Faculty of Medicine (Graduate)

Programs, Courses and University Regulations

2016-2017

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

1. McGill University reserves the right to mak

Publication Information

Published by

Enrolment Services
McGill University
3415 McTavish Street
Montreal, Quebec, H3A 0C8
Canada

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11.6.3.2 Application Procedures,

General Statement Concerning Higher Degrees

7 Fellowships, Awards, and Assistantships

Please refer to University Regulations and Resources > Graduate > : Fellowships, Awards, and Assistantships for information and contact information regarding fellowships, awards, and assistantships in Graduate and Postdoctoral Studies.

8 Postdoctoral Research

Students must inform themselves of Univ

iv. Postdocs with full responsibility for teaching a course should be compensated over and above their fellowship at the standard rate paid to lecturers by their department. This applies to all postdocs, except those for whom teaching is part of the aw

vii. Some examples of the responsibilities of the University are:

- to register Postdocs;
- to provide an appeal mechanism in cases of conflict;
- to provide documented policies and procedures to Postdocs;
- to provide Postdocs with the necessary information on McGill University student services.

Approved by Senate, April 2000; revised May 2014

8.3 Vacation Policy for Graduate Students and Postdocs

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

Council of FGSR, April 23, 1999

8.4 Leave of Absence for Health and Parental/Familial Reasons

A leave of absence may be granted for maternity or parental reasons or for health reasons (see University Regulations and Resources > Graduate > : Leave of Absence Status).

Such a leave must be requested on a term-by-term basis and may be granted for a period of up to 52 weeks. For a maternity or parental leave, the eligibility period of a maximum of 52 consecutive weeks is determined based on when the child is born; if the leave is interrupted for one or two terms, the eligibility period cannot be extended. Students and Postdocs must make a request for such a leave in writing to their department and submit a medical certificate. The department shall forward the request to Enrolment Services. See the procedure in University Regulations and Resources > Graduate > : Leave of Absence Status

Students who have been granted such a leave will have to register for the term(s) in question and their registration will show as “leave of absence” on their record. No tuition fees will be charged for the duration of the authorized leave. Research supervisors are not obligated to remunerate students and Postdocs on leave. A summary table of various leave policies (paid or unpaid) for students and Postdocs paid from the Federal and Quebec Councils through fellowships or research grants is available at www.mcgill.ca/gps/funding/students-postdocs/accepting-maintaining-award under "Leave Policies: Funding Council Leave Policies for Graduate Students and Postdoctoral Fellows."

8.5 Postdoctoral Research Trainees

Eligibility

If your situation does not conform to the Government of Quebec's definition of Postdoctoral Fellow, you may be eligible to attend McGill as a Postdoctoral Research Trainee. While at McGill, you can perform research only (you may not register for courses or engage in clinical practice). Medical specialists who will have clinical exposure and require a training card must register through Postgraduate Medical Education of the Faculty of Medicine—not Graduate and Postdoctoral Studies.

The category of Postdoctoral Research Trainee is for:

Category 1: An individual who has completed requirements for the Doctoral degree or medical specialty, but the degree/certification has not yet been awarded. The individual will subsequently be eligible for registration as a Postdoctoral Fellow.

Category 2: An individual who is not eligible for Postdoctoral Registration according to the Government of Quebec's definition, but is a recipient of an external postdoctoral award from a recognized Canadian funding agency.

Category 3: An individual who holds a professional degree (or equivalent) in a regulated health profession (as defined under CIHR-eligible health profession) and is enrolled in a program of postgraduate medical education at another institution. The individual wishes to conduct the research stage or elective component of his/her program of study at McGill University under the supervision of a McGill professor. The individual will be engaged in full-time research with well-defined objectives, responsibilities, and methods of reporting. The application must be accompanied by a letter of permission from the home institution (signed by the Department Chair, Dean or equivalent) confirming registration in their program and stating the expected duration of the research stage. Individuals who are expecting to spend more than one year are encouraged to obtain formal training (master’s or Ph.D.) through application to a relevant graduate program.

Category 4: An individual with a regulated health professional degree (as defined under CIHR-eligible health profession), but not a Ph.D. or equivalent or medical specialty training, but who fulfils criteria for funding on a tri-council operating grant or by a CIHR fellowship (up to maximum of five years post-degree).

Note: Individuals who are not Canadian citizens or permanent residents must inquire about eligibility for a work permit.

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General Conditions

- The maximum duration is three years;
- the individual must be engaged in full-time research;
- the individual must provide copies of official transcripts/diploma;
- the individual must have the approval of a McGill professor to supervise the research and of the Unit;
- the individual must have adequate proficiency in English, but is not required to provide official proof of English competency to Enrolment Services;
- the individual must comply with regulations and procedures governing research ethics and safety and obtain the necessary training;
- the individual will be provided access to McGill libraries, email, and required training in research ethics and safety. Any other University services must be purchased (e.g., access to athletic facilities);
- the individual must arrange for basic health insurance coverage prior to arrival at McGill and may be required to provide proof of coverage.

9 Graduate Studies Guidelines and Policies

Refer to University Regulations and Resources > Graduate > : Guidelines and Policies for information on the following:

- Guidelines and Regulations for Academic Units on Graduate Student Advising and Supervision
- Policy on Graduate Student Research Progress Tracking
- Ph.D. Comprehensives Policy
- Graduate Studies Reread Policy
- Failure Policy
- Guideline on Hours of Work

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

Refer to University Regulations and Resources > Graduate > : Research Policy and Guidelines, Patents, Postdocs, Associates, Trainees for information on the following:

- Policy on Research Ethics
- Regulations on Research Policy
- Policy on Research Integrity
- Guidelines for Research Involving Human Subjects
- Guidelines for Research with Animal Subjects
- Policy on Intellectual Property
- Regulations Governing Conflicts of Interest
- Safety in Field Work
- Office of Sponsored Research
- Postdocs
- Research Associates

11 Browse Academic Units & Programs

The programs and courses in the following sections have been approved for the 2016–2017 session as listed. The F

11.1 Anatomy and Cell Biology

11.1.1 Location

Department of Anatomy and Cell Biology
Strathcona Anatomy and Dentistry Building
3640 University Street, Room M/28
Montreal QC H3A 0C7
Canada
Telephone: 514-398-6350
Fax: 514-398-5047
Website: wwwmcgill.ca/anatomy

11.1.2 About Anatomy and Cell Biology

The Department offers graduate programs leading to M.Sc. and Ph.D. degrees. 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 such as:

- cell and molecular biology;
- cellular immunology and hematology;
- reproductive biology;
- calcified tissue biology;
- tumour cell biology;
- developmental biology;
- neurobiology;
- aging.

The Department offers contemporary facilities for the wide range of techniques currently employed in research. Modern methods of cell and molecular biology, immunology, and biochemistry are used in conjunction with specialized microscopy in a variety of experimental systems.

The Department has one of the largest and best-equipped electron microscope facilities in the world. Currently in use are four modern electron microscopes which include 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.

Funding

M.Sc. and Ph.D. students receive a minimum yearly stipend of $18,000 and $20,000 respectively. All students are financially supported either by their supervisor or through fellowships or scholarships. Prospective students are urged to make every effort to secure their own funding. Applications may be made for a variety of fellowships administered by the University or by various federal, provincial, or private agencies. For more information on fellowships and awards, see the Graduate and Postdoctor

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

Graduate research activities leading to the presentation of the Ph.D. thesis involve original experimental work in one of the areas being actively investigated by the Department's research supervisors. Our graduate program offers training in a personal, unique, and multidisciplinary environment in the top Canadian university with worldwide recognition. The thesis-based Ph.D. training is intended for students with a B.Sc., B.A., or M.Sc. degree in life sciences from a university of recognized reputation. Candidates with an M.D., D.D.S., or D.V.M. degree are also welcome. The students are trained in how to address biological problems with an integrative understanding of cell biology by conducting hypothesis-driven projects. The training provides all the tools required for a competitive career, in academic settings as well as in industry or other fields.

11.1.3 Anatomy and Cell Biology Admission Requirements and Application Procedures

11.1.3.1 Admission Requirements

Admission is based on the candidate’s academic record and letters of recommendation. A minimum cumulative grade point average (CGPA) of 3.0 out of 4.0 is required. Once a student has submitted all the required documents, the applicant’s file will be reviewed by the Graduate Admission Committee. Files that do not meet the minimum requirement will not be considered. Applicants must also be accepted by a research supervisor who is a faculty member or an associate member of the Department of Anatomy and Cell Biology (Adjunct members may serve only as co-supervisors while the primary supervisor must be a full or associate member of the Department). Recommendation for admission will be made once the applicant has secured a supervisor and adequate financial support. Financial support should be in the form of a stipend from the supervisor's research grant or a fellowship held by the student.

Master's Program (Cell Biology)

1. A B.Sc. degree in life sciences or any of M.D., D.D.S., or D.V.M. degrees from a university of recognized reputation
2. Evidence of a high academic achievement with a minimum cumulative grade point average (CGPA) of 3.0 out of 4.0 as indicated in the general guidelines set up by GPS

Ph.D. Program (Cell Biology)

1. An M.Sc. degree in life sciences or any of M.D., D.D.S., or D.V.M. degrees from a university of recognized reputation
2. Evidence of a high academic achievement with a minimum cumulative grade point average (CGPA) of 3.0 out of 4.0 as indicated in the general guidelines set up by GPS

International Applicants

Graduate studies applicants whose mother tongue is not English and who have not completed an undergraduate or graduate degree from a recognized foreign institution where English is the language of instruction, or from a recognized Canadian institution (anglophone or francophone), must submit the following:

TOEFL: Minimum score of 86 on the Internet-based test (iBT; 567 on the paper-based test (PBT)) with each component score of not less than 20.

or

IELTS: Minimum overall band score of 6.5.

11.1.3.2 Application Procedures

McGill’s online application form for graduate program candidates is available at e the applicant has secured a supervi1.38Dongue is not E.501 Tm(T)Tj0 0501 345.313

Assistant Professors

Geoffroy P. Noël; Ph.D.(Br. Col.)

Nicole Ventura; Ph.D.(Qu.)

Associate Members

Daniel Bernard (Pharmacology and Therapeutics)

Claire Brown (Physiology)

Colin Chalk (Neurology and Neurosurgery)

Jean-Francois Cloutier (Neurology and Neurosurgery)

Claudio Cuello (Pharmacology and Therapeutics)

Giovanni DiBattista (Medicine)

Allen Ehrlicher (Bioengineering)

Alyson Fournier (

Adjunct Professors

Stephane Lefrancois; B.Sc., Ph.D.(McG.)

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

Alexei Pshezhetsky; Ph.D.(Moscow St.)

Michael Sacher; Ph.D.(McG.)

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	(3)	Histology
ANAT 663D2	(3)	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
ANAT 690D2	(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 f

section 11.2.10 Doctor of Philosophy (Ph.D.); Biochemistry Đ Chemical Biology

The Chemical Biology Thematic Group is engaged in a diverse range of research topics which span structural biology, enzymology, nucleic acid research, signalling pathways, single molecule biophysics, and biophysical chemistry of living tissues. Among the themes which unite the research being performed in this group is trying to learn new chemistry and physics from biological systems. We have projects relating to pharmaceutically relevant enzymes such as those involved in drug metabolism and antibiotic resistance; development of therapeutic agents in the control of inflammation, cancer and viral infections; the chemical biology of NO; quantification of bioenergetic markers of metabolism; self-assembly mechanisms of the HIV-1 virion capsid; liposome microarray systems to address membrane protein dynamics and recognition; studies on reactive oxygen species translocation across the aqueous/lipid membrane interface; RNAi/antisense technologies; dynamic combinatorial chemistry; protein dynamics and function; mechanistic aspects involved in cellular adhesion and transport in membrane and zeolite channels; and cutting-edge microscopes used to examine transport, motility, and reactivity in cells.

The Chemical Biology graduate option is centred on the pursuit of an original research project under the direction of one or more mentors. The program is supported by McGill University and by the Canadian Institutes of Health Research (CIHR) through its Strategic Training Initiatives program.

The program of training incorporates several important features, including a diverse curriculum and programs of seminars, workshops, and discussion groups designed to provide students with a well-rounded exposure to both the chemical and biological aspects of the discipline. The Ph.D. option provides advanced training in Chemical Biology based on independent research.

Financial support for students in the program is available from a variety of sources, including competitively awarded CIHR-funded Chemical Biology Scholarship awards.

11.2.3 Biochemistry Admission Requirements and Application Procedures

11.2.3.1 Admission Requirements

Admission is based on the candidate's academic record, letters of recommendation, curriculum vitae, and personal statement. A minimum grade point average of 3.2/4.0 (B+) is required. Once a student has submitted all the required documents, the applicant's file will be reviewed by the Graduate Admission Committee. Files that do not meet the minimum requirement will not be considered. Applicants must also be accepted by a research supervisor who is a faculty member or associate member of the Department of Biochemistry. Recommendation for admission will be made once the applicant has secured a supervisor and adequate financial support. Financial support should be in the form of a stipend from the supervisor's research grant or a fellowship held by the student.

Master©s Program

Candidates for the M.Sc. degree must hold a B.Sc. degree or its equivalent in Biochemistry or in related disciplines (e.g., biology, chemistry, physiology, microbiology).

Doctoral Program

Candidates who have completed their M.Sc. degree may be admitted directly to the Ph.D. program. Candidates who are admitted to the M.Sc. program and who are interested in the Ph.D. may transfer into the Ph.D. program after successfully completing the transfer seminar (BIOC 701) and all course requirements. The M.Sc. thesis requirement is then waived.

