Evidence-Based Medicine  
 513-633L\* (2) Pharmacoepidemiology I: Introduction  
 513-631L\* (2) Pharmacoepidemiology II: Methods  
 516-631L (3) Advanced Topics in Economic Evaluation

\* Must be taken in tandem for a total of four credits.

### M.Sc. Program

The M.Sc. program consists of research work in preparation of a thesis and completion of required courses for a total of 48 credits. The program is to be completed during three terms; an additional term is assigned for the preparation of the thesis.

The course requirements for a total of 15 credits are as follows:

519-601D Seminars in Surgical Research (6)  
 519-606A Statistics for Surgical Research (3)  
 519-605B Issues in Biomedical Research (3)

A graduate level course in the student's specialty is also mandatory. Selection of the former and of additional courses, if required, will be in consultation with a Research Supervisory Committee appointed for each student.

The laboratory research component of the program is given 33 credits.

**Ph.D. Program**

The minimum residence time in the program is three calendar years. In addition to the courses listed under the M.Sc. program, students are encouraged to select additional courses from allied disciplines relevant to their research topic. To graduate, candidates will also have to pass a predoctoral examination.

**Predocctoral comprehensive examination:** All Ph.D. students (admitted directly into the Ph.D. program, or those allowed to transfer from M.Sc. 1 to Ph.D. 2 without writing an M.Sc. thesis) must take this examination.

The examination is to take place after 12 months of residence in the Ph.D. program, and will be administered by an expanded Research Supervisory Committee under its Chair. The examination will have two components: an oral presentation of the candidate's research project, as well as preparation of a report in writing on an assigned research publication, and its oral presentation. The candidate must receive a pass mark in both components to continue in the Ph.D. program.

**75.6 Courses**

The names of course instructors are listed on the Course Timetable available on **infoMcGill** via the Web <http://www.mcgill.ca/students/courses/>.

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

**519-601D SEMINARS IN SURGICAL RESEARCH.** (6) (1½ hours/week) (Compulsory for graduate students in the Department of Surgery and available to others by permission of the coordinators.) Each session will consist of presentations by research directors and the graduate student. The fall term will feature invited speakers and the winter sessions will consist of presentations by research directors and the graduate student. The first will introduce the subject by highlighting the clinical/biological problem while the student will be expected to describe the project and methodology and integrate their findings with the overall approach presented.

**519-606A STATISTICS FOR SURGICAL RESEARCH** (3) (2 hours/week) (Compulsory for graduate students in the Department of Surgery and available to others by permission of the coordinators.) Introduction to basic statistical principles and methods as they could be applied to surgical research. The topics covered will include: descriptive statistics probability theory, statistical inference, bivariate techniques, analysis of variance, and introduction to multi-variate methods.

**519-605B ISSUES IN BIOMEDICAL RESEARCH** (3) (2 hours/week) (Compulsory for graduate students in the Department of Surgery and available to others by permission of the coordinators.) Students will be introduced to current trends in important areas of surgical research such as inflammation, wound healing, immunity, tissue engineering, cancer and gene therapy. The impact of basic research on the practice of surgery and post-surgical patient care will be highlighted through lectures shared by clinical and basic scientists. In addition the course offers lectures on the art of grant and paper writing by experienced members of the staff.

**519-684A SIGNAL TRANSDUCTION** (3) (2 hours/week) (Open to graduate students with prerequisites and U3 undergraduates with special permission.) An in-depth course describing the cellular and molecular mechanisms involved in signal transduction by growth factors, cytokines and extra cellular matrix with emphasis on clinical relevance. The course will focus on how perturbation in signaling pathways may result in disease states and address the issues from a surgical research perspective.

