



**Faculty of Engineering, including the Schools of
Architecture and Urban Planning (Graduate)
Programs, Courses and University Regulations
2011-2012**

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

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1 Dean's Welcome

To Graduate Students and Postdoctoral Fellows:

I am extremely pleased to welcome you to McGill University. With over 250 doctoral and master's degree programs, McGill is committed to providing world-class graduate education and postdoctoral training in a full range of academic disciplines and professions. Graduate and Postdoctoral Studies (GPS) provides strategic leadership and works in collaboration with the Faculties and other administrative and academic units to deliver the very highest level of teaching and research across the University. GPS is responsible for the admission and registration of graduate students, disbursing graduate fellowships, supporting postdoctoral fellows, and facilitating the graduation process, including the examination of theses.

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

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

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

Martin Kreiswirth, Ph.D.

Associate Provost (Graduate Education)

Dean, Graduate and Postdoctoral Studies

2 Graduate and Postdoctoral Studies

2.1 Administrative Officers

Martin Kreiswirth; B.A.(Hamilton), M.A.(Chic.), Ph.D.(Tor.)	Associate Provost (Graduate Education) and Dean (Graduate and Postdoctoral Studies)
Heather Durham; M.Sc.(W. Ont.), Ph.D.(Alta.)	Associate Dean (Graduate and Postdoctoral Studies) (until Sept. 2011)
Meyer Nahon; B.Sc.(Qu.), M.Sc.(Tor.), Ph.D.(McG.), Eng.	Associate Dean (Graduate and Postdoctoral Studies)
Lisa deMena Travis; B.A.(Yale), Ph.D.(MIT)	Associate Dean (Graduate and Postdoctoral Studies) (as of Sept. 2011)
Shari Baum; B.A.(C'neil), M.Sc.(Vermont), Ph.D.(Brown)	Associate Dean (Graduate and Postdoctoral Studies)
Charlotte E. Légaré; B.Sc.(Montr.), M.Sc.(Sher.), M.B.A.(McG.)	Director (Graduate and Postdoctoral Affairs)
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Note: For inquiries regarding specific Graduate programs, please contact the appropriate department.

2.3 General Statement Concerning Higher Degrees

Graduate and Postdoctoral Studies (GPS) administers all programs leading to graduate diplomas, certificates and higher degrees. It is responsible for the admission of candidates, the supervision of their work and for recommending to Senate those who may receive the degrees, diplomas and certificates.

3 Important Dates 2011-2012

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

4 Graduate Studies at a Glance

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

Agricultural and Environmental Sciences

- : *Agricultural Economics*
- : *Animal Science*
- : *Bioresource Engineering*
- : *Dietetics and Human Nutrition*
- : *Food Science and Agricultural Chemistry*
- : *Natural Resource Sciences*
- : *Parasitology*
- : *Plant Science*

Arts

- : *Anthropology*
- : *Art History*
- Classics, see : *History and Classical Studies*
- : *Communication Studies*
- : *East Asian Studies*
- : *Economics*
- : *English*
- : *French Language and Literature*
- : *Geography*
- : *German Studies*
- : *Hispanic Studies*
- : *History and Classical Studies*
- : *Institute for the Study of International Development*
- : *Islamic Studies*
- : *Italian Studies*
- : *Jewish Studies*
- : *Linguistics*
- : *Mathematics and Statistics*
- : *Philosophy*

Arts

: Political Science
: Psychology
: Russian and Slavic Studies
: Social Studies of Medicine
: Social Work
: Sociology

Dentistry

: Dentistry

Desautels Faculty of Management

: Desautels Faculty of Management

Education

: Educational and Counselling Psychology
: Information Studies
: Integrated Studies in Education
: Kinesiology and Physical Education

Engineering

section 11.1: Architecture
section 11.2: Chemical Engineering
section 11.3: Civil Engineering and Applied Mechanics
section 11.4: Electrical and Computer Engineering
section 11.5: Mechanical Engineering
section 11.6: Mining and Materials Engineering
section 11.7: Urban Planning

Law

: Law

McGill School of Environment

: Environment

Medicine

: Anatomy and Cell Biology
: Biochemistry
: Bioethics
: Biomedical Engineering
: Communication Sciences and Disorders
: Epidemiology and Biostatistics
 Experimental Medicine, see : *Medicine, Experimental*
: Human Genetics
: Medical Physics

Medicine

- : Microbiology and Immunology*
- : Neuroscience (Integrated Program in)*
- : Nursing*
- : Occupational Health*
- : Otolaryngology – Head and Neck Surgery*
- : Pathology*
- : Pharmacology and Therapeutics*
- : Physical and Occupational Therapy*
- : Physiology*
- : Psychiatry*
- : Surgical Research*

Religious Studies

- : Religious Studies*

Schulich School of Music

- : Schulich School of Music*

Science

- : Atmospheric and Oceanic Sciences*
- : Biology*
- : Chemistry*
- : Computer Science*
- : Earth and Planetary Sciences*
- : Geography*
- : Mathematics and Statistics*
- : Physics*
- : Psychology*

4.1 Graduate Diplomas and Certificates

Graduate diplomas and graduate certificates are programs of study under the academic supervision of Graduate and Postdoctoral Studies. They have as a prerequisite an undergraduate degree in the same discipline.

McGill University offers other diploma and certificate programs under the supervision of the relevant faculties and their Calendars should be consulted for further details.

Graduate Diplomas are offered in:

Clinical Research (Experimental Medicine)	Primary Care Nurse Practitioner
Epidemiology and Biostatistics	Professional Performance
Islamic Studies	Public Accountancy (C.A.)
Library and Information Studies	Registered Dietician Credentialing (R.D.)
Mining Engineering	School and Applied Child Psychology (post-Ph.D.)
Nursing	Surgical Health Care Research

These diploma programs consist of at least two terms of full-time study or the equivalent.

Graduate Certificates are offered in:

Assessing Driving Capabilities	Educational Leadership 2
Air and Space Law	Library and Information Studies
Bioresource Engineering (IWRM)	Post-M.B.A.
Biotechnology	Teaching English as a Second Language
Comparative Law	Theory in Primary Care
Educational Leadership 1	Theory in Neonatology

All graduate regulations apply to graduate diploma and certificate candidates.

4.2 Master's Degrees

Two categories of programs lead to higher degrees at McGill University, master's programs, and doctoral programs.

The following master's degrees are offered (see below for more information about sub-specializations):
Prerequisites:

Master of Architecture (M.Arch)	M.Arch. (professional degree) – McGill B.Sc.(Arch.) degree, or equivalent; M.Arch. (post-professional degree) – an M.Arch. (professional degree) or equivalent professional degree.
Master of Arts (M.A.)	Bachelor of Arts in the subject selected for graduate work. See appropriate unit.
Master of Business Administration (M.B.A.)	An undergraduate degree from an approved university. See Management.
Joint program: Master of Business Administration (M.B.A.) with integrated Bachelor of Civil Law (B.C.L.) / Bachelor of Laws (LL.B.)	See Management.
Concurrent Master of Business Administration with Doctor of Medicine / Master of Surgery (M.B.A. with M.D.,C.M.)	See Management.
Master of Manufacturing Management (M.M.M.)	See Management.
Master of Education (M.Ed.)	A bachelor's degree with specialization related to the subject chosen for graduate work, plus a Permanent Quebec Teaching Diploma or its equivalent for some of the above degrees. See appropriate department.
Master of Engineering (M.Eng.)	Bachelor of Engineering or equivalent, with specialization appropriate for the subject selected for graduate study. See appropriate department.
Master of Laws (LL.M.)	An acceptable degree in Law or equivalent qualifications. See Law.
Master of Library and Information Studies (M.L.I.S.)	At least a bachelor's degree from a recognized university. See Library and Information Studies.
Master of Management (M.M.)	See Management.
Master of Music (M.Mus.)	Bachelor of Music or Bachelor of Arts with concentration in the area selected for graduate study. See Music.
Master of Sacred Theology (S.T.M.)	B.A. with specialization in religious studies or theology. See Religious Studies.
Master of Science (M.Sc.)	Bachelor of Science in the subject selected for graduate work. See appropriate unit.
Master of Science, Applied (M.Sc.A.)	A bachelor's degree in the subject selected for graduate work. See appropriate unit.
Master of Science, Applied (OT) (M.Sc.A. (OT))	A bachelor's degree in the subject selected for graduate work. See appropriate unit.
Master of Science, Applied (PT) (M.Sc.A. (PT))	A bachelor's degree in the subject selected for graduate work. See appropriate unit.
Master of Social Work (M.S.W.)	Bachelor's degree in Social Work including courses in statistics and social science research methods. See Social Work.
Joint program: Master of Social Work (M.S.W.) with integrated Bachelor of Civil Law (B.C.L.) / Bachelor of Laws (LL.B.)	See School of Social Work.
Master of Urban Planning (M.U.P.)	Bachelor's degree in any one of the following: Anthropology, Architecture, Economics, Civil Engineering, Geography, Law, Management, Political Science, Social Work, Sociology or Urban Planning, with adequate knowledge of quantitative techniques. See Urban Planning.

Master of Architecture Degrees

M.Arch. programs offered:

M.Arch. (professional degree) (Non-Thesis) in Design Studio and Design Studio – Directed Research

M.Arch. (post-professional degree) (Non-Thesis); specializations in Architectural History and Theory, Cultural Mediations and Technology, Urban Design and Housing

Master of Arts Degrees

Programs leading to the degree of Master of Arts are offered in the following areas:

Anthropology (Thesis and Non-Thesis); options in Development Studies, Environment, Gender and Women's Studies, Medical Anthropology

Art History (Non-Thesis); option in Gender and Women's Studies (Non-Thesis)

Classics (Thesis and Non-Thesis)

Communication Studies (Thesis and Non-Thesis); option in Gender and Women's Studies

Economics (Thesis and Non-Thesis); options in Development Studies (Non-Thesis) and Social Statistics (Non-Thesis)

Education (Thesis and Non-Thesis)

English (Thesis and Non-Thesis)

French (Thesis and Non-Thesis); option in Gender and Women's Studies

Geography; options in Development Studies, Environment, Gender and Women's Studies, Neotropical Environment, Social Statistics

German Studies (Thesis and Non-Thesis)

Hispanic Studies (Thesis and Non-Thesis)

History (Thesis and Non-Thesis); options in Development Studies (Thesis and Non-Thesis), European Studies (Thesis and Non-Thesis), Gender and Women's Studies (Thesis and Non-Thesis), History of Medicine (Non-Thesis)

Islamic Studies; option in Gender and Women's Studies

Italian Studies (Thesis and Non-Thesis)

Jewish Studies (Thesis and Non-Thesis)

Kinesiology and Physical Education (Thesis and Non-Thesis)

Linguistics (Non-Thesis)

Mathematics and Statistics (Thesis and Non-Thesis)

Music (Thesis and Non-Thesis)

Philosophy; option in Bioethics

Political Science (Thesis and Non-Thesis); options in Development Studies (Thesis and Non-Thesis), European Studies (Thesis and Non-Thesis), Gender and Women's Studies (Non-Thesis), Social Statistics (Non-Thesis)

Psychology

Religious Studies (Thesis and Non-Thesis); options in Bioethics and Gender and Women's Studies

Russian

Sociology (Thesis and Non-Thesis); options in Development Studies (Thesis and Non-Thesis), Environment, Gender and Women's Studies (Thesis and Non-Thesis), Medical Sociology (Thesis and Non-Thesis), Social Statistics (Non-Thesis), Neotropical Environment

Master of Business Administration Degrees

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

Finance

Global Strategy and Leadership

Marketing

Technology and Innovation Management

An E.M.B.A. is also offered (joint with HEC).

Special programs:

M.B.A. with M.D.,C.M.

M.B.A. with B.C.L. and LL.B.

Master of Manufacturing Management (see Management and Mechanical Engineering)

Master's Degrees in Education

Three types of master's degrees are offered: M.A. (Thesis and Non-Thesis), M.Ed. (Non-Thesis) and M.Sc. (Thesis and Non-Thesis).

