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

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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.
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6. Not all courses are offered every year and changes can be made after publication. Always check the Minerva Class Schedule link at https://banweb.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched for the most up-to-date information on whether a course is offered.
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Note: Throughout this publication, "you" refers to students newly admitted, readmitted or returning to McGill.

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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, disbursing graduate fellowships, supporting postdoctoral fellows, and facilitating the graduation process, including the examination of theses. GPS has partnered with Enrolment Services to offer 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 training. As 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 intensive 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—a community 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 P ostdoctoral Studies

2.1 Administrative Officer s

Administrative Of cers	
Martin Kreiswirth; B.A.(Hamilton), M.A.(Chic.), Ph.D.(Tor.)	**Associate Provost (Graduate Education) and Dean (Graduate and Postdoctoral Studies)**
Shari Baum; B.A.(C'nell), M.Sc.(Vermont), Ph.D.(Brown)	**Associate Dean (Graduate and Postdoctoral Studies)**
Laura Nilson; B.A.(Colgate), Ph.D.(Yale)	**Associate Dean (Graduate and Postdoctoral Studies)**
Lisa deMena Travis; B.A.(Yale), Ph.D.(MIT)	**Associate Dean (Graduate and Postdoctoral Studies)**
Charlotte E. Légaré; B.Sc.(Montr.), M.Sc.(Sher.), M.B.A.(McG.)	**Senior Adviser to the Associate Provost / Dean (Graduate and Postdoctoral Studies)** (*on leave*)
Lissa B. Matyas; B.F.A., M.Sc.(C'dia)	**Director (Graduate and Postdoctoral Studies)**

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Website: *www.mcgill.ca/gps*

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

2.3 General Statement Concerning Higher Degrees

Graduate and Postdoctoral Studies (GPS) 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' work, and for recommending to Senate those who may receive the degrees, diplomas, and certificates.

3 Impor tant Dates 2012 2013

For all dates relating to the academic year, consult *www.mcgill.ca/importantdates*.

4 Graduate Studies at a Glance

4.1 Graduate and P ostoctoral Degrees Off ered by Faculty

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

Faculty of Agricultural and Environmental Sciences	**Degrees Available**
: Agricultural Economics	M.Sc.
: Animal Science	M.Sc., M.Sc.A., Ph.D.
: Bioresource Engineering	M.Sc., M.Sc.A., Ph.D., Graduate Certificate
: Biotechnology	M.Sc.A., Graduate Certificate
: Dietetics and Human Nutrition	M.Sc., M.Sc.A., Ph.D., Graduate Diploma
: Food Science and Agricultural Chemistry	M.Sc., Ph.D.
: Natural Resource Sciences	M.Sc., Ph.D.
: Parasitology	M.Sc., Ph.D.
: Plant Science	M.Sc., M.Sc.A., Ph.D., Graduate Certificate

Faculty of Arts	**Degrees Available**
: Anthropology	M.A., Ph.D.
: Art History	M.A., Ph.D.
Classics – see *: History and Classical Studies*	N/A
: Communication Studies	M.A., Ph.D.
: East Asian Studies	M.A., Ph.D.
: Economics	M.A., Ph.D.
: English	M.A., Ph.D.
: French Language and Literature	M.A., Ph.D.
: Geography	M.A., Ph.D.
: History and Classical Studies	M.A., Ph.D.
: Institute for the Study of International Development	N/A
: Islamic Studies	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.
: Mathematics and Statistics	M.A., Ph.D.
: Philosophy	M.A., Ph.D.
: Political Science	M.A., Ph.D.
: 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.
: Sociology	M.A., Ph.D.

School of Dentistry	Degrees Available
: Dentistry	M.Sc.

Desautels Faculty of Management	Degrees Available
: Desautels Faculty of Manag	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

DegrDeg

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 *: M.B.A. Program*.
Master of Business Administration with integrated Bachelor of Ci	M.B.A. with B.C.L./LL.B.	See *: M.B.A. Program*.

Program	Thesis/Non-Thesis	Options
Professional	Non-Thesis	Design Studio, Design Studio – Directed Research
		Architectural History and Theory, Cultural Mediations and Professional

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 Strategy and Leadership, Marketing, Technology and Innovation (Non-Thesis)
M.B.A. with B.C.L. and LL.B.	Non-Thesis	Finance, General Management, Global Strategy 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 Strategy 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) Air and Space Law, Environment, Comparative Law (Thesis and Non-Thesis)

Master of Library and Information Studies (M.L.I.S.)

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

Program	Thesis/Non-Thesis	Options
Information Studies	Non-Thesis	N/A

Master of Music (M.Mus.)

Program	Thesis/Non-Thesis	Options
Music – Composition	Non-Thesis	N/A
Performance	Thesis	Vocal Pedagogy, Jazz Performance, Early Music, Orchestral Instruments and Guitar, Collaborative Piano, Piano, Opera and Voice, Organ and Church Music, Conducting
Sound Recording	Non-Thesis	N/A

Master of Sacred Theology (S.T.M.)

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

Program	Thesis/Non-Thesis	Options
Religious Studies	Non-Thesis	N/A

Master of Science (M.Sc.)

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 Science, Applied (M.Sc.A.)

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

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 build 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.

Program	Thesis/Non-Thesis	Options
Urban Planning	Thesis, Non-Thesis	Transportation Planning, Urban Design (Non-Thesis)

4.4 Doctoral Degrees

The following section lists the doctoral degrees available at McGill, along with their prerequisites. See *section 4.4.1: Doctoral Degree Programs and Specializations* for specific programs and options for doctoral degrees.

Degree		Prerequisites
Doctor of Civil Law	D.C.L.	B.C.L. or LL.B. and usually LL.M. See Law.
Doctor of Music	D.Mus.	M.A. in Composition (D.Mus. in Composition) or a master's degree in Performance, and professional and teaching experience (D.Mus. in Performance). See Music.
Doctor of Philosophy	Ph.D.	An undergraduate degree relevant to the subject chosen for graduate work. Some departments require all Ph.D. candidates to hold a master's degree in the same subject. Departments may recommend that candidates of undoubted promise should be allowed to proceed directly to the Ph.D. degree without being required to submit a master's thesis.

4.4.1 Doctoral Degree Pr ograms and Specializations

Doctor of Civil Law (D.C.L.)

Doctoral programs are of

Programs leading to the degree of Doctor of Philosoph

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)

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 *ad hoc* Ph.D. program.

Program	Options	Offered by Faculty/School
East Asian Studies	N/A	Faculty of Arts
Italian Studies	N/A	Faculty of Arts
Kinesiology and Physical Education	N/A	Faculty of Education

- 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.W., 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); M.A. T

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

As a rule, no more than one-third of the McGill program formal coursework 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. 2. The results of this examination determine whether or not students will be permitted to continue in their programs. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations approved by the Dean of Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of these details at the commencement of their programs. For more information, see *Programs, Courses and University Regulations > University Regulations and Resources > Graduate > Guidelines and Policies > : Ph.D. Comprehensives Policy*.

Language Requirements Doctoral

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

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

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

All language requirements must be fulfilled and the grades reported **before** submission of the thesis to GPS (Thesis Section).

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

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

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

Courses in French language are available at the English and French Language Centre. The teaching is intensive and class sizes are kept small. While undergraduate students are given preference, graduate students who are certain they can dev

See *www.mcgill.ca/gradapplicants/apply/prepare/requirements/international-degree-equivalency* for information on grade equivalencies and degree requirements from countries in Europe and around the world. These equivalencies and requirements are provided for information only and are subject to change without notice.

Admission to graduate programs at McGill is highly competitive and the final decision rests with the Graduate Admissions Committee. Admission decisions are not subject to appeal or reconsideration.

Revision, October 2012. End of revision.

6.3 Application Procedures (for All Admissions Starting Summer 2013)

Revision, October 2012. Start of revision.

Application Checklist

All supplemental application materials and supporting documents must be uploaded directly to the McGill admissions processing system. See *www.mcgill.ca/gradapplicants/apply/submitting-your-documents* for information and instructions.

1. **Online Application for Admission form:** *www.mcgill.ca/gradapplicants/apply/ready*.
2. **Application fee**: $100 for each form you submit (you may indicate two programs on each form), payable by credit card when you submit the form. Some programs may charge additional fees. If applicable these will be automatically charged when you submit the application form.
3. **Transcripts:** your complete record of study from each university-level institution you have attended to date. Uploaded copies will be considered as unofficial; final, official copies will be required once you are offered admission.
4. **Reference letters:** on the application form you must provide the names and email addresses of at least two professors who are familiar with your academic work. McGill will contact these referees and invite them to upload references on your behalf. N.B. some departments require more than two referees; please consult *Admission Requirements and Application Procedures* for each department at *www.mcgill.ca/gradapplicants/programs*.
5. **TOEFL/IELTS, GRE, GMAT results:** when registering for the test please ensure that you request that results be sent directly to McGill University. McGill will then receive the results electronically, directly from the testing agency.

For detailed information regarding additional documents that may be required by certain departments, please consult *Admission Requirements and Application Procedures* for each department at *www.mcgill.ca/gradapplicants/programs*.

6.3.1 Document Checklist Terms

The following terms appear on the Document Checklist and are items or documents that you may be required to upload as part of your application for admission. Please ensure that your use of certain terms conforms to the following definitions:

Audition: a trial performance where a performer demonstrates their suitability or skill.

Curriculum Vitae: an overview of the applicant's experience and other qualifications, including employment, academic credentials, publications, contributions, and significant achievements.

GMAT: Graduate Management Aptitude Test (see *section 6.4: Admission Tests*)

GRE: Graduate Records Examination (see *section 6.4: Admission Tests*)

Interview: a conversation between the applicant and a McGill representative, using a structured, standardized approach to allow for comparison and analysis of responses from all applicants interviewed; in person, via telephone, *Skype*, etc.

Personal Statement: an essay in which the applicant describes their reasons for applying to graduate studies and indicating qualifications, qualities, or circumstances the applicant feels to be significant; usually provides information about educational and professional goals and discusses the applicant's interest in the desired field of study.

Portfolio: a collection of the applicant's best work to date, selected by them, and intended to show their mastery of a given style or variety of styles; different samples of their artistic work.

Recording: an unedited recording (audio or video) of the applicant performing at least two contrasting pieces; minimum 20 minutes.

Research Proposal: a detailed description of the proposed program of research, including proposed Thesis Supervisor(s); describes the research background, significance, methodology, and references; may include expected results; may include a detailed curriculum vitae.

TOEFL: Test of English as a Foreign Language (see *section 6.5: Competency in English*)

Writing Sample: a recent sample of the applicant's written work, on any topic (not necessarily within the desired field of graduate study) and not necessarily previously submitted for evaluation or publication.

Written Work: a sample of the applicant's written work, drawn from essays, papers or other work previously submitted for academic evaluation or publication, and falling within the desired field of graduate study.

Revision, October 2012. End of revision.

6.4 Admission Tests

Revision, October 2012. Start of revision.

Graduate Record Examination (GRE)

The Graduate Record Examination (GRE) (Educational Testing Service, Princeton, NJ 08540) consists of a relatively advanced test in the candidates' specialty, and a general test of their attainments in several basic fields of knowledge for which no special preparation is required or recommended. It is offered at many centres, including Montreal, several times a year; the entire examination takes about eight hours, and there is a registration fee. Refer to *www.ets.org/gre* for further information. Only some departments require applicants to write the GRE examination, but all applicants who have written either the general aptitude or the advanced test are advised to ensure that official test results are sent to McGill directly by the testing service.

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

Graduate Management Admissions Test (GMAT)

Applicants to graduate programs in Management must ensure that official results are released to McGill by the Graduate Management Admission Council (GMAC). The test is a standardized assessment offered by the GMAC to help business schools assess candidates for admission. For further information, see *www.mba.com/the-gmat*.

Revision, October 2012. End of revision.

6.5 Competency in English

Applicants to graduate studies must demonstrate an adequate level of proficiency in English **prior to admission**, regardless of citizenship status or country of origin.

Normally, applicants meeting any one of the following conditions are NOT required to submit proof of proficiency in English:

1. Mother tongue (language first learned and still used on a daily basis) is English.
2. Has obtained (or is about to obtain) an undergraduate or graduate degree from a recognized foreign institution where English is the language of instruction.
3. Has obtained (or is about to obtain) an undergraduate or graduate degree from a recognized institution in Canada or the United States of America (anglophone or francophone).
4. Has lived and attended university, or been employed, for at least four consecutive years, in a country where English is the acknowledged primary language.

Applicants who do not meet any of the above-listed conditions must demonstrate proficiency in English using one of the following options:

1. TOEFL (Test of English as a Foreign Language): minimum acceptable scores are:

Competency in English		
iBT (Internet-based test)	PBT (paper-based test)	CBT (computer-based test)*
86 overall (no less than 20 in each of the four component scores)	550	* The CBT is no longer being offered and CBT results are no longer considered valid, or being reported by ETS.

N.B. an institutional version of the TOEFL is not acceptable.

6.6 Admission to a Qualifying Pr ogram

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

Qualifying students are registered in graduate studies, **but not as candidates for a degree**. Only one Qualifying year (i.e., tw

ii. Each academic unit hosting Postdocs should clearly identify Postdocs' 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's eligibility period for registration;

– to provide Postdocs with departmental policy and procedures that pertain to them;

– to oversee the registration and appointment of Postdocs;

– to assign departmental personnel (e.g., Postdoc coordinator and Graduate Program Director) the responsibility for Postdocs;

– to oversee and sign off on the Letter of Agreement for Postdoctoral Education;

– to ensure that each Postdoc has a supervisor, lab and/or office space, access to research operating costs and necessary equipment;

–

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

10 Information on Research Policies and Guidelines, Patents, Postdocs, Associates, Trainees

Refer to *Programs, Courses and University Regulations > University Regulations and Resources > Graduate > : Research Policy and Guidelines, Patents, Postdocs, Associates, Tr*

- cell turnover in various tissues
- control of cell growth and proliferation
- molecular biology of extracellular matrix
- structure, composition, and function of basement membranes and connective tissue microfibrils
- cell and microfibrils
- cell and molecular biology of spermatogenesis
- genetic expression of proteins in the formation of cytoskeletal components of spermatozoa
- role of endocytosis and secretion by epididymal cells in sperm maturation
- molecular biology of Sertoli cell secretions and their interaction with germ cells
- synchronization of sperm production
- transferrin, transferrin receptors, and iron in germinal cells
- differentiation of B lymphocytes in bone marrow in relation to mechanisms of humoral immunity, immunodeficiency states, and B cell neoplasias
- control mechanisms and cytokines in B lymphopoiesis
- in situ organization and stromal cell-interactions of B lineage precursor cells in bone marrow
- microenvironmental regulation of hemopoiesis
- differentiation and regulation of cells mediating natural tumour immunosurveillance
- tumour cell biology
- cell and molecular biology of the formation of dental enamel, dentin, and bone
- structure of organic matrices and inorganic crystals of dental enamel
- role of hormones and their binding sites with calcified tissues
- secretion and degradation of the proteins of enamel matrix, hypothalamo-pituitary function and gonadotropin patterns in ovarian follicular development
- polycystic ovarian disease
- computer-assisted modelling of morphometric and kinetic data
- cell biology and molecular genetics of aging
- senescence and cell cycle-specific genes and their products
- cryo-electron microscopy

The **Human Systems Biology Stream** leads to the degree of M.Sc. in Cell Biology and Anatomy. The primary objective of this stream is to offer graduate students academic training in Human Systems Biology. This is an exciting and new multidisciplinary field that aims to understand molecular human diseases at the systems level.

Research in the Department investigates the dynamics and organization of molecules, organelles, cells, and tissues in several major systems of the body. The work makes fundamental contributions to a number of established and emerging multidisciplinary fields: cell and molecular biology, cellular immunology and hematology, reproductive biology, calcified tissue biology, tumour cell biology, developmental biology, neurobiology, and aging.

