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This publication provides guidance to prospects, applicants, students and staff.

1. McGill University reserves the right to make changes to the information contained in this online publication - including correcting errors, altering fees, schedules of admission, and credit requirements, and/or cancelling particular courses or programs - without prior notice.
2. In the interpretation of academic regulations, the Senate is the final authority.
3. Students are responsible for informing themselves of the University's procedures, policies and regulations, and the specific requirements associated with the degree, diploma, or certificate sought.
4. All students registered at McGill University are considered to have agreed to act in accordance with the University procedures, policies and regulations.
5. Although advice is readily available on request, the responsibility of selecting the appropriate courses for graduation must ultimately rest with the student.
6. Not all courses are offered every year and changes can be made after publication. Always check the [Mines and Class Schedule](https://banweb.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched) link at [https://banweb.mcgill.ca/pban1/bwckschd.p\\_disp\\_dyn\\_sched](https://banweb.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched) for the most up-to-date information on whether a course is offered.
7. The academic publication year begins at the start of the fall semester and extends through to the end of the winter semester of any given year. Students who begin study at any point within this period are governed by the regulations in the publication which came into effect at the start of the fall semester.
8. Notwithstanding any other provision of the publication, it is expressly understood by all students that McGill University accepts no responsibility to provide any course of instruction, program or class, residential or other services including the normal range of academic, residential and/or other services in circumstances of utility interruptions, fire, flood, strike, work stoppages, labour disputes, insurrection, the operation of war or acts of God or any other cause (whether similar or dissimilar to those enumerated) which reasonably prevent their provision.

Note: Throughout this publication, "you" refers to students newly admitted, readmitted or returning to McGill.

## Publication Information

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## 1 Dean's Welcome

To Graduate Students and Postdoctoral Fellows

I am extremely pleased to welcome you to McGill University. Our world-class scholarly community includes over 250 doctoral and master's degree programs, and is recognized for excellence across the full range of academic disciplines and professions. Graduate and Postdoctoral Studies (GPS) collaborates with the Faculties and other administrative and academic units to provide strategic leadership and vision for graduate teaching and research across the University. GPS also oversees the admission and registration of graduate students, distinguishes graduate fellowships, supporting postdoctoral fellows, and facilitating the graduation process, including the examination of theses. GPS has partnered with Enrolment Services to provide streamlined services in a one-stop location at [Service Point](#).

McGill is a student-centred research institution that places singular importance upon the quality of graduate education and postdoctoral studies. As an Associate Provost (Graduate Education), as well as Dean of Graduate and Postdoctoral Studies, I work closely with the faculties, central administration, graduate students, professors, researchers, and postdoctoral fellows to provide a supportive, stimulating, and enriching academic environment for all graduate students and postdoctoral fellows.

McGill is ranked as one of Canada's most interesting research universities and among the world's top 25. We recognize that these successes come not only from our outstanding faculty members, but also from the quality of our graduate students and postdoctoral fellows who bring their talents and passion into which we are very happy to welcome you.

I invite you to join us in advancing this heritage of excellence at McGill.

Martin Kreiswirth, Ph.D.  
Associate Provost (Graduate Education)  
Dean, Graduate and Postdoctoral Studies

## 2 Graduate and Postdoctoral Studies

### 2.1 Administrative Officers

#### Administrative Officers

Martin Kreiswirth; B.A.(Hamilton), M.A.(Chic.), Ph.D.(Pr.)	Associate Provost (Graduate Education) and Dean (Graduate and Postdoctoral Studies)
Shari Baum; B.A.(Cornell), M.Sc.(Armont), Ph.D.(Brown)	Associate Dean (Graduate and Postdoctoral Studies)
Laura Nilson; B.A.(Colgate), Ph.D.(Yale)	Associate Dean (Graduate and Postdoctoral Studies)
Lisa deMenafra; B.A.(Yale), Ph.D.(MIT)	Associate Dean (Graduate and Postdoctoral Studies)
Charlotte E. Légaré; B.Sc.(Mont), M.Sc.(She), M.B.A.(McG.)	Senior Adviser to the Associate Provost / Dean (Graduate and Postdoctoral Studies) (on leave)
Lissa B. Matyas; B.A., M.Sc.(C'ordia)	Director (Graduate and Postdoctoral Studies)

### 2.2 Location

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Note: For inquiries regarding specific graduate programs, please contact the appropriate department.

### 2.3 General Statement Concerning Higher Degrees

Graduate and Postdoctoral Studies (GRS) oversees all programs leading to graduate diplomas, certificates, and higher degrees with the exception of some programs in the School of Continuing Studies. It is responsible for admission policies, the supervision of graduate students and for recommending to Senate those who may receive the degrees, diplomas, and certificates.

## 3 Important Dates 2012-2013

For all dates relating to the academic year, consult [www.mcgill.ca/importantdates](http://www.mcgill.ca/importantdates)

## 4 Graduate Studies at a Glance

### 4.1 Graduate and Postdoctoral Degrees Offered by Faculty

McGill University offers graduate and postdoctoral programs in the following units (organized by their administering home faculty):

<b>Faculty of Agricultural and Environmental Sciences</b>	<b>Degrees Available</b>
: <a href="#">Agricultural Economics</a>	M.Sc.
: <a href="#">Animal Science</a>	M.Sc., M.Sc.A., Ph.D.
: <a href="#">Bioresource Engineering</a>	M.Sc., M.Sc.A., Ph.D., Graduate Certificate
: <a href="#">Biotechnology</a>	M.Sc.A., Graduate Certificate
: <a href="#">Dietetics and Human Nutrition</a>	M.Sc., M.Sc.A., Ph.D., Graduate Diploma
: <a href="#">Food Science and Agricultural Chemistry</a>	M.Sc., Ph.D.
: <a href="#">Natural Resource Sciences</a>	M.Sc., Ph.D.
: <a href="#">Parasitology</a>	M.Sc., Ph.D.
: <a href="#">Plant Science</a>	M.Sc., M.Sc.A., Ph.D., Graduate Certificate
<b>Faculty of Arts</b>	<b>Degrees Available</b>
: <a href="#">Anthropology</a>	M.A., Ph.D.
: <a href="#">Art History</a>	M.A., Ph.D.
Classics see <a href="#">History and Classical Studies</a>	N/A
: <a href="#">Communication Studies</a>	M.A., Ph.D.
: <a href="#">East Asian Studies</a>	M.A., Ph.D.
: <a href="#">Economics</a>	M.A., Ph.D.
: <a href="#">English</a>	M.A., Ph.D.
: <a href="#">French Language and Literature</a>	M.A., Ph.D.
<a href="#">section 11.6 Geography</a>	M.A., Ph.D.
: <a href="#">History and Classical Studies</a>	M.A., Ph.D.
: <a href="#">Institute for the Study of International Development</a>	N/A
: <a href="#">Islamic Studies</a>	M.A., Ph.D.

Faculty of Arts	Degrees Available
: Jewish Studies	M.A.
: Languages, Literatures, and Cultures	M.A., Ph.D.
: Linguistics	M.A., Ph.D.
section 11.7 Mathematics and Statistics	M.A., Ph.D.
: Philosophy	M.A., Ph.D.
: Political Science	M.A., Ph.D.
section 11.9 Psychology	M.A., Ph.D.
: Quebec Studies / Études sur le Québec	N/A
: Social Studies of Medicine	N/A
: Social Work	M.S.W., Ph.D. M.Sc., Ms0 1 317.791 264 Tm ingeeriQa7J Physic8eering
: Sociology	M.A., Ph.D.
School of Dentistry	Degrees Available
: Dentistry	M.Sc.
Desautels Faculty of Management	Degrees Available
: Desautels Faculty of Management	M.B.A., M.B.A. with Integrated B.C.L./LL.B., M.D./M.B.A., M.B.A./Japan, E.M.B.A., M.M.M., M.M., Ph.D., Graduate Certificate, Diploma
Faculty of Education	Degrees Available
: Educational and Counselling Psychology	M.A., M.Ed., Ph.D., Graduate Diploma
: Information Studies	M.L.I.S., Ph.D., Graduate Certificate, Graduate Diploma
: Integrated Studies in Education	M.A., Ph.D., Graduate Certificate
: Kinesiology and Physical Education	M.A., M.Sc.
Faculty of Engineering	Degrees Available
: Architecture	M.Arch., Ph.D.
: Chemical Engineering	M.Eng., Ph.D.
: Civil Engineering and Applied Mechanics	M.Sc., M.Eng., Ph.D.
: Electrical and Computer Engineering	M.Eng., Ph.D.
: Mechanical Engineering	M.Sc., M.Eng., Ph.D. 1 317.791 264 Tm ingeeriQa7J Physic8eering
: Mining and Materials Engineering	M.Sc., M.Eng., Ph.D., Graduate Diploma
: Urban Planning	M.U.P.



Degree		Prerequisites
Master of Arts	M.A.	Bachelor of Arts in the subject selected for graduate work. See appropriate unit.
Master of Architecture	M.Arch.	Professional degree McGill B.Sc.(Arch.) degree, or equivalent. Post-professional degree an M.Arch. (professional degree) or equivalent professional degree.
Master of Business Administration	M.B.A.	An undergraduate degree from an approved university. See <a href="#">M.B.A. Program</a>
Master of Business Administration with integrated Bachelor of Civil Law / Bachelor of Laws	M.B.A. with B.C.L./LL.B.	See: <a href="#">M.B.A. Program</a>
Master of Business Administration with Doctor of Medicine / Master of Surgery	M.B.A. with M.D.,C.M.	See: <a href="#">M.B.A. Program</a>
		Bachelor's degree with specialization related to the subject chosen for graduate work, plus a Permanent Quebec Teaching Diploma or its equivalent for some of the above





Program Areas	Thesis/Non-Thesis	Options
Political Science	Thesis, Non-Thesis	Development Studies, European Studies (Thesis) Development Studies, European Studies, Gender and Women's Studies, Social Statistics (Non-Thesis)
Psychology	Thesis	N/A
Religious Studies	Thesis, Non-Thesis	Bioethics, Gender and Women's Studies (Thesis)
Russian	Thesis	N/A
Second Language Education	Thesis, Non-Thesis	Gender and Women's Studies (Thesis)
Sociology	Thesis, Non-Thesis	Development Studies, Environment, Gender and Women's Studies, Medical Sociology Neotropical Environment (Thesis) Development Studies, Gender and Women's Studies, Medical Sociology Social Statistics (Non-Thesis)
Teaching and Learning	Non-Thesis	English or French Second Language, English Language Arts Mathematics, Science and Technology Social Sciences

Master of Business Administration and Management Degrees (M.B.A., M.M., M.M.M.)

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

Program	Thesis/Non-Thesis	Options
M.B.A.	Non-Thesis	Finance, General Management, Global Systems and Leadership, Marketing, Technology and Innovation (Non-Thesis)
M.B.A. with B.C.L. and LL.B.	Non-Thesis	Finance, General Management, Global Systems and Leadership, Marketing, Technology and Innovation (Non-Thesis)
M.D./M.B.A.	Non-Thesis	N/A
M.B.A./Japan	Non-Thesis	Finance, General Management, Global Systems and Leadership, Marketing, Technology and Innovation (Non-Thesis)
E.M.B.A.	Non-Thesis	N/A
M.M.M.	Non-Thesis	N/A
M.M./IMPM	Non-Thesis	N/A
M.M./IMPMHL	Non-Thesis	N/A

Master of Education (M.Ed.)

Program	Thesis/Non-Thesis	Options
Educational Psychology	Non-Thesis	N/A

Master of Engineering (M.Eng)

Program	Thesis/Non-Thesis	Options
Aerospace Engineering	Non-Thesis	N/A
Biomedical Engineering	Thesis, Non-Thesis	Bioinformatics (Thesis)
Chemical Engineering	Non-Thesis	Environmental Engineering (Non-Thesis)
Civil Engineering	Thesis, Non-Thesis	Environmental Engineering (Non-Thesis)
Electrical Engineering	Thesis, Non-Thesis	Computational Science and Engineering (Thesis)
Mechanical Engineering	Thesis, Non-Thesis	Computational Science and Engineering (Thesis)
Mining and Materials Engineering	Thesis, Non-Thesis	Environmental Engineering (Non-Thesis)

Master of Laws (LL.M.)