The M.A. may be taken in the following areas:

Counselling Psychology (Thesis and Non-Thesis): Counselling Psychology – Professional/Internship (Non-Thesis), Counselling Psychology – Project (Non-Thesis)

Education and Society (Thesis and Non-Thesis); options in Gender and Women's Studies (Thesis and Non-Thesis) and Jewish Studies (Thesis and Non-Thesis)

Educational Psychology (Thesis and Non-Thesis)
 Educational Leadership (Thesis, Non-Thesis, and Non-Thesis Coursework); option in Gender and Women's Studies (Thesis and Non-Thesis)
 Kinesiology and Physical Education (Thesis and Non-Thesis)
 Second Language Education (Thesis and Non-Thesis); option in Gender and Women's Studies (Thesis and Non-Thesis)
 Teaching and Learning (MATL) (Non-Thesis)

The M.Ed. may be taken in the following area:

Educational Psychology

The M.Sc. may be taken in the following area:

Kinesiology and Physical Education (Thesis and Non-Thesis)

Master's Degree in Engineering

Programs leading to the degree of Master of Engineering are offered in the following areas:

Aerospace Engineering (Project)
 Biomedical Engineering; option in Bioinformatics
 Chemical Engineering (Thesis and Project); option in Environmental Engineering (Project)
 Civil Engineering and Applied Mechanics (Thesis and Project); option in Environmental Engineering (Project)
 Electrical Engineering (Thesis and Project); option in Computational Science and Engineering
 Mechanical Engineering (Thesis and Project); option in Computational Science and Engineering
 Mining and Materials Engineering (Thesis and Non-Thesis); options in Environmental Engineering (Non-Thesis), Mining (Non-Thesis), and Metals and Materials (Non-Thesis)

Other degrees:

Master of Management (M.M.) is offered in Manufacturing Management (see Department of Mechanical Engineering and Faculty of Management).
 Master of Science (M.Sc.) is offered in Chemical Engineering, Civil Engineering, Mechanical Engineering, and Mining and Materials.

Master's Degrees in Law

The degree of Master of Laws is offered in:

Law (Thesis and Non-Thesis); options in Bioethics, Comparative Law (Thesis and Non-Thesis), Environment (Thesis and Non-Thesis), and European Studies
 Air and Space Law (Thesis and Non-Thesis)

Master of Library and Information Studies Degree

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

Master's Degrees in Music

Programs leading to the degrees of Master of Arts and Master of Music are offered in the Faculty of Music.

The M.A. may be taken in:

Music Technology
 Musicology (Thesis and Non-Thesis); option in Gender and Women's Studies
 Music Education (Thesis and Non-Thesis)
 Theory (Thesis and Non-Thesis); option in Gender and Women's Studies

The M.Mus. may be taken in:

Composition
 Performance (various options) (Non-Thesis)
 Sound Recording (Non-Thesis)

Applicants to the Performance program are required to pass auditions in their speciality.

Master's Degrees in Nursing

Two types of master's degrees are offered: Master of Science (Applied) and Master of Science (with thesis). These two-year programs are designed to prepare clinicians and researchers for the expanding function of nursing within the health care delivery system.

Master's Degrees in Religious Studies

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

Master of Science Degrees

Programs leading to the degree of Master of Science are provided in the following areas:

- Agricultural Economics
- Animal Science
- Atmospheric and Oceanic Science; options in Computational Science and Engineering, and Environment
- Biochemistry; options in Bioinformatics, and Chemical Biology
- Biology; options in Bioinformatics, Environment, and Neotropical Environment
- Bioresource Engineering; options in Environment, Integrated Water Resource Management (Non-Thesis), and Neotropical Environment
- Cell Biology and Anatomy
- Chemical Engineering
- Chemistry; option in Chemical Biology
- Civil Engineering and Applied Mechanics
- Communication Sciences and Disorders
- Computer Science (Thesis and Non-Thesis); options in Bioinformatics, and Computational Science and Engineering
- Dental Science (Thesis and Non-Thesis); option in Oral and Maxillofacial Surgery
- Earth and Planetary Sciences; option in Environment
- Entomology; options in Environment, and Neotropical Environment
- Epidemiology and Biostatistics (Thesis and Non-Thesis); option in Environment (Non-Thesis)
- Food Science and Agricultural Chemistry (Thesis and Non-Thesis)
- Geography; options in Environment, and Neotropical Environment
- Genetic Counselling (Non-Thesis)
- Human Genetics; option in Bioinformatics
- Human Nutrition
- Kinesiology and Physical Education (Thesis and Non-Thesis)
- Mathematics and Statistics (Thesis and Non-Thesis); options in Bioinformatics, and Computational Science and Engineering
- Mechanical Engineering
- Medical Radiation Physics
- Medicine, Experimental; options in Bioethics, Environment, and Family Medicine
- Microbiology and Immunology
- Microbiology (Macdonald Campus); option in Environment
- Mining and Materials Engineering
- Neuroscience
- Nursing
- Otolaryngology
- Parasitology; options in Bioinformatics, and Environment
- Pathology
- Pharmacology and Therapeutics; option in Chemical Biology
- Physics
- Physiology; option in Bioinformatics
- Plant Science; options in Bioinformatics, Environment, and Neotropical Environment
- Psychiatry
- Psychology
- Rehabilitation Sciences (Thesis and Non-Thesis)
- Renewable Resources; options in Environment, Environmental Assessment (Non-Thesis), and Neotropical Environment
- Surgery, Experimental

Master of Science, Applied, Degrees

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

Programs are available in:

- Animal Science
- Bioresource Engineering; options in Environment, Environmental Engineering, and Neotropical Environment
- Biotechnology
- Chemistry

Communication Sciences and Disorders
 Human Nutrition
 Nursing
 Occupational Health
 Occupational Therapy
 Plant Science
 Physical Therapy

Other degrees:

Master of Science, Applied (OT)
 Master of Science, Applied (PT)

Master of Social Work Degrees

The M.S.W. degree (Thesis and Non-Thesis options) represents a second level of professional study in which students build competence in a chosen field of practice.

Special program:

M.S.W. with B.C.L. and LL.B.

Master of Urban Planning Degree

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

Options: Transportation Planning and Urban Design.

4.3 Doctoral Degrees

Two categories of programs lead to higher degrees at McGill University: master's programs and doctoral programs.

The following doctoral degrees are offered (see below for more information about sub-specializations): Prerequisites:

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

Doctor of Civil Law Degrees

Doctoral programs are offered in Air and Space Law and Law (Comparative Law). Both are predominantly research degrees awarded on the basis of a thesis that represents an original contribution to the development of legal science.

Doctor of Music Degrees

The Doctor of Music degree is offered in Composition. The Doctoral thesis consists of a musical composition of major dimensions together with a written analysis of the work. The composition is presented by the candidate in concert. The regulations set forth for the Ph.D. generally apply also to the D.Mus.

The Doctor of Music degree is also offered in Performance. It is offered to professional musicians who wish to teach at the university level and to develop a specialization in a particular repertoire, approach, or discipline (musicology, music theory, music education and pedagogy, or music technology).

Doctor of Philosophy Degrees

Programs leading to the degree of Doctor of Philosophy are offered in the following areas:

Anatomy and Cell Biology
 Animal Science; option in Bioinformatics
 Anthropology; option in Neotropical Environment
 Architecture
 Art History; option in Gender and Women's Studies
 Atmospheric and Oceanic Sciences
 Biochemistry; options in Bioinformatics, and Chemical Biology

Biology; options in Bioinformatics, Developmental Biology, Environment, and Neotropical Environment
 Biomedical Engineering; option in Bioinformatics
 Bioresource Engineering; options in Environment, and Neotropical Environment
 Chemical Engineering
 Chemistry; option in Chemical Biology
 Civil Engineering and Applied Mechanics
 Classics
 Communication Studies; option in Gender and Women's Studies
 Communication Sciences and Disorders; option in Language Acquisition
 Computer Science; option in Bioinformatics
 Counselling Psychology
 Earth and Planetary Sciences; option in Environment
 Economics
 Educational Psychology
 Educational Studies; option in Gender and Women's Studies
 Electrical Engineering
 English
 Entomology; options in Environment, and Neotropical Environment
 Epidemiology and Biostatistics
 Food Science and Agricultural Chemistry
 French; option in Gender and Women's Studies
 Geography; options in Environment, Gender and Women's Studies, and Neotropical Environment
 German
 Hispanic Studies
 History
 Human Genetics; option in Bioinformatics
 Human Nutrition
 Information Studies
 Islamic Studies; option in Gender and Women's Studies
 Linguistics; option in Language Acquisition
 Management
 Mathematics and Statistics; option in Bioinformatics
 Mechanical Engineering
 Medicine, Experimental; option in Environment
 Microbiology and Immunology
 Microbiology (Macdonald Campus); options in Bioinformatics, and Environment
 Mining and Materials Engineering
 Music; option in Gender and Women's Studies
 Neuroscience
 Nursing; option in Psychosocial Oncology
 Occupational Health Sciences
 Parasitology; options in Bioinformatics, and Environment
 Pathology
 Pharmacology and Therapeutics; option in Chemical Biology
 Philosophy; options in Environment, and Gender and Women's Studies
 Physics
 Physiology; option in Bioinformatics
 Plant Science; options in Bioinformatics, Environment, and Neotropical Environment
 Political Science
 Psychology; options in Language Acquisition, and Psychosocial Oncology
 Rehabilitation Science
 Religious Studies; option in Gender and Women's Studies
 Renewable Resources; options in Environment, and Neotropical Environment
 Russian
 School/Applied Child Psychology
 Social Work
 Sociology; options in Environment, and Gender and Women's Studies
 Surgery, Experimental

The following joint Ph.D. programs are offered:

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

4.4 Postdoctoral Research

See [section 8: Postdoctoral Research](#) for information about postdoctoral research at McGill University.

5 Program Requirements

5.1 Master's Degrees

Residence Requirements – Master's Degrees

Refers to the number of terms (or years) students must be registered on a full-time basis to complete their program. Students are NOT permitted to graduate until they have fulfilled the residence requirement (or paid the corresponding fees) in their program.

- The following master's programs have a minimum residence requirement of **three full-time terms**: M.Arch, M.A., M.Eng., LL.M., M.Mus. (**except** M.Mus. in Sound Recording), M.Sc., M.S.W., M.Sc.A. (**except** M.Sc.A. in Communication Sciences and Disorders).
- The following master's programs have a **minimum** residence requirement of **four full-time terms**: M.L.I.S.; M.Mus. in Sound Recording; M.U.P.; M.A. (60 credits – Counselling Psychology – thesis; 78 credits – Educational Psychology); M.A. Teaching and Learning – Non-Thesis; M.Sc.A. in Communication Sciences and Disorders; S.T.M., Religious Studies.
- The residence requirement for the master's program in Education (M.Ed.); Library and Information Studies (M.L.I.S.); Management (M.B.A.); Religious Studies (S.T.M.); M.A. Counselling Psychology – Non-Thesis; M.A. Teaching and Learning – Non-Thesis; M.Sc. in Public Health – Non-Thesis; M.Sc.A. Nursing; M.Sc.A. Occupational Therapy; M.Sc.A. Physical Therapy; and students in part-time programs is determined on a per course basis. Residence requirements are fulfilled when students complete all course requirements in their respective programs.
- For master's programs structured as Course, Project or Non-Thesis options where the program is pursued on a part-time basis, residence requirements are normally fulfilled when students complete all course requirements in their respective programs (minimum 45 credits or a minimum of three full-time terms) and pay the fees accordingly.

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

Coursework – Master's Degrees

Program requirements are outlined in the relevant departmental sections of the Graduate and Postdoctoral Studies Calendar available at www.mcgill.ca/study.

The department concerned will examine the student's previous training and then decide which of the available courses in the area of specialization or related fields are required to bring the candidate to the proper level for the master's degree. Due account will be taken of relevant courses passed at any recognized university.

As a rule, no more than one-third of the McGill program formal coursework (not thesis, project, stage, or internship) can be credited with courses from another university.