International Applicants

Applicants to graduate studies whose mother tongue is not English and who have not completed an undergraduate or graduate degree from a recognized foreign institution where English is the language of instruction or from a recognized Canadian institution (anglophone or francophone), must submit the following:

- TOEFL (Test of English as a Foreign Language): Minimum acceptable scores are 86 Internet-based test (iBT) with no less than 20 in each of the four component scores or 567 on the paper-based test (PBT). CBT results will no longer be accepted, as ETS no longer reports these results.

  or

  IELTS: Minimum overall band score of 6.5 or greater.
- International students who have received their degree outside North America should submit GRE scores: Subject Test in Biochemistry, Cell and Molecular Biology with a minimum score of 550 (not required, but strongly recommended).

Admission Requirements ± Bioinformatics or Chemical Biology Option

As for the regular graduate programs of the Biochemistry Department, acceptance into the Bioinformatics or Chemical Biology option consists of two steps:

1. Preliminary approval by the Department's Graduate Admission Committee based on the student's transcript, references, and other documents submitted with the application. The criteria for assessment at this level are the same as for the regular graduate programs of the Department.
2. Acceptance by a Bioinformatics or Chemical Biology research director. The director must propose a research project for the student that provides training in the methods and philosophy of Chemical Biology. Project proposals are assessed by the Bioinformatics or Chemical Biology Program Committee.

11.2.3.2 Application Procedures

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

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures.

All applicants are advised to contact potential research supervisors during or before the application process since supervisor acceptance is required. Information about the research interests of faculty members can be found at www.mcgill.ca/biochemistry/research and www.mcgill.ca/biochemistry/about-us/department/faculty-member

11.2.3.2.1 Additional Requirements

The items and clarifications belo

Professors

Arnim Pause; B.Sc., M.Sc.(Konstanz), Ph.D.(McG.) (Canada Research Chair in Molecular Oncology)

Jerry Pelletier; B.Sc., Ph.D.(McG.) (James McGill Professor)

Gordon C. Shore; B.Sc.(Guelph), Ph.D.(McG.)

John R. Silvius; B.Sc., Ph.D.(Alta.)

Nahum Sonenberg; M.Sc., Ph.D.(Weizmann Inst.), F.R.S.C., F.R.S. (James McGill Professor)

David Y. Thomas; B.Sc.(Brist.), M.Sc., Ph.D.(Univ. College, Lond.), F.R.S.C. (Canada Research Chair in Molecular Genetics)

Michel L. Tremblay; B.Sc., M.Sc.(Sher.), Ph.D.(McM.), F.R.S.C. (Jeanne and Jean-Louis Levesque Chair in Cancer Research)

Associate Professors

Maxime Bouchard; B.Sc., Ph.D.(Laval) (Canada Research Chair in Developmental Genetics)

Jos e Dostie; B.Sc.(Sher.), Ph.D.(McG.) (CIHR New Investigator Award; Chercheur-boursi r e du FRSQ)

Thomas Duchaine; B.Sc., Ph.D.(Montr.) (Chercheur-boursier du FRSQ)

Bhushan Nagar; B.Sc., Ph.D.(Tor.) (Canada Research Chair in the Structural Biology of Signal Transduction)

Martin Schmeing; B.Sc.(McG.), Ph.D.(Yale)

Julie St-Pierre; B.Sc., M.Sc.(Laval), Ph.D.(Camb.)

Jose G. Teodoro; B.Sc.(W. Ont.), Ph.D.(McG.) (CIHR New Investigator Award; Chercheur-boursier du FRSQ)

Jason C. Young; B.Sc.(Tor.), Ph.D.(McM.) (Canada Research Chair in Molecular Chaperones)

Assistant Professors

Uri David Akavia; B.Sc., M.Sc., Ph.D.(Tel Aviv)

Sidong Huang; B.A.(Boston), Ph.D.(Calif.)

Ian Watson; B.Sc., Ph.D.(Tor.)

Associate Members

Gary Brouhard (Dept. of Biology)

Edward A. Fon (Neurology and Neurosurgery)

Jacques Genest (Dept. of Medicine)

Michael Hallett (McGill Centre for Bioinformatics)

Robert S. Kiss (Dept. of Medicine)

Gergely Lukacs (Dept. of Physiology)

Vassilios Papadopoulos (Dept. of Medicine)

Janusz Rak (Dept. of Medicine)

St phane Richard (Depts. of Medicine and Oncology)

Reza Salavati (Inst. of Parasitology)

Maya Saleh (Dept. of Medicine)

Erwin Schurr (Ctr. for Host Resistance, MGH)

Peter Siegel (Goodman Cancer Ctr, Dept. of Medicine)

Ivan Topisirovic (Dept. of Oncology)

Youla S. Tsantrizos (Dept. of Chemistry)

Bernard Turcotte (Dept. of Medicine)

Josie Ursini-Siegel (Dept. of Oncology)

Simon Wing (Dept. of Medicine)

Xiang-Jiao Yang (Goodman Cancer Ctr, Dept. of Medicine)

Adjunct Professors
Philip Awadalla (Montr.)
Mirek Cygler (Sask.)
Jacques Drouin (IRCM)
Anny Fortin (Dafra Pharma Res. and Dev. Bvba)
Matthias Gotte (Alta.)
Enrico Purisima (NRC/BRI)
Ren Roy (PharmaQAM)

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

Thesis Courses (36 credits)

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

Required Course (3 credits)

BIOC 696	(3)	Seminars in Biochemistry

Complementary Courses* (6 credits)

At least 3 credits must be chosen from the following:

BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Protein Biology and Proteomics
BIOC 670	()	Biochemistry of Lipoproteins
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 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.

11.2.6 Master of Science (M.Sc.); Biochemistry (Thesis) — Bioinformatics (45 credits)

Thesis Courses (30 credits)

BIOC 694	(3)	Thesis Research 4
BIOC 698	(12)	Thesis Research 2
BIOC 699	(15)	Thesis Research 3

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 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Protein Biology and Proteomics
BIOC 670	()	Biochemistry of Lipoproteins
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.

11.2.7 Master of Science (M.Sc.); Biochemistry (Thesis) — Chemical Biology (47 credits)

Thesis Courses (33 credits)

BIOC 695	(6)	Thesis Research 1 (Chemical - Biology)
BIOC 698	(12)	Thesis Research 2
BIOC 699	(15)	Thesis Research 3

Required Course (3 credits)

BIOC 696	(3)	Seminars in Biochemistry

Complementary Courses* (11 credits)

Two of the following courses:

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

BIOC 690	(1)	Seminars in Chemical Biology 4

At least 3 credits from the following:

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

and at least 3 credits from the following:

BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Protein Biology and Proteomics
BIOC 670	()	Biochemistry of Lipoproteins
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus additional credits, to a total of at least 11 complementary course credits from the following list:

CHEM 504	(3)	Drug Design
CHEM 522	(3)	Stereochemistry
CHEM 582	(3)	Supramolecular Chemistry
CHEM 591	(3)	Bioinorganic Chemistry
CHEM 621	(5)	Reaction Mechanisms in Organic Chemistry
CHEM 629	(5)	Organic Synthesis
CHEM 655	(4)	Advanced NMR Spectroscopy
EXMD 510	(3)	Bioanalytical Separation Methods
EXMD 602	(3)	Techniques in Molecular Genetics
PHAR 504	(3)	Drug Discovery and Development 2
PHAR 562	(3)	Neuropharmacology
PHAR 563	(3)	Endocrine Pharmacology
PHAR 707	(3)	Topics in Pharmacology 6

* 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 cu410.out researchTj1 0 0 1 492.4mee54 meet cu410w51sT.1 0 051sTa NMR Spectrosc 4896.74 meet cu41098 3sedge. It must sh 52

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 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*** (6 credits)

At least 3 credits selected from:

BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression

* 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)

3 credits from the following:

BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Protein Biology and Proteomics
BIOC 670	()	Biochemistry of Lipoproteins
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus 6 credits from the following:

	(3)	Bioinformatics: Molecular Biology

* 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:

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

At least 3 credits from the following:

BIOC 600	(3)	Advanced Strategies in Genetics and Genomics
BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
BIOC 605	(3)	Protein Biology and Proteomics
BIOC 670	()	Biochemistry of Lipoproteins
EXMD 615	(3)	Essentials of Glycobiology
EXMD 635D1	(3)	Experimental/Clinical Oncology
EXMD 635D2	(3)	Experimental/Clinical Oncology

Plus additional credits to a total of at least 9 complementary course credits from the following list:

CHEM 504	(3)	Drug Design
CHEM 522	(3)	Stereochemistry
CHEM 582	(3)	Supramolecular Chemistry
CHEM 591	(3)	Bioinorganic Chemistry
CHEM 621	(5)	Reaction Mechanisms in Organic Chemistry
CHEM 629	(5)	Organic Synthesis
CHEM 655	(4)	Advanced NMR Spectroscopy
EXMD 510	(3)	Bioanalytical Separation Methods
EXMD 602	(3)	Techniques in Molecular Genetics
PHAR 504	(3)	Drug Discovery and Development 2
PHAR 562	(3)	Neuropharmacology
PHAR 563	(3)	Endocrine Pharmacology
PHAR 707	(3)	Topics in Pharmacology 6

*** 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.

11.3 Bioethics

11.3.1 Location

Biomedical Ethics Unit
3647 Peel Street
Montreal QC H3A 1X1
Canada
Telephone: 514-398-6668
Fax: 514-398-8349
Website: wwwmcgill.ca/biomedicalethicsunit/master

For information, contact the Graduate Program Director:

Jennifer Fishman – jennifer®shman@mcgill.ca

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, the Department of Family Medicine, Department of Human

11.3.3.3 Application Deadlines

Deadlines coincide with those of the chosen base discipline. Applicants must verify all deadlines and documentation requirements well in advance on the

BIEN 510	(3)	Nanoparticles in the Medical Sciences
BIEN 520	(3)	High Throughput Bioanalytical Devices
BIEN 530	(3)	Imaging and Bioanalytical Instrumentation
BIEN 550	(3)	Biomolecular Devices
BIEN 560	(3)	Biosensors
BMDE 502	(3)	BME Modelling and Identification
BMDE 503	(3)	Biomedical Instrumentation
BMDE 509	(3)	Quantitative Analysis and Modelling of Cellular Processes
BMDE 512	(3)	Finite-Element Modelling in Biomedical Engineering
BMDE 519	(3)	Biomedical Signals and Systems
BMDE 610	(3)	Functional Neuroimaging Fusion

6 credits from the list below or from other courses (at the 500-level or higher) which have both biomedical content and content from the physical sciences, engineering, or computer science, with the approval of the supervisor and Graduate Program Director.

BIEN 510	(3)	Nanoparticles in the Medical Sciences
BIEN 520	(3)	High Throughput Bioanalytical Devices
BIEN 530	(3)	Imaging and Bioanalytical Instrumentation
BIEN 550	(3)	Biomolecular Devices
BIEN 560	(3)	Biosensors
BIOT 505	(3)	Selected Topics in Biotechnology
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 509	(3)	Quantitative Analysis and Modelling of Cellular Processes
BMDE 510	(3)	Topics in Astrobiology
BMDE 512	(3)	Finite-Element Modelling in Biomedical Engineering
BMDE 519	(3)	Biomedical Signals and Systems
BMDE 610	(3)	Functional Neuroimaging Fusion
BMDE 650	(3)	Advanced Medical Imaging
BMDE 651	(3)	Orthopaedic Engineering
BMDE 652	(3)	Bioinformatics: Proteomics
COMP 526	(3)	Probabilistic Reasoning and AI
COMP 546	(4)	Computational Perception
COMP 558	(3)	Fundamentals of Computer Vision
COMP 761	(4)	Advanced Topics Theory 2
ECSE 526	(3)	Artificial Intelligence
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

* When topic is appropriate.

11.4.6 Doctor of Philosophy (Ph.D.); Biological and Biomedical Engineering

** NEW PROGRAM **

The goal of the Biological and Biomedical Engineering Ph.D. program is for students to gain advanced training in the interdisciplinary application of methods, paradigms, technologies, and devices from engineering and the natural sciences to problems in biology, medicine, and the life sciences. The program will focus in an area of choice while integrating quantitative concepts and engineering tools for the study of life sciences and/or for patient care. As part of the Ph.D. requirement, the student will integrate the scientific method, develop critical and deep thinking, and acquire advanced writing and presentation skills that will form the foundation for his/her career. Under the guidance of his/her supervisor, the student will tackle a research challenge and make original contributions to the advancement of science and engineering in an area of Biological and Biomedical Engineering. The program will prepare students for careers in academia, industry, hospitals and gov

ofessor

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

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

H.L. Galiana; B.Eng., M.Eng., Ph.D.(McG.)

D. Juncker; Dipl., Ph.D.(Neuch-Switzerland)

R.E. Kearney; B.Eng., M.Eng., Ph.D.(McG.)

S. Prak7.n 0B.Sc(HonG.),MB.Sc., M(T)Tj1 0 0 11878.742 610.52 Tmechc(BHU.), Ph.D.(McG.)

Associate Members

D. Pasini (Mechanical Engineering)

W. Reisner (Physics)

A. Shmuel (Neurology and Neurosurgery)

B. Willie (Pediatric Surgery)

Y.B. Xia (Bioengineering)

Adjunct Professors

P.G. Charette (Sher.)

I. El Naqa (Mich.)

C. Grova (C'dia)

J.-M. Lina (ETS)

M. Mekhail (Shriners)

J.L. Nadeau (Calif. Tech.)

G.B. Pike (Calg.)

A. Reader (King's, Lond.)

T. Veres (NRC)

11.5.5 Master of Engineering (M.Eng.); Biomedical Engineering (Thesis) (45 credits)

This program is no longer accepting new students.

Thesis Courses (24 credits)

BMDE 695	(12)	Thesis Submission

12 credits selected from the following courses:

BMDE 691	(3)	Thesis Research 2
BMDE 692	(3)	Thesis Research 3
BMDE 693	(6)	Thesis Research 4
BMDE 694	(6)	Thesis Research 5

Complementary Courses (21 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 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 600D1	(1.5)	Seminars in Biomedical Engineering
BMDE 600D2	(1.5)	Seminars in Biomedical Engineering

BMDE 650	(3)	Advanced Medical Imaging
BMDE 651	(3)	Orthopaedic Engineering
BMDE 652	(3)	Bioinformatics: Proteomics
COMP 526	(3)	Probabilistic Reasoning and AI
COMP 546	(4)	Computational Perception
COMP 558	(3)	Fundamentals of Computer Vision
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.