Program	Thesis/Non-Thesis	Options
Law	Thesis, Non-Thesis	Bioethics, European Studies (Thesis)

Program Areas	Thesis/Non-Thesis	Options
Food Science and Agricultural Chemistry	Thesis, Non-Thesis	Food Safety (Non-Thesis)
Genetic Counselling	Non-Thesis	N/A
Geography	Thesis	Environment, Neotropical Environment
Human Genetics	Thesis	Bioethics, Bioinformatics
Human Nutrition	Thesis	N/A
Kinesiology and Physical Education	Thesis, Non-Thesis	N/A
Mathematics and Statistics	Thesis, Non-Thesis	Bioinformatics, Computational Science and Engineering
Mechanical Engineering	Thesis	N/A
Medical Radiation Physics	Thesis	N/A
Microbiology	Thesis	Environment
Microbiology and Immunology	Thesis	N/A
Mining and Materials Engineering	Thesis	N/A
Neuroscience	Thesis	N/A
Otolaryngology	Thesis	N/A
Parasitology	Thesis	Bioinformatics, Environment
Pathology	Thesis	N/A
Pharmacology	Thesis	Chemical Biology
Physics	Thesis	N/A
Physiology	Thesis	Bioinformatics
Plant Science	Thesis	Bioinformatics, Environment, Neotropical Environment
Psychiatry	Thesis	N/A
Psychology	Thesis	N/A
Public Health	Non-Thesis	Environment
Rehabilitation Sciences	Thesis, Non-Thesis	N/A
Renewable Resources	Thesis, Non-Thesis	Environment, Neotropical Environment (Thesis) Environmental Assessment (Non-Thesis)

Master of ScienceA

Program	Thesis/Non-Thesis	Options
Occupational Therapy	Non-Thesis	N/A
Physical Therapy	Non-Thesis	N/A
Plant Science	Non-Thesis	N/A

#### Master of Social Work (M.S.W.)

The M.S.W. degree represents a second level of professional study in which students attain competence in a chosen field of practice.

Program	Thesis/Non-Thesis	Options
Social Work	Thesis, Non-Thesis	N/A
Joint Master of Social Work with B.C.L. and LL.B.	Non-Thesis	N/A

#### Master of Urban Planning

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

Pr	Thesis/Non-Thesis	Options
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Programs leading to the degree of Doctor of Philosophy are offered in the following areas:

Program	Options	Offered by Faculty/School
Animal Science	Bioinformatics	Faculty of Agricultural and Environmental Sciences
Anthropology	Neotropical Environment	Faculty of Arts
Architecture	N/A	Faculty of Engineering
Art History	Gender and Women's Studies	Faculty of Arts
Atmospheric and Oceanic Sciences	N/A	Faculty of Science
Biochemistry	Bioinformatics, Chemical Biology	Faculty of Medicine
	Bioinformatics, De	Faculty of Science

Program	Options	Offered by Faculty/School
Islamic Studies	Gender and Women's Studies	Faculty of Arts
Linguistics	Language Acquisition	Faculty of Arts
Management	N/A	Desautels Faculty of Management
Mathematics and Statistics	Bioinformatics	Faculty of Arts, Faculty of Science
Mechanical Engineering	N/A	Faculty of Engineering
Microbiology	N/A	Faculty of Agricultural and Environmental Sciences
Microbiology and Immunology	Bioinformatics, Environment	Faculty of Medicine
Mining and Materials Engineering	N/A	Faculty of Engineering
Music	(Composition, Music Education, Musicology, Music Technology, Sound Recording, Theory), Gender and Women's Studies	Schulich School of Music
Neuroscience	N/A	Faculty of Medicine
Nursing	Psychosocial Oncology	Ingram School of Nursing
Occupational Health	N/A	Faculty of Medicine
Parasitology	Bioinformatics, Environment	Faculty of Agricultural and Environmental Sciences
Pathology	N/A	Faculty of Medicine
Pharmacology	Chemical Biology	Faculty of Medicine
Philosophy	Environment, Gender and Women's Studies	Faculty of Arts
Physics	N/A	Faculty of Science
Physiology	Bioinformatics	Faculty of Medicine
Plant Science	Bioinformatics, Environment, Neotropical Environment	Faculty of Agricultural and Environmental Sciences
Political Science	Gender and Women's Studies	Faculty of Arts
Psychology	Language Acquisition, Psychosocial Oncology	Faculty of Arts, Faculty of Science
Rehabilitation Science	N/A	School of Physical and Occupational Therapy
Religious Studies	Gender and Women's Studies	Faculty of Religious Studies
Renewable Resources	Environment, Neotropical Environment	Faculty of Agricultural and Environmental Sciences
Russian	N/A	Faculty of Arts
School/Applied Child Psychology	N/A	Faculty of Education
Social Work	N/A	Faculty of Arts
Sociology	Environment, Gender and Women's Studies	Faculty of Arts

#### Joint Doctor of Philosophy Degrees

The following joint Ph.D. programs are offered:

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

#### Ad Hoc Doctor of Philosophy Degrees (Ph.D (Ad Hoc))

Several departments offer the possibility of directly entering a Ph.D. program on an ad hoc basis, or with the permission of the supervisor and the approval of the Graduate Program Director. Exceptional students may transfer from the master's program to the Ph.D. program.

Program	Options	Offered by Faculty/School
East Asian Studies	N/A	Faculty of Arts
Italian Studies	N/A	Faculty of Arts



The following master's programs have a minimum residence requirement of three full-time terms: M.Arch, M.A., M.Eng., LL.M., M.Mus. (except M.Mus. in Sound Recording), M.Sc., M.S., M.Sc.A. (except M.Sc.A. in Communication Sciences and Disorders).

The following master's programs have a minimum residence requirement of four full-time terms: M.L.I.S.; M.Mus. in Sound Recording; M.U.P; M.A. (60 credits Counselling Psychology thesis; 78 credits Educational Psychology); Teaching and Learning Non-Thesis; M.Sc.A. in Communication Sciences and Disorders; M.T.Religious Studies.

The residence requirement for the master's program in Education (M.Ed.); Library and Information Studies (M.L.I.S.); Management (M.B.A.); Religious Studies (S.T.M.); M.A. Counselling Psychology Non-Thesis; M.A. Teaching and Learning Non-Thesis; M.Sc. in Public Health Non-Thesis; M.Sc.A. Nursing; M.Sc.A. Occupational Therapy; M.Sc.A. Physical Therapy; and students in part-time programs is determined on a per course basis. Residence requirements are fulfilled when students complete all course requirements in their respective programs.

For master's programs structured as Course, Project or Non-Thesis options where the program is pursued on a part-time basis, residence requirements are normally fulfilled when students complete all course requirements in their respective programs (minimum 45 credits or a minimum of three full-time terms) and pay the fees accordingly.

These designated periods of residence represent minimum time requirements. There is no guarantee that the work for the degree can be completed in this time. Students must register for such additional terms as are needed to complete the program.

Coursework Master's Degrees

Program requirements are outlined in the various departmental sections of the Graduate and Postdoctoral Studies, Courses and University Regulations publication, available at





Note: The master's degree must have been awarded before initial registration in the doctoral program; otherwise, the admission will be at Ph.D. 1 and residency will be extended to three years. Once the offer of admission is approved, it will not be changed after obtaining the master's degree if the date is after registration in the program. If a previously awarded degree is a condition of admission, it must be fulfilled before registration in another program.

As a rule, no more than one-third of the McGill program formal courses can be credited with courses from another university.

#### Comprehensive Examinations - Doctoral

A comprehensive examination or its equivalent is usually held near the end of Ph.D. 1. The results of this examination determine whether or not students will be permitted to continue in their program. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations approved by the Dean of Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of the details at the commencement of their programs. For more information, see Programs, Courses and University Regulations.

English and French language courses offered by the French Language Centre (Faculty of Arts) or the School of Continuing Studies may not be used for course work credits toward a graduate program.

All substitutions for coursework in graduate programs, diplomas, and certificates must be verified by GPS.

Courses taken at other institutions to be part of the requirements of a program of studies must be approved by GPS before registration. Double counting is not permitted.

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## 6 Graduate Admissions and Application Procedures

Website: [www.mcgill.ca/gadapplicants](http://www.mcgill.ca/gadapplicants)

Email: [servicepoint@mcgill.ca](mailto:servicepoint@mcgill.ca)

Deadline: Admission to graduate studies operates on a rolling basis; complete applications and their supporting documentation must be submitted to each departmental office on or before the Date of Guaranteed Consideration specified by the department. To be considered for entrance fellowships, where available, applicants must verify the deadlines with individual departments. Meeting minimum admission standards does not guarantee admission.

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### 6.1 Application for Admission

#### Revision, October 2012. Start of revision.

Application information and the online application form are available at [www.mcgill.ca/gadapplicants/apply](http://www.mcgill.ca/gadapplicants/apply). Applicants (with some exceptions) are required to provide the names and email addresses of two instructors familiar with their work and who are willing to provide letters of reference in support of the applicant. McGill will request the reference letters on behalf of the applicant. Applicants must themselves upload an unofficial copy of their complete academic record from each university-level institution to be applied for.





## 6.6 Admission to a Qualifying Program

Some applicants whose academic grades and Standing entitle them to serious consideration for admission to graduate studies may be considered inadequately prepared in the subject selected to a Qualifying Program for a Master's degree-level courses to be taken in a Qualifying Program will be prescribed by the department concerned.

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

In all cases, after the completion of a Qualifying year or term, an applicant interested in commencing a graduate program must apply for admission by the Dates for Guaranteed Consideration. Successful completion of the Qualifying Program (B- in all courses) does not automatically entitle the student to proceed toward a degree. Qualifying year students must apply for admission to the program for which they are qualified.

In cases where a department recommends a change of registration from Qualifying Program (A) to Master's Degree First Year (Winter), students must apply to the degree program by the Winter departmental Dates for Guaranteed Consideration. A Qualifying year applicant admitted to a Winter term as a first term of studies must apply for admission for a second term as his/her second term of studies.

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

## 6.7 Admission to a Second Degree Program

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

## 6.8 Admission to Two Degree Programs

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

## 6.9 Admission to an Ad Personam Joint Program

Ad Personam joint graduate programs are restricted to Master's thesis option and Ph.D. programs. Approval for the joint program must be obtained from Graduate and Postdoctoral Studies. The request shall be signed by the Chairs of both departments involved and shall explicitly list the conditions imposed. The student shall undertake research under the joint supervision of both departments.

This program is described in more detail at <http://secureweb.mcgill.ca/gadapplicants/apply/pape#program>.

## 6.10 Reinstatement and Admission of Former Students

Students who have not been registered for a period of less than two years and who have not officially withdrawn from the University by submitting a signed Withdrawal Form to Service Point are eligible to be considered for reinstatement into their program. The student's department must recommend, in writing, that the student be reinstated, stipulating conditions for reinstatement that it deems appropriate. The final decision rests with GPS. Normally the departmental recommendation is approved. If the student's department chooses not to recommend reinstatement, the student may appeal to the Dean (Graduate and Postdoctoral Studies). The decision of the Associate Dean (Graduate and Postdoctoral Studies) shall be final and not subject to further appeal.

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

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

Procedure: Requirements for completion of the program will be stated. Some of these requirements may need to be redone. Some may be added. Applicants must inquire about the fees that will be charged.

Revised Council of February 9, 2004.

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## 6.11 Deferral of Admission

Under exceptional circumstances, an admission for a particular semester can be considered for a deferral. A deferral can be considered only if the student has not registered. If the student has already registered, no deferral can be granted. The student must withdraw from the University and apply for admission to a later term.

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## 7 Fellowships, Awards, and Assistantships

Postdocs of policies, procedures, and privileges (e.g., orientation sessions, handbooks, etc.), as well as mechanisms for addressing academic appeals. units should ensure that their policies, procedures and privileges are consistent with these guidelines and the Charter of Student Rights. For their part, Postdocs are responsible for informing themselves of policies, procedures, and privileges.