Non-thesis degrees normally specify the course program which the candidate must follow.

The candidate is required to pass, with a mark of B- or better, all those courses which have been designated by the department as forming a part of the program, including additional requirements.

Students taking courses at another university must obtain a minimum grade of B- (65%) if the course is to be credited toward their McGill degree. In the cases where only a letter grade is used, a B- is the minimum passing grade and no equivalent percentage will be considered. In the cases where only a percentage grade is used, 65% is the minimum passing grade.

If courses were not used for a degree, they could be **credited** toward a McGill degree keeping in mind that a maximum of one-third of the course work (not thesis, project, stage, internship, and practicum) can be credited. If an **exemption** is granted, it must be replaced by another graduate course at McGill toward the degree. No double counting is ever allowed. This regulation also applies to doctoral programs.

Research and Thesis – Master's Degrees

All candidates for a research degree must present a thesis based on their own research. The total number of credits allotted to the thesis in any master's program must not be less than 24. The title of the thesis and names of examiners must be forwarded on a *Nomination of Examiners* form, in accordance with the dates on www.mcgill.ca/importantdates, through the Chair of the department concerned at the same time as the thesis is submitted to Graduate and Postdoctoral Studies. A thesis for the master's degree, while not necessarily requiring an exhaustive review of work in the particular field of study, or a great deal of original scholarship, must show familiarity with previous work in the field and must demonstrate the ability to carry out research and to organize results, all of which must be presented in good literate style. The thesis will not normally exceed 100 pages; in some disciplines, shorter texts are preferred. Guidelines and deadlines are available at www.mcgill.ca/gps/students/thesis/guidelines.

Language Requirements – Master's Degrees

Most master's degree programs do not include language requirements, but candidates who intend to proceed to a doctoral degree should take note of any language requirements and are strongly advised to take the examinations in at least one language while working for the master's degree.

5.2 Doctoral Degrees**Residence Requirements – Doctoral**

Refers to the numbers of terms (or years) students must be registered on a full-time basis to complete their program. Students are not permitted to graduate until they have fulfilled the residence requirement (or paid the corresponding fees) in their program.

Candidates entering Ph.D. 1 must follow a program of at least three years residency at the University; this is a minimum requirement, and there is no guarantee that the work of the degree can be completed in this time, but students are expected to complete within the maximum specified period. Only exceptional candidates holding a bachelor's degree will be considered for direct admission to Ph.D. 1 level.

It is required that candidates spend the greater part of each summer working on their theses, and those who do not do so are unlikely to complete a satisfactory thesis in the prescribed minimum time (see "Vacation Policy for Graduate Students and Postdocs").

A student who has obtained a master's degree at McGill University or at an approved institution, in a relevant subject and is proceeding to a Ph.D. degree will, on the recommendation of the department, be admitted to Ph.D. 2; in this case, the residency requirement for the program is two years.

In the doctoral program, students must be registered on a full-time basis for one more year after completion of the residency (i.e., Ph.D. 4 year) before continuing as additional session students until completion of the program.

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

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

Comprehensive Examinations – Doctoral

A comprehensive examination or its equivalent is usually held near the end of Ph.D. 2. The results of this examination determine whether or not students will be permitted to continue in their programs. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations approved by the Dean of Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of these details at the commencement of their programs. For more information, see "Ph.D. Comprehensives Policy".

Language Requirements – Doctoral

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

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

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

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

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

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

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

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

Thesis – Doctoral

The thesis for the Ph.D. degree must display original scholarship expressed in good literate style and must be a distinct contribution to knowledge. **Formal notice of a thesis title and names of examiners must be submitted to the Thesis Section of GPS on the *Nomination of Examiners* form in accordance with the dates on www.mcgill.ca/importantdates, at the same time as the thesis is submitted.** The list of examiners must be approved by the Department Chair, the supervisor and the student. The Thesis Section of GPS should be notified of any subsequent change of title as early as possible. Guidelines and deadlines are available at www.mcgill.ca/gps/students/thesis/guidelines.

Seven copies of the thesis must be provided by the candidate. Of these, two copies will be retained by the University and five copies returned to the candidate. Some departments may require one or more additional copies. The final corrected copy is submitted electronically.

Special regulations for the Ph.D. degree in particular departments are stated in the entries of those departments.

Thesis Oral Examination – Doctoral

After the thesis has been received and approved, a final oral examination is held on the subject of the thesis and subjects intimately related to it. This is conducted in the presence of a Committee of at least five members presided over by a Pro-Dean nominated by Graduate and Postdoctoral Studies. The Chair of the candidate's department and the Thesis Supervisor are regularly invited to be members of the Committee; at least one member of the Committee is appointed from outside the candidate's department. Guidelines are available at www.mcgill.ca/gps/students/thesis/guidelines.

5.3 Ad Hoc Programs

In exceptional cases, an applicant who wishes to pursue a master's (Thesis option only) or Ph.D. program in an academic department which is not currently authorized by the *Ministère de l'Éducation, du Loisir et du Sport* (MELS) to offer graduate programs, may be admitted to an *Ad Hoc* program. The application, including a research proposal, is examined by an Admissions Committee in the department which has familiarity with the proposed research area and experience in directing graduate studies.

Once the Admissions Committee makes a favourable recommendation, Graduate and Postdoctoral Studies confirms an Advisory Committee (recommended by the academic unit) to be responsible for program planning and monitoring of research progress. The regulations are fully described in the document "Procedures for Admission in *Ad Hoc* Master's and Doctoral Programs", available from GPS.

5.4 Ad Personam Programs (Thesis Option only)

In very rare circumstances, an applicant who wishes to engage in master's (Thesis option only) or Ph.D. studies of an interdisciplinary nature involving joint supervision by two departments, each of which is authorized by the *Ministère de l'Éducation, du Loisir et du Sport* (MELS) to offer its own graduate programs, may be admitted to an *Ad Personam* program. The regulations are fully described in a document available from GPS.

5.5 Coursework for Graduate Programs, Diplomas, and Certificates

Upper-level undergraduate courses (excluding 500-level) may not be considered for degrees, diplomas, and certificates unless they are already listed as required courses in the approved program description. If an upper-level undergraduate course (excluding 500-level) is taken by a graduate student, it must come as a recommendation from the Graduate Program Director in the department. The recommendation must state if the undergraduate course is an additional requirement for the program (must obtain B- or better) or if the course is extra to the program (will be flagged as such on the record and fees will be charged). See document at www.mcgill.ca/gps/staff/registration.

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

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

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

6 General Admission for Graduate Studies



Note: The following admission requirements and application procedures are the minimum standard for applicants to McGill's Graduate and Postdoctoral Studies programs. Some graduate units may require additional qualifications or a higher minimum CGPA; prospective students are strongly urged to consult the unit concerned regarding specific requirements set for their program of interest.

Website: www.mcgill.ca/gradapplicants

Email: servicepoint@mcgill.ca

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

6.1 Application for Admission

Application information and the online application form are available at www.mcgill.ca/gradapplicants/apply. Applicants (with some exceptions) are required to ask two instructors familiar with their work to send letters of recommendation. All applicants must themselves send, or ask the appropriate university authorities to send, two official or certified copies of their complete academic record from each university-level institution attended to date. McGill graduates do not need to submit McGill transcripts. Letters of recommendation and official transcripts must be sent **directly** to the department concerned. Please note

that all documents submitted to McGill University in support of an application to be admitted, including, but not limited to transcripts, diplomas, letters of reference and test scores, become the property of McGill University and will not be returned to the applicant or issuing institution under any circumstance.

A **non-refundable** fee of \$100 in Canadian funds **must** accompany each application, otherwise **it cannot be submitted**. This sum must be paid by credit card and is non-refundable when submitting the online application form. Candidates for Special, Visiting Student, and Qualifying status must apply and pay the application fee every year (i.e., every Fall term).

It is recommended that applicants submit a list of the titles of courses taken in the major subject, since transcripts often give code numbers only. **Transcripts written in a language other than English or French must be accompanied by a translation prepared by a licensed translator.** An explanation of the grading system used by the applicant's university is essential. The applicant should also indicate the major subject area in which further study is desired.

Completed applications, with supporting documents, must reach departmental offices according to individual department dates for guaranteed consideration. Applicants should contact the department concerned, or see: www.mcgill.ca/gradapplicants/programs. International students are advised to apply well in advance of the date for guaranteed consideration as immigration procedures may be lengthy. Applications received after the prescribed dates for guaranteed consideration may or may not be considered, at the discretion of the department. Candidates will be notified of acceptance or refusal by Graduate and Postdoctoral Studies as quickly as possible.

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

6.2 Admission Requirements (minimum requirements to be considered for admission)

Applicants should be graduates of a university of recognized reputation and hold a bachelor's degree equivalent to a McGill degree in a subject closely related to the one selected for graduate work. This implies that about one-third of all undergraduate courses should have been devoted to the subject itself and another third to cognate subjects.

The applicant must present evidence of academic achievement: a minimum standing equivalent to a cumulative grade point average (CGPA) of 3.0 out of a possible 4.0 or a CGPA of 3.2/4.0 for the last two full-time academic years. High grades are expected in courses considered by the department to be preparatory to the graduate program. Some departments impose additional or higher requirements.

See www.mcgill.ca/gradapplicants/apply/prepare/requirements/international-degree-equivalency for information on mark/grade equivalencies and degree requirements from countries in Europe and around the world.

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

6.3 Admission Tests

Graduate Record Examination (GRE)

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

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

Graduate Management Admissions Test (GMAT)

Applicants to graduate programs in Management must submit scores from the Graduate Management Admissions Test (GMAT). The test is a standardized assessment offered by the Graduate Management Admission Council to help business schools assess candidates for admission. For further information see www.mba.com/mba/thegmat.

6.4 Competency in English

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

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

1. Mother tongue (language first learned and still used on a daily basis) is English.
2. Has obtained (or is about to obtain) an undergraduate or graduate degree from a recognized foreign institution where English is the language of instruction.
3. Has obtained (or is about to obtain) an undergraduate or graduate degree from a recognized institution in Canada or the United States of America (anglophone or francophone).

4. Has lived and attended university, or been employed, for at least four consecutive years, in a country where English is the acknowledged primary language.

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

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

Competency in English		
iBT (Internet-based test)	PBT (paper-based test)	CBT (computer-based test)*
86 overall, (no less than 20 in each of the four component scores)	550	* The CBT is no longer being offered and CBT results are no longer considered valid, or being reported by ETS.
N.B. an institutional version of the TOEFL is not acceptable.		

2. IELTS (International English Language Testing System): a band score of 6.5 or greater.
3. MELAB (Michigan English Language Assessment Battery): a mark of 85% or higher.
4. University of Cambridge ESOL Certificate in Advanced English (CAE): a grade of "B" (Good) or higher.
5. University of Cambridge ESOL Certificate of Proficiency in English (CPE): a grade of "C" (Pass) or higher.
6. Edexcel London Test of English - Level 5 - with an overall grade of at least "Pass".
7. McGill Certificate of Proficiency in English or McGill Certificate of Proficiency - English for Professional Communication: Certificate of Proficiency awarded. McGill Certificate of Proficiency in English or McGill Certificate of Proficiency - English for Professional Communication: Certificate of Proficiency awarded.

In each case, applicants must ensure that official test results are sent to McGill directly by the testing service. Applications cannot be considered if test results are not available. These scores are general minima; some departments may set higher requirements.

Revised – July 2008

6.5 Admission to a Qualifying Program

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

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

In all cases, after the completion of a qualifying year or term, an applicant interested in commencing a degree program must apply for admission by the dates for guaranteed consideration. Successful completion of the work in the Qualifying Program (B- in all courses) does not automatically entitle the student to proceed toward a degree. Qualifying year students must apply for admission to the program for which they seek qualification.