**519-637A DIPLOMA RESEARCH PROJECT.** (9)

**519-690A M.Sc. RESEARCH 1.** (4)

**519-691B M.Sc. RESEARCH II.** (4)

**519-692B M.Sc. RESEARCH III.** (4)

**519-693D M.Sc. THESIS.** (21)

**519-700D COMPREHENSIVE EXAMINATION.**

**76 Urban Planning**

School of Urban Planning  
Macdonald Harrington Building  
815 Sherbrooke Street West  
Montreal, QC H3A 2K6  
Canada

Telephone: (514) 398-4075

Fax: (514) 398-8376

Email: [appinfo@urbarc.lan.mcgill.ca](mailto:appinfo@urbarc.lan.mcgill.ca)

Website: <http://www.mcgill.ca/urbanplanning>

*Director* — David F. Brown

**76.1 Staff***Emeritus Professor*

Jeanne M. Wolfe; B.Sc.(Lond.), M.Sc.(W.Ont.), M.A.(McG.)

*Professor*

Jane Matthews-Glenn; B.A., LL.B. (Queen's), D.en droit (Strasbourg)

*Associate Professors*

David F. Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheffield)  
Raphaël Fischler; B.Eng.(Eindhoven), M.Sc., M.C.P.(M.I.T.), Ph.D.(Calif.)

*Adjunct Professors*

David Farley; B.Arch.(McG.), M.Arch., Master of City Planning(Harv.)  
Mario Polèse; B.A.(CUNY), M.A., Ph.D.(Penn.)

*Associate Member*

Gordon O. Ewing; M.A. (Glasgow), M.A., Ph.D.(McGill) (Geography)

*Guest Lecturers*

Cameron Charlebois, Luc Danielse, Marc Denhez, Andrew Hoffmann, Peter Jacobs, Brenda Lee, Mohammed Qadeer, Ray Tomalty, Alain Trudeau, Martin Wexler

**76.2 Programs Offered**

The objective of the School is to produce qualified professional urban planners for the public and the private sectors. Training is provided at the post-graduate level; the degree offered is the Master of Urban Planning (M.U.P.).

Upon completion of the two-year program of studies, graduates are expected to have acquired basic planning skills, a broad understanding of urban issues, and specialized knowledge in a field of their own choice.

The program of study offered by the School is fully recognized by the Ordre des Urbanistes du Québec (O.U.Q.) and the Canadian Institute of Planners (C.I.P.). Graduates can become full members of these professional organizations after meeting their internship requirements.

Modern urban planning developed into a profession in the early decades of the twentieth century, largely as a response to the appalling sanitary, social and economic conditions of rapidly developing industrial cities. Initially the disciplines of architecture, civil engineering and public health provided the nucleus of concerned professionals; beautification schemes and infrastructure works marked the early stages of public intervention in the nineteenth century. Architects, engineers and public health specialists were joined by economists, sociologists, lawyers and geographers as the complexities of the city's problems came to be more fully understood and public pressure mounted for their solution. Contemporary urban and regional planning techniques for survey, analysis, design and implementation developed from an interdisciplinary synthesis of these various fields.

Today, urban planning can be described as the collective management of urban development. It is concerned with the welfare of communities, control of the use of land, design of the built environment, including transportation and communication networks, and protection and enhancement of the natural environment. It is at

once a technical and a political process which brings together actors from the public, private and community spheres. Planners participate in that process in a variety of ways, as designers and analysts, advocates and mediators, facilitating the search for equitable and efficient solutions to urban development problems.

McGill University was the first institution in Canada to offer a full-time planning program. An inter-disciplinary program was established in 1947, in which students combined a master's degree in Urban Planning with one in a related field. An autonomous program was established in 1972. It became the School of Urban Planning in 1976, a unit within the Faculty of Engineering.

Students come to the School from diverse backgrounds, the physical sciences, the traditional professions, such as architecture and engineering, and the social sciences. Alumni of the School work as planners and designers at various levels of government, in non-profit organizations and with private consulting firms. Their expertise ranges from historic preservation to traffic management, from housing development to computer imaging. They devote their efforts in increasing numbers to environmental planning and sustainable development.