The Department offers contemporary facilities for the wide range of techniques currently emplo

- computer reconstruction and quantitation
- chromatography
- subcellular fractionation
- recombinant DNA technology
- in situ hybridization
- tissue grafting
- cell and tissue culture
- mutant and transgenic mice
- hybridomas
- monoclonal antibodies

The Department has one of the largest and best-equipped electron microscope facilities in the world. Currently in use are four modern electron microscopes, including a Tecnai F20 and a Titan Krios. Combined with some of these microscopes are computer-aided analytical equipment capable of elemental microanalysis, histomorphometry, reconstruction, and quantitation. The high-voltage microscope is particularly useful for certain analytical electron optical procedures such as electron diffraction, lattice imaging, and three-dimensional electron microscopy.

section 11.1.5

All applicants must first make arrangements with a faculty member of the Department for acceptance into his/her laboratory to carry out the thesis research (www.mcgill.ca/anatomy/graduate/apppro**).**

11.1.3.2.1 Additional Requirements

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

- Agreement of a faculty member to act as Thesis Supervisor

11.1.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: June 1	Fall: March 15	Fall: Same as Canadian/International
Winter: Nov. 15	Winter: Sept. 30	Winter: Same as Canadian/International
Summer: N/A	Summer: N/A	Summer: N/A

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

Revision, October 2012. End of revision.

11.1.4 Anatomy and Cell Biology Faculty

Chair

Craig Mandato

Emeritus Professors

Gary C. Bennett; B.A., B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)

Yves Clermont; B.Sc.(Montr.), Ph.D.(McG.), F.R.C.S.

Dennis G. Osmond; C.M., B.Sc., M.B., Ch.B., D.Sc.(Brist.), M.R.C.S., L.R.C.P., F.R.S.C.

Hershey Warshawsky; B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)

Professors

Chantal Autexier; B.Sc.(C'dia), Ph.D.(McG.)

Philip Barker; B.Sc.(S. Fraser), Ph.D.(Alta.) (*joint appt. with Neurology & Neurosurgery*)

James R. Brawer; B.S.(Tufts), Ph.D.(Harv.)

Miguel Burnier; M.D., M.Sc., Ph.D.(Brazil) (*joint appt. with Ophthalmology*)

Samuel David; Ph.D.(Manit.) (*joint appt. with Neurology & Neurosurgery*)

Louis Hermo; B.A.(Loyola), M.Sc., Ph.D.(McG.)

Timothy Kennedy; B.Sc.(McM.), M.Phil., Ph.D.(Col.) (*joint appt. with Neurology & Neurosurgery*)

Nathalie Lamarche-Vane; B.Sc., Ph.D.(Montr.)

Marc D. McKee; B.Sc., M.Sc., Ph.D.(McG.) (*joint appt. with Dentistry*)

Peter McPherson; B.Sc.(Manit.), Ph.D.(Iowa) (*joint appt. with Neurology & Neurosurgery*)

Sandra C. Miller; B.Sc.(Sir G. Wms.), M.Sc., Ph.D.(McG.)

Carlos R. Morales; D.V.M.(U.N., Argentina), Ph.D.(McG.)

Barry I. Posner; M.D.(Manit.), F.R.C.P.(C) (*joint appt. with Medicine*)

Dieter Reinhardt; M.S.(Kaiserslautern), Ph.D.(Munich) (*joint appt. with Dentistry*)

Alfredo Ribeiro-da-Silva; M.D., Ph.D.(Oporto) (*joint appt. with Pharmacology and Therapeutics*)

Charles E. Smith, D.D.S., Ph.D.(McG.)

Wayne Sossin; S.B.(MIT), Ph.D.(Stan.) (*joint appt. with Neurology & Neurosurgery*)

Stefano Stifani; Ph.D.(Rome), Ph.D.(Alta.) (*joint appt. with Neurology & Neurosurgery*)

Professors

Dominique Walker; B.Sc., Ph.D.(Geneva) (*joint appt. with Psychiatry*)

Associate Professors

Orest W. Blaschuk; B.Sc.(Winn.), M.Sc.(Manit.), Ph.D.(Tor.) (*joint appt. with Surgery*)

Eugene Daniels; M.Sc., Ph.D.(Manit.)

Elaine Davis; B.Sc., M.Sc.(W. Ont.), Ph.D.(McG.)

M.F. Lalli; B.Sc., M.Sc.(Bowling Green), Ph.D.(McG.)

Craig Mandato; B.Sc., Ph.D.(Wat.)

John F. Presley; B.A., Ph.D.(Texas)

Hojatollah Vali; B.Sc., M.Sc., Ph.D.(Munich) (*joint appt. with Earth and Planetary Sciences*)

Assistant Professors

Fiona Bedford; B.Sc.(Birm.), Ph.D.(Lond.)

Justin Kollman; Ph.D.(Calif.-San Diego)

Isabelle Rouiller; Ph.D.(UK)

Associate Members

John J.M. Bergeron; B.Sc.(McG.), D.Phil.(Oxf.)

Albert Berghuis (*Biochemistry*)

Colin Chalk (*Neurology & Neurosurgery*)

Jean-François Cloutier (*Neurology & Neurosurgery*)

Claudio Cuello (*Pharmacology & Therapeutics*)

Giovanni DiBattista (*Medicine*)

Alyson Fournier (*Neurology & Neurosurgery*)

Janet Henderson (*Medicine*)

Robert Scott Kiss (*Biochemistry*)

Bartha Knoppers (*Human Genetics*)

Svetlana Komarova (*Dentistry*)

Stephane Laporte (*Medicine*)

Andréa Leblanc (*Neurology & Neurosurgery*)

Tommy Nilsson (*Medicine*)

Christian Rocheleau (*Medicine*)

Edward S. Ruthazer (*Neurology & Neurosurgery*)

Michael Sacher (*Biology*)

Philippe Seguela (*Neurology & Neurosurgery*)

Peter Siegel (*Medicine & Biochemistry*)

Thomas Stroh (*Neurology & Neurosurgery*)

David Y. Thomas (*Biochemistry*)

Jacalyn Vogel (*Biology*)

Xiang-J26/F1 8.Dhemistry

Adjunct Professors

Frédéric Charron; B.Sc.(Montr.), Ph.D.(McG.)

Miroslaw Cygler; M.Sc., Ph.D.(Lodz, Poland)

Daniel Cyr; B.Sc., M.Sc.(C'dia), Ph.D.(Manit.)

Michel Desjardins; M.Sc., Ph.D.(Montr.)

Jacques Drouin; B.Sc., D.Sc.(Laval)

David Hipfner; B.Sc., Ph.D.(Qu.)

Artur Kania; Ph.D.(Baylor)

André Nantel; B.Sc., M.Sc.(Laval), Ph.D.(Chapel Hill)

Alexei Pshezhetsky; Ph.D.(Russia)

Joseph Schrag; M.Sc., Ph.D.(Ill.)

Atilla Sik; M.Sc., Ph.D.(Hungary)

Pierre Thibault; Ph.D.(Montr.)

Faculty Lecturers

Ayman Behiery; M.B., Ch.B.(Cairo)

Geoffroy P. Noël; Ph.D.(Br. Col.)

11.1.5 Master of Science (M.Sc.); Cell Biology (Thesis) (45 credits)

Thesis Course (24 credits)

ANAT 698	(24)	M.Sc. Thesis Research 1

Required Course (12 credits)

ANAT 601	(3)	MSc Seminar Examination
ANAT 695	(3)	Seminars in Cell Biology 1
ANAT 696	(3)	Seminars in Cell Biology 2
ANAT 697	(3)	Seminars in Cell Biology 3

Complementary Courses (9 credits)

6 credits from one of two streams: Cell Developmental Biology Stream or Human Systems Biology Stream

Cell Developmental Biology Stream

ANAT 663D1	(4.5)	Histology
ANAT 663D2	(4.5)	Histology
ANAT 690D1	(3)	Cell and Developmental Biology
ANAT 690D2	(3)	Cell and Developmental Biology

Human Systems Biology Stream

6 credits required:

ANAT 690D1	(3)	Cell and Developmental Biology
	(3)	Cell and Developmental Biology

3 credits selected from:

BMDE 502	(3)	BME Modelling and Identification
BMDE 519	(3)	Biomedical Signals and Systems
BTEC 501	(3)	Bioinformatics
COMP 564	(3)	Computational Gene Regulation
COMP 680	(4)	Mining Biological Sequences
EXMD 602	(3)	Techniques in Molecular Genetics
MIMM 613	(3)	Current Topics 1
MIMM 614	(3)	Current Topics 2
MIMM 615	(3)	Current Topics 3

Upon consultation with the supervisor, students may select a 3-credit course outside of this list from Biomedical Science courses at the 500-600 level.

11.1.6 Doctor of Philosophy (Ph.D.); Cell 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 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 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

ANAT 690D1	(3)	Cell and Developmental Biology
ANAT 690D2	(3)	Cell and Developmental Biology
ANAT 695	(3)	Seminars in Cell Biology 1
ANAT 696	(3)	Seminars in Cell Biology 2
ANAT 697	(3)	Seminars in Cell Biology 3
ANAT 701	(0)	Ph.D. Comprehensive Examination

11.2 Biochemistry

11.2.1 Location

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

Christine Laberge: Student Affairs Administrator
Telephone: 514-398-2423
Fax: 514-398-7384
Email: *admissions.biochemistry@mcgill.ca*
Website: *www.mcgill.ca/biochemistry*
Website: *www.mcgill.ca/biochemistry/chemicalbiology*
Website: *www.mcgill.ca/biochemistry/bioinformatics*

groups. Graduates of the Ph.D. program are outstandingly prepared for leadership careers in the basic health sciences in industry

Professors

Albert Berghuis; B.Sc., M.Sc.(Rijks Univ. Groningen, The Netherlands), Ph.D.(Br. Col.) (*Canada Research Chair in Structural Biology*)

Philip E. Branton; B.Sc., M.Sc., Ph.D.(Tor.), F.R.S.C. (*Gilman Cheney Professor of Biochemistry*)

Kalle Gehring; B.A.(Brown), M.Sc.(Mich.), Ph.D.(Calif., Berk.) (*Chercheur National du FRSQ*)

Vincent Giguère; B.Sc., Ph.D.(Laval) (*joint appt. with Oncology & Medicine*)

Philippe Gros; B.Sc., M.Sc.(Montr.), Ph.D.(McG.), F.R.S.C. (*James McGill Professor*)

Roderick R. McInnes; B.Sc., M.D.(Dal.), Ph.D.(McG.)

William Muller; B.Sc., Ph.D.(McG.) (*Canada Research Chair in Molecular Oncology*)

Alain Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.) (*James McGill Professor*) (*joint appt. with Oncology & Medicine*)

Morag Park; B.Sc., Ph.D.(G5eq3tr

11.2.5 Master of Science (M.Sc.); Bioc hemistr y (Thesis) (45 credits)

Thesis Cour ses (36 credits)

BIOC 697	(9)	Thesis Research 1
BIOC 698	(12)	Thesis Research 2
BIOC 699	(15)	Thesis Research 3

Required Cour se (3 credits)

BIOC 696	(3)	Seminars in Biochemistry

Complementar y Cour ses* (6 credits)

At least 3 credits must be chosen from the following:

BIOC 570	(3)	Biochemistry of Lipoproteins
BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Structural Biology and Proteomics
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus additional credits, to a minimum of 6 total complementary course credits, of 500- or higher-level courses in biomedical and allied sciences.

* Complementary courses are chosen in consultation with the Research Director.

The Graduate Advisory Committee may stipulate additional coursew4.4.4.4.4.93quired Cour93quirecredits)

(1) Seminars in Chemical Biology 4

Required Courses (6 credits)

BIOC 696	(3)	Seminars in Biochemistry
COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar

Complementary Courses* (9 credits)

3 credits to be chosen from the following courses:

BIOC 570	(3)	Biochemistry of Lipoproteins
BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Structural Biology and Proteomics
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus 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
PHGY 603	(3)	Systems Biology and Biophysics

* Complementary courses are chosen in consultation with the Research Director.

The Graduate Advisory Committee may stipulate additional coursework depending on the background of the candidate. BIOC 450 (Protein Structure and Function) and BIOC 454 (Nucleic Acids) are additional requirements for those who have not previously completed equivalent courses in their prior training.

11.2.8 Doctor of Philosophy (Ph.D.); Biochemistry

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 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 (3 credits)

BIOC 696*	(3)	Seminars in Biochemistry
BIOC 701**	(0)	Research Seminar 1
BIOC 702**	(0)	Ph.D. Thesis Proposal
BIOC 703**	(0)	Research Seminar 2

*Students promoted directly from the M.Sc. to the Ph.D. program, and who re

Students must complete BIOC 701 in the third term after admission to the program, BIOC 702 in the fifth or sixth term, and BIOC 703 approximately six months prior to submission of the Ph.D. thesis.

Complementary Courses*** (6 credits)

At least 3 credits selected from:

BIOC 570	(3)	Biochemistry of Lipoproteins
BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Structural Biology and Proteomics
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus additional credits to a minimum of 6 total complementary course credits of 500- or higher-level courses in the biomedical and allied sciences.

*** Complementary courses are chosen in consultation with the Research Director.

The Graduate Advisory Committee may stipulate additional course work depending on the background of the candidate. BIOC 450 (Protein Structure and Function) and BIOC 454 (Nucleic Acids) are additional requirements for those who have not previously completed equivalent courses in their prior training.

11.2.9 Doctor of Philosophy (Ph.D.); Biochemistry Chemical 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 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 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 (7 credits)

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
BIOC 696*	(3)	Seminars in Biochemistry
BIOC 701**	(0)	Research Seminar 1
BIOC 702**	(0)	Ph.D. Thesis Proposal
BIOC 703**	(0)	Research Seminar 2

* Students promoted directly from the M.Sc. to the Ph.D. program, and who registered for and passed BIOC 696 at the M.Sc. level, do not register for BIOC 696 at the Ph.D. level.

** NOTE: Students DO NOT register for these courses until notified by the Student Affairs Officer.

Students must complete BIOC 701 in the third term after admission to the program, BIOC 702 in the fifth or sixth term, and BIOC 703 approximately six months prior to submission of the Ph.D. thesis.

Complementary Courses*** (9 credits)

At least 3 credits from the following:

BIOC 703**	(0)	Research Seminar 2
COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar

* Students promoted directly from the M.Sc. to the Ph.D. program, and who registered for and passed BIOC 696 at the M.Sc. level, do not register for BIOC 696 at the Ph.D. level.

** NOTE: Students DO NOT register for these courses until notified by the Student Affairs Officer.

Students must complete BIOC 701 in the third term after admission to the program, BIOC 702 in the fifth or sixth term, and BIOC 703 approximately six months prior to submission of the Ph.D. thesis.

Complementar y Cour ses*** (9 credits)

3 credits from the following:

BIOC 570	(3)	Biochemistry of Lipoproteins
BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Structural Biology and Proteomics
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus 6 credits from the following:

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

*** Complementary courses are chosen in consultation with the Research Director.

The Graduate Advisory Committee may stipulate additional coursework depending on the background of the candidate. BIOC 450 (Protein Structure and Function)Plus 6 cre8.78ion)

11.3.2 About Bioethics

The Biomedical Ethics Unit was established in 1996 with the aim of supporting scholarly research, clinical services, teaching, and public outreach. Members of the unit have backgrounds in anthropology, history, law, medicine, molecular genetics, philosophy, and sociology. We offer a master's degree specialization in biomedical ethics for selected master's students in the Division of Experimental Medicine, Genetics Department, Philosophy Department, Faculty of Religious Studies, and Faculty of Law.

Master's Specialization in Bioethics

The Master's Specialization in Bioethics is sponsored by the:

Faculty of Medicine, Division of Experimental Medicine;
Faculty of Law;
Faculty of Religious Studies; and
Faculty of Arts, Department of Philosophy.

Students receive an M.A., LL.M., or M.Sc. degree in the discipline chosen with a specialization in Bioethics.