11.5.6 Doctor of Philosophy (Ph.D.); Biomedical Engineering

This program is no longer accepting new students.

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 Course

BMDE 700	(0)	Ph.D. Comprehensive

Students must be registered in the course at the time of the Thesis Proposal and Comprehensive Exam Meeting.

11.6 Communication Sciences and Disorders

11.6.1 Location

School of Communication Sciences and Disorders
2001 McGill College Avenue, Suite 800
Montreal QC H3A 1G1

Canada
Telephone: 514-398-4137
Fax: 514-398-8123
Email: scsd@mcgill.ca
Website: wwwmcgill.ca/scsd

11.6.2 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

section 11.6.6 Master of Science, Applied (M.Sc.A.); Communication Sciences & Disorders (Non-Thesis) Ð Speech-Language Pathology (81 credits)

The profession of speech-language pathology concerns assessment and intervention in speech and language disorders. In particular, the speech-language pathologist is concerned with two major parameters of communication sciences and disorders: language and speech. At present, most speech-language pathologists in Canada work in hospitals, public school systems, rehabilitation centres, and in special education facilities.

Students pursuing the M.Sc.A. complete the basic academic content and clinical practica required in preparation for clinical practice as outlined by Speech-Language and Audiology Canada (SAC). Our M.Sc.A. program is completed in two years whereas some other programs require three years to complete. The emphasis on bridging theory and clinical practice is very strong in our program. Our admission requirements emphasize basic sciences and do not require completion of a specific undergraduate degree. This flexible entry accommodates students with undergraduate degrees in different fields and promotes diversity within our student body. Our goal is to recruit and train skillful therapists and problem-solvers who can rely on strong foundation in theory to address challenging clinical issues. Our M.Sc.A. graduates typically pursue a professional career working in schools, hospitals, rehabilitation centres, or in private practices. A subset of our graduates will enter a doctoral program (immediately or after a period of clinical employment) to pursue a research career.

Research Degrees ± M.Sc. and Ph.D

section 11.6.7 Master of Science (M.Sc.); Communication Sciences and Disorders (Thesis) (45 credits)

Selected candidates may be accepted for the M.Sc. 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.

This program is designed for students who wish to combine research training with their clinical (M.Sc.A.) program or students from related fields who wish to gain research experience in communication sciences to prepare for doctoral studies. Students are required to take two semesters (6 credits) of statistics and complete a thesis. Admission to the M.Sc. research program requires identification of an SCSD professor(s) with relevant expertise to mentor the student through the thesis process. Graduates of our M.Sc. research program follow diverse career paths working in clinical settings (if they also have a clinical degree) or settings that combine clinical and research activities or continuing their research training at the doctoral level.

section 11.6.8 Doctor 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 11.6.9 Doctor of Philosophy (Ph.D.); Communication Sciences and Disorders Ð Language Acquisition

Information about this option is available from the School and from www.psych.mcgill.ca/lap.html and www.mcgill.ca/psychology/graduate/program-tracks/experimental/additional-program-opportunities. 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 Acquisition Program are introduced to theoretical and methodological issues on language acquisition from the perspectives of cognitive neuroscience, theoretical linguistics, psycholinguistics, education, communication sciences and disorders, and neuropsychology. In addition to the SCSD Ph.D. requirements, students in this program must complete 6 credits of coursework in language acquisition (including at least one course that is not in their home department), and four interdisciplinary seminars (2 credits each) and must include a faculty member in the Language Acquisition Program on their thesis committee.

11.6.3 Communication Sciences and Disorders Admission Requirements and Applications Procedures

11.6.4 Communication Sciences and Disorders Faculty

Director and Associate Dean

Marc Pell

Research Director

Linda Polka

Professors

Shari R. Baum; B.A.(Cornell), M.S.(Vermont), M.A., Ph.D.(Brown)

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

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

C)

Faculty Lecturers (Part-Time)

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

Associate Members

Eva Kehayia (Physical and Occupational Therapy)

Yuriko Oshima-Takane (Psychology)

Adjunct Members

David McFarland (Montr.)

Lucie Menard (UQAM)

11.6.5 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.

11.6.6 Master of Science, Applied (M.Sc.A.); Communication Sciences & Disorders (Non-Thesis) — Speech-Language Pathology (81 credits)

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

Required Courses (75 credits)

IPEA 500	(0)	Roles in Interprofessional Teams
IPEA 501	(0)	Communication in Interprofessional Teams
IPEA 502	(0)	Patient-Centred Care in Action
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

EDPE 676	(3)	Intermediate Statistics
EDPE 682	(3)	Univariate/Multivariate Analysis
EDPE 684	(3)	Applied Multivariate Statistics
EPIB 621	(4)	Data Analysis in Health Sciences
EPIB 622	(3)	Scientific Communication
PSYC 650	(3)	Advanced Statistics 1
PSYC 651	(3)	Advanced Statistics 2

Any other course requirements specified for the student's individual program of study.

11.6.8 Doctor of Philosophy (Ph.D.); Communication Sciences and Disorders — Language Acquisition

Students must satisfy all program requirements for the Ph.D. in their home department. The Ph.D. thesis must be on a topic relating to language acquisition, approved by the LAP committee.

Thesis

A thesis for the doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline; as well, the thesis must clearly demonstrate 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 (14 credits)

EDSL 711	(2)	Language Acquisition Issues 3
LING(uCon Im)	(2)	Language Acquisition Issues 2

EDSL 632	(3)	Second Language Literacy Development
LING 555	(3)	Language Acquisition 2
LING 590	(3)	Language Acquisition and Breakdown
LING 651	(3)	Topics in Acquisition of Phonology
LING 655	(3)	Theory of L2 Acquisition
PSYC 561	(3)	Methods: Developmental Psycholinguistics
PSYC 734	(3)	Developmental Psychology and Language
PSYC 736	(3)	Developmental Psychology and Language
SCSD 619	(3)	Phonological Development
SCSD 632	(3)	Phonological Disorders: Children
SCSD 633	(3)	Language Development
SCSD 637	(3)	Developmental Language Disorders 1
SCSD 643	(3)	Developmental Language Disorders 2

11.7 Epidemiology and Biostatistics

11.7.1 Location

Department of Epidemiology, Biostatistics and Occupational Health
1020 Pine Avenue West
Montreal QC H3A 1A2
Canada
Telephone: 514-398-6258
Email: graduateeboh@mcgill.ca
Website: www.mcgill.ca/epi-biostat-occh

11.7.2 About Epidemiology and Biostatistics

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 clinical research; health services research; public health; 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, public health specialists, health economists, medical sociologists, and health geographers.

Research in the Department spans a broad range of areas, including:

- biostatistics;
- clinical and public health informatics;
- environmental and occupational health;
- health care delivery and organization;
- infectious diseases;
- pharmacoepidemiology;
- population and public health;
- social epidemiology;
- epidemiologic methods;
- chronic diseases;
- reproductive and perinatal epidemiology;
- genetic epidemiology;
- global health;
- causal inference;
- 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 university research centres. Graduates pursue careers in academia, clinical settings, government agencies, NGOs, and industry.

11.7.3 Epidemiology, Biostatistics and Occupational Health Faculty

Chair

G. Paradis

Emeritus Professors

M.R. Becklake; M.B.B.Ch., M.D.(Witw.), F.R.C.P.

J.F. Boivin; M.D.(Laval), S.M., Sc.D.(Harv.)

A. Lippman; B.A.(Cornell), Ph.D.(McG.)

J. McCusker; M.D.,C.M.(McG.), M.P.H., Ph.D.(Col.)

I.B. Pless; B.A., M.D.(W. Ont.)

S.H. Shapiro; B.S.(Bucknell), M.S., Ph.D.(Stan.)

G. Th riault; M.D.(La val), M.I.H., Dr.P.H.(Harv.)

S. Wood-Dauphinee; B.Sc.(Phys.Ther.), Dip.Ed., M.Sc.(A.), Ph.D.(McG.)

Professors Post-Retirement

J.F. Boivin; M.D.(Laval), S.M., Sc.D.(Harv.)

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

A. Lippman; B.A.(Cornell), Ph.D.(McG.)

J. McCusker; M.D.,C.M.(McG.), M.P.H., Ph.D.(Col.)

I.B. Pless; B.A., M.D.(W. Ont.)

G. Th riault; M.D.(La val), M.I.H., Dr.P.H.(Harv.)

S. Wood-Dauphinee; B.Sc.(Phys.Ther.), Dip.Ed., M.Sc.(A.), Ph.D.(McG.)
McG.)

Professors

M. Abrahamowicz; Ph.D.(Cracow) (James McGill Professor)

J. Brophy; B.Eng.(McG.), M.Eng., M.D.(McM.), Ph.D.(McG.) (joint appt. with Medicine)

E.L.F. Franco; M.P.H., Dr.P.H.(Chapel Hill) (joint appt. with Oncology) (James McGill Professor)

R. Fuhrer; B.A.(CUNY (Brooklyn Coll.)), M.Sc., Ph.D.(Calif.-San Francisco)

T.W. Gyorkos; B.Sc.(McG.), M.Sc.(Bishop's), Ph.D.(McG.)

J.A. Hanley; B.Sc., M.Sc.(N.U.I.), Ph.D.(Wat.)

C. Infante-Rivard; M.D.(Montr

Associate Professors

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

R. Allard; B.A.(Montr.), M.D.,C.M., M.Sc.(McG.)

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

A. Benedetti; B.Sc., M.Sc., Ph.D.(McG.) (joint appt. with Medicine) (on leave Sept. 2016 to Aug. 2017)

D. Buckeridge; M.D.(Qu.), M.Sc.(Tor.), Ph.D.(Stan.) (CIHR Applied Public Health Chair) (on leave May to Oct. 2016)

J. Cox; B.Sc., B.A., M.D.(Dal.), M.Sc.(McG), C.C.F.P., F.R.C.P.(C)

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

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

S. Harper; B.A.(Westminster Coll.), M.S.P.H.(S. Carolina), Ph.D.(Mich.) (on leave Sept. 2016 to Aug. 2017)

P. H roux; B.Sc.(La val), M.Sc., Ph.D.(I.N.R.S.)

E.E.M. Moodie; B.A.(Winn.), M.Phil.(Camb.), Ph.D.(Wash.) (William Dawson Scholar)

Associate Members

Pathology: B. Case

Pediatrics: M. Ben Shoshan, E. Constantin, G. Dougherty, P. Fontela, B. Foster, P.T-S. Lee, M. Zappitelli

Physical and Occupational Therapy: S. Ahmed, A. Bussieres

Psychiatry: E. Latimer,

- social epidemiology;
- epidemiologic methods;
- chronic diseases;
- reproductive and perinatal epidemiology;
- genetic epidemiology;
- global health;
- causal inference;
- 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 university research centres. Graduates pursue careers in academia, clinical settings, government agencies, NGOs, and industry.

section 11.7.4.2Master of Science (M.Sc.); Epidemiology (Thesis) (48 credits)

Applicants to the M.Sc. program should hold a bachelor's degree in the natural and quantitative sciences (e.g., microbiology, computer science, statistics, economics, geography) or social sciences (e.g., sociology, psychology, anthropology), or hold a degree in one of the health professional sciences (e.g., medicine, nursing, social work, nutrition). Applicants must have an interest in health research, along with strong conceptual, analytic, and quantitative skills (differential and integral calculus) at the undergraduate level.

The program leading to a master's degree is designed to provide training in both theory and practice in the selected discipline. Courses require intellectual and academic rigour, and the program provides students with an opportunity to synthesize the training in the form of a thesis. Students will study the foundations and principles of epidemiology and applied biostatistics, in order to design, conduct, and analyze clinical, population-based, environmental, pharmaco-epidemiological, policy, and methodological health-related research. Graduates of the program often go on to do doctoral work or become research associates in public, private, and academic settings. McGill graduates are known for methodological and quantitative rigour, and quantitative analytic independence. While their core training is in methods, rather than specific substantive areas, students learn about substantive areas in the context of their research and through elective courses.

section 11.7.4.3Master of Science (M.Sc.); Epidemiology (Non-Thesis) Ð Pharmacoepidemiology (48 credits)

Applicants to the Pharmacoepidemiology Option of the M.Sc. (Non-Thesis) program should hold a bachelor's degree in the natural or quantitative sciences (e.g., microbiology, computer science, statistics, economics) or hold a degree in one of the health professional sciences (e.g., medicine, pharmacy). Applicants must have an interest in the epidemiology of medications, along with strong conceptual, analytic, and quantitative skills (including differential and integral calculus) at the undergraduate level. The Pharmacoepidemiology Option is designed to provide training in both theory and practice of pharmacoepidemiology. Students will study the foundations and principles of epidemiology and applied biostatistics in order to design, conduct, and analyze pharmacoepidemiological research. Courses require intellectual and academic rigour, and the program provides students with an opportunity to obtain specialized training in pharmacoepidemiology, including pharmacoepidemiologic methods, pharmacology for pharmacoepidemiologists, and practical experience in the form of a research project. Graduates of the program often go on to do doctoral work or become research associates in public, private, and academic settings. With a world-renowned reputation for excellence in pharmacoepidemiology, McGill-trained pharmacoepidemiologists are known for methodological and quantitative rigour, and quantitative analytic independence.

section 11.7.4.4Master of Science (M.Sc.); Public Health (Non-Thesis) (60 credits)

The mission of the Master's of Public Health is to train outstanding public health professionals and future leaders by offering a rigorous academic program in methods, research, and practice. This program may be of interest for students from the natural and quantitative sciences (e.g., microbiology, computer science, statistics, economics, geography), social sciences (e.g., sociology, psychology, anthropology), or the health professions (e.g., medicine, nursing, social work, physical and occupational therapy, nutrition). 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. Graduates of the program will serve as public health practitioners, research professionals, and educators, and will possess the competencies and professionalism to carry out broad public health functions in local, provincial, national, and international settings. In exceptional circumstances, the Admissions Committee may take professional experience into account for mid-career or returning/re-entry applicants.