The School is a partner in the Montreal Interuniversity "Groupe Urbanization and Development", a consortium recognized by CIDA as a Centre of Excellence, which is devoted to the study of urban problems and the formulation of policies in developing regions. Faculty and students collaborate actively with members of other McGill departments, notably Architecture, Geography, Civil Engineering and Law, and with colleagues at other institutions in Canada and abroad.

### 76.3 Admission Requirements

The M.U.P. degree is open to students holding a bachelor's degree or equivalent in Anthropology, Architecture, Economics, Engineering, Geography, Law, Management, Political Science, Social Work, Sociology or Urban Studies. Students from other backgrounds are considered for admission on an individual basis.

In addition to the documents for admission required by the Faculty of Graduate Studies and Research, the following must be submitted:

1. Statement of specific interest in the area of Urban Planning.
2. For architects only, a portfolio containing at least five (5) examples of architectural work accomplished in school and in practice. (Portfolios are not to exceed 8½" x 11" in size.)

The deadline for submitting applications and supporting material is March 1st.

### Awards and Financial Assistance

For information regarding awards and financial assistance, please refer to the Faculty of Graduate Studies "Graduate Fellowships and Awards" Calendar.

### 76.4 Program Requirements

The program in Urban Planning requires two years of study (69 credits). It consists of a basic core of compulsory courses and a selection of courses from a group of recommended electives.

A three-month internship with a member of a recognized planning association is required.

Students are required to prepare a Supervised Research Project which may take the form of investigative research, an impact study, a development project or a plan. It may be undertaken jointly with another student.

#### Required Courses (51) credits

409-604A	(6)	Planning Projects III
409-606A,B	(3)	Supervised Research Seminar
409-609A*	(3)	Planning Graphics
409-612A	(3)	History and Theory of Planning
409-622A	(6)	Planning Projects I
409-623B	(3)	Planning Projects II
409-628A,B,C	(6)	Practical Experience in Urban Planning
409-630A,B,C	(3)	Supervised Research Project I
409-631A,B,C	(6)	Supervised Research Project II
409-632A,B,C	(6)	Supervised Research Project III

183-351B*	(3)	Applied Quantitative Methods in Geography
490-004A*	(3)	Land Use Planning Law

Students who have completed the material for courses marked with an \* may request permission from the instructor to substitute another course.

When selecting Complementary and Elective courses, it is highly recommended that students take at least one course in each of the fields of housing, transportation, environment and design.

#### Complementary Courses (12) credits

a minimum of 4 courses in Development and Refinement chosen from:

301-378A	(3)	Site Usage
301-550B	(3)	Urban Planning I: Planning in Québec
301-551A	(3)	Urban Planning II: Land Use Regulation and Project Development
301-527B	(3)	Civic Design
301-528A	(3)	History of Housing
301-529B	(3)	Housing Theory
303-540A	(3)	Urban Transportation Planning
409-501A,B	(2)	Principles and Practice of Planning I
409-505B	(3)	Geographical Information Systems in Planning
409-605A,B	(3)	Graduate Seminar
409-607A,B,C	(3)	Reading Course
409-614B	(3)	Urban Environmental Planning
409-616A,B	(3)	Selected Topics in Urban Planning I
409-617A,B	(3)	Selected Topics in Urban Planning II
409-618A,B	(3)	Selected Topics in Urban Planning III
409-619B	(3)	Transportation and Land Development
409-620A	(3)	Computer Applications in Planning
409-621B	(3)	Theories of Urban Form
409-625A,B	(2)	Principles and Practice of Planning II
409-626A,B	(2)	Principles and Practice of Planning III

#### Electives (6 credits)

Students may select courses to acquire an in-depth knowledge of one subject area in the field of planning. Students are not limited to the list below. Note: Not all courses are offered each year. See department for information on prerequisites, etc.