1. Definition and Status

i. Postdoctoral status will be recognized by the university in accordance with Quebec provincial regulations. Persons may only be registered with postdoctoral status for a period of up to two years from the date they were awarded a Ph.D. or equivalent degree. Time allocated to parental or health leave is added to this period of time. Less for other reasons, including sabbatical leave, do not extend the term. Postdocs must do research under the supervision of a McGill professor, including Adjunct Professors, who is a member of McGill's academic staff, qualified in the discipline in which training is being provided and with the abilities to fulfill responsibilities as a supervisor of the research and as a mentor for graduate students. They are expected to be engaged primarily in research with minimal teaching or other responsibilities.

2. Registration

i. Postdocs must be re

- ii. Each academic unit hosting Postdocs should clearly identify Postdoc needs and the means by which they will be met by the unit.
- iii. Each academic unit should assess the availability of research supervision facilities, office space, and research funding before recruiting Postdocs.
- iv. Some examples of responsibilities of the department are:
  - to verify the Postdoc eligibility period for registration;
  - to pro



on their record. No tuition fees will be charged for the duration of the authorized leave. Research supervisors are not obliged to remunerate students and Postdocs on leave. GPS has prepared a summary table about leave

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**Information on Research Policies and Guidelines, P**



## 11 (1) Faculty of Atmospheric and Oceanic Sciences Faculty

### Chair

J.R. Gyakum

### Emeritus Professors

J.F. Derome; B.Sc., M.Sc.(McG.), Ph.D.(Mich.), F.R.S.C.

H.G. Leighton; B.Sc., M.Sc.(McG.), Ph.D.(Alta.)

L.A. Mysak; C.M., B.Sc.(Alta.), M.Sc.(Adel.), Ph.D.(Harv), FR.S.C. (Canada Steamship Lines Professor of Meteorology)

R.R. Rogers; B.S.(Texas), S.M.(MIT), Ph.D.(NYU)

I. Zawadzki; B.Sc.(Buenos Aires), M.Sc., Ph.D.(McG.), F.R.S.C.

### Professors

J.R. Gyakum; B.Sc.(Penn. St.), M.Sc., Ph.D.(MIT)

M.K. Yau; S.B., S.M., Sc.D.(MIT), NSERC/Hydro-Québec Industrial Research Chair in Short-term Forecasting of Precipitation

### Associate Professors

P. Ariya; B.Sc., Ph.D.(York) (William Dawson Scholar) (joint appt. with Chemistry)

P. Bartello; B.Sc., M.Sc., Ph.D.(McG.) (joint appt. with Mathematics)

F. Fabry; B.Sc., M.Sc., Ph.D.(McG.) (joint appt. with McGill School of Environment)

D. Straub; B.S., M.S.(SW Louisiana), Ph.D.(SMU)

B. Tremblay; B.Sc., M.Sc.(Cg) Ph.D.(McG.)

### Assistant Professors

M. Bourqui; B.Sc., M.Sc.(EPFL, Switzerland), Ph.D.(ETHZ, Switzerland) (joint appt. with Chemistry)

Y. Huang; Ph.D.(Princ.)

D. Kirshbaum; Ph.D.(Wash.)

P. Kollias; B.Sc., M.S.(Athens), Ph.D.(Miami) (Canada Research Chair)

J. Peltj 42.104 308.401 Tm441 Tm.Sc.(EPFL, Switc.ii391 Tm (aITj 42.e0 0 1 70.52 308.401 295.6)W

Students registered in M.Sc. programs are expected to regularly attend both the student seminar series (ATOC 751D1/D2 or ATOC 752D1/D2) and the Department seminar series during the entire period of their enrolment in the program.

### Complementary Courses (21 credits)

Must complete or have completed the following courses or equivalent:

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
ATOC 521	(3)	Cloud Physics
ATOC 525	(3)	Atmospheric Radiation
ATOC 530	(3)	Paleoclimate Dynamics
ATOC 531	(3)	Dynamics of Current Climates
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2
ATOC 568	(3)	Ocean Physics
ATOC 619*	(3)	Advanced Atmospheric Chemistry
ATOC 626	(3)	Atmospheric/Oceanic Remote Sensing
ATOC 646	(3)	Mesoscale Meteorology
CHEM 619*	(3)	Advanced Atmospheric Chemistry

\* Students may select either ATOC 619 or CHEM 619.

Or other courses at the 500 level or higher recommended by the Department's Graduate Program Director

Students with a strong background in atmospheric or oceanic science, or a Diploma in Meteorology, must have at least the 7 credit minimum. Students with no previous background in atmospheric or oceanic science must have a 20 credit maximum.

## 11.1.6 Master of Science (M.Sc.); Atmospheric and Oceanic Sciences (Thesis) Environment (45 credits)

### Thesis Courses (24 credits)

ATOC 691	(3)	Master's Thesis Literature Review
ATOC 692	(6)	Master's Thesis Research 1
ATOC 694	(3)	Master's Thesis Progress Report and Seminar
ATOC 699	(12)	Master's Thesis

Students registered in M.Sc. programs are expected to regularly attend both the student seminar series (ATOC 751D1/D2 or ATOC 752D1/D2) and the Department seminar series during the entire period of their enrolment in the program.

### Required Courses (6 credits)

ENVR 610	(3)	Foundations of Environmental Policy
ENVR 650	(1)	Environmental Seminar 1
ENVR 651	(1)	Environmental Seminar 2
ENVR 652	(1)	Environmental Seminar 3

### Complementary Courses (15 credits)

12 credits of Departmental courses chosen from the following:

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
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ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
ATOC 521	(3)	Cloud Physics
ATOC 525	(3)	Atmospheric Radiation
ATOC 530	(3)	Paleoclimate Dynamics
ATOC 531	(3)	Dynamics of Current Climates
ATOC 540	(3)	Synoptic Meteorology 1
ATOC 541	(3)	Synoptic Meteorology 2
ATOC 568	(3)	Ocean Physics
ATOC 619*	(3)	Advanced Atmospheric Chemistry
ATOC 626	(3)	Atmospheric/Oceanic Remote Sensing
ATOC 646	(3)	Mesoscale Meteorology
CHEM 619*	(3)	Advanced Atmospheric Chemistry

or another course as approved by the MSE Department or the MSE Director

\* Students may select either ATOC 619 or CHEM 619.

3 credits of MSE courses chosen from the following:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling

And 6 credits from the Department of Atmospheric and Oceanic Sciences, at the 500 or 600 level approved by the Graduate Program Director

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## 11.2 Biology

### 11.2.1 Location

Department of Biology  
Stewart Biological Sciences Building, Room 4/8  
1205 Dr Pen eld Avenue  
Montreal, QC H3A 1B1  
Canada

Telephone: 514-398-6400

Fax: 514-398-5069

Email: [gradinfo.biology@mcgill.ca](mailto:gradinfo.biology@mcgill.ca)

Website: <http://biology.mcgill.ca>

### 11.2.2 About Biology

The Department offers graduate training in man

#### section 11.2.6 Master of Science (M.Sc.); Biology (Thesis) Environment (48 credits)

The Environment graduate option offers students the opportunity to pursue environment-focused graduate research in the broad range of different fields, including Anthropology, Atmospheric and Oceanic Sciences, Bioresource Engineering, Earth and Planetary Sciences, Entomology, Epidemiology, Experimental Medicine, Geography, Law, Microbiology, Plant Science, Parasitology, Philosophy, Renewable Resources, and Sociology. Through a program consisting of research, seminars, and courses, this option adds a layer of interdisciplinarity that challenges students to develop and defend their research and think in a broader context. Students graduating from the M.Sc. or Ph.D. program under the Environment option will therefore be able to understand and critically analyze an environmental problem from several perspectives (e.g., social, cultural, scientific, technological, ethical, economic, political, legislative) and at a local, national, regional, and/or international scale. In addition, they will be able to explore and critically assess analytic and institutional approaches for solving the selected environmental problem, and to effectively communicate research findings to both specialist and lay audiences. Coordinated and administered through the McGill School of Environment (MSE), the Environment option is aimed at students who wish to use interdisciplinary approaches in their graduate research on environmental issues and who wish to benefit from interactions that will occur as they interact with students from a wide range of disciplines.

#### section 11.2.7 Master of Science (M.Sc.); Biology (Thesis) Neotropical Environment (48 credits)

The McGill-Smithsonian Tropical Research Institute (STRI) Neotropical Environment Option (NEO) is a research-based option for M.Sc. or Ph.D. students in the departments of Anthropology, Biology, Bioresource Engineering, Geography, Natural Resource Sciences, Plant Science, and Political Science at McGill University. The NEO is aimed at students who wish to focus their graduate research on environmental issues related to the Neotropics and Latin American countries. The typical NEO student has a very strong interest in conservation because NEO courses focus on conservation issues. Students in the program have diverse backgrounds, including both Latin American and Canadian students, and must either speak Spanish or enrol in a Spanish course when they enter the program. NEO favours interdisciplinary approaches to research and learning through the participation of researchers from McGill and from STRI. Accordingly, each student will have two co-supervisors, one from McGill and one from STRI. Students will complete their research in Latin America, and the NEO's core and complementary courses will be taught in Latin America. Participation in the MSE Panama Symposium presentation in Montreal is also required. Through this educational approach, NEO seeks to facilitate a broader understanding of tropical environmental issues and the development of skills relevant to working in the tropics.

#### section 11.2.8 Master of Science (M.Sc.); Biology (Thesis) Bioinformatics (48 credits)

The goal of the Bioinformatics option is to train students to become researchers in the interdisciplinary field of Bioinformatics, which lies at the intersection of biological/medical sciences and mathematics/computer science/engineering. This work includes the development of strategies for experimental design, the construction of tools to analyze datasets, the application of modelling techniques, the creation of tools for manipulating Bioinformatics data, the integration of biological databases, and the use of algorithms and statistics. The Bioinformatics graduate option consists of a number of interdisciplinary courses, as well as a seminar designed to bring students from backgrounds together and to provide a thorough overview of research in this field. The typical entering student will be affiliated with one of about fourteen different home departments in three different faculties, chosen based on his/her specific field of expertise, and will therefore meet the specific requirements for that department. The student will additionally be evaluated according to requirements specific to the Bioinformatics option. Students in this option will have access to specialized courses that are open only to students within the Bioinformatics option. At the M.Sc. level, students successfully completing the Bioinformatics option will be fluent in the concepts, language, approaches, and limitations of the field.

#### section 11.2.9 Doctor of Philosophy (Ph.D.); Biology

The typical graduate student in this program has a strong background in cell and molecular biology, biochemistry, organismal biology, ecology, developmental biology, and statistics, often with special strengths in the area of proposed study. Given the continuing trend toward interdisciplinary work, the program also accepts some students with a high scholastic standing who have completed a program in fields other than biology (medicine, engineering, chemistry, physics, etc.). Admission is based on an evaluation by the applicant's potential supervisor, who is the faculty member who will provide supervision and financial support for the student's research, and by the Biology Graduate Training Committee. Prospective graduate students are encouraged to contact faculty members with whom they wish to study before applying for admission.

Alumni have gone on to pursue a wide range of careers. Many go on to pursue postdoctoral research and later assume faculty positions, while others work as researchers in industry, wildlife biologists, forensic technologists, or science advisers, to name a few.

#### section 11.2.10 Doctor of Philosophy (Ph.D.); Biology Developmental Biology



section 11.2.1: Doctor of Philosophy (Ph.D.); Biology / Environmental

The Environment graduate option offers students the opportunity to pursue environment-focused graduate research in the broad range of different fields, including Anthropology, Atmospheric and Oceanic Sciences, Biology, Resource Engineering, Earth and Planetary Sciences, Entomology, Epidemiology, Experimental Medicine, Geography, Law, Microbiology, Plant Science, Parasitology, Philosophy, Renewable Resources, and Sociology. Through a program consisting of research, seminars, and courses, this option adds a layer of interdisciplinarity that challenges students to develop and defend their research and think in a broader context. Students graduating from the M.Sc. or Ph.D. program under the Environment option will therefore be able to understand and critically analyze an environmental problem from several perspectives (e.g., social, cultural, scientific, technological, ethical, economic, political, legislative) and at a local, national, regional, and/or international scale. In addition, they will be able to explore and critically assess analytic and institutional approaches for addressing the selected environmental problem, and to effectively communicate research findings to both specialist and lay audiences. Coordinated and administered through the McGill School of Environment (MSE), this option allows students to specifically analyze an environmental issue from a range of perspectives.