The Master's of Public Health program includes a 14–16 week practicum after the first year, which will provide the student with the opportunity to use knowledge and skills acquired in the academic program in a public health practice or research setting. Students who wish to focus on certain specific areas can choose to take all their elective credits in one domain and must complete their practicum in the same area (e.g., global health; health services research; program and policy development a

section 11.7.4.6 Master of Science (M.Sc.) Public Health (Non-Thesis) Population Dynamics (60 credits)

The Population Dynamics Option (PDO) is a cross-disciplinary, cross-faculty graduate program offered by the Centre on Population Dynamics (CPD) as an option within existing master's and doctoral programs in the Departments of Sociology, Economics, and Epidemiology, Biostatistics and Occupational Health (EBOH) at McGill University. Students who have been admitted through their home department or faculty may apply for admission to the option. The option is coordinated by the CPD, in partnership with participating academic units.

Thus, in addition to the rigorous training provided in the Department of EBOH, graduate students who choose this option become Centre on Population Dynamics (CPD) student trainees. This affiliation notably offers opportunities for interdisciplinary research and supervision. The option also provides a forum whereby graduate students bring their disciplinary perspectives together and enrich each other's learning through structured courses, a weekly seminar series, and informal discussions and networking.

With interdisciplinary research being increasingly important to understanding complex social and biological processes, CPD student trainees benefit from both a strong disciplinary foundation from their departmental affiliations, as well as from the sharing of knowledge across disciplinary boundaries through CPD activities.

section 11.7.4.7 Doctor of Philosophy (Ph.D.); Epidemiology

This program may be of interest to students from the natural and quantitative sciences (e.g., microbiology, computer science, statistics, economics, geography), social sciences (e.g., sociology, psychology, anthropology), or the health professions (e.g., medicine, nursing, social work, nutrition). Applicants muF1 8awny beskGilns di fwny (fer.06ral and in f)Tj1 0 0 1 5.7.4Tj14lth profeguralicaacuusH) at the undeo

Required Courses (22 credits)

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

(4)	Fundamentals of Epidemiology

PPHS 630	(12)	MScPH Practicum/Project

Required Courses (27 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 603	(4)	Intermediate Epidemiology
EPIB 605	(1)	Critical Appraisal in Epidemiology
EPIB 607	(4)	Inferential Statistics
EPIB 613	(1)	Introduction to Statistical Software
	(1)	Basics of Measurement in Epidemiology

PPHS 616	(3)	Principles and Practice of Public Health Surveillance

Or other courses, at the 500 level or higher, selected with the Program's Academic Adviser.

Electives (9 credits)

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

Students may choose to focus on more advanced methods in epidemiology, biostatistics, geography, etc. or substantive areas such as environmental or occupational health, or to select a variety of courses that will deepen their general knowledge of the disciplines that influence population and public health.

Courses will be selected with and approved by the Program's Academic Adviser.

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

This option will provide enhanced training in global health to graduate students registered in the M.Sc. Public Health degree program at McGill. Students will become familiar with topics of global health relevance and incorporate this into their core coursework and practicum or project research. The practicum or research project must be relevant to global health, conducted in a global health setting, and approved by the Global Health Coordinating Committee. Contextualizing the core training students receive in public health and in their respective substantive disciplines within the global health research domain will enhance their academic experience. Graduates of this option will be prepared to pursue further training in global health or to undertake a variety of career opportunities in global health in Canada or internationally.

Practicum/Project (12 credits)

PPHS 630	(12)	MScPH Practicum/Project

Required Courses (30 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 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
PPHS 511	(3)	Fundamentals of Global Health
PPHS 602	(3)	Foundations of Population Health
PPHS 612	(3)	Principles of Public Health Practice
PPHS 629D1	(.5)	MScPH Forum 1
PPHS 629D2	(.5)	MScPH Forum 1
PPHS 631D1	(.5)	MScPH Forum 2
PPHS 631D2	(.5)	MScPH Forum 2

Complementary Courses (18 credits)

12 credits of course976 180.804 Tm1Tj1 0 0 1 221.949 275.503 Tm(MScPH F)Tj1 0 04(7)T12

Health Care Systems in Comparative Perspective

PPHS 612	(3)	Principles of Public Health Practice
PPHS 629D1	(.5)	MScPH Forum 1
PPHS 629D2	(.5)	MScPH Forum 1
PPHS 631D1	(.5)	MScPH Forum 2
PPHS 631D2	(.5)	MScPH Forum 2
SOCI 545	(3)	Sociology of Population
SOCI 626	(3)	Demographic Methods

Complementary Courses (15 credits)

12 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

GEOG 503	(3)	Advanced Topics in Health Geography
OCCH 602	(3)	Occupational Health Practice
PPHS 529	(3)	Global Environmental Health and Burden of Disease

Or other courses, at the 500 level or higher, to be selected with the program's academic adviser.

Health Services Research Policy & Management

PPHS 525	(3)	Health Care Systems in Comparative Perspective
PPHS 527	(3)	Economics for Health Services Research and Policy
PPHS 528	(3)	Economic Evaluation of Health Programs

Or other courses, at the 500 level or higher, to be selected with the program's academic adviser.

Population and Public Health Interventions (social and behavioural science)

PPHS 525	(3)	Health Care Systems in Comparative Perspective
PPHS 624	(3)	Public Health Ethics and Policy
SOCI 515	(3)	Medicine and Society
SOCI 588	(3)	Biosociology/Biodemography

Or other courses, at the 500 level or higher, to be selected with the program's academic adviser.

Field Epidemiology or Epidemiology in Practice

OCCH 604	(3)	Monitoring Occupational Environment
PPHS 615	(3)	Introduction to Infectious Disease Epidemiology
PPHS 616	(3)	Principles and Practice of Public Health Surveillance

Or other courses, at the 500 level or higher, to be selected with the program's academic adviser.

3 credits of coursework, at the 500 level or higher, from the list of courses approved for the Population Dynamics Option that have not been taken to satisfy other program requirements:

ECON 622	(3)	Public Finance
ECON 634	(3)	Economic Development 3
ECON 641	(3)	Labour Economics
ECON 734	(3)	Economic Development 4
ECON 741	(3)	Advanced Labour Economics

ECON 742	(3)	Empirical Microeconomics
ECON 744	(3)	Health Economics
EPIB 648	(3)	Methods in Social Epidemiology
EPIB 681	(3)	Global Health: Epidemiological Research
PPHS 525	(3)	Health Care Systems in Comparative Perspective
PPHS 527	(3)	Economics for Health Services Research and Policy
PPHS 528	(3)	Economic Evaluation of Health Programs
PPHS 529	(3)	Global Environmental Health and Burden of Disease
PPHS 615	(3)	Introduction to Infectious Disease Epidemiology
SOCI 502	()	Sociology of Fertility
SOCI 512	(3)	Ethnicity & Public Policy
SOCI 513	(3)	Social Aspects HIV/AIDS in Africa
SOCI 520	(3)	Migration and Immigrant Groups
SOCI 525	(3)	Health Care Systems in Comparative Perspective
SOCI 535	(3)	Sociology of the Family
SOCI 588	(3)	Biosociology/Biodemography

11.7.4.7 Doctor of Philosophy (Ph.D.); Epidemiology

Students admitted to the Ph.D. degree program with the equivalent of the M.Sc. in Epidemiology at McGill will be required to take a minimum of 27 credits of Ph.D. courses.

In addition to the Ph.D. requirements, students admitted to the Ph.D. degree program without the equivalent of an M.Sc. in Epidemiology at McGill will, in their first year, have to complete required coursework equivalent to the Master's Epidemiology program, excluding thesis research course(s), as determined by the Department.

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)

EPIB 604	(3)	Epidemiologic Analysis
EPIB 608	(3)	Advanced Epidemiology
EPIB 609	(3)	Seminar on Advanced Methods in Epidemiology
EPIB 610	(3)	Advanced Methods: Causal Inference
EPIB 623	(3)	Research Design in Health Sciences
EPIB 701	(0)	Ph.D. Comprehensive Examination
EPIB 702	(0)	Ph.D. Proposal

Complementary Courses (12 credits)

12 credits of coursework, at the 500 level or higher, with a minimum of 3 credits in ethics (medical/public health/research), 3 credits in biostatistics, 3 credits in a substantive topic (normally related to the thesis topic), and 3 credits in epidemiology. Courses must be chosen in consultation with the student’s supervisor and/or the degree program’s director or adviser.

11.7.4.8 Doctor of Philosophy (Ph.D.); Epidemiology - Global Health

This option will provide enhanced training in global health to graduate students registered in the Ph.D. in Epidemiology; Global Health degree program at McGill. Students will become familiar with topics of global health relevance and incorporate this into their core coursework and thesis research. The thesis

must be relevant to global health and approved by the Global Health Coordinating Committee. Contextualizing the core training students receiv

Students admitted to the Ph.D. in Epidemiology; Pharmacoepidemiology degree program with the equivalent of the M.Sc. in Epidemiology at McGill will be required to take a minimum of 32 credits of Ph.D. courses.

In addition to the Ph.D. requirements, students admitted to the Ph.D. degree program without the equivalent of an M.Sc. in Epidemiology at McGill will, in their first year, have to complete required coursework equivalent to the Master's Epidemiology program, excluding thesis course(s), as determined by the Department.

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

EPIB 701	(0)	Ph.D. Comprehensive Examination
EPIB 702	(0)	Ph.D. Proposal
SOCI 545	(3)	Sociology of Population
SOCI 626	(3)	Demographic Methods

Complementary Courses (12 credits)

12 credits of coursework, at the 500 level or higher, with a minimum of 3 credits in ethics (medical/public health/research), 3 credits in biostatistics, 3 credits in epidemiology, and 3 credits from courses approved for the Population Dynamics Option from the list below:

ECON 622	(3)	Public Finance
ECON 634	(3)	Economic Development 3
ECON 641	(3)	Labour Economics

at five university-affiliated hospitals, public health agencies, and university research centres. Graduates pursue careers in academia, clinical settings, government agencies, NGOs, and industry.

section 11.7.5.2 Master of Science (M.Sc.); Biostatistics (Thesis) (48 credits)

M.Sc. thesis students study a foundational set of courses, and write a thesis on a topic of their choice. Thesis students should have a strong interest in research. These students are well-placed to either continue in a Ph.D. program or to work in academic research in statistics or medicine; they will also have relevant qualifications for the pharmaceutical industry and government.

section 11.7.5.3 Master of Science (M.Sc.); Biostatistics (Non-Thesis) (48 credits)

The M.Sc. non-thesis program is designed to expose students to a wide range of topics including statistical methods for epidemiology, generalized linear models, survival analysis, longitudinal data, and clinical trials. Skills in data analysis, statistical consulting, communication, and report writing are

Thesis Cour

BIOS 702	(0)	Ph.D. Proposal

Complementary Courses (28 credits)

0-28 credits from the following list: (if a student has not already successfully completed them or their equivalent)

BIOS 601	(4)	Epidemiology: Introduction and statistical models
BIOS 602	(4)	Epidemiology: Regression Models
BIOS 624	(4)	Data Analysis & Report Writing
MATH 523	(4)	Generalized Linear Models
MATH 533	(4)	Honours Regression and Analysis of Variance
MATH 556	(4)	Mathematical Statistics 1
MATH 557	(4)	Mathematical Statistics 2

12 credits (chosen and approved in consultation with the student's academic adviser), at the 500 level or higher, in statistics/biostatistics.

6 credits (chosen and approved in consultation with the student's academic adviser), at the 500 level or higher, in related fields (e.g., epidemiology, social sciences, biomedical sciences).

11.8 Experimental Medicine

Please see section 11.12 Medicine, Experimental for more information.

11.9 Family Medicine

Please see section 11.13 Medicine, Family for more information.

11.10 Human Genetics

11.10.1 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

Administration

Kandace Springer – Administrative Assistant

Email: kandace.springer@mcgill.ca

Ross Mackay – Graduate Program Coordinator

Email: ross.mackay@mcgill.ca

Administration
Laura Benner (On Leave) – Assistant Gr

- Some experience (either paid or volunteer) working with adults in a counselling or advisory capacity, ideally in a crisis setting.