Students pursuing the master's degree specialization normally take two semesters of courses before beginning their master's thesis. Courses offered include Bioethics Theory, Public Health Ethics and Policy, Research Ethics, and a Practicum that includes placement in a clinical or research setting. Research and writing the thesis normally takes one year. Students must also comply with the course and thesis requirements of their home disciplines.

11.3.3 Bioethics Admission Requirements and Application Pr ocedures

11.3.3.1 Admission Requirements

Revision, October 2012. Start of re vision.

M.D., bachelor's-level professional training in a health science, or bachelor's degree in law, philosophy, or religious studies. Other students may be considered on an individual basis.

Enrolment is limited to 12 students.

11.3.3.2 Application Pr ocedures

McGill's online application form for graduate program candidates is available at *www.mcgill.ca/gradapplicants/apply*.

See *section 6.3: Application Procedures (for All Admissions Starting Summer 2013)* for detailed application procedures.

Applications for the Master's Specialization in Bioethics are made initially through the Faculties of Law, Medicine (Division of Experimental Medicine), Religious Studies, and the Department of Philosophy.

Applicants must satisfy the admission criteria for their chosen discipline and those of the Bioethics Unit, which administers the program and teaches the core courses (*www.mcgill.ca/biomedicalethicsunit/masters/apply*). Once you have completed your online application, send an email to *heike.faerber@mcgill.ca* at the Bioethics Unit stating your chosen base discipline.

Applicants must be accepted by the appropriate Faculty, the Bioethics Graduate Studies Advisory Committee, and Graduate and Postdoctoral Studies.

11.3.3.3 Dates for Guaranteed Consideration

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

Revision, October 2012. End of re vision.

11.3.4 Bioethics F aculty

Faculty
E. Bereza; B.A., M.D.,C.M.(McG.), C.C.F.P.(C)
A. Campbell; B.A., LL.B., B.C.L.(McG.), LL.M.(Harv.)
C. Ells; R.R.T.(VGH), B.A.(St. Mary's), M.A., Ph.D.(Tenn.)
J.R. Fishman; B.A.(Calif., Berk.), Ph.D.(Calif., SF)

Faculty

K.C. Glass; A.M.(Chic.), LL.B., B.C.L., D.C.L.(McG.)

J. Kimmelman; B.S.(Duke), Ph.D.(Yale)

N.B. King; B.A.(Penn.), M.A., Ph.D.(Harv.)

11.4 Biomedical Engineering

data, the integration of biological databases, and the use of algorithms and statistics. Students successfully completing the Bioinformatics Option will be fluent in the concepts, language, approaches, and limitations of the field. The option consists of a number of interdisciplinary courses and a seminar designed to bring students from many backgrounds together and to provide a thorough overview of research in this field.

section 11.4.7 Doctor of Philosophy (Ph.D.); Biomedical Engineering

In the first Biomedical Engineering (BME) department in Canada, BME internationally renowned staf

Emeritus Professor

T.M.S. Chang; B.Sc., M.D.,C.M., Ph.D.(McG.), F.R.C.P.(C) F.R.S.(C) (*joint appt. with Physiology*)

Professors

J.D. Bobyn; B.Sc., M.Sc.(McG.), Ph.D.(Tor.) (*joint appt. with Surgery*)

D.L. Collins; B.Sc., M.Eng., Ph.D.(McG.) (*joint appt. with Neurology and Neurosurgery*)

A.C. Evans; B.Sc.(Liv.), M.Sc.(Sur.), Ph.D.(Leeds) (

BMDE 500D1	(1.5)	Seminars in Biomedical Engineering
BMDE 500D2	(1.5)	Seminars in Biomedical Engineering
BMDE 501	(3)	Selected Topics in Biomedical Engineering
BMDE 502	(3)	BME Modelling and Identification
BMDE 503	(3)	Biomedical Instrumentation
BMDE 504	(3)	Biomaterials and Bioperformance
BMDE 505	(3)	Cell and Tissue Engineering
BMDE 506	(3)	Molecular Biology Techniques
BMDE 508	(3)	Introduction to Micro and Nano-Bioengineering
BMDE 519	(3)	Biomedical Signals and Systems
BMDE 650	(3)	Advanced Medical Imaging
BMDE 651	(3)	Orthopaedic Engineering
BMDE 652	(3)	Bioinformatics: Proteomics
COMP 526	(3)	Probabilistic Reasoning and AI
COMP 558	(3)	Fundamentals of Computer Vision
COMP 646	(4)	Computational Perception
COMP 761	(4)	Advanced Topics Theory 2
ECSE 523	(3)	Speech Communications
ECSE 526	(3)	Artificial Intelligence
ECSE 529	(3)	Computer and Biological Vision
ECSE 626	(4)	Statistical Computer Vision
ECSE 681	(4)	Colloquium in Electrical Engineering
EXMD 610	(3)	Molecular Methods in Medical Research
MDPH 607	(3)	Introduction to Medical Imaging
MDPH 611	(2)	Medical Electronics
MDPH 612	(2)	Computers in Medical Imaging
MECH 500	(3)	Selected Topics in Mechanical Engineering
MECH 561	(3)	Biomechanics of Musculoskeletal Systems
PHGY 517	(3)	Artificial Internal Organs
PHGY 518	(3)	Artificial Cells

or, with the approval of the student's Graduate Advisory Committee and the Graduate Program Chair, other graduate-level courses with content of interest to biomedical engineering students.

9 credits selected from the courses listed above, or with approval of the Graduate Chair and Supervisor.

11.4.6 Master of Engineering (M.Eng.); Biomedical Engineering (Thesis) Bioinf ormatics (45 credits)

Thesis Cour ses (24 credits)

BMDE 693	(6)	Thesis Research 4
BMDE 694	(6)	Thesis Research 5
BMDE 695	(12)	Thesis Submission

Required Cour ses (3 credits)

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

Complementary Courses (18 credits)

12 credits of courses which have both biomedical content and content from the physical sciences, engineering, or computer science selected from the following:

BIOT 505	(3)	Selected Topics in Biotechnology
BMDE 500D1	(1.5)	Seminars in Biomedical Engineering
BMDE 500D2	(1.5)	Seminars in Biomedical Engineering
BMDE 501	(3)	Selected Topics in Biomedical Engineering
BMDE 502	(3)	BME Modelling and Identification
BMDE 503	(3)	Biomedical Instrumentation
BMDE 504	(3)	Biomaterials and Bioperformance
BMDE 505	(3)	Cell and Tissue Engineering
BMDE 506	(3)	Molecular Biology Techniques
BMDE 508	(3)	Introduction to Micro and Nano-Bioengineering
BMDE 519	(3)	Biomedical Signals and Systems
BMDE 650	(3)	Advanced Medical Imaging
BMDE 651	(3)	Orthopaedic Engineering
COMP 526	(3)	Probabilistic Reasoning and AI
COMP 558	(3)	Fundamentals of Computer Vision
COMP 646	(4)	Computational Perception
COMP 761	(4)	Advanced Topics Theory 2
ECSE 523	(3)	Speech Communications
ECSE 526	(3)	Artificial Intelligence
ECSE 529	(3)	Computer and Biological Vision
ECSE 626	(4)	Statistical Computer Vision
ECSE 681	(4)	Colloquium in Electrical Engineering
EXMD 610	(3)	Molecular Methods in Medical Research
MDPH 607	(3)	Introduction to Medical Imaging
MDPH 611	(2)	Medical Electronics
MDPH 612	(2)	Computers in Medical Imaging
MECH 500	(3)	Selected Topics in Mechanical Engineering
MECH 561	(3)	Biomechanics of Musculoskeletal Systems
PHGY 517	(3)	Artificial Internal Organs
PHGY 518	(3)	Artificial Cells

6 credits selected 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

In addition, students are required to present their work as a conference paper or departmental seminar before being granted the M.Eng. (Bioinformatics Option) degree.

11.4.7 Doctor of Philosoph y (Ph.D.); Biomedical Engineering

Thesis

A thesis for the doctoral de

Fax: 514-398-8123
Email: *scsd@mcgill.ca*
Website: *www.mcgill.ca/scsd*

11.5.2 About Communication Sciences and Disorders

The School provides both professional and research training in communication sciences and disorders at the graduate level through its M.Sc. (Applied), M.Sc., and Ph.D. degrees. We were the first department in Canada to provide both clinical and research degrees. Our M.Sc.A. program aims to educate the next generation of well-prepared and innovative speech-language pathology professionals by providing enriched classroom training, clinical laboratory activities that enhance the transition from theory to practice, and outstanding clinical practicum experiences. Our research degrees are designed to develop leading researchers and scholars, who will go on to train future investigators in the field of communication sciences and disorders and who, through their research, will advance our understanding of the processes of human communication and its breakdown. Interdisciplinary interactions are at the core of our research training approach, which includes preparation to conduct both fundamental and clinically applied investigations. Our professors have collaborative ties with many departments and institutes of McGill (psychology, linguistics, neuroscience, otolaryngology, biomedical engineering, Montreal Neurological Institute and Hospital) as well as other Montreal universities, and they maintain national and international collaborations. Students can access this rich collaborative network via the McGill Centre for Research on Brain, Language and Music, a world-class interdisciplinary research centre established and directed by the School. The multilingual context in which we reside provides a unique environment for language research.

The School offers a professional degree in Communication Sciences and Disorders at the M.Sc. (Applied) level with specialization in Speech Language Pathology and two research degrees: an M.Sc. (Research) and a Ph.D. in Communication Sciences and Disorders.

Requirements for Licensure

The majority of provinces in Canada and certain states in the U.S. require that those intending to practise as speech-language pathologists within their borders comply with special provincial or state licensing regulations. Graduates wishing to practise in the province of Quebec must be members of the *Ordre des Orthophonistes et Audiologistes du Québec* (OOAQ) in order to call themselves speech-language pathologists. Further information is available from the OOAQ, 235 boulevard René Lévesque est, bureau 601, Montreal, Quebec, H2X 1N8. Telephone: 514-282-9123.

section 11.5.7Doctor of Philosophy (Ph.D.); Communication Sciences and Disorders

Selected candidates may be accepted for the Ph.D. research degree. Each student's thesis supervisor and Thesis Committee design an individualized program of study in collaboration with the student. The program can include graduate courses offered by the School and by other departments at McGill.

Students pursuing a Ph.D. in SCSD have varied educational backgrounds, including both clinical and related non-clinical fields. Students who enter the program from a related field (e.g., Psychology, Linguistics) or without a master's thesis complete a Qualifying year, which includes coursework and a research project. This flexible entry attracts independent scholars with diverse backgrounds and interests, which creates a stimulating and enriched training environment. The main component of the Ph.D. program (beyond the Qualifying year) has minimal required coursework and is structured to support students as they develop and pursue an innovative, individualized program of doctoral studies. Admission to the doctoral program requires identification of a SCSD professor(s) with relevant expertise to mentor the student in this process. Ph.D. students have the opportunity to pursue an interdisciplinary specialization in language acquisition through the McGill Language Acquisition Program, which intersects with McGill departments of Linguistics, Psychology, and Education. Our Ph.D. graduates typically pursue academic careers in universities or research institutes, but some work in settings that combine research and professional activities.

section 11.5.8Doctor of Philosophy (Ph.D.); Communication Sciences and Disorders Language Acquisition

Information about this option is available from the School and at *www.psych.mcgill.ca/lap.html*. This unique interdisciplinary Ph.D. program is available for doctoral students across four departments at McGill including SCSD, Linguistics, Psychology, and Integrated Studies in Education. The program is designed to provide enriched training focused on the scientific exploration of language acquisition by different kinds of learners in diverse contexts. Students in the Language

All applications received by the Dates for Guaranteed Consideration are automatically considered for any internal funding or awards made available to the Department for recruitment purposes. Students who apply for Fall admission generally have the most options with respect to applying for external funding as well as for being considered for internal support.

11.5.3.2.1 Additional Requirements

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

- Prerequisite Form

Applications will be considered upon receipt of supporting documents as outlined above. All applicants are strongly encouraged to submit reports of their performance on the Graduate Record Examination (GRE).

11.5.3.3 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.

11.5.4 Communication Sciences and Disorders Faculty

Director and Associate Dean

Marc Pell

Research Director

Linda Polka

Emeritus Professor

Donald Doehring; B.A.(Buff.), M.A.(N.M.), Ph.D.(Ind.)

Professors

Shari Baum; B.A.(C'nell), M.S.(Vermont), M.A., Ph.D.(Brown)

Athanasios Katsarkas; M.D.(Thess.), M.Sc.(McG.), F.R.C.P.(C)

Marc Pell; B.A.(Ott.), M.Sc., Ph.D.(McG.)

Associate Professors

Vincent Gracco; B.A., M.A.(San Diego), Ph.D.(Wisc.-Madison)

Linda Polka; B.A.(Slippery Rock), M.A.(Minn.), Ph.D.(S. Flor.)

Susan Rvachew; B.Sc.(Alta.), M.Sc., Ph.D.(Calg.)

Karsten Steinhe0d1 231 75.882 262.382 Ty7t78.74 Tm(a. 3827f.i4k2 215.251819401.147 230.942 Tm78.i4k2 215.2518nal)(Free hGee hGeenvhociate Pr)Tj1ii Tm78.

Assistant Professors (Part-Time)

Rosalee Shenker; B.Sc.(Syrac.), M.A.(Calif. St.), Ph.D.(McG.)

Faculty Lecturer

Anne Vogt; B.Ed., B.A.(Tel Aviv), M.Sc.A.(McG.)

Faculty Lecturers (Part-Time)

Monique Bois; B.A., M.A., Ph.D.(Montr.), M.Sc.A.(Ott.)

Catherine Bosse; B.Ed.(Montr.), M.Sc.A.(McG.)

Francois-Xavier Brajot; B.A.(Georgia), M.Sc.(Pitt.)

Myrto Brandeker; M.Sc.(Karolinska Inst.)

Liliane Brunetti; B.Sc.(C'dia), M.Cl.Sc.(W. Ont.)

Henry Cheang; B.A.(C'dia), M.Sc., Ph.D.(McG.)

Patricia Coffin; B.A.(PEI), M.Sc.(Dal.)

Isabelle Deschamps; B.A.(McG)

Karen Evans; Licentiate(L.C.S.T.), M.A.(Car.), M.Sc.(McG.)

Ariana Fraid; B.A., M.Sc.A.(McG.)

Esther Lando; B.A.(Manit.), M.Sc.A.(McG.)

James Lapointe; B.A., M.Sc.A.(McG.)

Zinta Mateus; B.S.(Rutg.), B.Ed., M.Sc.A.(McG.)

Mariannne Paul; B.A.(UQAM), B.A., M.Sc.A., M.Sc.(McG.)

Judith Robillard-Shultz; B.A., M.Sc.A.(McG.)

Aruna Sudarshan; B.Sc., M.Sc.(Institute of Speech and Hearing, Bangalore)

Colleen Timm; B.A.(C'dia), M.Sc.A.(McG.)

Associate Members

Eva Kehayia (*Physical and Occupational Therapy*)

Yuriko Oshima-Takane (*Psychology*)

Adjunct Members

Howard Chertkow (*Jewish Gen.*), David McFarland (*Montr.*), Lucie Menard (*UQAM*)

11.5.5 Master of Science, Applied (M.Sc.A.); Communication Sciences & Disorders (Non-Thesis) Speech-Language Pathology (69 credits)

The professional degree program involves two academic years of full-time study and related practical work followed by a Summer internship.