See [section 6.3 Application Procedures \(for All Admissions Starting Summer 2016\)](#) for detailed application procedures.

#### 11.2.3.2.1 Additional Requirements

The items and clarifications below are additional requirements set by this department:

Acceptance by a research director who can provide adequate funding for personal and research expenses

#### 11.2.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: March 15	Fall: Jan. 15	Fall: Same as Canadian/International
Winter: Oct. 15	Winter: Aug. 15	Winter: Same as Canadian/International
Summer: N/A	Summer: N/A	Summer: N/A

If application materials are received after the Dates for Guaranteed Consideration, review of the applications

Associate Professors

Ehab Abouheif; M.Sc.(C'dia), Ph.D.(Dul)

Thomas E. Bureau; B.Sc.(Calif.), Ph.D.(As) (William Dawson Stolar)

Joseph

## Adjunct Professors

CNRS Moulis, France: M. Loreau

IRCM: Michel Cayouette, Frédéric Charrolet, Artur Kania, Marie Kmita

NRC Lab: Malcolm SWhiteway

STRI: Eldredge Bermingham, Rachel Collin, Hector Guzman, Ed Allen Herre, Haris Lessios, William Owen McMillan, Mark Torchin

Univ. de Montréal: Pierre Drapeau, Louis St-Amant

### 11.2.5 Master of Science (M.Sc.); Biology (Thesis) (45 credits)

#### Thesis Courses (39 credits)

BIOL 697	(13)	Master's Thesis Research 1
BIOL 698	(13)	Master's Thesis Research 2
BIOL 699	(13)	Master's Thesis Research 3

#### Complementary Courses (6 credits)

Two 3-credit courses, or equivalent, at the 500, 600, or 700 level in Biology or other departments, and approved by the Supervisory Committee.

### 11.2.6 Master of Science (M.Sc.); Biology (Thesis) Environment (48 credits)

#### Thesis Courses (39 credits)

BIOL 697	(13)	Master's Thesis Research 1
BIOL 698	(13)	Master's Thesis Research 2
BIOL 699	(13)	Master's Thesis Research 3

#### Required Courses (6 credits)

ENVR 610	(3)	Foundations of Environmental Policy
ENVR 650	(1)	Environmental Seminar 1
ENVR 651	(1)	Environmental Seminar 2
ENVR 652	(1)	Environmental Seminar 3

#### Complementary Courses (3 credits)

3 credits, one of the following courses:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling
ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another graduate course at the 500 level or higher recommended by the advisory committee and approved by the Environment Option Committee.

### 11.2.7 Master of Science (M.Sc.); Biology (Thesis) Neotropical Environment (48 credits)

Participation in the MSE-Shama Symposium presentation in Montreal is also required.

#### Thesis Courses (39 credits)

BIOL 697	(13)	Master'sThesis Research 1
BIOL 698	(13)	Master'sThesis Research 2
BIOL 699	(13)	Master'sThesis Research 3

**Required Courses (6 credits)**

BIOL 640	(3)	Tropical Biology and Conservation
ENVR 610	(3)	Foundations of Environmental Policy

**Elective Courses (3 credits)**

3 credits, at the 500 level or higher, on environmental issues to be chosen in consultation with and approved by the student supervisor AND the Neotropical Environment Options Director

**11.2.8 Master of Science (M.Sc.); Biology (Thesis) Bioinformatics (48 credits)**

**Thesis Courses (39 credits)**

BIOL 697	(13)	Master'sThesis Research 1
BIOL 698	(13)	Master'sThesis Research 2
BIOL 699	(13)	Master'sThesis Research 3

**Required Courses (3 credits)**

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar

**Complementary Courses (6 credits)**

6 credits from the following courses:

BINF 621	(3)	Bioinformatics: Molecular Biology
BMDE 652	(3)	Bioinformatics: Proteomics
BTEC 555	(3)	Structural Bioinformatics
COMP 618	(3)	Bioinformatics: Functional Genomics

#### 11.2.10 Doctor of Philosophy (Ph.D.); Biology Developmental Biology

##### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with pre

ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another graduate course at the 500, 600, or 700 level recommended by the advisory committee and approved by the Environment Option Committee.

### 11.2.12 Doctor of Philosophy (Ph.D.); Biology Neotropical Environment

Participation in the MSE-Shima Symposium presentation in Montreal is also required.

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate that the research advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

#### Required Courses (12 credits)

BIOL 640	(3)	Tropical Biology and Conservation
BIOL 700	(0)	Doctoral Qualifying Examination
BIOL 702	(6)	Ph.D. Seminar
ENVR 610	(3)	Foundations of Environmental Policy

#### Elective Courses (3 credits)

3 credits, at the 500 level or higher on environmental issues to be chosen in consultation with and approved by the student's supervisor and the Neotropical Environment Options Director

### 11.2.13 Doctor of Philosophy (Ph.D.); Biology Bioinformatics

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## 11.3 Chemistry

### 11.3.1 Location

Department of Chemistry  
Otto Maass Chemistry Building  
801 Sherbrooke Street West  
Montreal, QC H3A 0B8  
Canada

Telephone: 514-398-6999  
Fax: 514-398-3797  
Email: [graduatechemistry@mcgill.ca](mailto:graduatechemistry@mcgill.ca)  
Website: [www.chemistry.mcgill.ca](http://www.chemistry.mcgill.ca)

### 11.3.2 About Chemistry

#### Research in Chemistry

Members of the Department are organized into various research themes. Some of the current research interests are listed below and presented in much more detail on the Departmental website at [www.chemistry.mcgill.ca](http://www.chemistry.mcgill.ca)

#### Analytical - Environmental

Analytical-Environmental research at McGill entails a wide range of exciting fundamental and applied research with focus on state-of-the-art instrumental development in spectroscopy/imaging; chemometric and analytical bio-spectroscopy; artificial intelligence; ultra trace sampling; state-of-the-art atmospheric kinetics and photochemistry; thermochemical, box, and cloud modelling; as well as development and application of state-of-the-art numerical models of the chemistry of the regional and global atmosphere. Our collective research has direct implications in fields such as materials, environmental, and biomedical chemistry

#### Chemical Biology

The Chemical Biology Thematic Group is engaged in a diverse range of research topics, which span structural biology, nucleic acid research, signalling pathways, single-molecule biophysics, and biophysical chemistry of living tissues. Among the themes that unite the research being performed in this group is the attempt to learn the chemistry and physics from biological systems.

We have projects relating to pharmaceutically relevant enzymes such as those involved in drug metabolism and antibiotic resistance; development of therapeutic agents in the control of inflammation, cancer and viral infections; the chemical biology of NO; quantification of biomarkers of metabolism; self-assembly mechanisms of the HIV virion capsid; liposome microarray systems to address membrane protein dynamics and recognition; studies on reactive oxygen species translocation



properties of nanostructures. There is significant activity in understanding directed molecular assembly at interfaces and in the application of sophisticated spectroscopic tools to explore them.

#### Synthesis Catalysis

The Synthesis/Catalysis Research Activity Group is a collective to develop the state-of-art catalysts, synthetic methodologies, reaction mechanisms, and synthetic routes for organic chemicals, natural products, and materials. The following are the major research activities at McGill: (1) Development of novel catalysts and catalytic reactions for highly efficient organic synthesis; Green Chemistry: this includes the study and discovery of novel transition-metal catalysts, biological catalysts, nano- and dendrimer-based catalysts for synthetic purposes, chemical reactivity such as C-H activation, asymmetric catalysis and theory, multi-component reactions and combinatorial chemistry, vinylic chemistry in alternative solvents such as water, sub-critical water, ionic liquids, and liquid CO<sub>2</sub>; photocatalytic reactions, reaction mechanisms, and organic chemistry; and computational chemistry. (2) Synthesis of biological compounds, organic materials, and natural products. (3) Key areas are total synthesis of natural products, synthesis of DNA/RNA analogues; synthesis of antiviral and anticancer nucleoside analogues, synthesis of amino acid and peptides; synthesis and study of natural products; design, synthesis, and study of specialty organic chemical and materials.

#### [section 11.3.5 Master of Science Applied \(M.Sc.A.\); Chemistry \(Non-Thesis\) \(45 credits\)](#)

(Not offered in 2012-2013)

#### [section 11.3.6 Master of Science \(M.Sc.\); Chemistry \(Thesis\) \(45 credits\)](#)

Please consult the Department for more information about this program.

#### [section 11.3.7 Master of Science \(M.Sc.\); Chemistry \(Thesis\) Chemical Biology \(45 credits\)](#)

(Not offered in 2012-2013)

#### [section 11.3.8 Doctor of Philosophy \(Ph.D.\); Chemistry](#)

Please consult the Department for more information about this program.

#### [section 11.3.9 Doctor of Philosophy \(Ph.D.\); Chemistry Chemical Biology](#)

(Not offered in 2012-2013)

### 11.3.3 Chemistry Admission Requirements and Application Procedures

**Revision, October 2012. Start of revision.**

#### 11.3.3.1 Admission Requirements

The minimum academic standard for admission to research thesis programs is a minimum standing equivalent to a cumulative grade point average (CGPA) of 3.0 out of a possible 4.0 or a CGPA of 3.2/4.0 for the last two full-time academic years. Applicants from other institutions should have an academic background equivalent to that of a McGill graduate in the Chemistry Honours/Major programs. If possible, candidates should specify the field of research in which they are interested.

#### 11.3.3.2 Application Procedures

McGill's online application form for graduate program candidates is available at [www.mcgill.ca/gadapplicants/apply](http://www.mcgill.ca/gadapplicants/apply)

See [section 6.3 Application Procedures \(for All Admissions Starting Summer 2010\)](#) detailed application procedures.

#### FINANCIAL ASSISTANCE

##### M.Sc. and Ph.D Degrees

Graduate students devote 12 hours per week (contact hours, plus grading of reports, etc.) during the academic session to their teaching duties. Financial assistance during the remainder of the year is pro



Note: We are not willing to consider applications to be admitted for the Summer term.

All inquiries concerning graduate work in the Department should be addressed to the Director of Graduate Studies, Department of Chemistry

**Revision, October 2012. End of revision.**

### 11.3.4 Chemistry Faculty

#### Chair

R.B. Lennox

#### Director of Graduate Studies

N. Moitessier

#### Emeritus Professors

T.H. Chan; B.Sc.(Tr.), M.A., Ph.D.(Princ.), F.I.C., FR.S.C.

A. Eisenberg; B.Sc.(Wor. Poly.), M.A., Ph.D.(Princ.), F.I.C.

B.C. Eu; B.Sc.(Seoul), Ph.D.(Bum)

D.F.R. Gilson; B.Sc.(Univ. Coll., Lond.), M.Sc., Ph.D.(BCol.)

D.G. Gray; B.Sc.(Belf.), M.Sc., Ph.D.(Manit.), F.I.C.

J.F. Harrod; B.Sc., Ph.D.(Birm.), R.S.C.

A.S. Hay; B.Sc.(Alta.), Ph.D.(Ill.), R.S.

R.H. Marchessault; B.Sc.(Mont.) Ph.D.(McG.), F.I.C., FR.S.C.

M.A. Whitehead; B.Sc., Ph.D., D.Sc.(Lond.), F.I.C.

**Revision, October 2012. Start of revision.**

#### Professors

B.A. Arndtsen; B.A.(Cal), Ph.D.(Stan.)

D.S. Bohle; B.A.(Reed), M.Phil., Ph.D.(Auck.)

D.H. Burns; B.Sc.(Puget Sound), Ph.D.(SM)

I.S. Butler; B.Sc., Ph.D.(Brist.), F.I.C.

M.J. Damha; B.Sc., Ph.D.(McG.), F.I.C.

D.N. Harpp; A.B.(Middlebury), M.A.(Wesl.), Ph.D.(N. Carolina), F.I.C.

R.B. Lennox; B.Sc., M.Sc., Ph.D.(Tr.), F.I.C., FR.S.C.