M.Sc. and Ph.D

Emeritus Professors

L. Pinsky; M.D.(McG.)

C. Scriver; B.A., M.D.,C.M.(McG.)

Professors

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

G. Bourque; B.Sc.(Montr.), M.A., Ph.D.(USC) (Genome Quebec)

W. Foulkes; B.Sc., MB.BS., Ph.D.(Lond.) (Medicine)

F. Kaplan; B.A.(Col.), Ph.D.(McG.) (Pediatrics)

B. Knoppers; Ph.D.(Paris IV), Ad.E., O.C. (Director, Centre of Genomics and Policy)

M. Lathrop; B.Sc., M.Sc.(Alta.), Ph.D.(Wash.) (Director, McGill University-Genome Quebec Inno

Assistant Professors

Adjunct Professors

S. Morrison (Children's Hospital of Eastern Ontario)

J. Ott (Genome Quebec)

Adjunct Member

D. Vinh; M.D. (Dept. of Medical Microbiology; Medicine)

Associate Members

Biochemistry: P. Gros, D. Thomas

Bioethics: J. Kimmelman

Cardiology: J. Genest

Cancer Genetics: G. Zogopoulos

Dentistry: L. Diatchenko

Endocrinology: C. Polychonakos, B. Richards

Epidemiology, Biostatistics and Occupational Health: D. Greenwood

Law: R. Gold

Medicine: D. Cournoyer, J. Engert, B. Gilfix, C. Haston, G.Hendy, A. Karaplis, R. Koenekoop, A. Peterson, F. Rauch, M. Trifiro

Nephrology: I. Gupta

Neurology: G. Rouleau

Obs.-Gyn.: R. Gagnon, A. Naumova

Pathology: A. Spatz

Pediatrics: G. Bernard, P. Goodyer, N. Jabado, L. Majewska, J. Mitchell

Psychiatry: R. Joober, G. Turecki, C. Ernst

Surgery: P. Roughley

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

Thesis Courses (33 credits)

HGEN 680	(9)	M.Sc. Thesis Research 1
HGEN 681	(12)	M.Sc. Thesis Research 2
HGEN 682	(12)	M.Sc. Thesis Research 3

Required Courses (6 credits)

HGEN 662	(3)	Laboratory Research Techniques
HGEN 692	(3)	Human Genetics

Complementary Courses (6 credits)

6 credits chosen from the departmental offerings below or from 500-, 600-, or 700-level courses offered in the Faculties of Medicine or Science:

HGEN 660	(3)	Genetics and Bioethics
HGEN 661	(3)	Population Genetics
HGEN 663	(3)	Beyond the Human Genome
HGEN 670	(3)	Advances in Human Genetics 1
HGEN 671	(3)	Advances in Human Genetics 2
HGEN 690	(3)	Inherited Cancer Syndromes

HGEN 691	(3)	Host Responses to Pathogens
HGEN 693	(3)	Using Bioinformatics Resources
HGEN 694	(3)	Microarray Statistical Analysis
HGEN 695	(3)	Psychiatric Genetics
HGEN 696	(3)	Advanced Readings in Genetics 1
HGEN 697	(3)	Advanced Readings in Genetics 2
HGEN 698	(3)	Advanced Readings in Genetics 3
HGEN 699	(3)	Advanced Readings in Genetics 4

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

Master of Science (M.Sc.); Human Genetics (Thesis) — Bioinf

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 643	(3)	Seminar: Medical Ethics
RELG 571	(3)	Ethics, Medicine and Religion

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

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 617	(3)	Principles of Medical Genetics
HGEN 620	(3)	Introductory Field Work Rotations 1
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

11.10.9 Doctor of Philosophy (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 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)

HGEN 692	(3)	Human Genetics
HGEN 701	(0)	Ph.D. Comprehensive Examination

Complementary Courses (15 credits)

(15 credits or 6 credits depending on admission status as described above.)

Courses are to be chosen from the list below and/or from among 500-, 600-, or 700-level courses offered in the Faculties of Medicine and Science.

HGEN 660	(3)	Genetics and Bioethics
HGEN 661	(3)	Population Genetics
HGEN 663	(3)	Beyond the Human Genome
HGEN 690	(3)	Inherited Cancer Syndromes
HGEN 691	(3)	Host Responses to Pathogens
HGEN 693	(3)	Using Bioinformatics Resources
HGEN 694	(3)	Microarray Statistical Analysis
HGEN 695	(3)	Psychiatric Genetics
HGEN 696	(3)	Advanced Readings in Genetics 1
HGEN 697	(3)	Advanced Readings in Genetics 2
HGEN 698	(3)	Advanced Readings in Genetics 3
HGEN 699	(3)	Advanced Readings in Genetics 4

Students are restricted to taking the following courses:

HGEN 670	(3)	Advances in Human Genetics 1
HGEN 671	(3)	Advances in Human Genetics 2

Note: The Graduate Advisory Committee may stipulate additional coursework depending on the background of the candidate.

11.10.10 Doctor of Philosophy (Ph.D.); Human Genetics — 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 (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

Complementary Courses (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.

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures. Further information regarding the application procedures is available on the

11.11.4 Medical Physics Faculty

Director

J. 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

D. Louis Collins; M.Eng., Ph.D.(McG.), Post Doc.(Rennes), F.C.C.P.M.

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

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

Assistant Professors

F. DeBlois; M.Sc., Ph.D.(McG.), F.C.C.P.M.

S. Devic; M.Sc., Ph.D.(Belgrade), F.C.C.P.M.

S. Enger; Ph.D.(Uppsala), Post Doc.(Laval)

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

J. Kildea; Ph.D.(Dublin), M.Sc.(McG.)

I. Levesque; Ph.D.(McG.), Post Doc.(Stan.)

W. Parker; M.Sc.(McG.), F.C.C.P.M.

H.J. Patrocinio; M.Sc.(McG.), F.C.C.P.M., D.A.B.R.

E. Soisson; M.Sc., Ph.D.(Wisc.)

G. Stroian; M.Sc.(McG.), Ph.D.(Montpellier), F.C.C.P.M.

Affiliate Members

S. Amba00o6

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

11.12 Medicine, Experimental

11.12.1 Location

Division of Experimental Medicine
Department of Medicine
Lady Meredith House, Room 101
1110 Pine Avenue West
Montreal QC H3A 1A3
Canada
Telephone: 514-398-3466
Fax: 514-398-3425
Email:

section 11.12.7 Master of Science (M.Sc.); Experimental Medicine (Thesis) Ð Environment (45 credits)

Applicants for the M.Sc. Environment Option must meet the requirements for the M.Sc. in Experimental Medicine as well as those set out by the McGill School of Environment (MSE) for their graduate option. Acceptance into the option will be based on a student's academic experience and performance; availability of an MSE-accredited supervisor or co-supervisor; the proposed research; and plans for funding as articulated by the supervisor(s). The Environment Option is aimed at students who wish to use interdisciplinary approaches in their graduate research on environmental issues, and who wish to benefit from interactions that will occur as they are brought into contact with students from a wide range of disciplines through structured courses, formal seminars, and informal discussions and networking. The graduate option in Environment provides students with an appreciation for the role of science in informed decision-making in the environmental sector, and its influence on political, socio-economic, and ethical judgments.

section 11.12.8 Doctor of Philosophy (Ph.D.); Experimental Medicine

Applicants for the Ph.D. in Experimental Medicine must normally hold an M.Sc. degree. The one exception is the possibility of direct entry offered to candidates having demonstrated academic excellence, i.e., a CGPA of 3.5 or more out of a possible 4.0 throughout their undergraduate studies. The training is in the conduct of research in a wide range of medical specialties. The method of instruction consists of a combination of in-class and practical training, 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 11.12.9 Doctor of Philosophy (Ph.D.); Experimental Medicine Ð 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. Fer14tion 1Admid net,Ras for the 8 Tw0 G 8 Tc70.52 704682 Tm3(er14tion 1j1 0 3.14 0.9 1c /F3 0 0 1 70.52 704.5

11.12.3.2 Application Procedures

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

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures. Further information is also available on the Experimental Medicine website.

11.12.3.2.1 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
-

Professors

Professors

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

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

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

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

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

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

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

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.)

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

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)

Associate Professors

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

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.)

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

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)

S. Daskalopoulou; M.D.(Athens)

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

V. Essebag; M.D.,C.M., M.Sc., Ph.D.(McG.), F.R.C.P.(C)

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

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

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

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

T. Jagoe; B.A., M.D.(Camb.), Ph.D.(Newcastle, UK), F.R.C.P.(C)

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

M. Kokoeva; B.Sc.(Lomonosov Moscow), Ph.D.(Acad. of Sci., Moscow)

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

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.)

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

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

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

Associate Professors

R. Lin; B.Sc., B.Sc.(Xiamen), M.Sc.(Peking Union), Ph.D.(C'dia)

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

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

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

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

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

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

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

C. Rocheleau; B.A.(Assum. Coll.), Ph.D.(Mass.)

S. Rousseau; B.Sc., M.Sc., Ph.D.(Laval)

M. Saleh; B.Sc., M.Sc.(Beirut), Ph.D.(McG.)

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

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

P. Siegel; B.Sc., Ph.D.(McM.)

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

E. Torban; B.Sc.(Moscow St. Inst. of Food Ind.), M.Sc.(Moscow Inst. of Genetics of Microorganisms), Ph.D.(McG.)

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

Assistant Professors

J. Afilalo; M.D.,C.M., M.Sc.(McG.), F.R.C.P.(C)

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

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.)

I. Colmegna; M.Sc.(El Salvador)

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

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

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

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

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

M. Ndao; B.Sc., D.V.M.(Senegal), M.Sc., Ph.D.(Belgium)

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

M. Paliouras; B.Sc.(Tor.), M.Sc.(Flor

Associate Members, Universit de Montr al

J. Archambault, M. Cayouette, F. Charron, C. Cheong, E. Cohen, C.F. Deschepper, J.M. Di Noia, J. Drouin, J. Estall, M. Ferron, N. Francis, H. Gu, J. Gutkowska, P. Hamet, D. Hipfner, P. Jolicoeur, A. Kania, M. Kmita, E. Lecuyer, T. Moroy, F. Ni, M. Oeffinger, R. Rabasa-Lhoret, E. Racine, N. Seidah, W.-K. Suh, H. Takahashi, M. Trudel, W.Y. Tsang, J. Vacher, A. Veillette, E. Wang, C. Wu, J. Zwaagstra

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

Thesis Courses (36 credits)

24-36 credits selected from the following:

EXMD 690	(3)	Master's Thesis Research 1
EXMD 691	(6)	Master's Thesis Research 2
EXMD 692	(9)	Master's Thesis Research 3
EXMD 693	(12)	Master's Thesis Research 4
EXMD 694	(12)	Master's Thesis Research 5

Complementary Courses (21 credits)

9-21 credits of courses at the 500, 600, or 700 level chosen in consultation with the Supervisor. A minimum of 9 course credits is required for students entering the program with a bachelor's or M.D. degree.

11.12.6 Master of Science (M.Sc.); Experimental Medicine (Thesis) — Bioethics (45 credits)

Thesis Courses (24 credits)

BIOE 690	(3)	M.Sc. Thesis Literature Survey
BIOE 691	(3)	M.Sc. Thesis Research Proposal
BIOE 692	(6)	M.Sc. Thesis Research Progress Report
BIOE 693	(12)	M.Sc. Thesis

Required Courses (6 credits)

BIOE 680	(3)	Bioethical Theory
BIOE 681	(3)	Bioethics Practicum

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 643	(3)	Seminar: Medical Ethics
RELG 571	(3)	Ethics, Medicine and Religion

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

11.12.7 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

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 (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
EXMD 701D1	(0)	Comprehensive Oral Examination
EXMD 701D2	(0)	Comprehensive Oral Examination

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.

11.12.10 Graduate Diploma (Gr. Dip.); 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 Therapeutics (PHAR), Epidemiology and Biostatistics (EPIB). With approval, courses from other Allied Health Sciences departments may be considered.

Required Practicum (18 credits)

EXMD 627	(18)	Practicum in Clinical Research

11.13 Medicine, Family

11.13.1 Location

Department of Family Medicine
5858 C te-des-Neiges Road, Suite 300
Montreal QC H3S 1Z1
Telephone: 514-399-9103
Fax: 514-398-4202
Email:

section 11.13.7 Master of Science (M.Sc.); Family Medicine (Thesis) Ð Medical Education (45 credits)

This research agenda of FMER is articulated into four interrelated streams:

1. family physician's professional identity formation;
2. information use and technology in the learning episodes of practicing physicians and organizational learning;
3. program evaluation of educational innovations;
4. knowledge synthesis.

11.13.3 Medicine, Family Admission Requirements and Application Procedures

11.13.3.1 Admission Requirements

Our program encourages the following applicants:

- Practicing family physicians
- Undergraduate university students with a strong interest in family medicine research
- Family medicine residents who are completing their residency and would like to continue with their education by completing an enhanced skills program specializing in family medicine research with the possibility of obtaining an M.Sc. degree. If interested, you may learn more about the Clinician Scholar Program here.

What do we look for?

High academic achievement: A cumulative grade point average (CGPA) of 3.4 is required out of a possible maximum CGPA of 4.0, or a GPA of 3.6 is required in the last two years of full-time studies.

Proof of competency in oral and written English: TOEFL: International students who have not received their instruction in English or whose mother tongue is not English must pass the Test of English as a Foreign Language (TOEFL) with a minimum score of 86 on the Internet-based test (iBT; 567 on the paper-based test (PBT)), with each component score not less than 20.

Note: The TOEFL institution code for McGill University is 0935. For further information, please refer to the TOEFL website

Alternatively, students may submit International English Language Testing System (IELTS) 1 8.11 0 0 1 109.71 Tm(IEL)Tj1 0 0 1 nm(.)Tj/5i
reports must be submitted (photocopi11 0ll not be accepted).

For m(IEL)Tj1 084.091 366.571 Tm(ir0 0 n 0 1 88.02 366.571 Tm(erseas graduates, an attempt is made to situate the applicant's academic grades among the standards of th

- Of®cial Transcripts: Applicants must submit one (1) official copy of all transcripts for all post-secondary education undertaken (Quebec students need not submit CEGEP transcripts). Unofficial transcripts may be uploaded to the McGill admissions processing system and an official transcript must be sent at a later time when the letter of acceptance has been sent by Graduate and Postdoctoral Studies via Minerva (since this will be a condition of the letter). Please note Official transcripts are not required for studies conducted at McGill University (students may upload a Minerva copy of their McGill transcript with their application and this will be sufficient).
- Writing Sample (for ad hoc Ph.D. only): Applicants to our ad hoc Ph.D. program must upload a writing sample to review, preferably a thesis or a published article.

11.13.3.2.1 Additional Requirements

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

- Curriculum Vitae
- Personal Statement – no more than two (2) pages long
- Writing sample (for ad hoc Ph.D. only)

11.13.3.3 Application Deadlines

The application deadlines listed here are set by graduate departments and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at www.mcgill.ca/gps/contact/graduate-program.