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

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

6.6 Admission to a Second Degree Program

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

6.7 Admission to Two Degree Programs

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

6.8 Admission to an Ad Personam Joint Program

Ad Personam joint graduate programs are restricted to master's Thesis option and Ph.D. programs. Students shall be admitted and registered by one department, to be known as the "first department". Approval for the joint program must be obtained from Graduate and Postdoctoral Studies. The request shall be signed by the Chairs of both departments involved and shall explicitly list the conditions imposed by the second department. The student shall undertake research under the joint supervision of both departments.

Students shall fulfil the degree requirements of the first department and shall complete all the requirements specified by the second department in the request for admission. This program is described in more detail in a document available from GPS.

6.9 Admission to an Ad Hoc Program (Thesis)

In exceptional cases, admission to an *Ad Hoc* program (Thesis) may be considered. Before Graduate and Postdoctoral Studies will authorize the admission of a student into an *Ad Hoc* program, it must receive a favourable report from a departmental committee constituted to examine the program in question.

Candidates, through the supervisor designated by the academic department most closely related to their research field, must submit a research proposal, an outline of the coursework needed including a comprehensive examination (for doctoral programs) in the relevant field, and the list of four supervisory committee members.

Once the request has been approved, the candidate may register following all the regular procedures. A fuller description of the admission procedure is available from GPS.

6.10 Reinstatement and Admission of Former Students

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

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

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

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

Revised – Council of February 9, 2004.

6.11 Deferral of Admission

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

7 Fellowships, Awards, and Assistantships

Graduate and Postdoctoral Studies
(Fellowships and Awards Section)
James Administration Building, Room 400
845 Sherbrooke Street West
Montreal, QC H3A 2T5
Telephone: 514-398-3990
Fax: 514-398-2626

Email: graduate.fellowships@mcgill.ca

Website: www.mcgill.ca/gps/students (under Fellowships and Awards)

Graduate Fellowships and Awards Calendar: <http://coursecalendar.mcgill.ca/fellowships201112/wwhelp/wwhimpl/js/html/wwhelp.htm>

The Fellowships and Awards Section of Graduate and Postdoctoral Studies provides processing services for many sources of support for Canadian and non-Canadian students, both new to McGill and continuing. Further information on these and other sources of funding can be found in various publications on the Fellowships and Awards web pages. The *Graduate Fellowships and Awards Calendar* lists all internal awards as well as numerous external awards.

Entrance Fellowships are awarded on the basis of the application for admission, upon nomination by academic departments. Most internal fellowships are awarded in this manner – please contact the proposed academic department directly for further information.

Research Assistantships, Teaching Assistantships, and stipends from professors' research grants are handled by individual academic departments at McGill. Fellowships, assistantships, and stipends are used to make funding packages for graduate students. All assistantship and stipend inquiries should be directed to departments.

A small number of citizens from countries whose governments have entered into agreements on tuition fees with Quebec may be exempted from the supplemental tuition fees normally required of international students. All French citizens and a limited number of citizens of a country in the list, which can be found at www.mels.gouv.qc.ca/ens-sup/ens-univ/droits_scolaire-A_pays-organisations.pdf, are eligible for such exemptions. For more information and the necessary application materials, see this MELS website: www.mels.gouv.qc.ca/international/index_en.asp?page=progExemp. The list of organizations where students should apply can be accessed from this website.

Differential Fee Waivers (DFW's) for international students provide eligible non-Canadian graduate students with waivers of the international tuition fee supplement. There are no application forms for differential fee waivers, since these are awarded on the basis of departmental nominations made to the Fellowships and Awards Section. Eligible students should contact their McGill department.

8 Postdoctoral Research

Students must inform themselves of University rules and regulations and keep abreast of any changes that may occur. The *Postdoctoral Research* section of this publication contains important details required by students during their studies at McGill and should be periodically consulted, along with other sections and related publications.

8.1 Postdocs

Postdocs are recent graduates with a Ph.D. or equivalent (i.e., Medical Specialist Diploma) engaged by a member of the University's academic staff, including Adjunct Professors, to assist him/her in research.

Postdocs must be appointed by their department and registered with Graduate and Postdoctoral Studies in order to have access to University facilities (library, computer, etc.).

8.2 Guidelines and Policy for Academic Units on Postdoctoral Education

The general guidelines listed below are meant to encourage units to examine their policies and procedures to support postdoctoral education. Every unit hosting Postdocs should have explicitly stated policies and procedures for the provision of postdoctoral education as well as established means for informing Postdocs of policies, procedures, and privileges (e.g., orientation sessions, handbooks, etc.), as well as mechanisms for addressing complaints. Academic units should ensure that their policies, procedures and privileges are consistent with these guidelines and the Charter of Students' Rights. For their part, Postdocs are responsible for informing themselves of policies, procedures and privileges.

1. Definition and Status

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

2. Registration

i. Postdocs must be registered annually with the University through Graduate and Postdoctoral Studies. Initial registration will require an original or notarized copy of the Ph.D. diploma. Registration will be limited to persons who fulfil the definition above and for whom there is an assurance of appropriate funding and where the unit can provide assurance of the necessary resources to permit postdoctoral education.

ii. Upon registration, the Postdoc will be eligible for a University identity card issued by Enrolment Services.

3. Appointment, Pay, Agreement of Conditions

- i. Appointments may not exceed your registration eligibility status.
- ii. In order to be registered as a Postdoc, you must be assured of financial support other than from personal means during your stay at McGill University, equivalent to the minimal stipend requirement set by the University in accordance with guidelines issued by federal and provincial research granting agencies. There are no provisions for paid parental leave unless this is stipulated in the regulations of a funding agency outside the University.
- iii. At the outset of a postdoctoral appointment, a written Letter of Agreement for Postdoctoral Education should be drawn up and signed by the Postdoc, the supervisor, and the department head or delegate (see template Letter of Agreement on the web at www.mcgill.ca/gps/postdocs and supporting document – commitments for Postdoctoral Scholars and Supervisors at www.mcgill.ca/files/gps/Commitments_of_Postdoctoral_Scholars_and_Supervisors_July_09.pdf). This should stipulate, for example, the purpose of the postdoctoral appointment (research training and the advancement of knowledge), the duration of the fellowship/financial support, the modality of pay, the work space, travel funds, and expectations and compensation for teaching and student research supervision. Leaves from postdoctoral education must comply with the Graduate and Postdoctoral Studies Policies for Vacation, Parental/Familial, and Health Leave (see Graduate and Postdoctoral Studies General Information [section 8.3: Vacation Policy for Graduate Students and Postdocs](#) and [section 9.6: Health and Parental/Familial Leave of Absence Policy](#)). Any breach of these conditions may result in grievance procedures or the termination of the postdoctoral appointment.
- 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.
- v. The amount of research, teaching, or other tasks that Postdocs engage in over and above postdoctoral activities should conform to the regulations for Postdocs specified by the Canadian research council of their discipline. This applies to all Postdocs, including those whose funding does not come from the Canadian research councils.

4. Privileges

- i. Postdocs have the same pertinent rights as the ones granted to McGill students in the *Handbook on Student Rights and Responsibilities* (“Green Book”), available at www.mcgill.ca/secretariat/policies/students.
- ii. Postdocs have full graduate student borrowing privileges in McGill libraries through their identity card.
- iii. As a rule, Postdocs who are Canadian citizens or who have Permanent Resident status may take courses for credit. Admission to such courses should be sought by submitting application documents directly to the appropriate program by the Postdoc. They must be admitted by the department offering the courses as Special Students. These Postdocs may only be enrolled as part-time students in non-degree granting programs. They will be charged fees for these courses.
- iv. Postdocs may be listed in the McGill directory. The Computing Centre will grant Postdocs email privileges on the same basis as graduate students upon presentation of a valid identity card.
- v. The Department of Athletics will grant Postdocs access to sports facilities upon presentation of their identity card. A fee will be charged on an annual or term basis.
- vi. Postdocs are mandatory members of the Post-Graduate Students’ Society (PGSS) and an annual association fee is automatically charged. PGSS fees are mandatory. Postdocs are permitted membership in the Faculty Club; an annual fee will be charged for this membership.
- vii. Postdocs are encouraged to participate in Professional Development Workshops provided by Graduate and Postdoctoral Studies and Teaching and Learning services. These sessions are usually free of charge.
- viii. Postdocs have access to the services provided by the Ombudsperson.
- ix. Postdocs may enrol as part-time students in the second language written and spoken English/French courses offered by the School of Continuing Studies/French Language Centre. Postdocs will be charged tuition for these courses. International Postdocs may be required to obtain a CAQ and a Study Permit.
- x. Access to student services and athletic services are available to the Postdoc on an opt-in basis. Fees are applicable.

5. Responsibilities

- i. Postdocs are subject to the responsibilities outlined in the *Handbook on Student Rights and Responsibilities* (“Green Book”), available at www.mcgill.ca/secretariat/policies/students.
- ii. Each academic unit hosting Postdocs should clearly identify Postdocs’ needs and the means by which they will be met by the unit.
- iii. Each academic unit should assess the availability of research supervision facilities, office space, and research funding before recruiting Postdocs.
- iv. Some examples of responsibilities of the department are:
 - to verify the Postdoc’s eligibility period for registration;
 - to provide Postdocs with departmental policy and procedures that pertain to them;
 - to oversee the registration and appointment of Postdocs;
 - to assign departmental personnel (e.g., Postdoc coordinator and graduate program director) the responsibility for Postdocs;
 - to oversee and sign off on the Letter of Agreement for Postdoctoral Education;
 - to ensure that each Postdoc has a supervisor, lab and/or office space, access to research operating costs and necessary equipment;
 - to include Postdocs in departmental career and placement opportunities;
 - to refer Postdocs to the appropriate University policies and personnel for the resolution of conflict that may arise between a Postdoc and a supervisor.
- v. Some examples of responsibilities of the supervisor are:

- to uphold and transmit to their Postdocs the highest professional standards of research and/or scholarship;
- to provide research guidance;
- to meet regularly with their Postdocs;
- to provide feedback on research submitted by the Postdocs;
- to clarify expectations regarding intellectual property rights in accordance with the University’s policy;
- to provide mentorship for career development;
- to prepare, sign, and adhere to a Letter of Agreement for Postdoctoral Education.

vi. Some examples of responsibilities of Postdocs are:

- to inform themselves of and adhere to the University’s policies and/or regulations for Postdocs for leaves, for research, and for student conduct as outlined in the *Handbook on Student Rights and Responsibilities* and the *General Information, Regulations and Research Guidelines* Calendar of Graduate and Postdoctoral Studies;
- to submit a complete file for registration to Graduate and Postdoctoral Studies;
- to sign and adhere to their Letter of Agreement for Postdoctoral Education;
- to communicate regularly with their supervisor;
- to inform their supervisor of their absences.

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

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 by Graduate and Postdoctoral Studies for maternity or parental reasons or for health reasons (see [section 9.6: Health and Parental/Familial Leave of Absence Policy](#)).

Such a leave must be requested on a term by term basis and may be granted for a period of up to 52 weeks. 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 GPS. See procedure under [section 9.6: Health and Parental/Familial Leave of Absence Policy](#). 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. GPS has prepared 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. The document is available at www.mcgill.ca/gps/postdocs/becoming/leave under “Information on the Funding Council Leave Policies for Graduate Students and Postdoctoral Fellows”.

8.5 Postdoctoral Research Trainees

Eligibility

If your situation does not conform to the *Quebec Ministère de l’Éducation, du Loisir et du Sport* (MELS) 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 MELS 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.

General Conditions

- the maximum duration is three years;
- must be engaged in full-time research;
- must provide copies of official transcripts/diploma;
- must have the approval of a McGill professor to supervise the research and of the Unit;
- must have adequate proficiency in English, but is not required to provide official proof of English competency to Graduate and Postdoctoral Studies;
- must comply with regulations and procedures governing research ethics and safety and obtain the necessary training;
- 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);
- 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

Students must inform themselves of University rules and regulations and keep abreast of any changes that may occur. The *General Studies Guidelines and Policies* section of this publication contains important details required by students during their studies at McGill and should be periodically consulted, along with other sections and related publications.