C.J. Li; B.Sc.(Zhengzhou), M.S.(China Acad. Sci.), Ph.D.(McG.), R.S.C.

D.M. Ronis; B.Sc.(McG.), Ph.D.(MIT)

E.D. Salin; B.Sc.(Calif.), Ph.D.(Ore.), F.I.C.

B.C. Sanctuary; B.Sc., Ph.D.(BCol.)

H. Sleiman; B.Sc.(A.U.B.), Ph.D.(Stan.)

Y.S. Tsantrizos; B.Sc., M.Sc., Ph.D.(McG.)

T.G.M. van de Ven; Kand. Doc.(Utrecht), Ph.D.(McG.)

**Revision, October 2012. End of revision.**

#### Associate Professors

M.P. Andrews; B.Sc., M.Sc., Ph.D.(Tr.)

P. Ariya; B.Sc., Ph.D.(York)

## Associate Professors

K. Auclair; B.Sc.(UQAC), Ph.D.(Alta.)

C.J. Barrett; B.Sc., M.Sc., Ph.D.(Qu.)

G. Cosa; B.Sc.(Argentina), Ph.D.(Ott.)

W.C. Galley; B.Sc.(McG.), Ph.D.(Calif.)

J.L. Gleason; B.Sc.(McG.), Ph.D.(U.)

A. Kakkar; B.Sc., M.Sc.(Chan. U., India), Ph.D.(U.)

P

(24-31 credits)

At least 24 credits chosen from the following:

CHEM 691	(3)	M.Sc.Thesis Research 1
CHEM 692	(6)	M.Sc.Thesis Research 2
CHEM 693	(9)	M.Sc.Thesis Research 3
CHEM 694	(12)	M.Sc.Thesis Research 4
CHEM 695	(15)	M.Sc.Thesis Research 5
CHEM 697	(9)	M.Sc.Thesis Research 7
CHEM 698	(12)	M.Sc.Thesis Research 8

#### Required Courses

(5 credits)

CHEM 650	(1)	Seminars in Chemistry 1
CHEM 651	(1)	Seminars in Chemistry 2
CHEM 688	(3)	Assessment

#### Complementary Courses

(9-16 credits)

Students will normally take 9-16 credits of CHEM (or approved) courses at the 500 or 600 level

### 11.3.7 Master of Science (M.Sc.); Chemistry (Thesis) Chemical Biology (45 credits)

(Not offered in 2012-2013)

#### Thesis Courses (24 credits)

(minimum 24 credits)

At least 24 credits chosen from the following:

CHEM 691	(3)	M.Sc.Thesis Research 1
CHEM 692	(6)	M.Sc.Thesis Research 2
CHEM 693	(9)	M.Sc.Thesis Research 3
CHEM 694	(12)	M.Sc.Thesis Research 4
CHEM 695	(15)	M.Sc.Thesis Research 5
CHEM 697	(9)	M.Sc.Thesis Research 7
CHEM 698	(12)	M.Sc.Thesis Research 8

#### Required Courses (5 credits)

CHEM 650	(1)	Seminars in Chemistry 1
CHEM 651	(1)	Seminars in Chemistry 2
CHEM 688	(3)	Assessment

#### Complementary Courses (11 credits)

(minimum 11 credits)

2 credits, two of the following courses:

BIOC 610	(1)	Seminars in Chemical Biology 1
BIOC 611	(1)	Seminars in Chemical Biology 3
BIOC 689	(1)	Seminars in Chemical Biology 2
BIOC 690	(1)	Seminars in Chemical Biology 4

Students will take at least three courses from the following list, including at least 3 credits from the first two courses listed below

Genomics and Gene Expression

**11.3.9 Doctor of Philosophy (Ph.D.); Chemistry Chemical Biology**

(Not offered in 2012-2013)

**Thesis**

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how the research advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

**Required Courses**

BIOC 610	(1)	Seminars in Chemical Biology 1
BIOC 611	(1)	Seminars in Chemical Biology 3
BIOC 689	(1)	Seminars in Chemical Biology 2
BIOC 690	(1)	Seminars in Chemical Biology 4
CHEM 650	(1)	Seminars in Chemistry 1
CHEM 651	(1)	Seminars in Chemistry 2
CHEM 688	(3)	Assessment
CHEM 701	(0)	Comprehensive Examination 1
CHEM 702	(0)	Comprehensive Examination 2

**Complementary Courses**

Students entering the program with an M.Sc. degree will normally take three (3) graduate-level courses. Students entering without an M.Sc. degree will normally take five (5) graduate-level courses. At least three courses must be from the following list, including at least 3 credits from the first two courses listed below.

BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
CHEM 502	(3)	Advanced Bio-Organic Chemistry
CHEM 503	(3)	Drug Design and Development 1
CHEM 504	(3)	Drug Design and Development 2
CHEM 514	(3)	Biophysical Chemistry
CHEM 522	(3)	Stereochemistry
CHEM 591	(3)	Bioinorganic Chemistry
CHEM 621	(5)	Reaction Mechanisms in Organic Chemistry
CHEM 629	(5)	Organic Synthesis
CHEM 655	(4)	Advanced NMR Spectroscopy
PHAR 503	(3)	Drug Discovery and Development 1
PHAR 504	(3)	Drug Discovery and Development 2
PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2
PHAR 707	(3)	Topics in Pharmacology 6

The remaining credits may be 500-, 600-, or 700-level courses approved by the Department.

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## 11.4 Computer Science

### 11.4.1 Location

School of Computer Science  
McConnell Engineering, Room 318  
3480 University Street  
Montreal, QC H3A 0E9  
Canada

Telephone: 514-398-7074 ext 00074

Fax: 514-398-3883

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

Website: [wwwcs.mcgill.ca](http://wwwcs.mcgill.ca)

### 11.4.2 About Computer Science

The School of Computer Science is one of the leading teaching and research centres for computer science in Canada. The School offers a Ph.D. program and several M.Sc. programs. All include coursework and research. In the basic M.Sc. programs, students must choose between the thesis option, and the non-thesis option, which requires a project. The Ph.D. program includes an option in bioinformatics, and the thesis M.Sc. program includes options in bioinformatics and in Computational Science and Engineering. Students are normally funded by their adviser's research grants; in the case of scholarship students, this typically takes the form of a 'top-up' to the scholarship. Research in the School covers a broad range of areas, including:





## Professors

D. Avis; B.Sc.(Vat.), Ph.D.(Stan.)  
L. Devroye; M.S.(Louvain), Ph.D.(Texas) (James McGill Professor)  
G. Dudek; B.Sc.(Qu.), M.Sc., Ph.D.(UofT) (James McGill Professor)  
L. Hendren; B.Sc., M.Sc.(Qu.), Ph.D.(C'neil), R.F.S.C. Canada Research Chair  
P. Panangaden; M.Sc.(IITKanpur), M.S.(Chic.), Ph.D.(Usc.)  
B. Reed; B.Sc., Ph.D.(McG.) Canada Research Chair  
K. Siddiqi; B.Sc.(Lafayette), M.Sc., Ph.D.(Brown) (William Dawson Chair)  
D. Thérien; B.Sc.(Mont), M.Sc., Ph.D.(Wat.) (James McGill Professor)

## Revision, October 2012. End of revision.

## Associate Professors

M. Blanchette; B.Sc., M.Sc.(Mont), Ph.D.(Vash.)  
X.W. Chang; B.Sc., M.Sc.(Nanjing), Ph.D.(McG.)  
C. Crépeau; B.Sc., M.Sc.(Montr)

#### Associate Members

D. Schlimm (Philosophy)

R. Sengupta (Geography)

B.F. Shepherd (Mathematics & Statistics)

T.R. Shultz (Psychology)

R. Sieber (Geography)

#### Adjunct Professors

P.J. Mosterman, J. Perkins, I. Rekleitis, G.O. Sabidussi, Tabaez Izadi, F. Tesson, H. Vangheluwe

### 11.4.5 Master of Science (M.Sc.); Computer Science (Thesis) (45 credits)

#### Thesis Courses (24 credits)

24 credits selected from:

COMP 691	(2)	Thesis Research 1
COMP 696	(3)	Thesis Research 2
COMP 697	(4)	Thesis Research 3
COMP 698	(9)	Thesis Research 4
COMP 699	(15)	Thesis Research 5

#### Complementary Courses (21 credits)

At least 21 credits of 500-, 600-, or 700-level COMP courses, including at least 12 credits of 4-credit courses.

Note: Students with an appropriate background can substitute 3 credits by COMP 696 and 4 credits by COMP 697.

### 11.4.6 Master of Science (M.Sc.); Computer Science (Thesis) Computational Science and Engineering (45 credits)

#### Thesis Courses (24 credits)

24 credits selected from:

COMP 691	(2)	Thesis Research 1
COMP 696	(3)	Thesis Research 2
COMP 697	(4)	Thesis Research 3
COMP 698	(9)	Thesis Research 4
COMP 699	(15)	Thesis Research 5

#### Required Courses

One credit selected as follows

COMP 669D1	(.5)	Computational Science Engineering Seminar
COMP 669D2	(.5)	Computational Science Engineering Seminar

#### Complementary Courses

(minimum 21 credits)

Two courses from List A, two courses from List B, and the remaining credits to be chosen from graduate (500-, 600-, or 700-level) courses in the School of Computer Science. Two complementary courses must be taken outside the School of Computer Science.

Note: Students with an appropriate background can substitute 3 credits by COMP 696 and 4 credits by COMP 697, and take 6-8 credits from List A and 6-8 credits from List B.

**List A: Scientific Computing Courses:**

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

**List B: Application and Specialized Methods Courses:**

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 572	(3)	Computational Hydraulics
CIVE 603	(4)	Structural Dynamics
COMP 557	(3)	Fundamentals of Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Program Analysis and Transformations
COMP 642	(4)	Numerical Estimation Methods
COMP 767	(4)	Advanced Topics: Applications 2
ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 761	(4)	Topics in Applied Mathematics 1
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics
MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Geometry in Mechanics

**11.4.7 Master of Science (M.Sc.); Computer Science (Thesis) Bioinformatics (45 credits)**

**Thesis Courses (24 credits)**

24 credits selected from:

COMP 691	(2)	Thesis Research 1
COMP 696	(3)	Thesis Research 2
COMP 697	(4)	Thesis Research 3
COMP 698	(9)	Thesis Research 4
COMP 699	(15)	Thesis Research 5

**Required Courses (3 credits)**

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar

**Complementary Courses (18 credits)**

6 credits chosen from the following courses:

BINF 621	(3)	Bioinformatics: Molecular Biology
BMDE 652	(3)	Bioinformatics: Proteomics
BTEC 555	(3)	Structural Bioinformatics
COMP 618	(3)	Bioinformatics: Functional Genomics
PHGY 603	(3)	Systems Biology and Biophysics

12 credits of 4-credit courses chosen from 500-, 600-, or 700-level Computer Science courses in consultation with the candidate supervisor

Note: Students with an appropriate background can substitute 4 credits by COMP 697.

**11.4.8 Master of Science (M.Sc.); Computer Science (Non-Thesis) (45 credits)**

**Research Project (15 credits)**

15 credits selected as follows:

COMP 693	(3)	Research Project 1
COMP 694	(6)	Research Project 2
COMP 695	(6)	Research Project 3

**Complementary Courses (30 credits)**

30 credits (nine courses), of which 12 credits must be of 4-credit courses at the 500 600 or 700 level COMP courses.

**11.4.9 Doctor of Philosophy (Ph.D.); Computer Science**

Required coursework: Students must take eight graduate courses, of which at least five are computer science courses. These courses should be chosen by the student in consultation with the supervisor (or co-supervisor) and the Progress Committee.

**Thesis**

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how each advance knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly presentation and for publication in the public domain.