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Assistant Professors

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FMED 616	(1)	Applied Literature Reviews
FMED 625	(3)	Qualitative Health Research
FMED 672	(3)	Applied Mixed Methods in Health Research

Complementary Courses (6 credits)

6 credits chosen from:

FMED 504D1	(.5)	Family Medicine Research Seminars
FMED 504D2	(.5)	Family Medicine Research Seminars
FMED 525	(3)	Foundations of Translational Science
FMED 601	(3)	Advanced Topics in Family Medicine: Knowledge Translation
FMED 604	(3)	Advanced Participatory Research in Health
FMED 605	(1)	Canadian Healthcare Policy and Decision-Making
FMED 606	(1)	Operational Issues in Survey Methods in Primary Care
FMED 607	(1)	Intro to Discourse Analysis & Interpretive Health Research
FMED 608	(1)	Advanced Mixed Methods Seminar in Health Research
FMED 610	(2)	Foundations of Family Medicine
FMED 611	(1)	Healthcare Systems and Primary Care Reform
		Program Evalu4m Ev

Master of Science (M.Sc.); Famil

11.14.2 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;
- 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's teaching hospitals and research centres to promote multidisciplinary research.

section 11.14.5 Master of Science (M.Sc.); Microbiology and Immunology (Thesis) (45 credits)

The primary goal of this program is to provide students with unique opportunities to learn experimental designs and fundamental research techniques, and objectively synthesize information from scientific literature. These tools enable the students to focus on major research topics offered by the Department: molecular microbiology, mycology, microbial physiology, virology, genetics, immunology, drug design, and aspects of host-parasite relationships. Each M.Sc. student chooses their preferred major research area and research supervisor. Following an interview, the student is presented with a research topic and offered a studentship (amounts vary). Each student must register for our graduate courses (two seminars, two reading and conference courses, and three current topics). If pertinent to the student's research program, the research adviser may advise the student to take additional courses.

Most of our students, after one year, are proficient researchers, and some first authors of a research publication. M.Sc. students may fast-track to the Ph.D. program after three terms of residency. The remaining students advance their microbiology background by opting to enter into medicine, epidemiology, biotechnology, or pharmaceutical disciplines.

section 11.14.6 Doctor of Philosophy (Ph.D.); Microbiology and Immunology

The primary goal of the Ph.D. program is to create a self-propelled researcher, proficient in experimental designs and advanced methodologies applicable to the varied and rapidly changing disciplines in microbiology and immunology. Close research supervision and bi-weekly laboratory sessions impart the requisite research discipline and objective assessment of acquired or published research data.

A Ph.D. student, if promoted from our M.Sc. program, without submitting the thesis, is required to register for one additional graduate seminar and one additional reading and conference course, but the bulk of his/her time is devoted to research. Other requirements include a yearly presentation of the accumulated research data to the Ph.D. supervisory committee, successfully clearing the Ph.D. comprehensive examination, two years after registration into the Ph.D. program, and finally submission of a thesis. The research theme must be original, and the acquired data and hypothesis must be defended orally by the student. Each student receives a stipend for the entire duration and a minimum six-semester residency is required for the completion of the program.

11.14.3 Microbiology and Immunology Admission Requirements and Application Procedures

11.14.3.1 Admission Requirements

Master©s

Candidates are required to hold a B.Sc. degree in microbiology and immunology, biology, biochemistry, or another related discipline; those with the M.D., D.D.S., or D.V.M. degrees are also eligible to apply. The minimum cumulative grade point av

11.14.3.2 Application Procedures

McGill’s online application form for graduate program candidates is available at

Assistant Professors

J. Fritz; Ph.D.(Vienna)

I. King; B.Sc.(Ohio St.), M.Sc.(Pitt. St.), Ph.D.(Roch.)

C. Kra

Website: wwwmcgill.ca/ipn

11.15.2 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 190 supervisors, the IPN is the largest graduate program in the Faculty of Medicine and one of the largest neuroscience graduate programs in North America.

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Neuroscience training within the IPN spans the full spectrum of research fields, from cellular and molecular neuroscience to behavioural and cogniti

of the TOEFL exam with their application and have a minimum score of 86 on the Internet-based test (iBT; 567 on the paper-based test [PBT]) with each component score not less than 20.

M.Sc. Degree

Bachelor's degree with adequate background in basic sciences, or an M.D.

Ph.D. Degree

Applicants must hold a graduate-level degree in a field related to neuroscience or have an M.D. degree, preferably with postgraduate training. Applicants will also be considered for admission if enrolled in the

Professors

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

E. Fombonne; M.D.(Paris V), M.Sc.(Paris V & Inserm) (Dept. of Psychiatry)

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

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

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

J. Gotman; M.Eng.(Dart.), Ph.D.(McG.) (Dept. of Neur

Professors

J. Poirier; Ph.D.(Montr.) (Dept. of Psychiatry and Medicine)

A. Ptito; Ph.D.(Montr.) (Dept. of Neurology and Neurosurgery)

M. Rasminsky; B.A.(Tor.), M.D.(Harv.), Ph.D.(Lond.), F.R.C.P.(C) (Dept. of Neurology and Neurosurgery)

A. Ribeiro-da-Silva; M.D., Ph.D.(Porto) (Dept. of Pharmacology and Therapeutics)

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)

G. Sebire; M.D., Ph.D.(Paris VI) (Dept. of Pediatrics)

T. Shultz; M.Phil., Ph.D.(Yale) (Dept. of Psychology)

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

Associate Professors

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

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

Assistant Professors

Assistant Professors

H. Tsuda; M.D.(Kobe), Ph.D.(Kyoto) (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.(Lausanne) (Dept. of Pediatrics)

S.C. Woolley; B.Sc.(Duke), 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

G. Duncan

M. Ptito

E. Racine; B.A.(Ott.), M.A., Ph.D.(Montr.) (Dept. of Neurology and Neurosurgery)

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

Required Courses (36 credits)

NEUR 696	(6)	Master's Thesis Research
NEUR 697	(9)	Master's Thesis Proposal
NEUR 698	(9)	Master's Seminar Presentation
NEUR 699	(12)	Master's Thesis Submission
NEUR 705	(0)	Responsible Research Conduct

Complementary Courses (9 credits)

3 credits from the following:

NEUR 630	(3)	Principles of Neuroscience 1
NEUR 631	(3)	Principles of Neuroscience 2

And 6 credits in other courses at the 500 level or higher that are relevant to the program.

Upon recommendation, depending upon their particular background and needs, students may be requested to take additional selected courses at the 500 level or higher.

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.

11.15.6 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 or NEUR 631). 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.

Required Courses (6 credits)

NEUR 630	(3)	Principles of Neuroscience 1
NEUR 631	(3)	Principles of Neuroscience 2
NEUR 700	(0)	Doctoral Candidacy Examination
NEUR 705	(0)	Responsible Research Conduct

(6 credits)

6 credits at the 500, 600, or 700 level, approved by the graduate program adviser.

11.16 Occupational Health

11.16.1 Location

Department of Epidemiology, Biostatistics and Occupational Health
Purvis Hall
1020 Pine Avenue West
Montreal QC H3A 1A2
Canada
Telephone: 514-398-6258
Email: graduateeboh@mcgill.ca

documented proof of competency in oral and written English by appropriate exams, e.g.,

- Personal Statement
- Research Proposal

11.16.3.3 Application Deadlines

The application deadlines listed here are set by the Department of Epidemiology, Biostatistics and Occupational Health and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at www.mcgill.ca/gps/contact/graduate-program.

Canadian	International	Special/Exchange/Visiting
Fall: Jan. 15	Fall: Jan. 15	Fall: Apr. 30
Winter: N/A	Winter: N/A	Winter: Sept. 10
Summer: N/A	Summer: N/A	Summer: N/A

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

Note: Applications for Winter/Summer term admission will not be considered, with the exception of admission as Special Students in the Winter term.

11.16.4 Occupational Health Faculty

Please see section 11.7.3 Epidemiology, Biostatistics and Occupational Health Faculty.

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

Research Project (15 credits)

OCCH 699	(15)	Project Occupational Health and Safety

Required Courses (30 credits)

Note: Students must pass the Master's Integrativ

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.

11.16.7 Doctor of Philosophy (Ph.D.); Occupational Health

This program is currently not accepting applicants.

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 (2 credits)

OCCH 700	(0)	Ph.D. Comprehensive Examination
OCCH 706	(2)	Ph.D. Seminar on Occupational Health and Hygiene

Students are encouraged to take up to 12 credits in areas pertinent to their specialty or in areas necessary to complete their knowledge of occupational health.

11.17 Otolaryngology – Head and Neck Surgery

11.17.1 Location

Department of Otolaryngology – Head and Neck Surgery
Jewish General Hospital
3755 Chemin de la C te-Sainte-Catherine, Suite E-903
Montreal QC H3T 1E2
Canada
Telephone: 514-340-8222, ext. 3179
Fy n.

About Otolaryngology – Head and Neck Surgery

Graduate Program Director and Director of Research

B. Segal

Director of Residency Training Program

J. Manoukian

Director of Head and Neck Oncology Program

M.J. Black

Co-Directors of Undergraduate Medical Education

M. Tewfik, J. Young

Director of Fellowship Training

J. Rappaport

Emeritus Professor

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

Professors

S. Daniel; M.D.,C.M., M.Sc.(Otol.)(McG.), F.R.C.S.(C)

S. Frenkiel; B.Sc., M.D.,C.M.(McG.), F.R.C.S.(C)

A. Katsarkas; M.D.(Thess.), M.Sc.(Otol.)(McG.), F.R.C.S.(C)

K. Kost; M.D.,C.M.(McG.), F.R.C.S.(C)

M. Samaha; M.D.(Qu.), M.Sc.(Otol.)(McG.), F.R.C.S.(C)

M.D. Schloss; M.D.(Br. Col.), F.R.C.S.(C)

T.L. Tewfik; M.D.(Alex.), F.R.C.S.(C)

Associate Professors

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

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

N. Fanous; M.B., B.CH.(Cairo), F.R.C.S.(C)

W.R.J. Funnell; B.Eng., M.Eng., Ph.D.(McG.)

M. Hier; M.D.,C.M.(McG.), F.R.C.S.(C)

J. Manoukian; M.B., Ch.B.(Alex.), F.R.C.S.(C)

L. HP. Nguyen; M.D.,C.M.(McG.), M.Sc.(Otol.)(McG.), F.R.C.S.(C)

W.H. Novick; M.D.(Qu.), F.R.C.S.(C)

R. Payne; M.D.,C.M., M.Sc.(Otol.)(McG.), F.R.C.S.(C)

J. Rappaport; M.D.(Dal.), F.R.C.S.(C)

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

R.S. Shapiro; M.D.,C.M.(McG.), F.R.C.S.(C)

A.G. Zeitouni; M.D.(Sher.), M.Sc.(Otol.)(McG.), F.R.C.S.(C)

Assistant Professors

F. Chagnon; M.D.,C.M.(McG.), F.R.C.S.(C)

M. Duval; M.D.(Ott.), C.M., M.Sc.(Epid.)(Lond.), F.R.C.S.(C)

V.I. Forest; M.D., M.Sc.(Exp. Med.)(Laval), F.R.C.S.(C)

Y. Lacroix; M.D.(Laval), F.R.C.S.(C)

R. Lafleur; M.D.(Ott.), F.R.C.S.(C)

Assistant Professors

A. Lehmann; B.Sc.(Franche-Comté), M.Eng.(MINES ParisTech), M.Sc.(Pierre et Marie Curie), Ph.D.(Collège de France)

T. Mijovic; M.D.

A. Mlynarek; M.D.,C.M., M.Sc.(Otol.)(McG.), F.R.C.S.(C)

K. Richardson; M.D.

G. Sejean; M.D.(Beirut), F.R.C.S.(C)

R. Sweet; M.D.,C.M.(McG.)

L. Tarantino; M.D.(Naples), F.R.C.S.(C)

M. Tewfik; M.D.,C.M., M.Sc.(Otol.)(McG.), F.R.C.S.(C)

S.D. Wurzba; D.D.S., M.Sc., Ph.D.

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

Associate Members

K. E. Cullen; Ph.D.(McG.)

H.L. Galiana; B.Eng., M.Eng., Ph.D.(McG.)

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

M. Henry; Ph.D.(UQAM)

N.Y.K. Li; B.Sc.(HK), M.Phil.(HK)

L. Mongeau; B.Sc., M.Sc.(Montr.), Ph.D.(Penn. St.)

M. Paliouras; B.Sc.(Hons.), M.S., Ph.D.

M. Sewitch; Ph.D.

Lecturers

C. Boucher; M.D.

R. Caouette; M.D.

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

O. Houle; M.D.

V. Iordanescu; M.D.

L. Monette; M.D.

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

T.T. Vi Vu; M.D.(Montr.), F.R.C.S.(C)

Adjunct Professors

J. Oghalai; M.D.

L. Picard; M.D.(Montr.), F.R.C.S.(C)

11.17.5 Master of Science (M.Sc.); Otolaryngology (Thesis) (45 credits)

Thesis Courses (30 credits)

OTOL 690	(3)	M.Sc. Thesis 1
OTOL 691	(3)	M.Sc. Thesis 2
OTOL 692	(6)	M.Sc. Thesis 3
OTOL 693	(6)	M.Sc. Thesis 4
OTOL 694	(12)	M.Sc. Thesis 5

Required Cour

11.18.3 Pathology Admission Requirements and Application Procedures

11.18.3.1 Admission Requirements

Applicants must have a B.Sc. or an equivalent degree with an extensive background in the physical and biological sciences. An academic record equivalent to or better than a cumulative grade point average (CGPA) of 3.2 out of 4.0 at McGill is required for at least the two final full-time years of undergraduate training, with a minimum CGPA of 3.0 overall.

Applicants to graduate studies whose mother tongue is not English, and who have not completed an undergraduate or graduate degree from a recognized foreign institution where English is the language of instruction or from a recognized Canadian institution (anglophone or francophone), must submit the GRE and TOEFL examinations in order to be properly evaluated as to their suitability.