Required Courses (63 credits)

SCSD 609	(3)	Neuromotor Disorders
SCSD 616	(3)	Audiology
SCSD 617	(3)	Anatomy and Physiology: Speech and Hearing
SCSD 618	(3)	Research and Measurement Methodologies 1
SCSD 619	(3)	Phonological Development
SCSD 624	(3)	Language Processes
SCSD 631	(3)	Speech Science

SCSD 632	(3)	Phonological Disorders: Children
SCSD 633	(3)	Language Development
SCSD 636	(3)	Fluency Disorders
SCSD 637	(3)	Developmental Language Disorders 1
SCSD 638	(3)	Neurolinguistics
SCSD 639	(3)	Voice Disorders
SCSD 642	(3)	Aural Rehabilitation
SCSD 643	(3)	Developmental Language Disorders 2
SCSD 644	(3)	Applied Neurolinguistics
SCSD 646	(2)	Introductory Clinical Practicum
SCSD 669	(3)	ASD and Neurodevelopmental Disorders
SCSD 679	(2)	Advanced Clinical Practicum
SCSD 680	(3)	Deglutition and Dysphagia
SCSD 681	(1)	Practicum and Seminar 1
SCSD 682	(1)	Practicum and Seminar 2
SCSD 683	(1)	Practicum and Seminar 3
SCSD 684	(1)	Practicum and Seminar 4
SCSD 689	(1)	Management Cranio-Facial Disorders

Complementary Courses (6 credits)

Two of the following:

SCSD 634	(3)	Research and Measurement Methods 2
SCSD 664	(3)	Communication Sciences and Disorders 1
SCSD 666	(3)	Communication Sciences and Disorders 3
SCSD 667	(3)	Communication Sciences and Disorders 4
SCSD 670	(3)	Communication Sciences and Disorders 2
SCSD 678	(3)	Special Topics 4

11.5.6 Master of Science (M.Sc.); Communication Sciences and Disorders (Thesis) (45 credits)

Thesis Courses (24 credits)

SCSD 671	(12)	M.Sc. Thesis 1
SCSD 672	(12)	M.Sc. Thesis 2

Complementary Courses (21 credits)

6-21 credits chosen from:

SCSD 675	(12)	Special Topics 1
SCSD 676	(9)	Special Topics 2
SCSD 677	(6)	Special Topics 3
SCSD 678	(3)	Special Topics 4

0-15 credits chosen from:

SCSD 673	(12)	M.Sc. Thesis 3
SCSD 674	(3)	M.Sc. Thesis 4

or courses in other departments, as arranged with the student's thesis supervisor.

Doctor of Philosophy (Ph.D.); Communication Sciences and Disor

SCSD 712	(2)	Language Acquisition Issues 4

Complementary Courses (9 credits)

3 credits of graduate-level statistics from courses 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.

At least two courses, selected from the following list.

One of these two courses must be from outside Communication Sciences and Disorders.

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
		Language

Website: *www*

Professors

O.S. Miettinen; M.D.(Helsinki), M.P.H., M.S., Ph.D.(Minn.)

G. Paradis; M.D.(Montr.), M.Sc.(McG.)

R.W. Platt; M.Sc.(Manit.), Ph.D.(Wash.) (*joint. appt. with Pediatrics*)

S. Suissa; M.Sc.(McG.), Ph.D.(Flor.) (*joint appt. with Medicine*) (*James McGill Professor*)

R. Tamblyn; M.Sc.(McM.), Ph.D.(McG.) (*joint appt. with Medicine*) (*James McGill Professor*)

C. Wolfson; B.Sc., M.Sc., Ph.D.(McG.) (*joint appt. with Medicine*)

Associate Professors

O. Basso; Ph.D.(Milan) (*joint appt. with Obstetrics & Gynecology*)

D. Buckeridge; M.D.(Qu.), M.Sc.(Tor.), Ph.D.(Stan.) (*Canada Research Chair*)

A. Ciampi; M.Sc., Ph.D.(Qu.), Ph.D.(Rome)

N. Dendukuri; M.Sc.(IIT), Ph.D.(McG.) (PT) (*joint appt. with Medicine*)

C. Greenwood; B.Sc.(McG.), M.Sc.(Wat.), Ph.D.(Tor.) (*joint appt. with Oncology*)

P. Héroux; B.Sc.(Laval), M.Sc., Ph.D.(I.N.R.S.)

J. Kaufman; B.A.(Johns Hop.), Ph.D.(Mich.)

A. Manges; B.A.(Col.), M.P.H., Ph.D.(Calif., Berk.)

M. Pai; M.B.B.S.(Stanley Med. Coll.), M.D.(Christian Medical Coll.), Ph.D.(Calif., Berk.)

J. Pickering; B.A.(Tor.), M.D., M.Sc.(McG.) (*joint appt. with Medicine*)

A. Quesnel-Vallée; B.A., M.Sc.(Montr.), M.A., Ph.D.(Duke) (*joint appt. with Sociology*)

M. Rossignol; B.Sc., M.D.(Sher.), M.Sc.(McG.)

P. Tousignant; B.A., M.D.(Laval), M.Sc.(McG.), F.R.C.P.(C) (PT)

Assistant Professors

A. Adrien; M.D., M.Sc.(McG.)

A. Benedetti; B.Sc., M.Sc., Ph.D.(McG.) (*joint appt. with Medicine*)

J. Cox; B.Sc., B.A., M.D.(Dal.), M.Sc.(McG), C88 gBT/F3 8.1 Tf1 0 0 1 70.14.5271Cox; B.Sc., 53.89 401.16 Tm(g501Cox; B.Sc., 5233.405 401.16 T56)Tj Cox; B.S

Associate Members

Ob/Gyn: H. Abenhaim, R. Gagnon

Pathology: B. Case

Pediatrics: G. Dougherty, B. Foster, C. Quach-Thanh

Physical & Occupational Therapy: S. Ahmed

Psychiatry: E. Latimer, A. Malla, N. Schmitz, B. Thombs

Lecturers

J.P. Gauvin, W. Wood

Adjunct Professors

Asociación Civil Selva Amazónica Peru: M. Casapia

Caro Research: J. Caro

Direction régionale de la santé publique: R. Allard, M. Baillargeon, R. Lessard, S. Palmieri, S. Perron, E. Robinson

Harvard Univ.: J. Brownstein

Hôpital Sacré-Coeur: D. Gautrin

Independent: I. Arnold, M.A. Lavoie, J. Lemke, M. Schweigert, L. Scott

INSPQ: F. Richer, P. Robillard, S. Stock

Montreal Chest Hospital Centre: P. Rohan

Mount Sinai: M. Baltzan

Stabilis: P. Simon

Univ. de Montréal: F. Ducharme, R. Massé, J. Siemiatycki

Univ. of S. Australia: J. Lynch

11.6.4 Epidemiology

The Department offers master's and doctoral programs in both Epidemiology and Biostatistics, as well as a Master's of Science in Public Health. The methods learned in these fields are used not only in the study of diseases, but also in health services research, program planning and evaluation, and policy development. Our faculty members are at the forefront of their research domains and include epidemiologists, biostatisticians, clinician scientists, medical informatics specialists, health economists, medical sociologists, and health geographers. Research in the Department spans all clinical specialties, pharmacoepidemiology, social epidemiology, infectious diseases, population and public health, environmental and occupational health, clinical and public health informatics, biostatistics, health care delivery and organization, and many cross-disciplinary activities. Faculty members may have funding available for students through their research grants. We provide rich research environments at five university-affiliated hospitals, public health agencies, and univ

11.6.4.1.1.2 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: Dec. 15	Fall: Dec. 15	Fall: Apr. 30
Winter: N/A	Winter: N/A	Winter: Sept. 15
Summer: N/A	Summer: N/A	Summer: Feb. 28

Revision, October 2012. End of revision.

11.6.4.2 Master of Science (M.Sc.); Epidemiology (Thesis) (48 credits)

Students will study the foundations and principles of epidemiology and applied biostatistics, in order to design, conduct, and analyze clinical, population-based, environmental, policy, and methodological health-related research. Graduates will be prepared to engage in scientific collaboration, and communicate results to other scientists and diverse audiences.

Thesis Course (24 credits)

EPIB 690	(24)	M.Sc. Thesis

Required Courses (22 credits)

Students exempted from any of the courses listed below must replace them with additional complementary course credits.

EPIB 601	(4)	Fundamentals of Epidemiology
EPIB 602	(3)	Foundations of Population Health
EPIB 603	(4)	Intermediate Epidemiology
EPIB 605	(1)	Critical Appraisal in Epidemiology
EPIB 607	(4)	Inferential Statistics
EPIB 613	(1)	Introduction to Statistical Software
EPIB 614	(1)	Basics of Measurement in Epidemiology
EPIB 621	(4)	Data Analysis in Health Sciences

Complementary Course (2 credits)

2 credits of coursework, at the 500 level or higher, chosen in consultation with the student's academic adviser or supervisor.

11.6.4.3 Master of Science (M.Sc.); Public Health (Non-Thesis) (60 credits)

Students will study the foundations and principles of epidemiology and biostatistics as applied to public health research and practice, in order to design, conduct, and analyze clinical, population-based, environmental, policy, and methodological public health-related research. The program will include a three-month practicum after the first year.

Research Project (14 credits)

EPIB 630	(14)	Public Health Project

Required Courses (25 credits)

Students exempted from any of the courses listed below must replace them with additional complementary course credits.

EPIB 601	(4)	Fundamentals of Epidemiology
EPIB 602	(3)	Foundations of Population Health
EPIB 603	(4)	Intermediate Epidemiology
EPIB 605	(1)	Critical Appraisal in Epidemiology
EPIB 607	(4)	Inferential Statistics
EPIB 612	(3)	Principles of Public Health Practice

EPIB 613	(1)	Introduction to Statistical Software
EPIB 614	(1)	Basics of Measurement in Epidemiology
EPIB 621	(4)	Data Analysis in Health Sciences

Complementar y Cour ses (21 credits)

13 credits of coursework at the 500 level or higher, with a minimum of 2 credits chosen from each of the following fields:

Environmental health sciences;

Health services research policy and management;

Population and public health interventions (social and behavioural science);

Epidemiology in practice or field epidemiology.

8 credits of coursework, at the 500 level or higher.

Courses must be approved by the program's academic adviser.

Master of Science (M.Sc.); Pub lic Health (Non-Thesis)M7f 1 0 0 1 67.431hesis)

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* Note: If a student has not already successfully completed them or their equivalent.

12 credits of coursework, at the 500 level or higher, of which a minimum of 3 credits in ethics (medical/public health/research), 3 credits in biostatistics, 3 credits in substantive topic, and 3 credits in epidemiology. Courses must be chosen and approved in consultation with the program's academic adviser.

11.6.4.6 Graduate Diploma in Epidemiology (30 credits)

Complete details on the Biostatistics programs are available on our Departmental website at: *www.mcgill.ca/epi-biostat-occh/grad/biostatistics/requirements*.

Language Requirement

Minimum T

11.9 Human Genetics

11.9.1 Location

Department of Human Genetics
Stewart Biological Sciences Building
1205 Dr. Penfield Avenue, N5/13
Montreal, QC H3A 1B1
Canada

Telephone: 514-398-4198
Fax: 514-398-2430
Email: *grad.hg@mcgill.ca*
Website: *www.mcgill.ca/humangenetics*

11.9.2 About Human Genetics

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

The Department of Human Genetics offers a clinical master’

section 11.9.8

Graduate Program Coordinator

T. Leslie

Assistant Graduate Program Coordinator

C. Tao

Associate Professors

S. Melançon; M.D.(Montr.)

R. Nadon; B.A., M.A., Ph.D.(C’dia)

V. Ozdemir; M.D.(Hacettepe), M.Sc., Ph.D.(Tor.) (*Centre of Genomics and Policy*)

L. Russell; B.A., M.D.(Ind.) (*P*

Master of Science (M.Sc.);

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
PHGY 603	(3)	Systems Biology and Biophysics

Note: The Graduate Advisory Committee may stipulate additional coursework at the 500, 600, or 700 level depending on the background of the candidate.

11.9.7 Master of Science (M.Sc.); Human Genetics (Thesis) Bioethics (45 credits)

Thesis Courses (30 credits)

30 credits selected as follows:

HGEN 681	(12)	M.Sc. Thesis Research 2
HGEN 682	(12)	M.Sc. Thesis Research 3
HGEN 683	(6)	M.Sc. Thesis Research 4

Required Courses (12 credits)

12 credits from:

BIOE 680	(3)	Bioethical Theory
BIOE 681	(3)	Bioethics Practicum
HGEN 662	(3)	Laboratory Research Techniques
HGEN 692	(3)	Human Genetics

Complementary Courses (3 credits)

3 credits from the following:

BIOE 682	(3)	Medical Basis of Bioethics
CMPL 642	(3)	Law and Health Care
PHIL 543	(3)	Seminar: Medical Ethics
RELG 571	(3)	Religion and Medicine

11.9.8 Master of Science (M.Sc.); Genetic Counselling (Non-Thesis) (48 credits)

Revision, August 2012. Start of revision.

Required Courses (48 credits)

HGEN 600D1	(3)	Genetic Counselling Practicum
HGEN 600D2	(3)	Genetic Counselling Practicum
HGEN 601	(3)	Genetic Counselling Principles
HGEN 610D1	(3)	Genetic Counselling: Independent Studies
HGEN 610D2	(3)	Genetic Counselling: Independent Studies

HGEN 6172448 92.00m1 W1529 390.70489 Principles of Medical Genetics76.2Counselm4448 92.051c2ples Studipot6. 70C42d822.r208.173 Tm(visv Tm(visv Tm(

HGEN 621	(6)	Intro Field Work Rotations 2
HGEN 630D1	(6)	Advanced Field Work Rotations
HGEN 630D2	(6)	Advanced Field Work Rotations
HGEN 640	(3)	Second Year Practicum 1
HGEN 641	(3)	Second Year Practicum 2
PATH 653	(3)	Reading and Conference

Revision, August 2012. End of re vision.

11.9.9 Doctor of Philosoph y (Ph.D.); Human Genetics

Candidates entering Ph.D. 1 must complete at least three years of full-time resident study (six terms). The normal and expected duration of the Ph.D. program is four to five years. A student who has obtained a master's degree at McGill in a related field, or at an approved institution elsewhere, and is proceeding in the same subject toward a Ph.D. degree may, upon the recommendation of the Graduate Training Committee, enter at the Ph.D. 2 level.

Thesis

A thesis for the doctoral de

11.9.10 Doctor of Philosoph y (Ph.D.); Human Genetics Bioinf ormatics

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 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 Cour ses (6 credits)

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar
HGEN 692	(3)	Human Genetics
HGEN 701	(0)	Ph.D. Comprehensive Examination

Complementar y Cour ses (6 credits)

* Two courses from the following:

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

* Note: Students who enter in Ph.D. 1 will need to take an additional 6 credits of complementary courses chosen from the departmental offerings listed for the Ph.D. in Human Genetics and/or from among 500-, 600-, or 700-level courses in the Faculties of Medicine or Science.

11.10 Medical Ph ysics

11.10.1 Location

Medical Physics Unit
Montreal General Hospital
Livingston Hall, Room L5-113
1650 Cedar Avenue
Montreal, QC H3G 1A4
Canada

Telephone: 514-934-1934 ext. 44158
Fax: 514-934-8229
Email: *mak@medphys.mcgill.ca*
Website: *www.medphys.mcgill.ca*

11.10.2 About Medical Ph ysics

The Medical Physics Unit offers an M.Sc. in Medical Radiation Physics. Facilities are available for students to undertake a Ph.D. in Medical Physics through the Department of Physics.

The Unit is a teaching and research unit concerned with the application of physics and related sciences in medicine, especially (but not exclusively) in radiation medicine; i.e., radiation oncology, medical imaging, and nuclear medicine.

The research interests of members of the Unit include various aspects of medical imaging, including 3D imaging, the development of new imaging modalities, and applications of imaging in radiation therapy; radiation dosimetry, solid state, electret, and NMR systems; nuclear cardiology; and applications of radiation biology to therapy.

The M.Sc. and Ph.D. programs in Medical Physics are accredited by the Commission on Accreditation of Medical Physics Education Programs, Inc., sponsored by the American Association of Physicists in Medicine (AAPM), the American College of Medical Physics (ACMP), the American College of Radiology (ACR), and the Canadian College of Physicists in Medicine (CCPM).

Revision, October 2012. End of re vision.

11.10.4 Medical Ph ysics F aculty

Director

J.P.F. Seuntjens

Emeritus Professor

E.B. Podgorsak; Dipl.Ing.(Ljubljana), M.Sc., Ph.D.(Wisc.), F.C.C.P.M., F.A.A.P.M., D.A.B.M.P., D.A.B.R.