166-222B	(3)	Urban Sociology
183-315A	(3)	Urban Transportation Geography
183-331A	(3)	Urban Social Geography
274-445A	(3)	Real Estate Finance
274-446B	(3)	Real Estate Investment Analysis
274-447A	(3)	Real Estate Valuation
274-546B	(3)	Land Law
303-440A	(3)	Traffic Engineering

### 76.5 Courses

**NOTE:** All undergraduate courses administered by the Faculties of Arts and of Science (courses at the 100- to 500-level) have limited enrolment.

The names of course instructors are listed on the Course Timetable available on [infoMcGill](http://www.mcgill.ca/infoMcGill) via the Web <http://www.mcgill.ca/students/courses/>.

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

**409-501A,B PRINCIPLES AND PRACTICE OF PLANNING I. (2)** This six-week intensive course exposes students to issues and techniques which are applicable in diverse professional planning contexts that vary in terms of their subject matter, location, scale and the role played by planners. The course focusses on a specific case study and is taught by a visiting lecturer with experience in the selected subject area. Course topics are systematically varied over a two-year cycle.

**409-505B GEOGRAPHIC INFORMATION SYSTEMS IN PLANNING. (3)** An introduction to fundamental geographic information system (GIS) concepts and the range of GIS applications in urban and regional planning. Seminar topics include: data structures, input and output techniques, spatial analysis and modelling, and managerial considerations. Practical experience with leading microcomputer GIS packages is offered.

**409-604A PLANNING PROJECTS III. (STUDIO) (6)** (Prerequisites: Planning Projects I and II.) The second-year studio is designed to permit the study of planning problems in depth. Problems are chosen depending on the experience and research interests of the participants, or for their topical nature.

**409-605A,B GRADUATE SEMINAR. (3)** This seminar is directed to the needs of individual students. It focuses on topics of special interest not included in the curriculum. It is given by members of staff as a tutorial.

**409-606A SUPERVISED RESEARCH SEMINAR. (3)** The supervised research seminar consists of group conferences between students and staff, both to introduce and discuss the topic of professional ethics, and to permit the formulation and development of the students' research project.

**409-607A,B,C READING COURSE. (3)** The Reading Course offers an opportunity to explore, under the supervision of a staff member, subject areas relevant to urban planning.

**409-609A PLANNING GRAPHICS. (3)** Designed to familiarize the student with graphic techniques used in professional planning work, as well as to heighten environmental perception. Weekly lecture which reviews theory and practice followed by a weekly studio assignment involving the application of practical skills.

**409-612A HISTORY AND THEORY OF PLANNING. (3)** A review of planning history and theories of planning. These are examined under three categories: explanation of urban phenomena, substantive theory, and theories of process.

**409-614B URBAN ENVIRONMENTAL PLANNING. (3)** Examination and evaluation of methodologies pertaining to the assessment of environmental impact in the urban context and the integration of diverse environmental elements directly within the urban planning process. Consideration is given to both theoretical and practical issues. The quality of recent professional reports is assessed.

**409-616A,B SELECTED TOPICS IN URBAN PLANNING I. (3)**

**409-617A,B SELECTED TOPICS IN URBAN PLANNING II. (3)**

**409-618A,B SELECTED TOPICS IN URBAN PLANNING III. (3)**

Special topics related to Urban Planning will be presented by staff and visiting lecturers.

**409-619B TRANSPORTATION AND LAND DEVELOPMENT. (3)** Urban land development projects: design procedures and standards for internal traffic distribution, auto, truck and pedestrian access, parking requirements, and the development of transportation-related land-use controls. Methods for assessing the impact of land development projects on external traffic. Transportation/land-use relationships at the broader regional scale, with a review of land-use forecasting and allocation models and procedures for the coordination of comprehensive transportation/land-use planning.

**409-620A COMPUTER APPLICATIONS IN PLANNING. (3)** An introduction to selected computer applications in planning including information systems, planning analysis and computer aided design. Students will acquire experience with software packages currently used in planning practice and research.