Students are normally accepted into the M.Sc. program, and those candidates showing exceptional ability may be permitted to transfer into the Ph.D. program after one year of training.

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

For further information, applicants may contact the Teaching Office, Department of Pathology.

11.18.3.2 Application Procedures

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

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures.

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

11.18.3.2.1 Additional Requirements

- Personal Statement
- Curriculum Vitae
- Research Proposal
- GRE may be required for non-Canadian applicants

11.18.3.3 Application Deadlines

The application deadlines listed here are set by the Pathology Department and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at www.mcgill.ca/gps/contact/graduate-program.

Canadian	International	Special/Exchange/Visiting
Fall: June 21	Fall: May 1	Fall: Same as Canadian/International
Winter: Nov. 10	Winter: Sept. 10	Winter: Same as Canadian/International
Summer: Apr. 1	Summer: Jan. 15	Summer: Same as Canadian/International

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

11.18.4 Pathology Faculty

Chair

Z. Gao

Director of Graduate Program

E. Zorychta

Professors

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

M.N. Burnier Jr.; M.D., M.Sc., Ph.D.

A. Ferenczy; B.A., B.Sc., M.D.(Montr.)

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

Professors

Z. Gao; M.D., M.Sc.(Qingdao), Ph.D.(Peking), F.R.C.P.(C)

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

Q.A. Hamid; M.D.(Mosul), Ph.D.(Lond.) (James McGill Professor) (joint appt. with Medicine)

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

J.B. Richardson; B.Sc., M.D.,C.M., Ph.D.(McG.), F.R.C.P.(C) (Miranda Fraser Professor of Comparative Pathology)

A. Spatz; M.Sc.(Paris XI), M.D.(Paris VI)

Associate Professors

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

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

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

S. Camilleri-Brot; M.D., Ph.D.(Paris VI)

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)

M.-C. Guiot; B.Sc., M.D.(Bordeaux)

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

V.A. Marcus; M.D.,C.M.(McG.), F.R.C.P.(C)

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

M. Pelmus; M.D., Ph.D.(Athens)

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

O.E. Ajise; M.D., F.C.A.P., F.R.C.P.(C)

M. Alameldin; M.D.(Alexandria), F.R.C.P.(C)

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.(KIMS), 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)

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

D. Caglar; M.D.(Gazi)

J. Chepovetsky; M.D.(Mount Sinai Sch. of Medicine, New York)

A. Florea; M.D.(Iuliu Haieganu)

L. Fu; M.D.,C.M.(McG.), M.Sc.(McG.), F.R.C.P.(C)

A. Gologan; M.D.(Carol Davila, Bucharest)

S.-M. Jung; M.D.(Chonnam Nat.)

Y. Kanber; M.D.(Marmara)

J. Karamchandani; M.D.(Stan.)

J. Lavoie; B.Sc., M.Sc., Ph.D.(Laval)

H.R. Lopez-Valle; M.D.(Univ. Autonoma, San Luis Potosi)

11.18.6 Doctor of Philosophy (Ph.D.); Pathology

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 howe; asso

Admissions Requirements ± Chemical Biology Option

As for the regular graduate programs of the participating departments, acceptance into the Chemical Biology option consists of two steps:

1. Preliminary approval by the Department's Graduate Committee based on the student's transcript, references, and other documents submitted with the application. The criteria for assessment at this level are the same as those for the regular graduate programs of the participating departments.
2. Acceptance by an individual research director. For students wishing to participate in the Chemical Biology option, the director must propose a research project for the student that provides training in the methods and philosophy of chemical biology. Project proposals are assessed by the Chemical Biology Program Committee.

11.19.3.2 Application Procedures

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

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures.

11.19.3.2.1 Additional Requirements

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

- Curriculum Vitae
- Personal Statement
- GRE – required for degrees from outside North America
- Acceptance by a Chemical Biology research director (Chemical Biology option only)

11.19.3.3 Application Deadlines

The application deadlines listed here are set by the Department of Pharmacology and Therapeutics and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill academic unit's website; please consult the list at www.mcgill.ca/gps/contact/graduate-program.

Canadian	International	Special/Exchange/Visiting
Fall: May 15	Fall: March 15	Fall: March 15
Winter: Oct. 15	Winter: Sept. 10	Winter: Same as Canadian/International
Summer: N/A	Summer: N/A	Summer: N/A

Please refer to our website for complete deadlines.

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

11.19.4 Pharmacology and Therapeutics Faculty

Chair

G. Multhaup

Graduate Program Director

B. F. Hales

Emeritus Professors

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

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

Professors

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

D. Bernard; Ph.D.(Johns Hop.)

D. Bowie; B.Sc., Ph.D.(Lond.)

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.)

Professors

T. H bert; Ph.D.(Tor.)

D. Maysinger; Ph.D.(USC)

A. McKinney; Ph.D.(Ulster)

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

G. Multhaup; Ph.D.(Cologne)

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

B. Robaire; Ph.D.(McG.)

H. Saragovi; Ph.D.(Miami)

M. Szyf; Ph.D.(Hebrew)

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

Associate Pɒfessors

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

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

Assistant Pɪofessors

B. CastagnerKinne

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

The program leading to a master's degree is designed to provide students the opportunity to acquire knowledge in Pharmacology, to conduct a research project, to analyze data, and to write a thesis. Students will also receive essential training in Research Professionalism and Scientific Communication.

Thesis Courses (24 credits)

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

Required Courses (12 credits)

PHAR 601	(6)	Comprehensive
PHAR 609	(1)	Research Professionalism for Pharmacologists
PHAR 610	(2)	Scientific Communication for Pharmacologists
PHAR 712	(3)	Statistics for Pharmacologists

Complementary Courses (9 credits)

9 credits, from the following courses:

PHAR 503*	(3)	Drug Discovery and Development 1
PHAR 505*	(3)	Structural Pharmacology
PHAR 562	(3)	Neuropharmacology
PHAR 563	(3)	Endocrine Pharmacology

Or completion of an equivalency exam

Or an exemption granted by the Graduate Training Committee (GTC) on the basis of previous courses.

* Students may take PHAR 503 or PHAR 505 but not both.

Students who have taken these courses as part of their undergraduate degree, passed the equivalency exam, or been exempted, will register for the following course:

PHAR 697	(6)	Thesis Preparation 1

3 credits, at the 700-level PHAR course(s), or the equivalent, upon approval by the GTC.

11.19.6 Master of Science (M.Sc.); Pharmacology (Thesis) — Chemical Biology (47 credits)

This program is currently not accepting applicants.

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 (14 credits)

2 credits, two of the following courses:

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

6 credits, from the following courses:

PHAR 562	(3)	Neuropharmacology
PHAR 563	(3)	Endocrine Pharmacology

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

BIOC 603	(3)	Genomics and Gene Expression
BIOC 604	(3)	Macromolecular Structure
CHEM 504	(3)	Drug Design
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

3 credits, one 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

3 credits, one of the following courses:

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

11.19.7 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.

section 11.20.8

PHGY 604	(0)	Responsible Conduct in Research
PHGY 607	(3)	Laboratory Research 1
PHGY 608	(3)	Laboratory Research 2
PHGY 620	(3)	Progress in Research

Complementary Courses (6 credits)

3 credits from the following Chemical Biology seminars:

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

3 credits from the following:

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

11.20.8 Doctor of Philosophy (Ph.D.); Physiology

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 (8 credits)

PHGY 604	(0)	Responsible Conduct in Research
PHGY 701	(0)	Ph.D. Comprehensive Examination

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 (11 credits)

COMP 616D1	(1.5)	Bioinformatics Seminar
COMP 616D2	(1.5)	Bioinformatics Seminar
PHGY 604	(0)	Responsible Conduct in Research
PHGY 701	(0)	Ph.D. Comprehensive Examination
PHGY 703	(1)	Ph.D. Progress Seminar 1
PHGY 704	(1)	Ph.D. Progress Seminar 2
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 Courses (6 credits)

6 credits 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

11.20.10 Doctor of Philosophy (Ph.D.); Physiology — Chemical Biology

The Graduate Option in Chemical Biology is centered on the pursuit of an original research project under the direction of one or more program mentors. This research training is augmented by student participation in lecture and seminar courses and in a series of thematic workshops, all of which are designed to expose students to the diverse approaches and research issues that characterize the current state of the field. Students with training in this interdisciplinary approach will be highly qualified to seek careers in academic research as well as the pharmaceutical and biotechnology industries.

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 (11 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
PHGY 604	(0)	Responsible Conduct in Research
PHGY 701	(0)	Ph.D. Comprehensive Examination
		Ph.D. Progress Seminar 1

PHGY 721	(1)	Ph.D. Seminar Course 2
PHGY 722	(1)	Ph.D. Seminar Course 3
PHGY 723	(1)	Ph.D. Seminar Course 4
PHGY 724	(1)	Ph.D. Seminar Course 5

Complementary Courses (6 credits)

6 credits from the following:

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

11.21 Psychiatry

11.21.1 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

11.21.2 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.

section 11.21.5 Master of Science (M.Sc.); Psychiatry (Thesis) (45 credits)

The graduate program in Psychiatry is designed to provide advanced research training in the basic, applied, and social sciences relevant to issues in psychiatry. Applicants are admitted from a wide range of backgrounds, including undergraduate degrees in relevant areas (e.g., psychology, neuroscience, sociology, medical anthropology, nursing, and medicine), and those who are pursuing their psychiatry residency at McGill. Most, though not all students, continue to a Ph.D. program. The graduate program does not provide clinical training.

11.21.3 Psychiatry Admission Requirements and Application Procedures

11.21.3.1 Admission Requirements

- A B.Sc., B.A., B.N., or M.D. degree
- A strong background in science and/or social science, as demonstrated by academic achievement equivalent to a GPA of 3.3 (on a 4-point scale) or 3.5 in the last two years
- A written agreement from the proposed research supervisor, and student's statement of purpose for seeking an M.Sc
- An outline of the proposed thesis research, to be written by the prospective student in collaboration with an appropriate research supervisor
- Two letters of reference

- Sufficient funding to support their studies
- TOEFL or IELTS certificate of proficiency in English for non-Canadian applicants whose mother tongue and language of education is not English, with a minimum score of 86 on the TOEFL Internet-based test (iBT; or 550 on the paper-based test [PBT]), with each component score not less than 20, or 6.5 on the IELTS test

11.21.3.2 Application Procedures

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

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures.

11.21.3.2.1 Additional Requirements

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

- Personal Statement – describing the specific reasons for seeking a Master of Science degree in Psychiatry
- Letters of Reference – with Applicant Evaluation checklist forms (see Department website)
- Written Confirmation of Supervision form (see Department website) from the proposed research supervisor

11.21.3.3 Application Deadlines

The application deadlines listed here are set by the Department of Psychiatry and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at www.mcgill.ca/gps/contact/graduate-program.

Professors

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

S. El Mestikawy; Ph.D.(Paris VI)

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

B. Giros; M.Sc., Ph.D.(Paris VI)

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

J. Guzder; B.Sc., M.D.,C.M., F.R.C.P.

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

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

B. Kieffer; Ph.D.(Strasbourg)

S. King; Ph.D.(Virg.)

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

E. Latimer; B.A.Sc.(Wat.), M.S., Ph.D.(Carn. Mell)

M. Lepage; B.A.(C'dia), Ph.D.(UQAM)

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

G. Luheshi; Ph.D.(Newcastle, UK)

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

J. Pruessner; Ph.D.(Trier)

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

C. Rousseau; M.Sc.(McG.), M.D.,C.M.(Sher.)

L.K. Srivastava; B.Sc., M.Sc.(Allahabad), Ph.D.(J. Nehru)

H. Steiger; Ph.D.(McG.)

B. Thombs; B.A.(N'western), M.A.(Ariz.), Ph.D.(NYU)

G. Turecki; M.Sc., M.D.,C.M., Ph.D.(McG.) (William Dawson Scholar)

C.-D. Walker; B.Sc., Ph.D.(Geneva)

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

Associate Professors

J. Armony; B.Sc.(Buenos Aires), M.Sc., Ph.D.(NYU)

P. Assalian; Dip.Psychol.(McG.), M.B.,Ch.B.(Cairo)

S. Beaulieu; M.D./Ph.D.(Laval)

M. Berlim; M.Med., M.D.(Rio Grande do Sul)

V. Bohbot; B.A.(McG.), M.A., Ph.D.(Ariz.)

M.J. Brouillette; M.D.,C.M.(Sher.)

J. Caron; B.A., M.A.(Moncton), Ph.D.(UQAM)

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

Associate Professors

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

A. Crocker; Ph.D.(Montr.) (William Dawson Scholar)

J.B. Debruille; M.D.(Paris XI), Ph.D.(Paris VI)

S. Dongier-Montagnac; M.D.,C.M.(Provence Aix-Marseille)

B.O. Dubrovsky; M.D.(Buenos Aires)

D. Dunkley; B.Sc.(Tor.), Ph.D.(McG.)

F. Elgar; M.Sc.(Nfld.), Ph.D.(Dal.)

P. tienne; M.D.(Lie ge)

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

M.-J. Fleury; M.A., Ph.D.(Montr.)