Note: The University Exam Regulations governed by the : *University Student Assessment Policy* (adopted by Senate in February 2011) are being updated for Fall 2011 and will be available at www.mcgill.ca/students/exams/regulations. The revised Regulations will be published in the *University Regulations and Resources* section of the 2012-2013 *Programs, Courses and University Regulations* publication. This “Note” applies to all subsections under this topic Graduate Studies Guidelines and Policies.

9.1 Guidelines and Regulations for Academic Units on Graduate Student Advising and Supervision

The general guidelines suggested below are meant to encourage units to examine their graduate programs and to specify their own policies and procedures. These guidelines are directed primarily toward thesis programs but will, in part, be appropriate for non-thesis programs as well.

Each academic unit should have explicitly stated policies and procedures regarding the advising and supervising of graduate students, as well as established means for informing students of procedures and deadlines (e.g., orientation sessions, handbooks) and mechanisms for addressing complaints. Academic units should ensure that their policies and procedures are consistent with the Charter of Students' Rights. For their part, graduate students are responsible for informing themselves of these policies and procedures.

1. Assignment of Advisers, Supervisors, and Committees

- Each unit should designate a member (or members) of the academic staff (usually the graduate program director) to monitor the progress of students throughout the graduate program, to ensure that all conditions of admission and requirements are fulfilled, to provide students with information on their program, their progress through it, sources of and policies on financial support, and to advise them how to resolve problems which may arise during their program.
- As soon as possible, students should have a supervisor who has competence in the student's proposed area of research, and a program or thesis committee. Although procedures and timetables for choosing supervisors and committees may vary across programs, they should be consistent within

a particular program and should be made clear to incoming students. Thesis supervisors must be chosen from academic staff in tenure-track positions. Faculty Lecturers and Research Assistants may not act as supervisors but in exceptional cases, may be co-supervisors. Emeritus Professors and Adjunct Professors may co-supervise. Certain non-tenure track professors appointed in the Faculty of Medicine may be eligible to supervise or co-supervise graduate students with the approval of the unit and Graduate and Postdoctoral Studies. In the case of supervision, the academic unit in question must ensure continuity of appropriate supervision of their graduate students.

2. Program

- i. Early in their program, students should be informed of the phases through which they must pass toward the achievement of the graduate degree, the approximate amount of time each phase should take, the criteria for its successful completion, and any deadlines relating to these phases.
- ii. It is important that students are made aware of whatever courses are required to complete their programs, that these courses are available, and that they relate to students' proposed areas of research or to the development of related areas of scholarship.
- iii. Where relevant, students should also be informed early in their program of language requirements or comprehensive examinations. The guidelines, criteria and procedures for comprehensive examinations must be explicit and consistently applied in each program. Academic units should consider the rationale for language and comprehensive examinations and how they relate to the objectives of the graduate program.
- iv. Every effort should be taken to ensure that students choose, as soon as possible, realistic and appropriate areas of research commensurate with degree requirements.
- v. **There must be clear procedures established in every unit by which students receive guidance and constructive criticism on their progress on a regular basis through the program (e.g., regular meetings and/or email communication with supervisors and committees, attendance at research seminars, semester or annual reviews of student progress). In addition to regular meetings between the student and supervisor or advisory/thesis committee, each unit must establish a procedure to provide feedback to thesis students regarding their research progress. At least annually, there must be a meeting between the student, supervisor and advisory/thesis committee or, in the case where there is no such advisory/thesis committee, there must be a meeting between the supervisor and a departmental representative, at which objectives for the upcoming year are established and the prior year's research progress recorded and evaluated. A written record of such meetings must include the signature of the student, supervisor, and the advisory/thesis committee member or a departmental representative, and this record must be retained in the student's departmental file. (The Graduate Student Research Objectives Report Form, the Graduate Student Research Progress Record, and the Graduate Student Research Progress Report Form are to be utilized to keep a record of these meetings.) In the case where the student does not make expected progress, the advisory or thesis committee or, in the case where there is no such advisory or thesis committee, the student, supervisor and a departmental representative must meet at least once per semester for the subsequent twelve months to review progress and if appropriate to set new objectives. On the occasion of a second unsatisfactory progress report, the student may be required to withdraw from the program of study.**
- vi. Students should be made aware of the cost of living in Montreal and of sources of financial support (e.g., teaching or research assistantships, fellowships) and of the facilities available to them (e.g., study space, computers).
- vii. Students should receive guidance and encouragement in areas relating to their growth in scholarship, professional development and career planning. Examples may include, where appropriate, reporting research, writing abstracts, preparing papers for conference presentation or for publication, writing grant and fellowship applications, conducting a job search, and preparing for job interviews.
- viii. Units should be sensitive to special academic needs and concerns that may arise in the case of certain students, such as international students or students who undertake graduate studies after a long absence from university.

3. Responsibilities

Each unit should clearly identify the student's supervisory needs at each phase and the means by which these needs will be met. Some functions will be fulfilled by the Chair, some by the graduate program director, some by the supervisor and some by the committee. Each unit should clearly identify the specific responsibilities of each of these, as well as the responsibilities of students themselves.

- i. Each unit should consider the availability of student support, research facilities, space, and availability of potential supervisors in determining the number of students admitted into the program.
- ii. Some examples of the responsibilities of the graduate program director are to be knowledgeable about program requirements, the composition of committees, the procedures for comprehensive and oral defense examinations, and other policies relating to graduate studies; to maintain a dossier on each student's progress; and to be sensitive to graduation deadlines and students' career plans.
- iii. Some examples of the responsibilities of a supervisor are to uphold and to transmit to students the highest professional standards of research and/or scholarship; to provide guidance in all phases of the student's research; to meet with their students regularly; to provide prompt feedback when work is submitted including drafts of the thesis; and to clarify expectations regarding collaborative work, authorship, publication and conference presentations.
- iv. Some examples of the responsibilities of the students are to inform themselves of program requirements and deadlines; to work within these deadlines; to communicate regularly with the supervisor and committee; and to submit progress reports to the supervisor and committee.
- v. The Chair of the unit should ensure that procedures are in place to address serious disagreements that may arise, for example, between a student and a supervisor or between a supervisor and committee members. Such procedures should involve a neutral mediator who will ensure that all sides of a dispute are heard before any decision is made.

4. Quality of Supervision and Teaching

- i. Academic units and Graduate and Postdoctoral Studies should consider ways to assess and improve the quality of supervision and to help new supervisors, e.g., through workshops or mentoring models. Procedures for monitoring the quality of graduate student supervision and for providing constructive feedback for supervisors should be developed.
- ii. Graduate supervision should be recognized as an integral part of the academic responsibility of an academic unit and should be considered in the allocation of workload, as should the teaching of graduate courses.

- iii. Academic units should establish criteria of excellence in supervision and graduate teaching appropriate to their disciplines and should suitably reward those who meet these criteria, e.g., in decisions concerning tenure and promotion, or merit pay awards.
- iv. The maximum number of students under the direction of a single supervisor should be consistent with the ability of the supervisor to provide quality supervision, taking into account the workload of the supervisor and norms of the discipline.
- v. Procedures should be established for ensuring continuity in supervision when a student is separated from a supervisor – for example, when the supervisor takes a sabbatical leave, retires from McGill or changes universities or when the student leaves to complete field work or takes a job before submitting a thesis.

Revised by Council of FGSR, April 23, 1999 and October 6, 2003

9.2 Policy on Graduate Student Research Progress Tracking

This is a new mandatory policy and procedure to track the research progress of graduate students. The policy is referred to in the amended [section 9.1: Guidelines and Regulations for Academic Units on Graduate Student Advising and Supervision](#) in bold print. Documents to record progress can be found on the GPS website: www.mcgill.ca/gps/staff/forms.

The following is a summary of the main elements of the new **mandatory** policy. The following steps must be followed for each graduate student in a thesis program:

1. Annually, the student must meet with, at minimum, their supervisor(s) and a departmental representative. This meeting can occur in the context of an annual thesis or advisory committee in those departments that have thesis committees
2. At the first such meeting (to be held shortly after thesis students begin their programs), written objectives/expectations for the year must be recorded on the first of the three forms, Form #1 (Graduate Student Research Objectives Report Form). All three people at the meeting must sign this form. A student who does not agree to sign the form must write a statement detailing his/her objections to the expectations recorded on the form.
3. Approximately one year later, and every year thereafter, the student, supervisor(s) and the departmental representative should meet again to review the progress that has been achieved toward the recorded objectives. Prior to the meeting, the student should record his/her accomplishments and progress for the year by completing Form #2 (Graduate Student Research Progress Record). This completed form is then evaluated by the supervisor and the departmental representative on Form #3 (Graduate Student Research Progress Report Form). All parties sign Form #3. A student who does not agree to sign the form must write a statement detailing his/her objections. At this same meeting, objectives for the following year should be recorded on Form #1, as per the procedure described in point 2, above.
4. In the event that recorded research progress is unsatisfactory, a new set of objectives should be developed for the student at the meeting, and recorded on Form #1. These new, or interim, objectives apply only to the next semester. Evaluation of progress should take place after that semester has concluded, following the steps described in point 3, above.
5. In the event that a student has any two unsatisfactory evaluations they may be required to withdraw from their program of study. These two unsatisfactory evaluations need not be successive.
6. All forms are to be kept in departmental files.
7. Departments that already have progress tracking forms may continue to utilize them, but these must conform to the fundamental principles underlying this new policy. Specifically, any departmental procedure or forms to record graduate research progress must:
 - be used **annually**;
 - be used in a meeting with the supervisor and one other departmental representative, and signed by all parties;
 - include a written statement of expectations approximately one year before any evaluation. (Note: This can be one semester in the case of expectations following an unsatisfactory evaluation.);
 - permit the student to submit a minority report and not sign;
 - state clearly that any two unsatisfactory evaluations may be grounds for requiring a student to withdraw.

Please note this new University policy is **MANDATORY**. Students may grieve against a department that fails to adhere to the policy and procedures outlined above.

Senate, September 2003

9.3 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

9.4 Ph.D. Comprehensives Policy

Preamble

The majority of doctoral programs at McGill require candidates to pass a comprehensive examination or set of examinations or equivalent, such as qualifying examinations, preliminary examinations, candidacy paper, comprehensive evaluation, thesis proposal, etc. The Calendar of Graduate and Postdoctoral Studies (GPS) includes the following statement:

A comprehensive examination or its equivalent is usually held near the end of Ph.D. 2. The results of this examination determine whether or not students will be permitted to continue in their programs. The methods adopted for examination and evaluation and the areas to be examined are specified by departmental regulations and approved by Graduate and Postdoctoral Studies. It is the responsibility of students to inform themselves of these details at the commencement of their programs.

It is recognized that expectations for the Ph.D. comprehensive will vary according to the needs of the discipline. It is important to make it clear to doctoral candidates what the expectations and procedures are for their Ph.D. comprehensive, and to maintain consistency within a given program.

1. General Policy

At the beginning of the relevant academic year, units must provide doctoral students with a written description of the Ph.D. comprehensive, covering the following issues: objectives and content, format, timing, assessment, grading and reporting, failures. (See below for details.)

2. All units that have a Ph.D. comprehensive must adopt an administrative course number for it, usually XXXX 701. One of the following forms of grading must be adopted and used consistently within the program: Pass/Fail or letter grades. ("Mixed" modes of grading are not permitted, i.e., some students within a program reported on a Pass/Fail basis and others by means of letter grades.)

Specific Issues

Objectives and Content

Units must specify the objectives of the Ph.D. comprehensive. Objectives may include assessing any of the following (or a combination), with a view to determining whether the student demonstrates the necessary research skills and academic achievements to be permitted to continue in the Ph.D. program. (This list is not intended to be exhaustive.)

- knowledge of the discipline (from the point of view of breadth)
- understanding of the proposed field of research
- ability to conduct independent and original research
- a thesis proposal
- professional skills
- ability to present and defend material orally

The content of the comprehensive must be consistent with the objectives and should be appropriately circumscribed. Students must be given an indication of the range of material that may be covered in the examination and suggestions as to how to cover this material (e.g., via reading lists, courses, etc.).