**Required Courses**

COMP 700	(0)	Ph.D. Comprehensive Examination
COMP 701	(3)	Thesis Proposal and Area Examination

**Complementary Courses**

18-24 credits selected from:

**Category A: Theory and Applications**

COMP 523	(3)	Language-based Security
COMP 524	(3)	Theoretical Foundations of Programming Languages
COMP 525	(3)	Formal Verification
COMP 531	(3)	Advanced Theory of Computation
COMP 540	(3)	Matrix Computations
COMP 547	(4)	Cryptography and Data Security
COMP 552	(4)	Combinatorial Optimization
COMP 554	(4)	Approximation Algorithms
COMP 560	(3)	Graph Algorithms and Applications
COMP 561	(4)	Computational Biology Methods and Research
COMP 564	(3)	Computational Gene Regulation
COMP 566	(3)	Discrete Optimization 1
COMP 567	(3)	Discrete Optimization 2
COMP 598	(3)	Topics in Computer Science 1
COMP 599	(3)	Topics in Computer Science 2
COMP 610	(4)	Information Structures 1
COMP 618	(3)	Bioinformatics: Functional Genomics
COMP 627	(4)	Theoretical Programming Languages
COMP 642	(4)	Numerical Estimation Methods
COMP 647	(4)	Advanced Cryptography
COMP 649	(4)	Quantum Cryptography
COMP 680	(4)	Mining Biological Sequences
COMP 690	(4)	Probabilistic Analysis of Algorithms
COMP 760	(4)	Advanced Topics Theory 1
COMP 761	(4)	Advanced Topics Theory 2

**Category B: Systems and Applications**

COMP 512	(4)	Distributed Systems
COMP 520	(4)	Compiler Design
COMP 521	(4)	Modern Computer Games
COMP 522	(4)	Modelling and Simulation
COMP 526	(3)	Probabilistic Reasoning and
COMP 529	(4)	Software Architecture
COMP 533	(3)	Object-Oriented Software Development

COMP 535	(3)	Computer Networks 1
COMP 557	(3)	Fundamentals of Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 575	(3)	Fundamentals of Distributed Algorithms
COMP 598	(3)	Topics in Computer Science 1
COMP 599	(3)	Topics in Computer Science 2
COMP 612	(4)	Database Programming Principles
		Distributed 1 100 0 1 221.949 20617eS







### **11.5.3.1 Admission Requirements**

Applicants should have an academic background equivalent to that of a McGill graduate in the Honours or Majors program in geology, physics, chemistry or physics (3.0 out of 4.0). The admissions committee may modify the requirements depending on the field of graduate study proposed. In some cases, a Qualifying year may be required.

### **11.5.3.2 Application Procedures**

Assistant Professors

Eric Galbraith; B.Sc.(McG.), Ph.D.(BCol.)

Sarah Hall; B.A.(Hamilton), Ph.D.(Calif.-Santa Cruz)

Yajing Liu; B.Sc.(Peking), Ph.D.(Harv)

Jeffrey McKenzie; B.Sc.(McG.), M.Sc., Ph.D.(Syrac.)

Christie Rowe; A.B.(Smith), Ph.D.(Calif.-Santa Cruz)

Vincent van Hinsberg; Propadeuse(Utrecht), Doctorandus(Utrecht), Ph.D.(Brist.)

Boswell Wing; A.B.(Harv.), M.A., Ph.D.(Johns Hop.) Canada Research Chair in Earth Systems Science (Geology)

Faculty Lecturer

W. Minarik; B.A.(St. Olaf), M.Sc.(Wash.), Ph.D.(Rensselaer Poly)

Adjunct Professors

M. Duchesne, M. Riedel, H. Short, B. Sundby, Trzeciński

Retired Professor

R. Hesse

**11.5.5 Master of Science (M.Sc.); Earth and Planetary Sciences (Thesis) (45 credits)**

**Thesis Courses (33 credits)**

EPSC 697	(9)	Thesis Preparation 1
EPSC 698	(12)	Thesis Preparation 2
EPSC 699	(12)	Thesis Preparation 3

**Required Course (3 credits)**

EPSC 666	(3)	Current Issues in Geosciences
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**Complementary Courses (9 credits)**

Three 3-credit 500-, 600-, or 700-level EPSC courses chosen with the approval of the supervisor or the research director and GPS.

**11.5.6 Master of Science (M.Sc.); Earth and Planetary Sciences (Thesis) Environment (48 credits)**

**Thesis Courses (33 credits)**

EPSC 697	(9)	Thesis Preparation 1
EPSC 698	(12)	Thesis Preparation 2
EPSC 699	(12)	Thesis Preparation 3

**Required Courses (9 credits)**

ENVR 610	(3)	Foundations of Environmental Policy
ENVR 650	(1)	Environmental Seminar 1
ENVR 651	(1)	Environmental Seminar 2
ENVR 652	(1)	Environmental Seminar 3
EPSC 666	(3)	Current Issues in Geosciences

### Complementary Courses (6 credits)

One 3-credit course at the 500, 600, or 700 level chosen with the approval of the supervisor or research director and GPS.

3 credits chosen from the following courses:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling
ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another course at the 500, 600, or 700 level recommended by the advisory committee and approved by the Environment Option Committee.

### 11.5.7 Doctor of Philosophy (Ph.D.); Earth and Planetary Sciences

Highly qualified B.Sc. graduates may be admitted directly to the Ph.D. 1 year students with the M.Sc. degree are normally admitted to the Ph.D. 2 year. Students are required to take six graduate-level courses in the Ph.D. 1 year and two courses plus a comprehensive examination in the Ph.D. 2 year.

Note: The Ph.D. requirements for this program will be changing effective Winter 2013.

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how it advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

#### Required Courses

EPSC 666	(3)	Current Issues in Geosciences
EPSC 700	(0)	Preliminary Doctoral Examination

#### Complementary Courses

One to seven courses approved at the 500, 600, or 700 level selected in consultation with the student's supervisor and the Option Committee.

One to five courses

One course chosen from the following courses:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling
ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another course at the 500, 600, or 700 level recommended by the advisory committee with the student's supervisor and approved by the Academic Standing Committee.

Zero to four courses at the 500, 600, or 700 level selected in consultation with the student's supervisor and approved by the Academic Standing Committee.

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## 11.6 Geography

### 11.6.1 Location

Department of Geography  
Burnside Hall  
805 Sherbrooke Street West, Room 705  
Montreal, QC H3A 0B9  
Canada

Telephone: 514-398-4111  
Fax: 514-398-7437  
Email: [grad.geog@mcgill.ca](mailto:grad.geog@mcgill.ca)  
Website: [www.geog.mcgill.ca](http://www.geog.mcgill.ca)

### 11.6.2 About Geography

The Department of Geography offers research and thesis-based graduate programs leading to a Master of Arts (M.A.), a Master of Science (M.Sc.), or a doctorate (Ph.D.). In its scope, our program includes the opportunity to conduct field-based studies in both the natural and social sciences. Thematic areas of study include Political, Urban, Economic, and Health Geography; Environment and Human Development; Geographic Information Systems and Remote Sensing; Landscape Processes; Earth Systems Science; and Environmental Management. Geography houses the Hirschfeld Geographical Information Centre, maintains the McGill High Arctic Research Station (Axel Heiberg Island, Nunavut Territory) and the McGill Sub-Arctic Research Station (Schéville, Québec), and has strong ties with McGill's School of Environment and the Centre for Climate and Global Change Research. Faculty and students conduct research in fields as diverse as climate change impacts, periglacial geomorphology, forest resource history, and regions ranging from the Arctic to Southeast Asia and Latin America.

McGill Northern Research Stations

The McGill Sub-Arctic Research Station is located in Schéville, in the centre of Quebec-Labrador. Facilities exist for research in most areas of physical and some areas of human geography in the subarctic.

McGill University also operates a field station at Expedition Fiord, Axel Heiberg Island in the High Arctic. Facilities are limited to a small lab, dorm building, and cookhouse. Research sites focus on the glacial and geological. For additional information on these stations, contact the Scientific Director Wayne Pollard, Department of Geography.

Centre for Climate and Global Change Research

The Department of Geography with the McGill Departments of Atmospheric and Oceanic Sciences, Economics, Natural Resource Sciences, and other departments from the Université du Québec à 9 367Y647.g I6.802 Tm 38.8u9cc 6767Y647.g I6 du 1 0638.8u9cc 67c2522 T8rtments from the





**11.6.3.1 Admission Requirements**

**M.A. and M.Sc. Degrees**

Applicants not satisfying the conditions [section 6 Graduate Admissions and Application Procedures](#) but with primary undergraduate specialization in a cognate field, may be admitted to the M.A. or M.Sc. degree in Geography in certain circumstances. In general, those and others who have deficiencies in their preparation but are otherwise judged to be acceptable, will be required to enter for a Qualifying program or to undertake additional courses.

**Ph.D. Degree**

Students who have completed a master's degree in Geography (with high standing) may be admitted at the Ph.D. level

On rare occasions, a student may be admitted to the Ph.D. without having first taken the master's degree. They, and others who have deficiencies in their preparation but are otherwise acceptable, will be required to enter for a year of coursework and/or be required to take extra courses. The normal duration of a program, including fieldwork where required, is three years.

Normally, the Department will restrict admission to the Ph.D. program to students prepared to work in one of the fields of human or physical geography in which specialized supervision is offered. These, which cover a wide range of systematic areas, are listed in documents available from the Department.

**11.6.3.2 Application Procedures**

McGill's online application form for graduate program candidates is available at [www.mcgill.ca/gadapplicants/apply](http://www.mcgill.ca/gadapplicants/apply)

See [section 6.3 Application Procedures \(for All Admissions Starting Summer 2010\)](#) for detailed application procedures.

**11.6.3.2.1 Additional Requirements**

The items and clarifications below are additional requirements set by this department:

- Research Proposal
- Letters of Reference (three references required for Ph.D. program)
- [Department application form](#)

**11.6.3.3 Dates for Guaranteed Consideration**

Canadian	International	Special/Exchange/Visiting
Fall: Jan. 15 (final cut-off Jan. 31)	Fall: Jan. 15 (final cut-off Jan. 31)	Fall: Jan. 15 (final cut-off Jan. 31)
Winter: N/A	Winter: N/A	Winter: N/A
Summer: N/A	Summer: N/A	Summer: N/A

**Revision, October 2012. End of revision.**

**11.6.4 Geography Faculty**

Chair

T. R. Moore

Graduate Program Director

George W. Wenzel

Post-Retirement

S.H. Olson; M.A., Ph.D. (Johns Hop.)

**Revision, October 2012. Start of re**

**Revision, October 2012. End of revision.**

Associate Professors



### 11.6.6 Master of Science (M.Sc.); Geography (Thesis) Environment (45 credits)

The Environment Option is offered in association with the McGill School of Environment and is composed of a thesis component (24 credits), required Geography and Environment courses (9 credits) and complementary Geography/Environment (12 credits) courses.

#### Thesis Courses (24 credits)

GEOG 697	(18)	Thesis Research (Environment Option)
GEOG 698	(6)	Thesis Proposal

#### Required Courses (9 credits)

ENVR 610	(3)	Foundations of Environmental Policy
ENVR 650	(1)	Environmental Seminar 1
ENVR 651	(1)	Environmental Seminar 2
ENVR 652	(1)	Environmental Seminar 3
GEOG 631	(3)	Methods of Geographical Research

#### Complementary Courses (12 credits)

9 credits of courses at the 500 level or higher selected according to guidelines of the Department. GEOG 696 can count among these complementary credits for students with an appropriate background.

3 credits, one course chosen from the following:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling
ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another course at the 500 level or higher recommended by the advisory committee and approved by the Environment Option Committee.

### 11.6.7 Master of Science (M.Sc.); Geography (Thesis) Neotropical Environment (45 credits)

Participation in the MSE-Banama Symposium presentation in Montreal is also required.

#### Thesis Courses (30 credits)

GEOG 698	(6)	Thesis Proposal
GEOG 699	(24)	Thesis Research

#### Required Courses (9 credits)

BIOL 640	(3)	Tropical Biology and Conservation
ENVR 610	(3)	Foundations of Environmental Policy
GEOG 631	(3)	Methods of Geographical Research

#### Complementary Course (3 credits)

3 credits, one Geography graduate course. GEOG 696 can count among these complementary credits for students with an appropriate background.