Professors

S.M. Lehnert; B.Sc.(Nott.), M.Sc., Ph.D.(Lond.)

G.B. Pike; B.Eng.(St. John's), M.Eng., Ph.D.(McG.)

J.P.F. Seuntjens; M.Sc., Ph.D.(Ghent), F.C.C.P.M., F.A.A.P.M

Associate Professor

I. El Naqa; B.Sc., M.S.(Jordan), Ph.D.(Chic.), M.A.(Wash.), D.A.B.R.

Assistant Professor

M.D.C. Evans; B.A.(Qu.), M.Sc.(McG.), F.C.C.P.M.

Lecturers

S. Davis, F. DeBlois, S. Devic, A. Gauvin, G. Hegyi, C. Janicki, J. Kildea, P. Léger, W.A. Parker, H.J. Patrocinio, R. Ruo, G. Stroian

Associate Members

A. Reader, R.B. Richardson, E. Soisson, N. Tomic, W. Wierzbicki

11.10.5 Master of Science (M.Sc.); Medical Radiation Ph ysics (Thesis) (60 credits)

Thesis Cour ses (32 credits)

MDPH 625	(32)	M.Sc. Thesis Research

Required Cour ses (28 credits)

MDPH 601	(3)	Radiation Physics
MDPH 602	(3)	Applied Dosimetry
MDPH 603	(2)	Laboratory Practicum 1
MDPH 607	(3)	Introduction to Medical Imaging
MDPH 608	(2)	Laboratory - Diagnostic Radiology and Nuclear Medicine
MDPH 609	(2)	Radiation Biology
MDPH 611	(2)	Medical Electronics
MDPH 612	(2)	Computers in Medical Imaging
MDPH 613	(2)	Health Physics
MDPH 614	(3)	Physics of Diagnostic Radiology
MDPH 615	(3)	Physics of Nuclear Medicine
MDPH 616	(1)	Selected Topics in Medical Physics

section 11.11.9 Doctor of Philosophy (Ph.D.); Experimental Medicine

as well as exposure to international conferences and guest seminars. Success is ultimately determined by the preparation and defense of a thesis. This program may lead to research careers in industry, government, or academia.

section 11.11.10 Doctor of Philosophy (Ph.D.); Experimental Medicine – Environment

Applicants to the Ph.D. (Environment Option) must meet the same qualifications as those for the M.Sc. (Environment Option), the only difference being that they must hold an M.Sc. rather than simply a B.Sc. For further details, please see the section above regarding the M.Sc. (Environment Option).

section 11.11.11 Graduate Diploma in Clinical Research (30 credits)

The objectives of this program are to give students exposure to both theoretical and practical issues relevant to the conception and conduct of a clinical research study, as well as allo

See *section 6.3: Application Procedures (for All Admissions Starting Summer 2013)* for detailed application procedures.

11.11.3.2.1 Additional Requirements

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

M.Sc. and Ph.D. in Experimental Medicine

- Personal Statement
- Curriculum Vitae
- Acceptance by a research director
- Letter from the candidate's research director outlining the M.Sc. or Ph.D. project
- Additional documents (in the cases of the M.Sc. (Bioethics Option), the M.Sc. (Environment Option), and the M.Sc. (Family Medicine option))

11.11.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: June 30	Fall: April 30	Fall: Same as Canadian/International
Winter: Oct. 15	Winter: Aug. 31	Winter: Same as Canadian/International
Summer: N/A	Summer: N/A	Summer: N/A

Revision, October 2012. End of revision.

11.11.4 Medicine, Experimental Faculty

Chair, Department of Medicine

D. Eidelman

Director, Division of Experimental Medicine

H. Bennett

Emeritus Professors

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

B.E.P. Murphy; B.A., M.D.(Tor.), M.Sc., Ph.D.(McG.), F.A.C.P.(C)

Professors

M. Alaoui-Jamali; D.V.M.(Rabat, Morocco), Ph.D.(René-Descartes, Paris)

C. Autexier; B.Sc.(C'dia), Ph.D.(McG.)

A. Bateman; B.Sc., Ph.D.(Lond.)

G. Batist; B.Sc.(Col.), M.D.,C.M.(McG.), F.R.C.P.(C)

N. Beauchemin; B.A., B.Sc., M.Sc., Ph.D.(Montr.)

H. Bennett; B.A.(York, UK), Ph.D.(Brun.)

R. Blostein; M.Sc., Ph.D.(McG.)

A.E. Clarke; M.D.(Nfld.), M.S.(Stan.), F.R.C.P.(C)

M. Cosio; B.Sc.(Oviedo), M.D.(Madrid)

A. Cybulsky; M.D.(Tor.), F.R.C.P.(C)

D. Eidelman; M.D.,C.M.(McG.), F.R.C.P.(C)

A. Fuks; B.Sc., M.D.,C.M.(McG.)

J. Genest Jr.; M.D.,C.M.(McG.), F.R.C.P.(C)

A. Giaid; D.V.M.(Baghdad), M.D., Ph.D.(Lond.)

V. Giguere; B.Sc., Ph.D.(Laval)

M. Goldberg; B.Sc., M.Sc., Ph.D.(McG.)

Professors

D. Goltzman; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C)

S.A. Grover; B.A.(Roch.), M.D.,C.M.(McG.), M.P.A.(Harv.), F.R.C.P.(C)

Q.A. Hamid; M.D.(Mosul, Iraq.), Ph.D.(Lond.)

G. Hendy; B.Sc.(Sheff.), Ph.D.(Lond.)

J. Hiscott; B.Sc., M.Sc.(W. Ont.), Ph.D.(NYU)

L.J. Hoffer; B.Sc., M.D.,C.M.(McG.), Ph.D.(MIT)

S. Hussain; M.D.(Baghdad), Ph.D.(McG.)

A.C. Karaplis; B.Sc., M.D., Ph.D.(McG.)

L. Kleiman; B.Sc.(Ill.), Ph.D.(Johns Hop.)

R. Kremer; M.D., Ph.D.(Paris)

S. Lehnert; B.Sc.(Nottingham), M.Sc., Ph.D.(Lond.)

M. Levy; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C)

M.S. Ludwig; M.D.(Manit.), F.R.C.P.(C)

S. Magder; M.D.(Tor.), F.R.C.P.(C)

D. Malo; D.V.M., M.Sc.(Montr.), Ph.D.(McG.)

O.A. Mamer; B.Sc., Ph.D.(Windsor)

E. Marliss; M.D.(Alta.), F.R.C.P.(C)

J. Martin; B.Sc., M.B., B.Ch., M.D.(Cork), F.R.C.P.(C)

J. Milic-Emili; M.D.(Milan), F.R.S.C.

W.H. Miller; A.B.(Princ.), Ph.D.(Rock.), M.D.(C'nell)

W.J. Muller; B.Sc., Ph.D.(McG.)

A. Nepveu; B.Sc., M.Sc.(Montr.), Ph.D.(Sher.)

T. Nilsson; B.Sc., Ph.D.(Sweden)

L. Panasci; B.Sc., M.D.(G’town)

K. Pantopoulos; B.Sc., Ph.D.(Aristotelian, Greece)

V. Papadopoulos; D.Pharm.(Athens), Ph.D.(Paris)

M. Park; B.Sc., Ph.D.(Glas.)

A.C. Peterson; B.Sc.(Vic., BC), Ph.D.(Br. Col.)

B.J. Petrof; M.D.(Laval)

M.N. Pollak; M.D.,C.M.(McG.), F.R.C.P.(C)

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

B. Posner; M.D.(Manit.), F.R.C.P.(C)

W.S. Powell; B.A.(Sask.), Ph.D.(Dal.)

S. Prakash; M.Sc., M.Tech., M.Phil.(India), Ph.D.(McG.)

S. Rabbani; M.B.B.S.(King Edward Med. Coll., Lahore)

D. Radzioch; M.Sc., Ph.D.(Jagiellonian, Cracow)

M. Rasminsky; B.A.(Tor.), M.D.(Harv.), Ph.D.(Lond.)

S. Richard; B.Sc., Ph.D.(McG.)

E. Schiffrin; M.D.(Argentina), Ph.D.(McG.)

E. Schurr; Diplom., Ph.D.(Al. Ludwigs U., Freiburg)

E. Skamene; M.D.(Charles U., Czech.), Ph.D.(Czech. Acad. of Sci.), F.R.C.P.(C), F.A.C.P.

A.D. Sniderman; M.D.(Tor.)

Professors

C. Srikant; M.Sc., Ph.D.(Madr.)

M.M. Stevenson; B.A.(Hood), M.Sc., Ph.D.(Catholic U. of Amer.)

D.M.P. Thomson; M.D.(W. Ont.), Ph.D.(Lond.), F.R.C.P.(C)

M. Trifiro; B.Sc., M.D.,C.M.(McG.)

C. Tsoukas; B.Sc.(McG.), M.Sc.(Hawaii), M.D.(Athens), F.R.C.P.(C)

M. Wainberg; B.Sc.(McG.), Ph.D.(Col.)

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

S. Wing; B.Sc., M.Sc.(McG.)

X.-J. Yang; B.Sc.(Zhejiang), Ph.D.(Shanghai)

M. Zannis-Hadjopoulos; B.Sc., M.Sc., Ph.D.(McG.)

H. Zingg; M.D.(Basel), Ph.D.(McG.)

Associate Professors

S. Ali; B.Sc.(C'dia), Ph.D.(McG.)

D. Baran; M.D.,C.M.(McG.), F.R.C.P.(C)

M. Behr; B.Sc.(Tor.), M.D.(Qu.), M.Sc.(McG.)

N. Bernard; B.Sc.(McG.), Ph.D.(Duke)

V. Blank; B.Sc., M.Sc.(Konstanz, Germany), Ph.D.(Inst. Pasteur)

M. Blostein; M.D.,C.M.(McG.)

L. Chalifour; B.Sc., Ph.D.(Manit.), M.A.(Harv.)

S.R. Cohen; B.Sc., M.Sc., Ph.D.(McG.)

D. Cournoyer; M.D.(Sher.), F.R.C.P.(C)

M. Culty; B.Sc., M.Sc.(Lyon), Ph.D.(Grenoble)

G. Di Battista; B.Sc.(C'dia), M.Sc., Ph.D.(Montr.)

F. Doualla-Bell; B.Sc., M.S., Ph.D.(Paris XI)

J.C. Engert; B.A.(Colby), Ph.D.(Boston)

E. Fixman; B.Sc.(Col.), Ph.D.(Johns Hop.)

B. Gagnon; M.D.(Laval), M.Sc.(McG.), F.R.C.P.(C)

R. Gagnon; B.Sc.(Montr.), M.D.(Laval), D.Phil.(Oxf.)

A. Gatignol; M.Sc., Ph.D.(Paul Sabatier)

S.B. Gottfried; M.D.(Penn.)

J. Henderson; B.Sc., Ph.D.(McG.)

B. Jean-Claude; B.Sc., M.Sc.(Moncton), Ph.D.(McG.)

P. Laneuville; B.Sc.(McM.), M.D.(Ott.), F.R.C.P.(C)

S. Laporte; B.Sc., M.Sc., Ph.D.(Sher.)

L. Larose; B.Sc., Ph.D.(Montr.)

M. Laughrea; B.Sc.(Laval), M.Sc., M.Phil., Ph.D.(Yale)

A.-M. Lauzon; B.Sc., M.Sc., Ph.D.(McG.)

J.-J. Lebrun; B.Sc., M.Sc., Ph.D.(Rennes, France)

L. Lecanu; M.Sc., Ph.D.(Paris)

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

R. Lin; B.Sc., M.Sc.(PRC), Ph.D.(C'dia)

Associate Professors

M. Lipman; M.D.,C.M.(McG.), F.R.C.P.(C)

J.-L. Liu; B.Sc., M.Sc.(Beijing), Ph.D.(McG.)

J.A. Morais; M.D.(Montr.), F.R.C.P.(C)

A. Mouland; B.A., B.Sc., Ph.D.(McG.)

M. Newkirk; B.Sc., M.Sc.(Qu.), Ph.D.(Tor.)

S. Qureshi; B.Sc., M.D.(Alta.), F.R.C.P.(C)

J. Rauch; B.Sc., Ph.D.(McG.)

J.-P. Routy; B.Sc., M.D., Ph.D.(France)

G. Spurll; B.Sc.(Med.), M.D.(Manit.)

T. Takano; M.D., Ph.D.(Tokyo)

P. Tonin; B.Sc., M.Sc., Ph.D.(Tor.)

B. Turcotte; B.Sc., Ph.D.(Laval)

B.J. Ward; M.D.,C.M.(McG.), M.Sc.(Oxf.), F.R.C.P.(C)

Assistant Professors

R. Aloyz; B.A., M.Sc., Ph.D.(Argentina)

A. Baass; B.Sc.(McG.), M.D., M.Sc.(Montr.), F.R.C.P.(C)

C. Baglole; B.Sc., M.Sc.(PEI), Ph.D.(Calg.)

M. Chevrette; B.Sc., M.Sc., Ph.D.(Laval)

I. Colmegna; M.Sc.(Argentina)

S. Daskalopoulou; M.D.(Athens)

M. Divangahi; B.Sc.(McM.), Ph.D.(McG.)

B. Gilfix; B.Sc.(Manit.), Ph.D.(W. Ont.), M.D.,C.M.(McG.), F.R.C.P.(C)

C. Haston; B.Sc.(W. Ont.), M.Sc.(Tor.), Ph.D.(Texas)

N. Johnson; B.Sc.(C'dia), M.D.(Ott.), Ph.D.(Br. Col.), F.R.C.P.(C)

M. Kokoeva; B.Sc., Ph.D.(Russia)

L. Koski; B.Sc.(Tor.), Ph.D.(McG.)

A. Kristof; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C)

S. Lehoux; B.Sc.(Bishop's), Ph.D.(Sher.)

C. Liang; B.Sc., Ph.D.(Nankai)

B. Mazer; B.Sc.(Col.), M.D.,C.M.(McG.), F.R.C.P.(C)

M. Murshed; M.Sc.(Brussels), Ph.D.(Cologne)

E. Nashi; B.Sc., M.D.(Alta.), M.Sc.(McG.), Ph.D.(Northshore Medical Ctr.), F.R.C.P.(C)

D. Nguyen; M.D.,C.M.(McG.), F.R.C.P.(C)

M. Paliouras; B.Sc.(Tor.), M.Sc.(Flor.), Ph.D.(McG.)

R. Rajan; B.Sc., M.D.(Manit.), M.Sc.(McM.)

Assistant Professors

R. Sladek; B.Sc., M.D.(Tor.), F.R.C.P.(C)

E. Torban; B.Sc., M.Sc.(Russia), Ph.D.(McG.)

Associate Members, McGill

B. Abdulkarim, A. Andermann, G. Bartlett, M. Basik, E. Bereza, J.D. Bobyn, D. Boivin, M. Bouchard, J. Bourbeau, P. Brodt, K. Brown, D.H. Burns, S. Chevalier, R.-C. Chian, H. Clarke, T. Coderre, T. Duchaine, D. Dufort, C. Ells, I.M. El Naqa, R. Farookhi, L. Ferri, K. Glass, C. Goodyer, P. Goodyer, W. Gotlieb, M. Götte, R. Grad, I. Gupta, J. Haggerty, M. Hunt, N. Jabado, M. Kaartinen, N. Kabani, J. Kimmelman, A. Koromilas, L. Lands, J. Lapointe, S.K. Law, C. Mandato, A. Macaulay, K. Mann, L. McCaffrey, C. McCusker, M. Meaney, T. Muanza, M. Nagano, J. Nalbantoglu, M. Ndao, F. Ni, C. O'Flaherty, A. Pause, H. Perrault, C. Piccirillo, P. Pluye, C. Polychronakos, J. Rak, C. Rodriguez, E. Rosenberg, A. Ryan, S. Sabri, G. Sant'Anna, R. Schirrmacher, R. Slim, N. Sonenberg, M. Sullivan, S.L. Tan, G. Tannenbaum, I. Topisirovic, M. Tremblay, J. Ursini-Siegel, M. Ware, M. Witcher, C. Wu, J.-H. Wu, M. Yaffe, G. Zogopoulos, J. Zwaagstra

Associate Members, Université de Montréal

J. Archambault, R. Butterworth, M. Cayouette, F. Charron, E. Cohen, J.-F. Côté, V. Dave, J. Davignon, C. Deal, A. Deng, C.F. Deschepper, C. Desrosiers, J.M. Di Noia, J. Drouin, J. Estall, H. Gu, J. Gutkowska, P. Hamet, Z. Hanna, P. Jolicoeur, A. Kania, M. Kmita, C. Lazure, E. Lecuyer, S. Mader, T. Moroy, M. Oeffinger

Complementary Courses (15 credits)

3 credits, one of the following:

BIOE 682	(3)	Medical Basis of Bioethics
CMPL 642	(3)	Law and Health Care
PHIL 543	(3)	Seminar: Medical Ethics
RELG 571	(3)	Religion and Medicine

12 credits, four 3-credit BIOE or EXMD graduate courses (500, 600, or 700 level) chosen in consultation with the Supervisor.