Format

The format of the comprehensive must be clearly stated and must be consistent across students within a particular program. The following list gives some of the more common formats, which are often combined. (This list is not intended to be exhaustive.)

- written examination of a specific duration
- take-home examination
- extended research paper(s)
- written research proposal
- oral exam (which may include or consist of a defense of a research paper or research proposal)

If the comprehensive consists of several parts, the relationship (if any) between them must be made clear.

Timing

Timing of the comprehensive must be specified, including the earliest and latest dates by which the comprehensive is to be completed. Students must be informed of the specific dates of the exam in sufficient time for them to prepare for it.

Given the importance of the Ph.D. comprehensive and the consequences of failure, the exam should be held reasonably early in the program, so that students do not spend several years preparing for it.

Prerequisites must be specified. For example, clarify whether all course work must have been completed prior to the comprehensive and whether the comprehensive is the final step before thesis research and writing.

Assessment, Grading and Reporting

Evaluation parameters must be made clear, including information about who sets the exam questions and who evaluates the student. If performance is assessed by a committee, clarify how the committee is appointed and who sits on it. In the case of written examinations, clarify whether the grading is done by one or more people.

Where there is more than one component to the examination (e.g., an oral exam plus a written exam), it must be made clear how these components are factored into the final grade. For example, make it clear whether each component counts equally, whether the assessment is global, and whether failure on one part of the comprehensive examination (or on one question) results in an overall failure.

Feedback

The assessment and reasons for the decision must be documented and provided to the student in sufficient detail to allow the student to understand the decision, including identifying strengths and weaknesses. (A number of units have developed short forms specifically for this purpose.) In the case of oral examinations, the student should also be given feedback on presentation, logical exposition, ability to answer questions, etc.

In the case of oral exams, units may wish to consider the following: ensure that there is a reasonably detailed written assessment of the student's performance; tape the oral examination; allow the student to select a faculty member to act as a neutral observer; have one faculty member serve as a neutral chair (equivalent to a Pro-Dean); have an "outside" committee member; have the oral examination open to other students and faculty members.

Plagiarism

McGill University values academic integrity, which is fundamental to achieving our mission of the advancement of learning. Therefore, all students must understand the issues associated with **academic integrity** (see www.mcgill.ca/students/srr/honest for more information).

Plagiarism in a Ph.D. comprehensive examination contravenes McGill University's academic goals and standards. Consequently, any student found guilty of plagiarism under the Code of Student conduct and Disciplinary Procedures (see the *Handbook on Students Rights and Responsibilities* available at www.mcgill.ca/secretariat/policies/students) in a Ph.D. comprehensive examination may face very serious penalties, even expulsion from the University without the degree.

Failures

i. Repeats

In the event of a failure, units must allow, without prejudice, one repeat of the comprehensive (in whole or in part). The first time a student fails, the student must be informed in writing by the department that he/she has failed the comprehensive and must be informed of conditions relating to a repeat of the examination. In such circumstances, the grade of HH (continuing) will be used. In the event of a second failure, a grade of F will be reported to Graduate and Postdoctoral Studies and the student will be asked to withdraw from the Ph.D. program.

Conditions for retaking the examination must be clearly stated, including the time frame, potential dates, nature of the re-examination, committee membership, etc.

Units have the right to specify further requirements in the event of failure (e.g., requiring students to take an additional course or courses in areas where they have shown weakness on the comprehensive).

ii. Plagiarism

If plagiarism is suspected, the case will be referred directly to the committee on Student Discipline in accordance with the code of Student Conduct, Part III (article 15) and Part V (A). If plagiarism is established by due University process, the student is considered to have failed the examination, with no possibility of repeat.

iii. Review and Reassessment

Rereads. In the case of written comprehensives, the Graduate Studies Reread Policy applies.

A student who fails an oral examination may request a review. In such cases, Graduate and Postdoctoral Studies will conduct a review of the examination process and procedures.

Other Relevant Policies/Offices

- Charter of Student Rights
- Graduate Studies Reread Policy
- Office for Students with Disabilities

Approved by Executive of Faculty of Graduate Studies and Research (FGSR) February 17, 1997 and Council of FGSR March 7, 1997

9.5 Graduate Studies Reread Policy

This policy applies only in the case of marks given for written work in 600- and 700-level courses. For 500-level courses and below, the reread policy of the appropriate undergraduate faculty applies.

Consultation

In accordance with the Charter of Student Rights, and subject to the conditions stated therein, graduate students have the right, subject to reasonable administrative arrangements, "to consult any written submission for which they have received a mark and to discuss this submission with the examiner". Upon request by the student, the instructor of the course is obliged to conduct this consultation with the student.

(Note: Where materials have been graded by a TA and the student wants a reconsideration of the grade, the faculty member responsible for the course is expected to review the materials and the appropriateness of the grade. This is so even if the materials in question have already been discussed by the TA with the student.)

Verification

In a case where a student feels that totalling errors have been made in arriving at the final grade, the student can request the instructor to carry out a detailed check that all questions have been marked and that the final grade has correctly been computed on the basis of the term work, final examination, etc.

Rereads

According to the Charter, students have the right, subject to reasonable administrative arrangements, "to an impartial and competent review of any mark" (hereafter "reread").

At the time the request for a reread is made, the student should have already met with the faculty member responsible for the course to review the mark, or made a reasonable attempt to do so. Rereads can only be requested if a change upwards in the letter grade for the course is possible as a result of the reread. Assignments can only be reread if, together, they account for more than 20% of the course grade.

The reread by a second reader is a review of the mark, not the work assigned. It is the second reader's task to determine whether the original mark is fair and reasonable, not to give the work a totally new assessment.

1. The time limit for requesting a reread is within 30 days after posting of the final marks for the course. However, in the case of work which has been graded during the course and returned to the student, students must indicate in writing to Graduate and Postdoctoral Studies within 5 working days of receiving the graded work their intention to request a reread. This intention must be confirmed within 30 days of the posting of the final marks for the course.

(Note: Material that is returned to a student **cannot be reread** unless arrangements have been made to ensure that the material has not been changed subsequent to the original grading; for example, the student can make a copy for the professor to retain either before handing the material in or immediately upon receiving it back from the instructor or at the point where the professor and student review the work together.)

Instructors are strongly advised to write their corrections in red pen and to write comments which help the student to understand the mark assigned.)

2. The request for a formal reread must be made by the student in writing to Graduate and Postdoctoral Studies and should specify the reasons for the request. It should include a statement indicating that the student has already met with the faculty member responsible for the course to review the mark or indicating why this has not been possible. The reread fee (\$35 for an exam, \$35 for a paper, \$35 for one or more assignments, to a maximum of \$105 per course) will be charged directly to the student's fee account after the result of the reread is received. No fee will be charged if there is a change upwards in the letter grade for the course.
3. Administration of the reread is handled by Graduate and Postdoctoral Studies, not by the department. GPS will contact the department to obtain the work to be reread, a list of potential readers, and details of the marking. The list of potential readers must be approved by the Department Chair or Graduate Program Director. The Chair or Director must, as well, vouch for the impartiality of these readers. All communication with the second reader is conducted by GPS.

The second reader is given the original assignment, with marginalia, corrections, summary comments and mark intact, as well as any notes from the instructor pertinent to the general nature of the course or the assignment and grading schemes, etc.

4. The student's and the instructor's names are blanked out to reduce the possibility of prejudice and to help meet the requirement of the Charter of Students' Rights that the review be impartial. The rereader's name will not be made known to the student or instructor at any time; the student's name will not be made known to the rereader at any time.
5. The second reader should support his or her assessment with a brief memorandum to Graduate and Postdoctoral Studies. As a result of the reread process, the grade may become **higher or lower or remain unchanged**. The grade submitted by the second reader shall replace the original grade. The reread grade cannot be challenged.

In the case of requests for rereads of group work, all members of the group must sign the request, indicating that they agree to the reread. In the event that members of the group are not in agreement, the written request should indicate which students are requesting the reread and which students do not wish for a reread. In such cases, the outcome of the reread (whether positive or negative) will affect only the students in favour of the reread. Neither the reread grade nor the decision to opt in or out of the reread can be challenged.

6. The new grade resulting from the review will be communicated to the student in a letter from Graduate and Postdoctoral Studies, with a copy to the academic unit.

Prepared by the Committee on Graduate Programs, Supervision and Teaching

Approved by Council of the Faculty of Graduate Studies and Research, May 12th 1995

9.6 Health and Parental/Familial Leave of Absence Policy

A leave of absence may be granted by Graduate and Postdoctoral Studies for maternity or parenting (interpreted according to McGill's "Parental Leave Policy" for non-academic staff) reasons or for health reasons.

Such a leave must be requested on a term by term basis and may be granted for a period of up to 52 weeks. Students 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 GPS.

During a **leave of absence for parental or familial reasons**, a student will not be eligible to take courses but he/she may request and expect guidance on thesis and research work and will have free access to the University's academic facilities. Library services will continue to be available by registering at the Circulation Desk of the Humanities and Social Sciences Library (McLennan-Redpath). In special circumstances, familial leave may be considered by GPS for a student when a close family member is ill.

During a **leave of absence for health reasons**, a student will not be eligible to request guidance on thesis and research work or to take courses. He/she will not have access to the University's academic facilities but Library services will normally continue to be available by registering at the Circulation Desk of the Humanities and Social Sciences Library (McLennan-Redpath).

A medical certificate must accompany such leave requests.

Council of FGSR, March 1999

Please refer to *University Regulations and Resources > Graduate > Regulations > : Leave of Absence Status* for information regarding registration of graduate students and Postdocs on such leaves.

Procedure:

All requests for a leave of absence for health reasons should be accompanied by the following:

- a duly completed *Leave of Absence/Non-Resident Request Form* available from www.mcgill.ca/gps/staff/registration;
- a written request from the student;
- a Minerva form to drop all courses for all relevant terms;
- a medical certificate.

To be acceptable, the medical certificate must contain at least the following items:

- the student's name, as well as complete contact information for the physician;
- a clear statement by the physician justifying the student's inability to perform his/her academic duties, with start and end dates;
- if the request is submitted during a term for which the leave is requested, a clear explanation as to why the health conditions in question did not prevent the normal performance of academic duties at the beginning of the semester.

No retroactive requests for leave of absence will be considered.

It remains the student's responsibility to verify their administrative situation, in particular, as it pertains to term and course registration.

9.7 Failure Policy

Please refer to *University Regulations and Resources > Graduate > Regulations > : Failure Policy* for information regarding the policy and procedures to follow in cases of failure.

9.8 Guideline on Hours of Work

In order to maintain full-time status, a graduate student should not work more than 180 hours per term over 15 weeks with 12 hours per week.

10 Research Policy and Guidelines, Patents, Postdocs, Associates, Trainees

Students must inform themselves of University rules and regulations and keep abreast of any changes that may occur. The *Research Policy and Guidelines, Patents, Postdocs, Associates, Trainees* section of this publication contains important details required by students during their studies at McGill and should be periodically consulted, along with other sections and related publications.

10.1 Policy on Research Ethics

Please refer to the Policy on Research Ethics available at www.mcgill.ca/secretariat/policies/research.

10.2 Regulations on Research Policy

Please refer to the Regulations on Research Policy available at www.mcgill.ca/secretariat/policies/research.

10.3 Policy on Research Integrity

Please refer to the Policy on Research Integrity available at: www.mcgill.ca/research/about/integrity.

10.4 Guidelines for Research Involving Human Subjects

Please refer to the guidelines for research involving human subjects available at: www.mcgill.ca/research/researchers/compliance/human.

10.5 Guidelines for Research with Animal Subjects

Please refer to the guidelines for research involving animal subjects available at: www.mcgill.ca/research/researchers/compliance/animal.

10.6 Policy on Intellectual Property

Please refer to the Policy on Intellectual Property available at: www.mcgill.ca/research/researchers/ip.

10.7 Regulations Governing Conflicts of Interest

Please refer to the regulations governing conflicts of interest available at www.mcgill.ca/secretariat/policies/conflictinterest.