C. Flores; B.Sc., M.A., Ph.D.(C'dia)

D. Frank; Dip.Psychol., M.D.,C.M.(McG.)

R. I. Fraser; M.D.(Dal.)

G. Galbaud du Fort; M.D., Ph.D.(Paris) (joint appt. with Epidemiology and Biostatistics)

K.G. Gill; B.Sc.(Br. Col.), M.A., Ph.D.(C'dia)

G. Gobbi; M.D.(Rome), Ph.D.(Cagliari)

I. Gold; Ph.D.(Princ.)

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

B. Greenfield; M.D.(Wash.)

N. Grizenko; M.D.,C.M.(Sher.)

D. Groleau; B.Sc., M.Sc., Ph.D.(Montr.)

R. Gruber; B.A., M.S., Ph.D.(Tel Aviv)

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

M. Isra l; B.Sc., Gr.Dip.Psych.(McG.), M.A.(Qu.), M.D.,C.M.(McG.)

E. Jarvis; M.D.(Alta.), M.Sc.(McG.), F.R.C.P.

T. Kolivakis; M.D.(Athens)

A. Labbe; M.Sc.(Montr.), Ph.D.(Wat.)

M. Lalinec-Michaud; B.A., M.D.,C.M.(Paris IV)

K. Looper; B.Sc., M.D.(Ott.), M.Sc.(McG.)

O. Mantere; M.D.(Helsinki)

H. C. Margolese; M.D.(McG.), C.M., M.Sc.

N. Masrouha; M.D.(Sher.)

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

R. Montoro; M.D.,C.M., M.Sc., F.R.C.P.(C)

G. Myhr; M.D.,C.M., M.Sc.(McG.)

L. Nadeau; M.D.(Montr.)

J. Naiman; B.A., M.D.,C.M.(McG.)

J. Palacios-Boix; M.D., F.R.C.P.(C)

J. Pecknold; B.Sc.(C'dia), M.D.,C.M.(McG.)

D. Pedersen; M.D.(Buenos Aires)

M. Perreault; Ph.D.(Montr.)

A. Propst; B.Sc., Dip.Psychol., M.D.,C.M.(McG.)

Associate Professors

M.N. Rajah; B.Sc., M.A., Ph.D.(Tor.)

R.A. Ramsay; B.Sc., Gr.Dip.Psychiat., M.D.,C.M.(McG.)

A. Raz; M.Sc., Ph.D.(Hebrew)

J. Renaud; M.Sc., M.D.(Montr.)

S. Renaud; M.D.(Laval)

B.M. Robertson; Dip.Psychol.(McG.), M.B.,Ch.B.(Otago)

J. Rochford; M.A.(Qu.), Ph.D.(C'dia)

P. Rosa; M.D.(Rio Grande do Sul), Ph.D.(Aarhus)

Z. Rosberger; Ph.D.(C'dia)

R. Russell; M.D.(McG.)

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

S. Singh; M.D.(Calg.), F.R.C.P.

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

W. Steiner; M.D.,C.M.(McG.)

F

Assistant Professors

R. Brown; B.Sc., M.D.,C.M.(McG.)

T.G. Brown; Ph.D.(C'dia)

A. Bucatel; M.D.(Nicolae Testemitanu St. Univ. of Med. and Pharm.)

J. Canfield; B.A.(New Br.), M.D.,C.M.(Dal.)

P. Cervantes; Dip.Psychol.(McG.), M.D.,C.M.(UAEM)

J.-G. Chabot; Ph.D.(Sher.)

E. Chachamovich; M.D.(Rio Grande do Sul), Ph.D.(Edin.)

M. Chakavarty; Ph.D.(McG.)

R.M.E. Chenard-Soucy; M.D.(Montr.)

S. Choudhury; Ph.D.(Univ. Coll. Lond.)

D. Claveau; M.D.(Laval)

P. Cote; B.A.(Laval), M.D.,C.M.(Laval/Ott.)

L. Creti; Ph.D.(C'dia)

H. Cvejic; M.D.(NUI)

L. Dabby; M.D.(Tor.)

M.E. Davis; Dip.Psychol., M.D.,C.M.(McG.)

P. Des Rosiers; M.D.(Sher.)

R. Desautels; B.Sc., M.D.,C.M.(McG.)

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

M. Di Tomasso; M.D.(McG.)

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

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

M. Elsabbagh; Ph.D.(Qu.)

C.P. Ernst; B.Sc.(McG.), M.Sc.(Br. Col.), Ph.D.(McG.)

J. Errunza; M.D.(McG.)

K. Faridi; M.D.(Calg.)

K. Fathalli; M.D.(Tunis)

A. Fielding; M.D.,C.M.(McG.)

E. Foley; B.Sc.(Tor.)

R.E. Franck; B.A., M.D.,C.M.(McG.)

R. Fraser; B.A., M.D.(Dal.)

J. Friedland; M.D.(Calg.)

G. Gagnon

M. Gauthier; M.D.,C.M.(Montr.)

K. Geagea; M.D.,C.M.(SJU)

M.-C. Geoffroy; Ph.D.(Montr.)

J. Glass; B.A.(Boston), M.D.,C.M.(McG.)

K. Goddard; M.D.,C.M.(Manit.)

M. Grignon; B.A.(Montr./Ott.), M.A.(Ott.)

J.M. Guile; Gr.Dip.Psychiat.(Aix-Marseilles)

P. Habib; M.D.(Beirut Med. Sch.)

M. Habra; B.A.(McG.), M.A., Ph.D.(Br. Col.)

Assistant Professors

B. Hayton; B.A.(Williams), M.D.,C.M.(McG.)

L. Hoffman; M.D.(McG.)

F. Ianni; B.Sc.(McG.), M.D.,C.M.(Montr.)

H. Iskandar; Dip.Psychol.(McG.), M.B.,Ch.B.(Alexandria)

S. Iyer; M.A.(Mumbai), Ph.D.(Nebraska–Lincoln)

C. Jolicoeur; M.D.,C.M.(Laval)

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

M. Kapuscinska; M.D.,C.M.(Medical U. Gdansk)

S. Karama; Ph.D.(Montr.)

R. Keller; M.D.,C.M.(Manit.)

F. Key

M. K

Lecturers

D. Groenewege, P. Harden, J. Harvey, M. Heyman, M. Hodgson, I. Iordache, H.G. Jean-Francois, D. Kunin, N. Kuperstok, P. Lamoureux, A.G. Maccordick, S.K. Margolese, V. Mbekou, D. Michaud, D.F.S. Monti, K. Myron, A. Navidzadeh, T. Ngo-Minh, J.P. O'Donnell, R. Orenman, R. Payeur, L. Peters, G. Pierre-Louis, M. Quintal, T. Reyburn, K. Richter, D.T. Rochon, A. Schiavetto, V. Tagalakis, F.C. Toma, N. Vachon, S. Wisebord, D. Zack, C. Zarowsky

Associate Members

S. Bond

J.L. Derevensky; Ph.D.

M. Drapeau

A. Evans; Ph.D.

L. McVey

S. Neron

G. O'Driscoll

D. Zuroff

Adjunct Professors

A. Adamantidis

M. Alda; M.D.

P. Blier; M.D., Ph.D.

L. Booij; Ph.D.

W. Brender

M. Cargo; Ph.D.

A. Daigneault

M. Desjardins

A. Duffy; M.D.

D. Fikretoglu

R. Fugere; M.D.

A. Gagnon

J.P. Harris

F. Jollant

V. Kovess-Masfety; M.D., Ph.D.

O. Lapierre

A. Lesage

F. Lesperance; M.D.

S. J. Lloyd

S. Richard-Devantoy

S. Sultan

C. Tranulis

A. Zangen

Post-Retirement

D. P. Dastoor

J. P. Ellman

C. Gianoulakis

K. Minde

section 11.22.6 Master of Science (M.Sc.); Experimental Surgery (Thesis) Ð Global Surgery (45 credits)

This concentration emphasizes healthcare needs specifically within the surgical field in resource-limited settings. It comprises three main pillars: research, education, and mentorship. Through extensive research work, students will participate in the design and implementation of innovative approaches in surgical care and injury surveillance, advancing the surgical capacities in low- and middle-income countries. Students will also participate in global surgical endeavors allowing professionals from partner countries and Canada to engage in a learning and knowledge transfer experience through training and courses. Students choosing this option will have the opportunity to engage in international projects and orient their work depending on their research interest (i.e., health economics, injury epidemiology, etc.) aligned with the Centre for Global Surgery's (CGS) mission.

section 11.22.7 Master of Science (M.Sc.); Experimental Surgery (Thesis) Ð Surgical Education (45 credits)

This concentration provides a foundation in surgical education practice and research. The program highlights the unique teaching and learning environment of surgery coupled with a basis in educational theory, curricular design, and implementation. A major emphasis of this program is surgical educational research with the elaboration, designs, implementation, and analysis of a research project founded in best practices of educational research. The research project may encompass, but is not limited to, surgical stimulation, technical skills acquisition, surgical technology, and assessment.

section 11.22.8 Master of Science (M.Sc.); Experimental Surgery (Thesis) Ð Surgical Innovation (45 credits)

This concentration is intended for residents interested in developing new devices and software solutions for surgical needs, as well as non-clinician trainees with a passion for healthcare technology. The program allows for a hands-on learning experience for students to develop skills necessary to work within multidisciplinary teams in the creation of novel, needs-driven and marketable prototypes used in development of novel surgical and medical devices. As such, participants work in these teams to identify clinical needs and to innovate solutions to them.

section 11.22.9 Doctor of Philosophy (Ph.D.); Experimental Surgery

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, ensure that students receive in-depth training and exposure to varied conceptual frameworks and a wide array of experimental strategies.

section 11.22.10 Graduate Certi®cate (Gr Cert.); Surgical Innovation (15 credits)

The core of this graduate program is two innovation courses (EXSU 620 and EXSU 621) delivered by the McGill Department of Surgery. The first semester of the program core focuses on team building and, supported by lectures, the students emfo Tm, curxp(.)To7p1-on learning,33o41e0.7hser4supported by lectures, s

See University Regulations and Resources > Graduate > Graduate Admissions and Application Procedures > : Application Procedures for detailed application procedures.

11.22.3.2.1 Additional Requirements

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

- Curriculum Vitae
- Research Project Proposal
- Confirmation of Supervisor
- Memorandum of Agreement
- Tuition Assistance

Additional Requirements for the Concentrations in Surgical Education and in Surgical Innovation

- Letter of Intent – A letter of intent from the students describing their reasons for pursuing the concentration of their choice, what their qualifications are, and why they should be accepted.
- Interview session – Students applying to the concentration in Surgical Education or in Surgical Innovation may be requested to attend an interview session either in person, by phone, or via Skype.

11.22.3.3 Application Deadlines

The application deadlines listed here are set by Experimental Surgery and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at: www.mcgill.ca/gps/contact/graduate-program.

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

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

11.22.4 Surgery, Experimental Faculty

Director

Professors

J.M. Laberge; M.D.(Laval)

S. Meterissian; M.D.,C.M., M.Sc.(McG.)

D.S. Mulder; M.D.(Sask.), M.Sc.(McG.)

A. Philip; M.Sc., Ph.D.(McG.)

L. Rosenberg; M.Sc., M.D., Ph.D.(McG.)

R. St. Arnaud; Ph.D.(Laval)

M. Tanzer; M.D.,C.M.(McG.), F.R.C.S.(C)

C.I. Tchervenkov; B.Sc., M.D.,C.M.(McG.), F.R.C.S.(C)

R. Turcotte; M.D.(Montr.)

Associate Professors

M. Basik; M.D.,C.M., M.Sc.(McG.)

O. Blaschuk; B.Sc.(Winn.), M.Sc.(Manit.), Ph.D.(Tor.)

S. Chevalier; B.Sc., M.Sc., Ph.D.(Montr.)

P. Chan; M.D.,C.M., M.Sc.(McG.), F.R.C.S.(C)

R. Cecere; M.D.,C.M., B.Sc.(McG.), F.R.C.S.(C), A.B.S., F.A.C.S.

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

S. Emil; M.D.,C.M.(McG.), F.R.C.S.(C)

L. Ferri; M.D.,C.M., M.Sc.(McG.)

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

S. Fraser; B.Sc., M.D.(Tor.), M.Sc.(McG.), F.R.C.S.(C)

K.J. Lachapelle; M.Sc., M.D.,C.M.(McG.)

J. Lapointe; M.D., Ph.D.(Laval)

L. Lessard; B.Sc., M.D.(Laval), F.R.C.S.(C)

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

S. Paraskevas; M.D., Ph.D.(Laval)

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)

A. Thomson; Ph.D.(Lond.)

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

Assistant Professors

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

A. Dragomir; M.Sc., Ph.D.(Montr.)

J. Faria; M.D.,C.M., 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.

L. Haglund; B.Sc., Ph.D.(Lund)

T.E. Hebert; Ph.D.(Tor.)

O. Huk; B.Sc., M.D.,C.M.(McG.), M.Sc.(Montr.)

Assistant Professors

P. Jarzem; B.Sc., M.D.(Qu.)

E. Lee; B.A.(Boston), M.Sc., Ph.D.(McG.)

K. Mackenzie; B.Sc.(Br. Col.), M.D.,C.M.(McG.), F.R.C.S.(C)

A. Merguerditchian; M.D., M.Sc.(Montr.), F.R.C.S., F.A.C.S.

E. Mitmaker; M.D.(TJU), M.Sc.(McG.), F.R.C.S.(C)

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

M. Petropavlovskaia; M.Sc., Ph.D.(Moscow)

N. Saran; M.D., B.Sc.(Br. Col.)

K. Shaw; M.D.,C.M., M.Sc.(McG.)

11.22.5 Master of Science (M.Sc.); Experimental Surgery (Thesis) (45 credits)

Thesis Courses (30 credits)

EXSU 690	(4)	M.Sc. Research 1
EXSU 691	(4)	M.Sc. Research 2
EXSU 692	(4)	M.Sc. Research 3
EXSU 693	(18)	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, taken from 500, 600, or 700 level courses in consultation with the Research Advisory Committee.

Depending on their individual background, students may be asked by their Research Supervisory Committee to take additional courses.

Master of Science (M.Sc.); Experimental Surgery (Thesis) — Global Surgery (45 credits)

EPIB 521	(3)	Regression Analysis for Health Sciences
EXSU 601	(6)	Knowledge Management

Complementary Courses (3 credits)

3 credits, taken from 500-, 600-, or 700-lev

EXSU 621	(3)	Surgical Innovation 2

Complementary Courses (3 credits)

3 credits, taken from 500-, 600-, or 700-level courses in consultation with the Research Advisory Committee.

11.22.9 Doctor of Philosophy (Ph.D.); Experimental Surgery

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