11.11.7 Master of Science (M.Sc.); Experimental Medicine (Thesis) Environment (45 credits)

Thesis Courses (24 credits)

EXMD 690	(3)	Master's Thesis Research 1
EXMD 692	(9)	Master's Thesis Research 3
EXMD 693	(12)	Master's Thesis Research 4

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)

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

12 credits of courses at the 500, 600, or 700 level chosen in consultation with the student's academic supervisor.

11.11.8 Master of Science (M.Sc.); Experimental Medicine (Thesis) Family Medicine (45 credits)

Thesis Courses (24 credits)

EXMD 693	(12)	Master's Thesis Research 4
EXMD 694	(12)	Master's Thesis Research 5

Required Courses (18 credits)

DENT 672	(3)	Applied Mixed Methods in Health Research

EPIB 507	(3)	Biostatistics for Health Professionals
EPIB 600	(3)	Clinical Epidemiology

Complementary Courses (12 credits)

(6-12 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 course at the 500, 600, or 700 level recommended by the advisory committee and approved by the Environment Option Committee.

One to three courses at the 500, 600, or 700 level chosen in consultation with the student's academic supervisor.

11.11.11 Graduate Diploma in Clinical Research (30 credits)

The core element of the diploma is the Practicum in Clinical Research. It is a six-step program with active “clerkship” or “intern/resident type” participation in each component that is essential to the successful development and evaluation of a clinical trial.

Required Courses (6 credits)

EXMD 617	(1)	Workshop in Clinical Trials 1
EXMD 618	(1)	Workshop in Clinical Trials 2
EXMD 619	(1)	Workshop: Clinical Trials 3
EXMD 620	(1)	Clinical Trials and Research 1
EXMD 625	(1)	Clinical Trials and Research 2
EXMD 626	(1)	Clinical Trials and Research 3

Complementary Courses (6 credits)

Two courses chosen from: Experimental Medicine (EXMD), Pharmacology and

- *Application Checklist*
- *Con rmation of Supervisor F orm*, signed by the proposed supervisor and student.
- Curriculum Vitae
- Personal Statement – no more than two (2) pages long
- Research Proposal

11.12.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: March 15	Fall: March 15	Fall: N/A
Winter: N/A	Winter: N/A	Winter: N/A
Summer: N/A	Summer: N/A	Summer: N/A

All supporting documents must be received by March 15th. Admissions are for September only.

Revision, October 2012. End of re vision.

11.12.4 Medicine , Family (Option) F aculty

Chair
Miriam Boillat (*Interim*)

Graduate Program Director
Gillian Bartlett

Professors
Ann Macaulay; M.B., Ch.B.(St. And.), C.C.F.P.
Mark Yaffe; B.Sc., M.D.,C.M.(McG.), M.Cl.Sc.(W. Ont.)

Associate Professors
Gillian Bartlett; B.Sc., M.Sc., Ph.D.(McG.)
Eugene Bereza; B.A., M.D.,C.M.(McG.), C.C.F.P.
Miriam Boillat; M.D.,C.M.(McG.), F.R.C.P(C)
Roland Grad; M.D.,C.M.(McG.), M.Sc.(McM.), C.C.F.P.
Jeannie Haggerty; B.Sc.(S. Fraser), M.Sc., Ph.D.(McG.)
Susan Law; B.Sc.(Guelph), M.H.Sc.(Tor.), Ph.D.(Lond.)
Charo Rodriguez; M.D.(Alicante), M.P.H.(Valencia), Ph.D.(Montr. 70.52 286.842 Montr

3775 University Street
Montreal, QC H3A 2B4
Canada

Telephone: 514-398-3061
Fax: 514-398-7052
Email: *grad.microimm@mcgill.ca*
Website: *www.mcgill.ca/microimm*

11.13.2 About Microbiology and Immunology

The Department offers graduate programs leading to the degrees of M.Sc. and Ph.D. Each program is tailored to fit the needs and backgrounds of individual students. The graduate program is designed to offer students state-of-the-art training, concentrating on four key areas of research: cellular and molecular immunology, microbial physiology and genetics, molecular biology of viruses, and medical microbiology. Basic research discoveries in microbiology may lead to improved drug design and vaccine development to treat and prevent diseases. The Department has many notable facilities and resources, including a cell sorter, ultra centrifuges, confocal microscope, real-time PCR facilities, cryostat for immunocytochemistry, and facilities for radio-isotope studies and infectious diseases. We foster close ties with McGill'

Students who have satisfactorily completed an M.Sc. degree in microbiology and immunology, a biological science, or biochemistry, or highly qualified students enrolled in the departmental M.Sc. program, may be accepted into the Ph.D. program provided they meet its standards.

11.13.3.2 Application Procedures

McGill's online application form for graduate program candidates is available at *www.mcgill.ca/gradapplicants/apply*.

See *section 6.3: Application Procedures (for All Admissions Starting Summer 2013)* for detailed application procedures.

All applicants are encouraged to approach academic staff members during or before the application process since no applicants are accepted without a supervisor.

11.13.3.2.1 Additional Requirements

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

- Letter from a prospective supervisor

Associate Professors

S. Vidal; Ph.D.(Geneva)

Assistant Professors

J. Fritz; Ph.D.(Vienna)

S. Gruenheid; B.Sc.(Br. Col.), Ph.D.(McG.)

C. Krawczyk; Ph.D.(Tor.)

Associate Members

Human Genetics: P. Gros

Institute of Parasitology: F. Dziersinski, A. Jardim, M. Ndao, P. RibeirNdao, P

MIMM 613	(3)	Current Topics 1
MIMM 614	(3)	Current Topics 2
MIMM 615	(3)	Current Topics 3

Complementary Courses (6 credits)

6 credits, two of the following courses:

MIMM 616	(3)	Reading and Conference 1
MIMM 617	(3)	Reading and Conference 2
MIMM 618	(3)	Reading and Conference 3
MIMM 619	(3)	Reading and Conference 4

Other courses may be required to strengthen the student's background.

11.13.6 Doctor of Philosophy (Ph.D.); Microbiology and Immunology

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 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 (18 credits)

MIMM 611	(3)	Graduate Seminars 1
MIMM 612	(3)	Graduate Seminars 2
MIMM 613	(3)	Current Topics 1
MIMM 614	(3)	Current Topics 2
MIMM 615	(3)	Current Topics 3
MIMM 701	(0)	Comprehensive Examination-Ph.D. Candidate
MIMM 713	(3)	Graduate Seminars 3

Complementary Courses (12 credits)

(Minimum of 12 credits)

Three courses from List A and a minimum of three consecutive courses from List B.

List A:

MIMM 616	(3)	Reading and Conference 1
MIMM 617	(3)	Reading and Conference 2
MIMM 618	(3)	Reading and Conference 3
MIMM 619	(3)	Reading and Conference 4

List B:

MIMM 721	(1)	Ph.D. Research Progress Report 1
MIMM 722	(1)	Ph.D. Research Progress Report 2
MIMM 723	(1)	Ph.D. Research Progress Report 3
MIMM 724	(1)	Ph.D. Research Progress Report 4

Other courses may be required to strengthen the student's background.

11.14 Neuroscience (Integrated Program in)

11.14.1 Location

Montreal Neurological Institute, Room 141
3801 University Street
Montreal, QC H3A 2B4
Canada

Telephone: 514-398-1229 / 514-398-6243 / 514-398-1905
Fax: 514-398-4621
Email: *ipn@mcgill.ca* or *ipn.admissions@mcgill.ca*
Website: *www.mcgill.ca/ipn*

11.14.2 About the Integrated Program in Neuroscience

Montreal is home to the largest concentration of neuroscientists in North America. Neuroscience research at McGill University is internationally renowned, and its Integrated Program in Neuroscience (IPN) provides graduate training in this outstanding research environment. With approximately 340 M.Sc. and Ph.D. students and more than 160 suS

section 11.14.6 Doctor of Philosophy (Ph.D.); Neuroscience

The IPN offers a highly competitive Ph.D. degree program that prepares students for successful scientific careers in the field of neuroscience. Over half of the students registered in the neuroscience graduate program at McGill University are in the doctoral stream. Applicants must hold a graduate-level degree in a field related to neuroscience or hav

11.14.4 Neuroscience (Integrated Program in) Faculty

Director

J. Nalbantoglu

Associate Director

D. Ragsdale

Administrator

J. Makkerh

Emeritus Professors

B. Collier; Ph.D., Dept. of Pharmacology

M. Diksic; Ph.D., Dept. of Neurology and Neurosurgery

C. Thompson; D.Sc., F.C.C.P.M., Dept. of Neurology and Neurosurgery

Professors

A. Aguayo; M.D.(Cordoba Natn.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

G. Almazan; B.Sc.(N'eastern), Ph.D.(McG.), Dept. of Pharmacology and Therapeutics

E. Andermann; M.D.,C.M., M.Sc., Ph.D.(McG.), F.C.C.M.G., Dept. of Neurology and Neurosurgery

F. Andermann; B.A.(Paris), B.Sc.(McG.), M.D.(Montr.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

J. Antel; M.D., B.Sc.(Manit.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

D. Arnold; B.Sc., M.D.(C'nell), F.R.C.P.(C) (*James McGill Professor*), Dept. of Neurology and Neurosurgery

M. Avoli; M.D.(Rome), Ph.D.(McG.), Dept. of Neurology and Neurosurgery

C. Baker; Ph.D.(Calif.), Dept. of Ophthalmology

P. Barker; Ph.D.(Alta.), B.Sc.(S. Fraser), Dept. of Neurology and Neurosurgery

S. Baum; Ph.D.(Brown), School of Communication Sciences and Disorders

C. Benkelfat; M.D., C.S.P.Q., D.E.R.B.H., Dept. of Psychiatry

G. Bennett; Ph.D.(Virg. Commonwealth), Dept. of Anaesthesia

P. Boksa; Ph.D.(McG.), Dept. of Psychiatry

C. Bourque; B.Sc.(Ott.), Ph.D.(McG.), Dept. of Neurology and Neurosurgery

P. Braun; Ph.D.(Calif., Berk.), Dept. of Biochemistry

J.C.S. Breitner; M.D.(Pennsylvania), MPH (Johns Hop.), Dept. of Psychiatry

C. Bushnell; Ph.D.(Amer.), Dept. of Anaesthesia

S. Carbonetto; M.Sc.(Mass.), Ph.D.(N. Carolina), Dept. of Neurology and Neurosurgery

F. Cervero; M.D., Ph.D.(Madrid), D.Sc.(Edin.), Dept. of Anaesthesia

H. Chertkow; M.D.(W. Ont.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

P. Clarke; Ph.D.(Lond.), Dept. of Pharmacology and Therapeutics

C. Cuello; M.D., M.A., D.Sc.(Oxf.), Dept. of Pharmacology and Therapeutics

K. Cullen; Ph.D.(Chic.), Dept. of Physiology

S. David; Ph.D.(Manit.), Dept. of Neurology and Neurosurgery

R. Del Maestro; M.D.(W. Ont.), Ph.D.(Uppsala), F.R.C.S.(C), D.A.B.N.S., F.A.C.S., Dept. of Neurology and Neurosurgery

H. Durham; M.Sc.(W. Ont.), Ph.D.(Alta.), Dept. of Neurology and Neurosurgery

S. El Mestikawy; Ph.D.(Univ. Pierre et Marie Curie), Dept. of Psychiatry

Professors

A. Evans; M.Sc.(Sur.), Ph.D.(Leeds), Dept. of Neurology and Neurosurgery

C. Flores; Ph.D.(C'dia), Dept. of Psychiatry

E. Frombonne; M.D.(Paris V), M.Sc.(Paris), Dept. of Psychiatry

S.G. Gauthier; B.A., M.D.(Montr.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

B. Giros; Ph.D.(Paris), Dept. of Psychiatry

J. Gotman; M.Eng.(Dart.), Ph.D.(McG.), Dept. of Neurology and Neurosurgery

A. Gratton; Ph.D.(C'dia), Dept. of Psychiatry

J. Grodzinsky; Ph.D.(Brandeis), Dept. of Linguistics

D. Guitton; Dipl. IVK(Univ. Libre de Brux.), B.Eng., M.Eng., Ph.D.(Eng.), Ph.D.(Physiol.)(McG.), Dept. of Neurology and Neurosurgery

D. Haegert; M.D.(Br. Col.), F.R.C.P.(C), Dept. of Pathology

E. Hamel; B.Sc.(Sher.), Ph.D.(Montr.), Dept. of Neurology and Neurosurgery

K. Hastings; B.Sc., Ph.D.(McG.), Dept. of Neurology and Neurosurgery

R. Hess; Ph.D.(Melb.), D.Sc.(Aston, UK), Dept. of Ophthalmology

P

Professors

R.J. Riopelle; M.D.(Ott.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

A. Sadikot; M.D.,C.M.(McG.), Ph.D.(Laval), F.R.C.S.(C), Dept. of Neurology and Neurosurgery

H.U. Saragovi; Ph.D.(Miami), Dept. of Pharmacology and Therapeutics

H. Schipper; M.D., Ph.D.(McG.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

P. Seguela; Doct. 3e Cycle(Bord.), Ph.D.(Montr.), Dept of Neurology and Neurosurgery

M. Shevell; B.Sc., M.D.(Vanderbilt), Dept. of Neurology and Neurosurgery

E. Shoubridge; M.Sc., Ph.D.(Br. Col.), Dept. of Neurology and Neurosurgery

W. Sossin; B.S.(MIT), Ph.D.(Stan.), Dept. of Neurology and Neurosurgery

L. Srivastava; Ph.D.(New Delhi), Dept. of Psychiatry

S. Stifani; Ph.D.(Rome), Ph.D.(Alta.), Dept. of Neurology and Neurosurgery

M. Sullivan; B.A.(McG.), M.A., Ph.D.(C'dia), Dept. of Psychology

G. Tannenbaum; M.Sc., Ph.D.(McG.), Dept. of Neurology and Neurosurgery

G. Turecki; M.D.(Brazil), Ph.D.(McG.), Dept. of Psychiatry

C.-D. Walker; Ph.D.(Geneva), Dept. of Psychiatry

C. Wolfson; Ph.D.(McG.), Dept. of Epidemiology and Biostatistics

R.J. Zatorre; A.B.(Boston), M.Sc., Ph.D.(Brown), Dept. of Neurology and Neurosurgery