**409-621B THEORIES OF URBAN FORM. (3)** This seminar explores the forces and ideas which have shaped cities since the industrial revolution, with the objective of understanding urban aesthetics. The urban environment as a source of stimulation for the senses is examined from the perspective of different fields of enquiry.

**409-622A PLANNING PROJECTS I. (STUDIO) (6)** This studio introduces practical problems based on real world cases. Material covered includes: problem definition; data sources, collection and analysis; goal setting; the creative process; problem solving; and policy implications. Students work in interdisciplinary groups. Each studio terminates with an oral and graphic presentation of work to which expert critics are invited. Progress is evaluated according to performance in class, in the oral presentation, and on written reports.

**409-623B PLANNING PROJECTS II. (STUDIO) (3)** (Prerequisite: 409-622) This studio introduces practical problems based on real world cases. Material covered includes: problem definition; data sources, collection and analysis; goal setting; the creative proc-

ess; problem solving; and policy implications. Students work in interdisciplinary groups. Each studio terminates with an oral and graphic presentation of work to which expert critics are invited. Progress is evaluated according to performance in class, in the oral presentation, and on written reports.

**409-625A,B PRINCIPLES AND PRACTICE OF PLANNING II. (2)** This six-week intensive course exposes students to issues and techniques which are applicable in diverse professional planning contexts that vary in terms of their subject matter, location, scale and the role played by planners. The course focusses on a specific case study and is taught by a visiting lecturer with experience in the selected subject area. Course topics are systematically varied over a two-year cycle.

**409-626A,B PRINCIPLES AND PRACTICE OF PLANNING III. (2)**

**409-628A,B,C PRACTICAL EXPERIENCE IN URBAN PLANNING. (6)** An internship related to the practice of urban planning is required. The practical experience must be of at least 3 months duration and be supervised by a professional in the planning field. An evaluation of the student's performance by the supervisor, as well as a short report by the student, forms the basis for assessment.

**409-630A,B,C SUPERVISED RESEARCH PROJECT I. (3)** The Supervised Research Project is intended to focus a student's interests on a particular area of enquiry at the end of studies for a Master's Degree in Planning. It should ideally provide the transition into practice or more advanced studies. Joint research projects are allowed.

**409-631A,B,C SUPERVISED RESEARCH PROJECT II. (6)** Continuation of the requirements for the Supervised Research Project.

**409-632A,B,C SUPERVISED RESEARCH PROJECT III. (6)** Continuation of the requirements for the Supervised Research Project.

#### Courses offered jointly by the School and other academic units

**490-004A LAND USE PLANNING LAW. (3)** A comparative study of private and public control of land use and development, involving: Master plans, zoning bylaws, subdivision control, urban re-development, expropriation, and regional planning.

**303-433B URBAN PLANNING. 3(3-1-5)** (Prerequisites: 303-421A, 306-310A,B; Corequisite: 303-319B). The planning profession, evolution of planning in North America. Canada and Quebec. Planning theories, the general or master plan, planning processes and techniques, planning and design of residential subdivisions. Local planning issues, housing policies, planning laws.

**301-550B URBAN PLANNING I. (3)** Theory and practice. An examination of different basic approaches to urban planning with special reference to Québec.

**301-551A URBAN PLANNING II. (3)** Urban Design and Project Development. Theory and practice. Detailed analysis of selected examples of the development process and of current techniques in urban design.

**183-351A APPLIED QUANTITATIVE METHODS IN GEOGRAPHY. (3)** Survey design; uni- and multi-dimensional scaling; cost-benefit analysis and matrix methods of plan evaluation; multiple regression and correlation; logic models; gravity models; population projection.

**303-540A URBAN TRANSPORTATION PLANNING. 3(3-1-5)** (Prerequisite: 303-319B or permission of instructor). Process and techniques of urban transportation engineering and planning, including demand analysis framework, data collection procedures, travel demand modelling and forecasting, and cost-effectiveness framework for evaluation of project and system alternatives.