10.8 Safety in Field Work

Please refer to the policies on safety in field work available at www.mcgill.ca/ehs/fieldworksafety.

10.9 Office of Sponsored Research

Please refer to the Office of Sponsored Research, available at: www.mcgill.ca/research/researchers.

10.10 Postdocs

Please see www.mcgill.ca/gps/postdocs.

10.11 Research Associates

A Research Associate is a senior career researcher who usually works independently, in most cases has a Ph.D. or equivalent, and is often supported directly by outside granting agencies. (www.mcgill.ca/apo/classifications/other/research-associate)

11 Academic Programs

The programs and courses in the following sections have been approved for the 2011-2012 session as listed, but the Faculty reserves the right to introduce changes as may be deemed necessary or desirable.

11.1 Architecture**11.1.1 Location**

School of Architecture
Macdonald-Harrington Building
815 Sherbrooke Street West
Montreal, QC H3A 2K6
Canada

Telephone: 514-398-6700

Fax: 514-398-7372

Website: www.mcgill.ca/architecture

11.1.2 About Architecture

M.Arch. (Professional) (Non-Thesis), M.Arch. (Post-professional) (Non-Thesis), Ph.D.

The School of Architecture at McGill University offers a professional Master of Architecture program, a post-professional Master of Architecture program, and a Ph.D. program. The M.Arch. (Professional) requires the equivalency of the B.Sc. (Architecture) degree for admittance. There are two options for the completion of this CACB-accredited degree: Design Studio (45 credits) and Design Studio Directed Research (60 credits). The M.Arch. (Post-professional) and the Ph.D. programs are for study beyond the professional degree in architecture. These programs have been conceived to respond to the needs of graduates with some professional experience who wish to acquire more specialized knowledge in architecture. The M.Arch. (Post-professional) program reflects a McGill tradition of academic inquiry and research, and provides an opportunity for a select number of students and staff to work together. The program is organized in such a way as to meet the needs of the professional practitioner and the researcher, and is intended to extend traditional architectural education as well as address new issues.

The M.Arch. (Professional) program is accredited by the Canadian Architectural Certification Board (CACB), and is recognized as accredited by the National Council of Architectural Registration Boards (NCARB) in the U.S.

There are three areas of study in the M.Arch. (Post-professional) and Ph.D. programs: Architectural History and Theory, Cultural Mediations and Technology, and Urban Design and Housing.

Information concerning the duration of programs, documents required of applicants, etc., may be obtained from:

profdegree.architecture@mcgill.ca (for the B.Sc. (Arch.) and M.Arch. (Professional)), postprofmaster.architecture@mcgill.ca (for the M.Arch. (Post-professional)), or phd.architecture@mcgill.ca (for the Ph.D.).

Architectural Certification in Canada

In Canada, all provincial associations recommend a degree from an accredited professional degree program as a prerequisite for licensure. The Canadian Architectural Certification Board (CACB), which is the sole agency authorized to accredit Canadian professional degree programs in architecture, recognizes two types of accredited degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Since all provincial associations in Canada recommend any applicant for licensure to have graduated from a CACB-accredited program, obtaining such a degree is an essential aspect of preparing for the professional practice for architecture. While graduation from a CACB-accredited program does not assure registration, the accrediting process is intended to verify that each accredited program substantially meets those standards that, as a whole, comprise an appropriate education for an architect.

Please note that the M.Arch. (Post-professional) degree is not a professional degree and does not satisfy the requirements for certification with the CACB.

Professional Programs

There are two options for the completion of this CACB accredited degree: Design Studio (45 credits) and Design Studio Directed Research (60 credits).

section 11.1.5: Master of Architecture (M.Arch.); Professional (Non-Thesis) — Design Studio (45 credits)

The Master of Architecture (Professional) Non-Thesis – Design Studio concentration requires a minimum of three terms (45 credits) for completion according to an intensive design studio-based curriculum. This option is a three-term consecutive degree (Fall, Winter, Summer) requiring full-time residence for one calendar year. For further information regarding admission eligibility and requirements, please see: www.mcgill.ca/architecture/programs/professional.

section 11.1.6: Master of Architecture (M.Arch.); Professional (Non-Thesis) — Design Studio-Directed Research (60 credits)

The Master of Architecture (Professional) Non-Thesis – Design Studio Directed Research concentration is a four-term (60-credit) option, which, as a modified version of the regular three-term (45-credit) stream, remains a project-based investigation with an intensive research component. Candidates within this concentration option are assigned a faculty adviser and engage in project-based directed research through an approved curriculum. It concludes with a two-term final project that includes a written component to the project-based investigation. Areas of research interest must be specified as indicated in the application form. Complementary and elective courses are approved in consultation with the adviser. For further information regarding admission eligibility and requirements, please see: www.mcgill.ca/architecture/programs/professional.

Post-Professional Programs

The Post-professional master's programs are open to applicants who have a professional degree in architecture. Students holding the McGill B.Arch. (former) or M.Arch. (Professional) (current) degree, or an equivalent professional qualification, with a CGPA of at least 3.0 on a 4.0 point scale, are eligible for admission to the post-professional programs. In special cases, applicants with a degree in a related field may be considered. The primary requirement for the M.Arch. (Post-professional) degree is 30 credits of coursework, to be completed in the first two terms, and a 15-credit research report (Cultural Mediations and Technology, Urban Design and Housing) or 15-credit project (Architectural History and Theory) that is completed in the Summer term. The residence requirement for the M.Arch. (Post-professional) degree is three academic terms, making it possible for students to obtain their degree after 12 calendar months in the program.

section 11.1.7: Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Architectural History and Theory (45 credits)

Teaching and research in the History and Theory of Architecture program concentrates on the exploration and understanding of the complex connections between history, theory, design, and interdisciplinary concerns, particularly in the areas of philosophy and epistemology. This option is concerned with the reconciliation of ethics and poetics in architectural practice. The master's curriculum, which in most cases is also a required foundation year for a Ph.D. in the field, is simple in terms of course requirements, but demanding in terms of personal commitment to reading and writing. It is particularly suited to students with a professional background in architecture who want to explore and understand the complex connections between history, theory, and design. A thorough understanding of architecture as a cultural phenomenon, leading to a more serious definition of its true essence as it appears in history, is now regarded as crucial by practitioners and teachers who wish to come to terms with the present predicaments of architecture vis-à-vis the contradictions of the contemporary world.

section 11.1.8: Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Cultural Mediations and Technology (45 credits)

The Cultural Mediations and Technology concentration explores the way in which architectural practices are mediated by the broader contexts in which they are rooted and how they in turn shape our understanding of built, cultural, social, technological, and political environments. Studies focus on contemporary theory and cultural practices in an interdisciplinary context of architectural, artistic, vernacular, and community-based activities. Candidates study the meaning of – and the way in which – architectural practices are mediated by the broader contexts in which they are rooted, along with the way they in turn mediate our understanding of the built, cultural, social, technological, and political environments. This concentration also investigates the impact of technology on our way of creating architectural models that subsequently shape and form the world. It capitalizes on the expertise of the architect-researcher to move freely between art and science, between content-based and empirical research, and to facilitate robust interdisciplinary teams of engineers, technologists, media artists, and social scientists to understand, explain, and create today's built environment. It is suited for those with a professional trajectory interested in understanding the impact of technologies on creative processes, as well as for those candidates who aim to pursue Ph.D. level studies and research. The concentration offers a unique intertwining of intense theoretical and historical investigation with empirically based project research that culminates in a Project Report.

section 11.1.9: Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Urban Design and Housing (45 credits)

Urban Design and Housing at McGill is comprised of Urban Design, Affordables Homes, and Minimum Cost Housing. Urban Design emphasizes the acquisition of skills pertaining to the analysis and design of the built environment, whether in existing urban districts or in newly built areas. Our Urban Design component has a strong commitment to reflexive practice, to conducting research that can inform and improve design quality, to involving those who are affected by city design decisions, and to promoting a long-range perspective on the consequences of actions that shape the urban environment. The Housing component is comprised, historically, of two streams: Affordable Homes and Minimum Cost Housing. Affordable Homes focuses on the knowledge and design skills necessary to understand the relationship between the architect and the external forces that influence the production of affordable housing in North America. Minimum Cost Housing addresses problems and devises philosophies of shelter in developing countries. The general aim is to provide professionals with the knowledge and imagination that they will need to engage individuals and the community in meaningful debates on the nature of housing and urban space and generate creative and sustainable solutions for cities. This option is particularly attractive to students who wish to pursue careers in public agencies and private consulting firms where a credential in Urban Design is important.

Ph.D. in Architecture**section 11.1.10: Doctor of Philosophy (Ph.D.); Architecture**

Our Ph.D. is a research-based degree, with a primary requirement of an original thesis that makes a substantial contribution to knowledge in the field of architecture. The minimum residence requirement is three years. Every year only a few students are accepted into the Ph.D. program, which means that all incoming Ph.D. candidates compete for a place as Ph.D. 2 students. The most qualified students enter into their first research seminar in September.

Doctoral candidates must have their thesis proposal approved by their adviser (ARCH 700) before embarking on their research. A Thesis Advisory Committee is then struck and is responsible for monitoring the student's research. For course number ARCH 701, a comprehensive research proposal is required, as well as a demonstration of broad knowledge in the field. Candidates will submit two further reports in formal meetings with the Advisory Committee, who will review the work in progress (ARCH 702 and ARCH 703). The final meeting takes place after the committee has reviewed the full draft of the dissertation. If approved, the dissertation will then be submitted in its final form to the Thesis Office. Acceptance of the thesis by the examiners is followed by an oral defence.

11.1.3 Architecture Admission Requirements and Application Procedures**11.1.3.1 Admission Requirements****M.Arch. (Professional) Program (Non-Thesis)**

Applicants holding the McGill B.Sc.(Arch.) degree, or equivalent, with a cumulative grade point average of at least 3.0 on a scale of 4.0, are eligible to apply for admission.

M.Arch. (Post-professional) (Non-Thesis)

Applicants holding an accredited professional degree in architecture, or equivalent, with a cumulative grade point average of at least 3.0 on a scale of 4.0, are eligible to apply for admission. In special cases, candidates with a degree in a related field may be considered.

Ph.D.

Candidates with high standing in McGill's M.Arch. (Post-professional), or who hold an equivalent degree from another university, are eligible to apply to this program. Those who do not have an appropriate background in the chosen research area may be recommended for the M.Arch. (Post-professional) program. Candidates who have an adequate background at the post-professional master's level in the proposed area of research will be admitted to Ph.D. 2 with the stipulation of additional courses from the M.Arch. (Post-professional) curriculum, if necessary.

A working knowledge of a language or languages relevant to the area of research is required.

11.1.3.2 Application Procedures

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program.



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

Professional Master of Architecture:

McGill B.Sc.(Arch.) Graduates:

1. Completed online application form accessible from the School's website at www.mcgill.ca/architecture or from www.mcgill.ca/gradapplicants/apply (due January 15).
2. A non-refundable application fee of CAD\$100.
3. Summary of work experience (please use the following): [Work experience form](#) [.pdf]*.



Note: Your employer's signature is required along with the company business card. We do NOT require the Director's signature.

4. Résumé or CV.
5. A two-page (maximum) research statement indicating the general area of interest (e.g., History/Theory/Culture; Digital Technologies; Urban Design and Housing; Environmental Practices), your understanding of this area of study, faculty expertise, and research intention in terms of topic and project-based investigation. Specific references to expertise within the School are encouraged.
6. An indication of preference for either the Design Studio Concentration (three-term, 45-credit) or the Design Studio Directed Research Concentration (four-term, 60-credit).
7. A comprehensive portfolio (8½" x 11" format, due no later than **February 1**) that includes the following:
 - selected work from all previous design studios (please complete using one of the following): [Studio Project Description Form](#) [.pdf]* or [Studio Project Description Form](#) [.doc]*;
 - examples of project work from other courses;
 - examples of freehand drawing and sketching (from the Freehand Drawing courses, Sketching School, Summer courses, and independent travel and study);
 - examples of professional work: sketches, drawings, images of models, photographs of built work (professional work includes work carried out while employed in architects' offices, as well as personal projects; please identify the architect(s) and your own roles in each project illustrated).