**Elective Course (3 credits)**

3 credits, at the 500 level or higher on environmental issues to be chosen in consultation with and approved by the student supervisor AND the Neotropical Environment Options Director

**11.6.8 Doctor of Philosophy (Ph.D.); Geography**

The doctoral degree in Geography includes the successful completion of the comprehensive examination, a thesis based on original research and course chosen in collaboration with the student supervisor and/or research committee. The main elements of the Ph.D. are the thesis and comprehensive examination, a required Methods of Geographical Research course (3 credits), and a minimum of complementary courses (6 credits). The Ph.D. in Geography also includes several options.

**Thesis**

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate research that advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

**Required Courses**

GEOG 631	(3)	Methods of Geographical Research
GEOG 700	(0)	Comprehensive Examination 1
GEOG 701	(0)	Comprehensive Examination 2
GEOG 702	(0)	Comprehensive Examination 3

**Complementary Courses**

Two courses at the 500, 600, or 700 level selected according to guidelines of the Department.

**11.6.9 Doctor of Philosophy (Ph.D.); Geography Environment**

The option consists of the thesis and comprehensive examination, required courses (9 credits) from Geography Environment and complementary courses (9 credits) in Environment or other fields recommended by the research committee and approved by the Environment Option Committee.

**Thesis**

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate research that advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

**Required Courses**

ENVR 610	(3)	Foundations of Environmental Policy
ENVR 650	(1)	Environmental Seminar 1
ENVR 651	(1)	Environmental Seminar 2
ENVR 652	(1)	Environmental Seminar 3
GEOG 631	(3)	Methods of Geographical Research

**Complementary Courses**

Two courses at the 500, 600, or 700 level selected according to guidelines of the Department.

One course chosen from the following:

ENVR 519	(3)	Global Environmental Politics
ENVR 544	(3)	Environmental Measurement and Modelling

ENVR 620	(3)	Environment and Health of Species
ENVR 622	(3)	Sustainable Landscapes
ENVR 630	(3)	Civilization and Environment
ENVR 680	(3)	Topics in Environment 4

or another course at the 500 level or higher recommended by the advisory committee and approved by the Environment Option Committee.

#### Comprehensives

GEOG 700	(0)	Comprehensive Examination 1
GEOG 701	(0)	Comprehensive Examination 2
GEOG 702	(0)	Comprehensive Examination 3

#### 11.6.10 Doctor of Philosophy (Ph.D.); Geography Gender and Women's Studies

The graduate option in Gender and Women's Studies is an interdisciplinary program for students who meet the requirements in Geography who wish to earn 9 credits of approved coursework focusing on gender and women's studies, and issues in feminist research and methods. The student's doctoral thesis must be on a topic centrally relating to issues of gender and women's studies.

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how it advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly presentation and for publication in the public domain.

#### Required Courses

GEOG 631	(3)	Methods of Geographical Research
GEOG 700	(0)	Comprehensive Examination 1
GEOG 701	(0)	Comprehensive Examination 2
GEOG 702	(0)	Comprehensive Examination 3
WMST 601	(3)	Feminist Theories and Methods
WMST 602	(3)	Feminist Research Symposium

#### Complementary Courses

Two substantive courses.

One of these two courses must be taken within the Department of Geography at the 500 level or above; one of the two courses must be on gender or women's issues at the 500, 600, or 700 level.

#### 11.6.11 Doctor of Philosophy (Ph.D.); Geography Neotropical Environment

The Neotropical Option is offered in association with several University departments, the McGill School of Environment, and the Smithsonian Tropical Research Institute (STRIPAMA) and includes the thesis, comprehensive examination, required courses (9 credits) in Geography, Environment and Biology and complementary courses (3 credits) chosen from Geography, Agriculture Sciences, Biology, Sociology, Environment, and Political Science.

Participation in the MSE-STRIPAMA Symposium presentation in Montreal is also required.

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how it advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly presentation and for publication in the public domain.

#### Required Courses

BIOL 640	(3)	Tropical Biology and Conservation
ENVR 610	(3)	Foundations of Environmental Policy
GEOG 631	(3)	Methods of Geographical Research
GEOG 700	(0)	Comprehensive Examination 1
GEOG 701	(0)	Comprehensive Examination 2
GEOG 702	(0)	Comprehensive Examination 3

**Elective Courses**

3 credits, at the 500 level or higher, on environmental issues to be chosen in consultation with and approved by the student supervisor AND the Neotropical Environment Options Director

**11.7 Mathematics and Statistics**

**11.7.1 Location**

Department of Mathematics and Statistics  
 Burnside Hall, Room 1005  
 805 Sherbrooke Street West  
 Montreal, QC H3A 0B9  
 Canada

Telephone: 514-398-3800  
 Fax: 514-398-3899  
 Email: [grad.mathstat@mcgill.ca](mailto:grad.mathstat@mcgill.ca)  
 Website: [www.math.mcgill.ca](http://www.math.mcgill.ca)

**11.7.2 About Mathematics and Statistics**

The Department of Mathematics and Statistics offers programs that can be focused on applied mathematics, pure mathematics, and statistics leading to masters degrees (M.A. or M.Sc.), with program options in Bioinformatics and in CSE (Computational Science and Engineering). Research groups are: Algebra Category; Theory and Logic; Geometric Group Theory; Algebraic Geometry; Discrete Mathematics; Mathematics of Probability; Analysis and its Applications; Differential Geometry; Number Theory; Applied Mathematics; Differential Equations; and Probability and Statistics. In the basic master programs, students must choose between the thesis option, and the non-thesis option which requires a paper. Bioinformatics and CSE options require a thesis. In addition to the Ph.D. program in Mathematics and Statistics, there is a Ph.D. option in Bioinformatics.

The Department website ([www.math.mcgill.ca](http://www.math.mcgill.ca)) provides extensive information on the Department and its facilities, including the research activities and the research interests of individual faculty members. It also provides detailed information, supplementary to Programs, Courses and University Regulations publication, concerning our programs, admissions, funding of graduate students, thesis requirements, advice concerning the choice of courses, etc.

Students are urged to consult the website [www.math.uqam.ca/ISM](http://www.math.uqam.ca/ISM) of the Institut des Sciences Mathématiques (ISM), which coordinates intermediate and advanced-level graduate courses among Montreal and Quebec universities. A list of courses available under the ISM auspices can be obtained from the ISM website. The ISM also offers fellowships and promotes a variety of joint academic activities greatly enhancing the mathematical environment in Montreal and in the province of Quebec.

Faculty of Arts > Graduate > Academic Programs > Mathematics and Statistics : [Master of Arts \(M.A.\); Mathematics and Statistics \(Thesis\) \(45 credits\)](#)

The Department of Mathematics and Statistics offers programs with concentrations in applied mathematics, pure mathematics, and statistics leading to the Master's degree (M.A.). The thesis option requires a thesis (24 credits) and six approved courses of 3 or more credits each for a total of at least 21 credits.

Faculty of Arts > Graduate > Academic Programs > Mathematics and Statistics : [Master of Arts \(M.A.\); Mathematics and Statistics \(Non-Thesis\) \(45 credits\)](#)

The Department of Mathematics and Statistics offers programs with concentrations in applied mathematics, pure mathematics, and statistics leading to the master's degree (M.A.). The non-thesis option requires a project (16 credits) and eight approved courses of 3 or more credits each for a total of at least 29 credits.



A master's degree with high standing is required, in addition to the requirements listed for the master's program. Students may transfer directly from the master's program to the Ph.D. program under certain conditions. Students without a master's degree but with exceptionally strong undergraduate training, may be admitted directly to Ph.D. 1.

**11.7.3.2 Application Procedures**

McGill's online application form for graduate program candidates is available at [www.mcgill.ca/gadapplicants/apply](http://www.mcgill.ca/gadapplicants/apply)

See [section 6.3 Application Procedures \(for All Admissions Starting Summer 2016\)](#) for detailed application procedures.

**11.7.3.2.1 Additional Requirements**

The items and clarifications below are additional requirements set by this department:

- Research Proposal

- Applicants in pure and applied mathematics should provide a GRE score report, if available

For more details, please consult the website at [www.math.mcgill.ca/students/graduate/application](http://www.math.mcgill.ca/students/graduate/application)

**11.7.3.3 Dates for Guaranteed Consideration**

Canadian	International	Special/Exchange/Visiting
Fall: May 1	Fall: Feb 1	Fall: Same as Canadian/International
Winter: Oct. 15	Winter: Sept. 15	Winter: Same as Canadian/International
Summer: N/A	Summer: N/A	Summer: N/A







**Complementary Courses (21 credits)**

At least six appro

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

**List B - Applications and Specialized Methods Courses:**

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 572	(3)	Computational Hydraulics
CIVE 603	(4)	Structural Dynamics
COMP 557	(3)	Fundamentals of Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Program Analysis and Transformations
COMP 642	(4)	Numerical Estimation Methods
COMP 767	(4)	Advanced Topics: Applications 2
ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 761	(4)	Topics in Applied Mathematics 1
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics
MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Geometry in Mechanics
MECH 577	(3)	Optimum Design
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 620	(4)	Advanced Computational Aerodynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics
MECH 650	(4)	Fundamentals of Heat Transfer
MECH 654	(4)	Compt. Fluid Flow and Heat Transfer

### 11.7.8 Master of Science (M.Sc.); Mathematics and Statistics (Non-Thesis) (45 credits)

#### Research Project (16 credits)

MATH 640	(8)	Project 1
MATH 641	(8)	Project 2

#### Complementary Courses (29 credits)

At least eight approved graduate courses, at the 500, 600, or 700, level 3 or more credits each.

### 11.7.9 Doctor of Philosophy (Ph.D.); Mathematics and Statistics

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how it advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

#### Required Courses

MATH 700	(0)	Ph.D. Preliminary Examination Part A
MATH 701	(0)	Ph.D. Preliminary Examination Part B

#### Complementary Courses

Twelve approved graduate courses, at the 500, 600, or 700, level 3 or more credits each.

### 11.7.10 Doctor of Philosophy (Ph.D.); Mathematics and Statistics Bioinformatics

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate how it advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

#### Required Courses (3 credits)

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar
MATH 700	(0)	Ph.D. Preliminary Examination Part A
MATH 701	(0)	Ph.D. Preliminary Examination Part B

#### Complementary Courses (6 credits)

(3-6 credits)

The twelve one-semester complementary courses for the Ph.D. degree must include at least two from the list below, unless a student has completed the M.Sc.-level option in Bioinformatics, in which case only one course from the list below must be chosen:

BINF 621	(3)	Bioinformatics: Molecular Biology
BMDE 652	(3)	Bioinformatics: Proteomics
BTEC 555	(3)	Structural Bioinformatics
COMP 618	(3)	Bioinformatics: Functional Genomics
PHGY 603	(3)	Systems Biology and Biophysics

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## 11.8 Physics

### 11.8.1 Location

Department of Physics  
Ernest Rutherford Physics Building  
3600 University Street  
Montreal, QC H3A 2T8  
Canada

Telephone: 514-398-6485 (Graduate Information)

Fax: 514-398-8434

Email: [graduatephysics@mcgill.ca](mailto:graduatephysics@mcgill.ca)

Website: [www.physics.mcgill.ca](http://www.physics.mcgill.ca)

### 11.8.2 About Physics

The Department of Physics currently has a faculty of approximately 40 members, including several holders of Canada Research Chairs and other prestigious named Chairs. Additionally, we host an impressive number of postdoctoral fellows and research associates and run one of the largest and most vibrant graduate programs in North America. The graduate student enrolment is currently approximately 150.

Faculty members in the Department of Physics are recognized internationally for their excellence. Our members have received national and international prizes and fellowships including Les Prix Du Québec Steacie Prize, Sloan Fellowships, and 10 Ph.D. students. The department's enrolment is currently 160.

High-energy particle astrophysics: ground-based gamma-ray astronomy using the newly commissioned VERITAS telescope array and development of the next-generation detector

Students at the M.Sc. and Ph.D. levels are offered a strong program of research in a challenging and rapidly changing field. Short term master's projects are based mainly on instrumentation or data analysis conducted on campus, while Ph.D. research may be intended stay at one of the world's major research laboratories.

#### Nuclear Physics

Theoretical: Current research programs include 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

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

Ph.D.