Associate Professors

J. Armony; Ph.D.(NYU), Dept. of Psychiatry

S. Baillet; Ph.D. (Univ. of Paris XI), Dept. of Neurology and Neurosurgery

A. Bar-Or; M.D.,C.M.(McG.), F.R.C.P(C), D.A.B.N.P., Dept. of Neurology and Neurosurgery

S. Beaulieu; M.D., Ph.D., F.R.C.P.(C), Dept. of Psychiatry

D. Bernard; Ph.D.(Johns Hop.), Dept. of Pharmacology

A. Bernasconi; M.D.(Basel), Dept. of Neurology and Neurosurgery

V. Bohbot; Ph.D.(Ariz.), Dept. of Psychiatry

D. Boivin; M.D.(Laval), Ph.D.(Montr.), Dept. of Psychiatry

D. Bowie; Ph.D.(Lond.), Dept. of Pharmacology and Therapeutics

A. Brunet; Ph.D.(Montr.), Dept. of Psychiatry

M. Cayouette; M.Sc., Ph.D.(Laval), Depts. of Anatomy and Cell Biology, Biology, and Experimental Medicine

N. Cermakian; Ph.D.(Montr.), Dept. of Psychiatry

F. Charron; B.Sc., Ph.D.(McG.), Institut de Recherches Clinique de Montreal, Dept. of Anatomy and Cell Biology, Dept. of Biology

J.-F. Cloutier; B.Sc.(C'dia), Ph.D.(Montr.), Dept. of Neurology and Neurosurgery

T. Coderre; Ph.D.(McG.), Dept. of Anaesthesia

L. Collins; M.Eng., Ph.D.(McG.), Dept. of Neurology and Neurosurgery

E. Cook; B.Sc.(Ariz. St.), M.Sc.(Rice), Ph.D.(Baylor), Dept. of Physiology

A. Dagher; M.Eng.(McG.), M.D.(Tor.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

S. Daniel; M.D.,C.M., M.Sc.(McG.), Dept. of Otolaryngology

B. Debruille; M.D.(Paris XI), Ph.D.(Univ. Pierre et Marie Curie, Paris), Dept. of Psychiatry

L. Fellows; B.Sc.(McG.), D.Phil.(Oxf.), M.D.,C.M.(McG.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

E. Fon; M.D.(Montr.), F.R.C.P.(C), Dept. of Neurology and Neurosurgery

A. Fournier; B.Sc., Ph.D.(McG.), Dept. of Neurology and Neurosurgery

G. Gobbi; M.D.(Rome), Ph.D.(Calg.), Dept. of Psychiatry

Associate Professors

I. Gold; Ph.D.(Princ.), Dept. of Psychiatry

V. Gracco; Ph.D.(Wisc.), School of Communication Sciences and Disorders

R. Joober; M.D.(Tunisia), Ph.D.(McG.), Dept. of Psychiatry

A. Kania; Ph.D.(Baylor), Depts. of Biology, Anatomy and Cell Biology, and Experimental Medicine

S. King; B.A.(McG.), M.Ed., Ed.S.(James Madison Univ.), Ph.D.(Virginia Tech), Dept. of Psychiatry

A. Lamontagne; Ph.D.(Laval), School of Physical and Occupational Therapy

M. Le

Assistant Professors

F. Jollant; M.D., M.Sc., Ph.D.(Montpellier), Dept. of Psychiatry

D. Juncker; Dipl., Ph.D.(Neuchâtel), Dept. of Biomedical Engineering

D. Klein; B.A., Ph.D.(Witw./S. Af.), Dept. of Neurology and Neurosurgery

E. Kobayashi; M.D., Ph.D.(Campinas State), Dept. of Neurology and Neurosurgery

L. Koski; B.Sc.(Tor.), Ph.D.(McG.), Dept. of Neurology and Neurosurgery

N. Ladbon-Bernasconi; M.D.(Lausanne), Ph.D.(McG.), Dept. of Neurology and Neurosurgery

A. Lamontagne; Ph.D.(Laval), School of Physical and Occupational Therapy

G. Leonard; Ph.D.(McG.), Dept. of Neurology and Neurosurgery

W. Ma; M.D.(Tongji), M.Sc., Ph.D.(McG.), Dept. of Psychiatry

N. Mechawar, Ph.D.(Montr.), Dept. of Psychiatry

C. Pack; B.Sc.(Tufts), Ph.D.(Boston), Dept. of Neurology and Neurosurgery

K. Petrecca; B.Sc., M.D., Ph.D.(McG.), Dept. of Neurology and Neurosurgery

J. Pruessner; Ph.D.(Trier), Dept. of Psychiatry

E. Ruthazer; A.B.(Princ.), Ph.D.(Calif.-San Francisco), Dept. of Neurology and Neurosurgery

J.T. Sakata; B.A.(C'nell), Ph.D.(Texas-Austin), Dept. of Biology

P. Schweinhardt; M.D.(Heidelberg), Ph.D.(Oxf.), Depts. of Dentistry, Neurology and Neurosurgery

A. Shmuel; B.Med., M.Sc.(Hebrew), Ph.D.(Weizmann Institute of Science), Dept. of Neurology and Neurosurgery

P.J. Sjostrom; M.Sc.(Uppsala), Ph.D.(Brandeis), Dept. of Neurology and Neurosurgery

K. Steinhauer; M.Sc., Ph.D.(Dr.rer.nat)(Free Univ., Berlin), School of Communication Sciences and Disorders

D. Stellwagen; B.Sc.(Brown), Ph.D.(Calif.), Dept. of Neurology and Neurosurgery

L. Stone; Ph.D.(Minn.), Dept. of Dentistry

K.-F. Storch; Ph.D.(Max Planck), Dept. of Psychiatry

T. Stroh; Dip.(J. Liebig U.), Ph.D.(Max Planck), Dept. of Neurology and Neurosurgery

V. Sziklas; Ph.D.(McG.), Dept. of Neurology and Neurosurgery

T. Taivassalo; B.Sc., Ph.D.(McG.), Dept. of Kinesiology and Physical Education

D. Van Meyel; Ph.D.(W. Ont.), Dept. of Neurology and Neurosurgery

M. Vollrath; Ph.D.(Baylor), Dept. of Neurology and Neurosurgery

A. Watt; Ph.D.(Brandeis), Dept. of Biology

P. Wintermark; M.D.(McG.), Dept. of Pediatrics

S.C. Woolley; B.Sc.(McG.), Ph.D.(Texas-Austin), Dept of Biology

T.P. Wong; Ph.D.(McG.), Dept. of Psychiatry

J. Zhang; M.D.(Shanghai II Medical U.), M.Sc.(Paris XI), Ph.D.(Laval), Dept. of Neurology and Neurosurgery

Lecturer

S. Antel

Adjunct Professors

L. Descarries

G. Duncan

M. Ptito

E. Racine

11.14.5 Master of Science (M.Sc.); Neuroscience (Thesis) (45 credits)

Thesis Courses

Any remaining credits needed to complete the minimum of 45 may be chosen from the following:

NEUR 695	(3)	Master's Thesis Research 1
NEUR 696	(6)	Master's Thesis Research 2

Required Courses (33 credits)

NEUR 697	(9)	Master's Project Proposal
NEUR 698	(9)	Master's Seminar Presentation
NEUR 699	(12)	Master's Thesis Submission
NEUR 705	(0)	Responsible Research Conduct

and one of the following:

NEUR 610	(5)	Central Nervous System
NEUR 630	(3)	Principles of Neuroscience 1
NEUR 631	(3)	Principles of Neuroscience 2

Complementary Courses (6 credits)

6 credits in other graduate-level specialty courses relevant to the program.

Upon recommendation, depending upon their particular background and needs, students may be requested to take additional selected courses.

Note: All M.Sc.-level students must register for a minimum of 12 credits per term during the first three terms of their master's program.

11.14.6 Doctor of Philosophy (Ph.D.); Neuroscience

Students with an M.Sc. degree continuing in this Department will receive credit exemptions for graduate coursework accomplished (including NEUR 630, and either NEUR 631 or NEUR 610). It may be recommended that they take specialty courses related to their field of study in neuroscience. Students with an M.Sc. degree from another program will be required to take NEUR 630 and NEUR 631 and/or other courses listed under the M.Sc. degree depending upon their background and field of study.

Students with an M.D. degree proceeding directly into a Ph.D. program will be required to take NEUR 630 and NEUR 631. Recently graduated M.D.s should have the equivalent of NEUR 610, and may be granted equivalence. They will also be required to take 6 credits of graduate-level courses.

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 the research advances knowledge in 51.93 249.666 Tm(vious)Tj-0.462 Tw1 0 0 5tmo1 0 0.ceRequired CourRequ(33 crdits)Note: NoteAdents mu be giNote1 0 0 1 114.0553116.109 967(NoteeM.D.1 0

11.15.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: Jan. 15	Fall: Jan. 15	Fall: Apr. 30
Winter: N/A	Winter: N/A	Winter: Sept. 15
Summer: N/A	Summer: N/A	Summer: N/A

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

Revision, October 2012. End of re vision.

11.15.4 Occupational Health F aculty

Chair
R. Fuhrer

Emeritus Professors
M.R. Becklake; M.B.B.Ch., M.D.(Witw.), F.R.C.P.
A. Lippman; B.A.(C'nell), Ph.D.(McG.)
J.C. McDonald; M.D., B.S.(Lond.), M.Sc.(Harv.), F.R.C.P.(C)
I.B. Pless; B.A., M.D.(W. Ont.)
S.H. Shapiro; B.S.(Bucknell), M.S., Ph.D.(Stan.)
G. Thériault; M.D.(Laval), M.I.H., Dr.P.H.(Harv.)
S. Wood-Dauphinee; B.Sc.(Phys.Ther.), Dip.Ed., M.Sc.(A.), Ph.D.(McG.)

Professors

O.S. Miettinen; M.D.(Helsinki), M.P.H., M.S., Ph.D.(Minn.)

G. Paradis; M.D.(Montr.), M.Sc.(McG.)

R.W. Platt; M.Sc.(Man.), Ph.D.(Wash.) (*joint appt. with Pediatrics*)

S. Suissa; M.Sc.(McG.), Ph.D.(Flor.) (*joint appt. with Medicine*) (*James McGill Professor*)

R. Tamblyn; M.Sc.(McM.), Ph.D.(McG.) (*joint appt. with Medicine*) (*James McGill Professor*)

C. Wolfson; B.Sc., M.Sc., Ph.D.(McG.) (*joint appt. with Medicine*)

Associate Professors

Associate Members

Ob/Gyn: H. Abenhaim, R. Gagnon

Pathology: B. Case

Pediatrics: G. Dougherty, B. Foster, C. Quach-Thanh

Physical & Occupational Therapy: S. Ahmed

Psychiatry: E. Latimer, A. Malla, N. Schmitz, B. Thombs

Lecturers

J.P. Gauvin, W. Wood

Adjunct Professors

Asociación Civil Selva Amazónica Peru: M. Casapia

Caro Research: J. Caro

Direction régionale de la santé publique: R. Allard, M. Baillargeon, R. Lessard, S. Palmieri, S. Perron, E. Robinson

Harvard Univ.: J. Brownstein

Hôpital Sacré-C ur : D. Gautrin

Independent: I. Arnold, M.A. Lavoie, J. Lemke, M. Schweigert, L. Scott

INSPQ: F. Richer, P. Robillard, S. Stock

Montreal Chest Hospital Centre: P. Rohan

Mount Sinai: M. Baltzan

Stabilis: P. Simon

Univ. de Montréal: R. Massé, J. Siemiatycki

Univ. of S. Australia: J. Lynch

11.15.5 Master of Science , Applied (M.Sc.A.); Occupational Health (Resident) (Non-Thesis) (45 credits)

Resear45 creditque11.15.e.d.2 fe(: G. DoughPrar)T1 0 0 1 153.619.0390 1033.1(11.15.re394Tjr)T9T1 40 1C2s.1(11.15.e9T1 4020 0 1 229.898 M. Bal2 51463)Tj1 0

11.15.6 Master of Science , Applied (M.Sc.A.); Occupational Health (Distance) (Non-Thesis) (45 credits)

This program is not accepting applicants for 2012-2013.

Research Project (15 credits)

OCCH 699	(15)	Project Occupational Health and Safety

Required Cour ses (30 credits)

Note: Students must pass the Master's Integrative Examination (OCCH 600) before writing their Project.

Each course has a final (proctored) examination at the end of the term.

OCCH 600	(0)	Master's Integrative Exam
OCCH 602	(3)	Occupational Health Practice
OCCH 603	(3)	Work and Environment Epidemiology 1
OCCH 604	(3)	Monitoring Occupational Environment
OCCH 608	(3)	Biological Hazards
OCCH 612	(3)	Principles of Toxicology
OCCH 615	(3)	Occupational Safety Practice
OCCH 616	(3)	Occupational Hygiene
OCCH 617	(3)	Occupational Diseases
OCCH 624	(3)	Social and Behavioural Aspects - Occupational Health
OCCH 625	(3)	Work and Environment Epidemiology 2
OCCH 626	(3)	Basics: Physical Health Hazards
OCCH 627	(3)	Work Physiology and Ergonomics
OCCH 630	(3)	Occupational Diseases for OHNS
OCCH 635	(3)	Environmental Risks to Health

On-campus practicum may be held at the discretion of each professor. These sessions are held in Montreal on the McGill University campus. Their aim is to offer students additional specific learning activities. Participation in the practicum is an essential component of the program.

11.15.7 Doctor of Philosoph y (Ph.D.); Occupational Health

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 scholarly0 1 0.221 T8.8tnd co

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

Revision, OctobC1sion,vision,

11.17.3 Pathology Admission Requirements and Application Procedures

Associate Professors

L. Alpert; M.D., Ph.D.(Tufts)

J. Arseneau; M.D.(Laval), F.R.C.P.(C)

M. Auger; M.D.,C.M.(McG.), F.R.C.P.(C)

C. Bernard; M.D.(Sher.), F.R.C.P.(C)

M.L. Brisson; B.A.(Paris), B.Sc., M.D.(Montr.)

B. Case; B.Sc., M.D.,C.M., M.Sc.(McG.), Dipl. Occ. Hyg., F.R.C.P.(C)

M.F. Chen; M.B., B.S.(Monash), F.R.C.P.(C)

T. Haliotis; M.D.(Greece), Ph.D.(Qu.), F.R.C.P.(C)

E. Lamoureux; B.Sc., M.D.(Montr.), F.R.C.P.(C)

R. Onerheim; M.D.(Alta.), F.R.C.P.(C)

L. Rochon; M.D.(Sher.), F.R.C.P.(C)

I. Roy; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C)

A.K. Watters; B.Sc., M.D.,C.M.(McG.), F.R.C.P.(C)

E. Zorychta; B.Sc.(St. FX), M.Sc., Ph.D.(McG.)

Assistant Professors

S. Albrecht; M.D.(Sher.), F.R.C.P.(C)

O. Aleynikova; M.D.(Dal.), F.R.C.P.(C)

R.D. Amre; M.B.B.S.(India), F.R.C.P.(C)

K. Bakdounes; M.D.(Damascus), F.R.C.P.(C)

M. Blumenkrantz; M.D.,C.M.(McG.), F.R.C.P.(C)

G.A. Brandao; M.D.(Brazil)

F. Brimo; M.D.(Damascus), F.R.C.P.(C)

D. Caglar; M.D.(Turkey)

P.J. Chauvin; M.Sc.(W.h e 8 Tm(urk)Tj1 0 0 1 167.0S(.Tj1 0 uoi.285 5(ofessB1 0 0 1 83.60215363285 5(ofess), d; Mnd.D.(DamD.(McG.l))Tj1 0 0 1 70.52 369.729 5(

Assistant Professors

S. Sandhu; M.B., B.S.(India)

H. Srolovitz; B.Sc.(Pitt.), M.D.(Basel)

11.18 Pharmacology and Therapeutics

11.18.1 Location

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

Telephone: 514-398-3623
Fax: 514-398-2045
Email: *gradstudies.pharmacology@mcgill.ca*
Website: *www.medicine.mcgill.ca/pharma*

11.18.2 About Pharmacology and Therapeutics

The Department of Pharmacology and Therapeutics offers training leading to M.Sc. (Thesis) and Ph.D. degrees.

The Department also of

Graduate Program Director

D. Bowie

Emeritus Professor

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

Professors

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

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

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

B.F. Hales; Ph.D.(McG.)