Normal requirement is an 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

### 11.8.3.2 Application Procedures

McGill's online application form for graduate program candidates is available at [www.mcgill.ca/gadapplicants/apply](http://www.mcgill.ca/gadapplicants/apply)

See [section 6.3 Application Procedures \(for All Admissions Starting Summer 2016\)](#) detailed application procedures.

Financial Assistance

Financial assistance will be offered to students in the form of bursary and teaching and research assistantships. For new students, financial support will be offered at the time of acceptance. Offers are given and filled out on registration day

### 11.8.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: Jan. 15	Fall: Jan. 15	Fall: Jan. 15
Winter: Sept. 15	Winter: Sept. 15	Winter: Sept. 15
Summer: N/A	Summer: N/A	Summer: N/A

Revision, October 2012. End of revision.

## 11.8.4 Physics Faculty

Chair

C. Gale

Director of Graduate Studies

S. Jeon

Emeritus Professors

S. Das Gupta; B.Sc., M.Sc.(Calc.), Ph.D.(McM) Macdonald Emeritus Professor of Physics

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

C.S. Lam; B.Sc.(McG.), Ph.D.(MIT)

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

S.K. Mark; B.Sc., M.Sc., Ph.D.(McG) Macdonald Emeritus Professor of Physics

D.G. Stairs; B.Sc., M.Sc.(Qu.), Ph.D.(Har) Macdonald Emeritus Professor of Physics

J.O. Strom-Olsen; B.A., M.S., Ph.D.(Camb)

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

Post-Retirement Professors

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

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

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

J.K.P



## Lecturers

Z. Altounian, F Buchinger

## Associate Members

M. Chacron (Physiology)

K. Gehring (Biochemistry)

P. Hayden (Computer Science)

M. Mackey (Physiology)

Z. Mi (Electrical and Computer Engineering)

J. Nadeau (Biomedical Engineering)

E. Podgorsak (Medical Physics)

D. Tsoumellis (Bioc) (Tj) (y)

D. Tsoumellis (Bioc) (Tj) ( )

J. Seuntjens (Medical Physics)

T. Szlopek (Electrical and Computer Engineering)

F. Verhaegen (Medical Physics)



Candidates must successfully complete 8 credit graduate courses at the 600 level or above; one of these courses should be in the candidate's area of specialization. If the candidate completed 6 or more courses at the 600 level as part of the McGill Physics M.Sc. program, then one of these courses may be used as a substitute for one of the required courses. In all cases, candidates must also pass the Ph.D. preliminary (PHYS 700).

PHYS 700 (0) Preliminary Ph.D. Examination

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## 11.9 Psychology

### 11.9.1 Location

Stewart Biological Sciences Building, Room 333A  
1205 Dr Pen eld Avenue  
Montreal, QC H3A 1B1  
Canada

Telephone: 514-398-6124/514-398-6100

Fax: 514-398-4896

Email: [gradsec@go.psych.mcgill.ca](mailto:gradsec@go.psych.mcgill.ca)

Website: [www.psych.mcgill.ca](http://www.psych.mcgill.ca)

### 11.9.2 About Psychology

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. 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 an important component of the student's activities. Students are normally expected to do both master's and doctoral study.

M.A. and M.Sc. degrees may be awarded in Experimental Psychology only as a stage students undergo formal evaluation in the Ph.D. program.

The Clinical program adheres to the scientist practitioner model and as such is designed to train students for careers in teaching or clinical research, and for service careers working with children or adults in hospital, clinical, or educational settings). Most of our clinical graduates combine service and research roles. While there are necessarily more course requirements than in the Experimental program, the emphasis is on research training. There is no master's program in Clinical Psychology; students are expected to complete the full program leading to a doctorate.

Research interests of members of the Psychology Department include animal learning, cognitive 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 with the Departments of Psychology at the Montreal Neurological Institute and Hospital, the Montreal Memorial Institute, Douglas Hospital, the General Hospital, 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 Coordinator, Department of Psychology.

Ph.D. Option in Language Acquisition (LAP)

Information about this option is available from the Department and at [www.psych.mcgill.ca/lap.html](http://www.psych.mcgill.ca/lap.html)

Ph.D. Option in Psychosocial Oncology (PSO)

A cross-discipline

#### section 11.9.7 Doctor of Philosophy (Ph.D.); Psychology Language Acquisition

This unique interdisciplinary program focuses on the scientific exploration of language acquisition by different kinds of learners in diverse contexts. Students in the Language Acquisition Program are introduced to theoretical and methodological issues on language acquisition from the perspective of cognitive neuroscience, theoretical linguistics, psycholinguistics, education, communication sciences and disorders, and neuropsychology

#### section 11.9.8 Doctor of Philosophy (Ph.D.); Psychology Psychosocial Oncology

The Department of Oncology, in conjunction with the Ingram School of Nursing, the Department of Psychology and the School of Social Work has developed the cross-disciplinary Psychosocial Oncology Option (PSO) option is open to doctoral students in the Ingram School of Nursing and in the Department of Psychology who are interested in broadening their knowledge of psychosocial issues in oncology

### 11.9.3 Psychology Admission Requirements and Application Procedures

Revision, October 2012. Start of revision.

#### 11.9.3.1 Admission Requirements

Admission to the graduate program depends on evaluation of students' research interests and their aptitude for original contributions to knowledge and, if applicable, for professional contributions in the applied field.

#### 11.9.4 Psychology Faculty



#### Associate Professors

E.S. Balaban; B.A.(Mich. St.), Ph.D.(Rutgers)  
H. Hwang; B.A.(Chung-Ang), Ph.D.(McG.)  
B. Knauper; Drphil.(Germany, Mannheim)  
M.J. Mendelson; B.Sc.(McG), M.A., Ph.D.(Harv)  
K. Nader; B.Sc., Ph.D.(U.)  
G. O'Driscoll; B.A.(Villles.), Ph.D.(Harv (William Dawson Scholar))  
K. Onishi; B.A.(Brown), M.A., Ph.D.(Ill.)  
M. Pompeiana; M.D., Ph.D.(Pisa)  
Z. Rosberger; B.Sc.(McG.), M.A., Ph.D.(C'odia) Part-time  
D. Titone; B.A.(NYU), M.A., Ph.D.(SUNY Binghamton)

#### Assistant Professors

J. Bartz; B.A.(C'odia), M.A., Ph.D.(McG.)  
I. Bradley; B.Sc., M.Sc.(U.), Ph.D.(Vat.) Part-time  
Y. Chudasama; B.Sc., Ph.D.(Caf'ia)  
M. Dirks; B.A.(McM.), M.S., M.Phil., Ph.D.(U.)  
J. Ristic; B.A., M.A., Ph.D.(BrCol.)  
H.-T. Yu; B.S.(Taiwan), M.S., M.A., Ph.D.(Ill.-Urbana-Champaign)

#### Lecturers

R. Amsel, P. Carvajal

#### Associate Members

Anesthesia T. Coderre  
Douglas Hospital Research Centre: S. King, J. Pruessner, H. Steiger  
Jewish General Hospital P. Zelkowitz  
McGill Vision Research Centre: C. Baker, R. Hess, P.A. Kingdom, K. Mullen  
Montreal Neurological Institute J.Armony, L.K. Fellows, D. Guitton, M. Jones-Gotman, M. Lepage, B. Milner, Ruthazer, W. Sossin, V. Sziklas, R. Zatorre  
Schulich School of Music S. MacAdams  
Psychiatry: D. Dunkley, M. Leyton, A. Raz  
Ingram School of Nursing Psychiatry: F. Abbott

#### Adjunct Professors

M. Bruck, S. Burstein, P. Delisle, P. Gregoire, D. Sookman, P. Zelazo

#### Associate Member

L. Kowski (Medicine)

#### Part-Time Appointments

J. Bernstein, E. Frey, O. Hardt, J. LeGallais, J. MacDaly, V. Miguez, Z. Pleszki

PSYC 690	(15)	Masters Research 1
PSYC 699	(12)	Masters Research 2

**Required Courses (18 credits)**

PSYC 601	(6)	Master's Comprehensi
	(3)	Advanced Statistics 1

EDSL 711	(2)	Language Acquisition Issues 3
LING 710	(2)	Language Acquisition Issues 2
PSYC 701	(6)	Doctoral Comprehensive Examination
PSYC 709	(2)	Language Acquisition Issues 1
SCSD 712	(2)	Language Acquisition Issues 4

One graduate seminar each term during Year 2 and Year 3 chosen from seminar courses PSYC 710 to PSYC 758.

Note: The Department of Psychology does not ordinarily require examination in a foreign language; however, all students planning on practising clinical psychology in the province of Quebec will be examined based on their proficiency in French before being admitted to the professional association.

Note: If the student has a non-McGill master's degree then the following courses are also required:

PSYC 650	(3)	Advanced Statistics 1
PSYC 651	(3)	Advanced Statistics 2
PSYC 660D1	(3)	Psychology Theory
PSYC 660D2	(3)	Psychology Theory

### Complementary Courses (9 credits)

One graduate-level course in statistics, such as:

EDPE 676	(3)	Intermediate Statistics
EDPE 682	(3)	Univariate/Multivariate Analysis
PSYC 650	(3)	Advanced Statistics 1
PSYC 651	(3)	Advanced Statistics 2

Students who have taken an equivalent course in statistics, or are currently taking an equivalent course as part of their Ph.D. program requirements, will be deemed to have satisfied this requirement for the Language Acquisition Option.

Two courses selected from the following list, at least one course must be outside the Department of Psychology:

EDSL 620	(3)	Critical Issues in Second Language Education
EDSL 623	(3)	Second Language Learning
EDSL 624	(3)	Educational Sociolinguistics
EDSL 627	(3)	Classroom-Centred Second Language Research
EDSL 629	(3)	Second Language Assessment
EDSL 632	(3)	Second Language Literacy Development
EDSL 664	(3)	Second Language Research Methods
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown
LING 651	(3)	Topics in Acquisition of Phonology
LING 655	(3)	Theory of L2 Acquisition
PSYC 734	(3)	Developmental Psychology and Language
PSYC 736	(3)	Developmental Psychology and Language
SCSD 619	(3)	Phonological Development
SCSD 632	(3)	Phonological Disorders: Children
SCSD 633	(3)	Language Development

SCSD 637	(3)	Developmental Language Disorders 1
SCSD 643	(3)	Developmental Language Disorders 2
SCSD 652	(3)	Advanced Research Seminar 1
SCSD 653	(3)	Advanced Research Seminar 2

### 11.9.8 Doctor of Philosophy (Ph.D.); Psychology Psychosocial Oncology

The Ph.D. thesis topic must be germane to psychosocial oncology and approved by the PSO coordinating committee.

#### Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, analyze results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate that the research advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain.

#### Required Courses (12 credits)

NUR2 705	(3)	Palliative Care
NUR2 783	(3)	Psychosocial Oncology Research
PSYC 701	(6)	Doctoral Comprehensive Examination

One graduate seminar each term during Year 2 and Year 3 chosen from seminar courses PSYC 710 to PSYC 758.

Note: The Department of Psychology does not ordinarily require examination in a foreign language; however, all students planning on practising clinical psychology in the province of Quebec will be examined based on their proficiency in French before being admitted to the professional association.

Note: If the student has a non-McGill master's then the following courses are also required:

PSYC 650	(3)	Advanced Statistics 1
PSYC 651	(3)	Advanced Statistics 2
PSYC 660D1	(3)	Psychology Theory
PSYC 660D2	(3)	Psychology Theory

#### Complementary Course (3 credits)

One of the following courses:

PSYC 507	(3)	Emotions, Stress, and Illness
PSYC 753	(3)	Health Psychology Seminar 1
SWRK 609	(3)	Understanding Social Care
SWRK 668	(3)	Living with Illness, Loss and Bereavement

## 11.10 Redpath Museum

### 11.10.1 Location

Redpath Museum  
859 Sherbrooke Street West  
Montreal, QC H3A 0C4  
Canada

Telephone: 514-398-4086

Fax: 514-398-3185

Website: [www.mcgill.ca/redpath](http://www.mcgill.ca/redpath)

### **11.10.2 About Redpath Museum**

The Redpath Museum is a unique interdisciplinary unit within the Faculty of Science of



Adjunct Professors

Robert Holmes, Henry M. Reiswig, Michael Bloch