D. Maysinger; Ph.D.(USC)

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

G. Multhaup; Ph.D.(Univ

Associate Members

S. Laporte; Ph.D.(Sher.)

C. O'Flaherty; Ph.D.(Buenos Aires)

V. Pappadopoulis; Ph.D.(Univ. Pierre & Marie Curie)

R. Prichard; Ph.D.(NSW)

R. Quirion; Ph.D.(Sher.)

S. Rousseau; Ph.D.(Laval)

Y. Shir; M.D.(Israel), Ph.D.(Johns Hop.)

L. Stone; Ph.D.(Minn.)

M. Ware; MBBS(West Indies)

T. P. Wong; Ph.D.(McG.)

Adjunct Professors

B. Allen, M. Bruno, S. Chemtob, Y. De Koninck, L. Garofalo, J.M.A. Laird, J. Mancini, K. Meerovitch, T. Sanderson

11.18.5 Master of Science (M.Sc.); Pharmacology (Thesis) (45 credits)

Thesis Courses (24 credits)

PHAR 696	(3)	Thesis Preparation
PHAR 698	(9)	Thesis Preparation 2
PHAR 699	(12)	Thesis Preparation 3

Required Courses (9 credits)

PHAR 601	(6)	Comprehensive
PHAR 712	(3)	Statistics for Pharmacologists

Complementary Courses (12 credits)

6 credits, from the following courses:

PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2

or, for students who have taken PHAR 562 and PHAR 563 as part of their undergraduate degree, they will register for the following course:

PHAR 697	(6)	Thesis Preparation 1

Required Cour ses (9 credits)

PHAR 601	(6)	Comprehensive
PHAR 712	(3)	Statistics for Pharmacologists

Complementar y Cour ses (14 credits)

2 credits, two of the follo

11.18.7 Doctor of Philosophy (Ph.D.); Pharmacology

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 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.

Students must successfully complete, or be exempted from, the same courses as for the equivalent M.Sc. in Pharmacology, plus one additional 700-level graduate course (for a total of three).

11.18.8 Doctor of Philosophy (Ph.D.); Pharmacology Chemical 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 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 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 (13 credits)

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
PHAR 601	(6)	Comprehensive
PHAR 712	(3)	Statistics for Pharmacologists

Complementary Courses (14 credits)

6 credits, from the following courses:

PHAR 562	(3)	General Pharmacology 1
PHAR 563	(3)	General Pharmacology 2

or, for students who have taken PHAR 562 and PHAR 563 as part of their undergraduate degree, they can replace them with two of the following courses:

BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
CHEM 504	(3)	Drug Design and Development 2
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 504	(3)	Drug Discovery and Development 2
PHAR 707	(3)	Topics in Pharmacology 6

two of the following courses:

PHAR 700	(3)	Seminars in Pharmacology

PHAR 702	(3)	Topics in Pharmacology 1
PHAR 703	(3)	Topics in Pharmacology 2
PHAR 704	(3)	Topics in Pharmacology 3
PHAR 705	(3)	Topics in Pharmacology 4
PHAR 706	(3)	Topics in Pharmacology 5
PHAR 707	(3)	Topics in Pharmacology 6

one of the following courses:

CHEM 502	(3)	Advanced Bio-Organic Chemistry
PHAR 503	(3)	Drug Discovery and Development 1

11.19 Physiology

11.19.1 Location

Department of Physiology

Emeritus Professors

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

Kresmir Krnjevic; O.C., B.Sc., Ph.D., M.B., Ch.B.(Edin.), F.R.S.C.

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

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

George Mandl; B.Sc.(C'dia); Ph.D.(McG.)

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

Joseph Milic-Emili; M.D.(Milan) (*joint appt with Medicine*)

C. Polosa

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

Students are required to take an additional three courses of Physiology or Science at the 500 level or above, in consultation with the GSAAC and the candidate's supervisor.

11.19.8 Doctor of Philosophy (Ph.D.); Physiology 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 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 (15 credits)

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar
PHGY 603	(3)	Systems Biology and Biophysics
PHGY 701	(0)	Ph.D. Comprehensive Examination
PHGY 702	(1)	Ph.D. Proposal
PHGY 703	(1)	Ph.D. Thesis Proposal Seminar
PHGY 704	(1)	Ph.D. Thesis Proposal Seminar
PHGY 720	(1)	Ph.D. Seminar Course 1
PHGY 721	(1)	Ph.D. Seminar Course 2
PHGY 722	(1)	Ph.D. Seminar Course 3
PHGY 723	(1)	Ph.D. Seminar Course 4
PHGY 724	(1)	Ph.D. Seminar Course 5
PHGY 725	(1)	Ph.D. Seminar Course 6

Complementary Course (3 credits)

One course to be 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

11.20 Psychiatry

11.20.1 Location

Department of Psychiatry
1033 Pine Avenue West
Montreal, QC H3A 1A1
Canada

Telephone: 514-398-4176
Fax: 514-398-4370
Email: *graduate.psychiatry@mcgill.ca*
Website: *www.mcgill.ca/psychiatry*

11.20.2 About Psychiatry

McGill University's Department of Psychiatry is one the most prestigious in the world. In the 1950s and 60s, Heinz Lehmann conducted the first North American clinical trials for antipsychotic and antidepressant medications. Theodore Sourkes identified the core neurobiological features of Parkinson's disease, and Eric Wittkower and Jack Fried brought together scholars from Anthropology and Psychiatry to create Transcultural Psychiatric Studies. Since then, faculty members and graduate students continue outstanding research in addictions; Alzheimer's and childhood disorders; eating, personality, and mood disorders; stress; trauma; and psychosis. The work is conducted in people and animal models, and also benefits from expertise ranging from neuroimaging and epigenetics to mental health services and public policy. Our work remains at the cutting edge of research on health, disease, and recovery.

Ph.D. (Ad Hoc)

The Department of Psychiatry also offers 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, e

11.20.4 Psychiatry Faculty

Chair

M. Israël

Vice Chairs

D. Charney – *Education*

G. Turecki – *Research*

Chair of Graduate Program

M. Leyton

Emeritus Professors

M.K. Birmingham; B.A.(Bennington), M.Sc., Ph.D.(McG.)

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

M. Dongier; Dip.Psych.(McG.), M.D.,C.D.(Provence-Aix-Marseilles)

G. Pinard; B.A.(Loyola), Dip. Etud. Sup., M.D.,C.M.(Montr.)

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

Professors

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

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

A. Bechara; Ph.D.(Tor.)

C. Benkelfat; M.D.(Rabat) (*James McGill Professor*)

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

S. El Mestikawy; Ph.D.(U. Pierre Marie Curie)

E. Fombonne; M.D.(Paris)

N. Frasure-Smith; B.A., Ph.D.(Johns Hop.)

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

B. Giros; M.Sc., Ph.D.(U. Pierre Marie Curie)

A. Gratton; Ph.D.(C'dia)

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

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

M. Leyton; Ph.D.(C'dia) (*William Dawson Scholar*)

A. Malla; B.S., M.B.(Panjab)

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

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

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

J. Paris; M.D.,C.M.(McG.)

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

R.O. Pihl; B.A.(Lawrence), Ph.D.(Ariz.) (*Psychology*)

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

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

C. Rouse2m(.))Tj1 .Q4 .Q4 .Q4 .Q4 .Q4 n4f08 m61R. 71 01 0 0 1 2439(.))TjET m61R. 0 -Mo.2 621.3Montr

Professors
L.K. Srivastav

Associate Professors

N. Schmitz; Dipl., Ph.D.(Univ. Dortmund)

D. Sookman; B.A.(McG.), M.A.(Guelph), Ph.D.(C'dia)

L.K. Srivastava; B.Sc., M.Sc.(Alld.), Ph.D.(New10nr31hi

Adjunct Professors

P. Blier

L. Booij

W. Brender

M. Cargo

A. Duffy

V. Kovess

J-C. Lasry

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A list of research directors and a description of their research topics, as well as application forms may be obtained from our website (*www.surgery-research.mcgill.ca*).

section 11.21.5 Master of Science (M.Sc.); Experimental Surgery (Thesis) (Surgical Research) (48 credits)

The M.Sc. program is intended for students wishing to pursue careers in academia, the medical field, or industry. Thesis projects available in the various laboratories of the Department are multidisciplinary and ensure that students are exposed to a broad spectrum of research projects and experimental approaches. Students who have achieved superior progress in their research have the option to transfer to the Ph.D. program, waiving the M.Sc. thesis submission.

section 11.21.6 Doctor of Philosophy (Ph.D.); Experimental Surgery (Surgical Research)

The doctoral program is intended for students with excellent Academic Standing who wish to pursue research-focused careers in academia, the medical field, or industry. Thesis projects, available in the various laboratories of the Department, are multidisciplinary and provide in-depth training, ensuring that students are exposed to a broad spectrum of research projects and experimental approaches.

section 11.21.7 Graduate Diploma in Surgical Health Care Research (30 credits)

The graduate diploma program is open to all graduate students in the Division of Surgical Research, but is specifi

- Research Proposal
- Letter of Intent and Memorandum of Agreement from the prospective Thesis Supervisor

11.21.3.3 Dates for Guaranteed Consideration

Canadian	International	Special/Exchange/Visiting
Fall: June 1	Fall: Apr. 20	Fall: Same as Canadian/International
Winter: Sept. 15	Winter: Sept. 15	Winter: Sept. 15
Summer: N/A	Summer: N/A	Summer: N/A

Revision, October 2012. End of revision.

11.21.4 Surgery, Experimental (Division of Surgical Research) Faculty

Director

L. Rosenberg

Associate Director

A. Philip

Administrative & Student Affairs Coordinator

Damla Tahirbegi

514-934-1934 ext. 42837

Professors

J.D. Bobyn; B.Sc., M.Sc.(McG.), Ph.D.(Tor.)

P. Brodt; B.Sc.(Bar-Ilan), M.Sc.(Ott.), Ph.D.(McG.)

R.C.-J. Chiu; M.B.(Taiwan), Ph.D.(McG.)

N.V. Christou; B.Sc., M.Sc., Ph.D., M.D.,C.M.(McG.)

M.M. Elhilali; M.B., B.Ch., D.S., DU, M.Ch.(Cairo), Ph.D.(McG.)

G.M. Fried; B.Sc., M.D.,C.M.(McG.)

F. Glorieux; M.D.(Louvain), M.Sc.(Montr.), Ph.D.(McG.)

P.H. Gordon; M.D.(Sask.)

J.E. Henderson; Ph.D.(McG.)

J.M. Laberge; M.D.(Laval)

D.S. Mulder; M.D.(Sask.), M.Sc.(McG.)

L. Rosenberg; M.Sc., M.D., Ph.D.(McG.)

P.J. Roughley; B.Sc., Ph.D.(Nott.)

R. St. Arnaud; Ph.D.(Laval)

M. Tanzer; M.D.,C.M.(McG.), F.R.C.S.(C)

C.I. Tcherv

Associate Professors

S. Emil; M.D.,C.M.(McG.), F.R.C.S.(C)

L. Feldman; M.D.,C.M., M.Sc.(McG.)

D. Fleiszer; B.Sc., M.D.,C.M.(McG.)

R.C. Hamdy; M.Sc, M.D.(Egypt), F.R.C.S.(C)

E. Harvey; B.Sc.(Ont.) M.D.,C.M., M.Sc.(McG.)

K.J. Lachapelle; M.Sc., M.D.,C.M.(McG.)

L. Lessard; B.Sc., M.D.(Laval), F.R.C.S.(C)

S. Meterissian; M.D.,C.M., M.Sc.(McG.)

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

J.S. Mort; B.Sc.(McG.), Ph.D.(McM.)

A. Philip; M.Sc., Ph.D.(McG.)

P. Puligandla; M.D., M.Sc.(W. Ont.), F.R.C.S.(C)

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

D. Shum-Tim; M.Sc., M.D.,C.M.(McG.)

T. Steffen; M.D.(Switz.), Ph.D.(McG.)

T. Taketo-Hosotani; B.Sc., M.Sc., Ph.D.(Kyoto)

J.I. Tchervenkov; M.D.,C.M.(McG.), F.R.C.S.(C)

R. Turcotte; M.D.(Montr.)

D. Zukor; B.Sc., M.D.,C.M.(McG.)

Assistant Professors

J.E. Barralet; B.Eng., Ph.D.(Lond.)

M. Basik; M.D.,C.M.(McG.)

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

J. Chen; B.Sc.(Chin. Acad. Sci.), Ph.D.(Guelph)

M. Chevrette; B.Sc., M.Sc., Ph.D.(Laval)

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

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

L. Ferri; M.D.,C.M., M.Sc.(McG.)

S. Fraser; B.Sc., M.D.(Tor.), M.Sc.(McG.), F.R.C.S.(C)

M. Gilardino; M.D.,C.M., M.Sc.(McG.), F.R.C.S.(C), F.A.C.S.

T.E. Hebert; Ph.D.(Tor.)

O. Huk; B.Sc., M.D.,C.M.(McG.), M.Sc.(Montr.)

P. Jarzem; B.Sc., M.D.(Qu.)

J. Lapointe; M.D., Ph.D.(Laval)

E. Lee; B.A.(Boston), M.Sc., Ph.D.(McG.)

C. O'Flaherty; D.V.M., Ph.D.(Buenos Aires, Argentina)

S. Paraskevas; M.D., Ph.D.(McG.)

M. Petropavlovskaia; M.Sc., Ph.D.(Moscow)

A.D. Recklies; B.Sc.(McG.), Ph.D.(McM.)

K. Shaw; M.D.,C.M., M.Sc.(McG.)

11.21.5 Master of Science (M.Sc.); Experimental Surgery (Thesis) (Surgical Research) (48 credits)

Thesis Courses (33 credits)

EXSU 690	(4)	M.Sc. Research 1
EXSU 691	(4)	M.Sc. Research 2
EXSU 692	(4)	M.Sc. Research 3
EXSU 693	(21)	M.Sc. Thesis

Required Courses (12 credits)

EXSU 601	(6)	Knowledge Management
EXSU 605	(3)	Biomedical Research Innovation
EXSU 606	(3)	Statistics for Surgical Research

Complementary Courses (3 credits)

3 credits, one graduate-level course in the student's specialty, selected in consultation with the Research Supervisory Committee.

Depending on their individual background, students may be asked by their Research Supervisory Committee to take additional courses.

11.21.6 Doctor of Philosophy (Ph.D.); Experimental Surgery (Surgical Research)

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 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)

EXSU 601	(6)	Knowledge Management
EXSU 605	(3)	Biomedical Research Innovation
EXSU 606	(3)	Statistics for Surgical Research
EXSU 700	(0)	Comprehensive Examination

Complementary Course (3 credits)

One graduate-level course in the student's specialty, selected in consultation with the Research Supervisory Committee.

11.21.7 Graduate Diploma in Surgical Health Care Research (30 credits)

Project (9 credits)

EXSU 637	(9)	Research Project

Required Courses (9 credits)

EXSU 601	(6)	Knowledge Management
EXSU 606	(3)	Statistics for Surgical Research

Complementary Courses (12 credits)

At least 3 credits from the following courses:

EPIB 631*	(2)	Pharmacoepidemiology 2
EPIB 633*	(2)	Pharmacoepidemiology 1
EPIB 656	(3)	Health Care Technology Assessment
EPIB 679	(3)	Special Topics 10
EXMD 631	(3)	Topics in Economic Evaluation

Note: EPIB 631 and EPIB 633 must be taken in tandem for a total of four credits.

At least 9 credits from the following courses:

EPIB 601	(4)	Fundamentals of Epidemiology
EPIB 607	(4)	Inferential Statistics
EPIB 610	(3)	Advanced Methods: Causal Inference
EPIB 631*	(2)	Pharmacoepidemiology 2
EPIB 633*	(2)	Pharmacoepidemiology 1
EPIB 643	(1)	Substantive Epidemiology 3
EPIB 655	(3)	Epidemiology in Public Health
EPIB 668	(2)	Special Topics 1
EXMD 631	(3)	Topics in Economic Evaluation
POTH 630	(3)	Measurement: Rehabilitation 2

Note: EPIB 631 and 633 must be taken in tandem for a total of four credits.