Others:

1. Completed online application form accessible from the School's website at www.mcgill.ca/architecture or from www.mcgill.ca/gradapplicants/apply (due January 15).
2. A non-refundable application fee of CAD\$100.
3. Summary of work experience (please use the following): [Work experience form](#) [.pdf]*.



Note: Your employer's signature is required along with the company business card. We do NOT require the Director's signature.

4. Résumé or CV.
5. A two-page (maximum) research statement indicating the general area of interest (e.g., History/Theory/Culture; Digital Technologies; Urban Design and Housing; Environmental Practices), your understanding of this area of study, faculty expertise, and research intention in terms of topic and project-based investigation. Specific references to expertise within the School are encouraged.
6. An indication of preference for either the Design Studio Concentration (three-term, 45-credit) or the Design Studio Directed Research Concentration (four-term, 60-credit).
7. Two sets of official transcripts sent directly by the registrars of all universities attended.
8. Two confidential letters of reference sent directly by the referees to the School of Architecture (please use one of the following): [Confidential Report on Applicant Form](#) [.pdf]* or [Renseignements confidentiels sur le candidat](#) [.pdf]*.

Or (electronic option):

Letters may be sent electronically (via email) and will be accepted if sent by University Career Centres, Electronic Portfolio Management Companies, and other document storage services. Letters sent electronically must meet the following conditions:

- The email communicating the electronic letter must be sent from a valid institutional or corporate email address (domain). Electronic letters sent from public domain addresses such as Hotmail, Gmail, Yahoo Mail, or Videotron, etc., cannot be accepted.

- The electronic letters must be specific as to which program the student has applied to, and include information that would aid an admissions committee in making an informed decision.
- Letters of reference (electronic and hard copy) must be dated and must not be more than 12 months old.
- The referee must indicate his/her position and full contact information at the institution.
- Electronic letters sent from a Career Centre or Portfolio Management Company must state that the letters are confidential.

Please refer to the web page: www.mcgill.ca/gradapplicants/apply/prepare/checklist/documents.

9. Course calendar descriptions of previous college and/or university studies.
10. Completed Program Comparison Chart*.
11. 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 documented proof of competency in oral and written English. Before acceptance, appropriate exam results must be submitted directly from the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing Systems) Office. An institutional version of the TOEFL is not acceptable. Applications will not be considered if a TOEFL or IELTS test result is not available. For the TOEFL, a minimum score of 550 is required on the paper-based test (PBT), or a minimum overall score of 86 with each component score (i.e., reading, writing, speaking, listening) not less than 20 is required on the Internet-based test (iBT). (The TOEFL Institution Code for McGill University is 0935.) For the IELTS, a minimum overall band score of 6.5 is required. Please refer to the graduate admission website: www.mcgill.ca/gradapplicants/apply/prepare/requirements/english.
12. A comprehensive portfolio (8½" x 11" format, due no later than **January 15**) that includes the following:
 - selected work from all previous design studios (please complete using one of the following): *Studio Project Description Form* [.pdf]* or *Studio Project Description Form* [.doc]*
 - examples of project work from other courses;
 - examples of freehand drawing and sketching;
 - examples of professional work: sketches, drawings, images of models, photographs of built work (professional work includes work carried out while employed in architects' offices, as well as personal projects; please identify the architect(s) and your own roles in each project illustrated).

Please mail all support documents to:

M.Arch. (Professional) Program
 School of Architecture
 McGill University
 Macdonald-Harrington Building
 815 Sherbrooke Street West, Room 202
 Montreal, QC H3A 2K6



Note: When sending packages from abroad, do not assign a monetary value on the customs declaration, otherwise customs fees will be applied.

* These documents are available in PDF or DOC format on the School of Architecture website.

Post-professional programs:

M.Arch. (Post-professional) and Ph.D.

1. Please complete and submit an online web application at www.mcgill.ca/gradapplicants/apply (due January 15).
2. A non-refundable application fee of CAD\$100, payable by credit card only after completing the online application.
3. Two (2) sets of official transcripts must be sent directly to the School of Architecture by the registrars of all universities previously attended. Transcripts must be received in a sealed envelope with the seal or stamp of the university across the back flap. Transcripts in languages other than English or French must be accompanied by an English or French translation provided by the institution issuing the transcript or by a certified translator.
4. Two (2) confidential letters of reference must be sent directly by the referees to the School of Architecture. Please use our report forms (*Confidential Report on Applicant* [.pdf]* or *Renseignements confidentiels sur le candidat* [.pdf]*). Any additional letters must be on university or company/business stationery (both letter and envelope). All reports and letters must be received in a sealed envelope with the signature of the referee across the back flap.

Or (electronic option):

Letters may be sent electronically via email (Post-professional M.Arch. or Ph.D.) and will be accepted if sent by university Career Centres, Electronic Portfolio Management Companies, and other document storage services. Letters sent electronically must meet the following conditions:

- The email communicating the electronic letter must be sent from a valid institutional or corporate email address (domain). Electronic letters sent from public domain addresses such as Hotmail, Gmail, Yahoo Mail or Videotron, etc., cannot be accepted.
- The electronic letters must be specific as to which program the student has applied to, and include information that would aid an admissions committee in making an informed decision.
- Letters of reference (electronic and hard copy) must be dated and must not be more than 12 months old.
- The referee must indicate his/her position and full contact information at the institution.
- Electronic letters sent from a Career Centre or Portfolio Management Company must state that the letters are confidential.

Please refer to the webpage: www.mcgill.ca/gradapplicants/apply/prepare/checklist/documents.

5. Master's applicants must submit a one-page statement of objectives indicating the option chosen and the reasons for that choice. Applicants should include a clear description of their research topic, as well as a detailed explanation of why they wish to study at McGill University's School of Architecture. Ph.D. applicants must submit a clear, four-page description of their research topic, as well as a detailed explanation of why they wish to study at McGill University's School of Architecture. Ideally, the statement should also name the potential adviser and articulate the relationship between the proposed dissertation research and the scholarship of the faculty member.
6. A portfolio (8½" x 11" format) containing at least five examples of the applicant's work. Doctoral applicants may submit evidence of research interests when a portfolio is not available.
7. At least one example of a report or paper (e.g., published work, article, or essay) written by the applicant.
8. 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 documented proof of competency in oral and written English. Before acceptance, appropriate exam results must be submitted directly from the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing Systems) Office. An institutional version of the TOEFL is not acceptable. Applications will not be considered if a TOEFL or IELTS test result is not available. For the TOEFL, a minimum score of 550 is required on the paper-based test (PBT), or a minimum overall score of 86 with each component score (i.e., reading, writing, speaking, listening) not less than 20 is required on the Internet-based test (iBT). (The TOEFL Institution Code for McGill University is 0935.) For the IELTS, a minimum overall band score of 6.5 is required. Please refer to the Graduate admission website: www.mcgill.ca/gradapplicants/apply/prepare/requirements/english.

* This document is available in PDF format on the School of Architecture website.

11.1.4 Architecture Faculty

Director

Michael Jemtrud

Graduate Program Directors

Martin Bressani (*post-professional program*)

Ricardo L. Castro (*professional program*)

Emeritus Professors

Derek Drummond; B.Arch.(McG.), F.R.A.I.C., O.A.Q., O.A.A. (*William C. Macdonald Emeritus Professor of Architecture*)

Adrian Sheppard; B.Arch.(McG.), M.Arch.(Yale), A.A.P.P.Q., F.R.A.I.C., O.A.Q.

Radoslav Zuk; B.Arch.(McG.), M.Arch.(MIT), D.Sc.(U.A.A.), F.R.A.I.C., O.A.Q., O.A.A.

Professors

Annamarie Adams; B.A.(McG.), M.Arch., Ph.D.(Calif.), M.R.A.I.C. (*William C. Macdonald Professor of Architecture*)

Vikram Bhatt; N.Dip. Arch.(Ahmed.), M.Arch.(McG.), M.R.A.I.C.

Avi Friedman; B.Arch.(Technion), M.Arch.(McG.), Ph.D.(Montr.), O.A.Q., I.A.A.

Alberto Pérez-Gómez; Dipl.Eng.Arch.(Nat. Pol. Inst. Mexico), M.A., Ph.D.(Essex), M.R.A.I.C. (*Saidye Rosner Bronfman Professor of Architectural History*)

Associate Professors

Martin Bressani; B.Sc., B.Arch.(McG.), M.Sc.(Arch.)(MIT), D.E.A., Docteur(Paris-Sorbonne – Paris IV), O.A.Q.

Ricardo L. Castro; B.Arch.(Los Andes, Col.), M.Arch., M.A.(Ore.), F.R.A.I.C.

David Covo; B.Sc.(Arch.), B.Arch.(McG.), F.R.A.I.C., O.A.Q.

Michael Jemtrud; B.A., B.Sc., B.Arch.(Penn. St.), M.Arch.(McG.), M.R.A.I.C.

Robert Mellin; B.Arch., M.Sc.(Arch.)(Penn.), M.Arch.(McG.), M.Sc., Ph.D.(Penn.), F.R.A.I.C., N.A.A.

Pieter Sijpkens; B.Sc.(Arch.), B.Arch.(McG.)

Assistant Professors

Nik Luka; B.A.A.(Ryerson), M.Arch.(Laval), Ph.D.(Tor.), M.C.I.P.

Aaron Sprecher; B.Arch.(Bezael), M.Arch.(Calif.-LA)

Planetary Society Visiting Professor in Architecture

Torben Berns; B.Arch.(Car.), M.Arch., Ph.D.(McG.)

Adjunct Professors

Robert Claiborne, Howard Davies, François Emond, Julia Gersovitz, Phyllis Lambert, Maria Mingallon, Joanna Nash, Mark Poddubiuk, Conor Sampson, Jozef Zorko

Course Lecturers

Tom Balaban, Sinisha Brdar, Christina Contandriopoulos, Nancy Dunton, Leila Marie Farah, Matt Fisher, Ron Jelaco, Maria Elisa Navarro Morales, Suresh Perera, Sevag Pogharian, Pierina Saia

11.1.5 Master of Architecture (M.Arch.); Professional (Non-Thesis) — Design Studio (45 credits)

This concentration requires a minimum of three terms (45 credits) for completion according to an intensive design studio-based curriculum. This option is a three-term consecutive degree (Fall, Winter, Summer) that requires full-time residence for one academic year.

Required Courses (30 credits)

ARCH 550	(3)	Urban Planning and Development
ARCH 672	(6)	Architectural Design 1
ARCH 673	(6)	Architectural Design 2
ARCH 674	(3)	Professional Practice 1
ARCH 677	(6)	Architectural Design 3
ARCH 678	(3)	Advanced Construction
ARCH 680	(3)	Field Sketching

Complementary Courses

9-15 credits selected as follows:

Group A:

6 credits of advanced-level seminars must be chosen from Group A.

ARCH 525	(3)	Seminar on Analysis and Theory
ARCH 531	(3)	Architectural Intentions Vitruvius - Renaissance
ARCH 532	(3)	Origins of Modern Architecture
ARCH 626	(4)	Critical Design Strategies
ARCH 684	(4)	Contemporary Theory 1
ARCH 685	(4)	Contemporary Theory 2

Group B:

3 credits chosen from Group B.

ARCH 512	(3)	Architectural Modelling
ARCH 514	(4)	Community Design Workshop
ARCH 515	(3)	Sustainable Design
ARCH 520	(3)	Montreal: Urban Morphology
ARCH 521	(3)	Structure of Cities
ARCH 522	(3)	History of Domestic Architecture in Quebec
ARCH 523	(3)	Significant Texts and Buildings

ARCH 526	(3)	Philosophy of Structure
ARCH 527	(3)	Civic Design
ARCH 528	(3)	History of Housing
ARCH 529	(3)	Housing Theory
ARCH 533	(3)	New Approaches to Architectural History
ARCH 534	(3)	Architectural Archives
ARCH 540	(3)	Selected Topics in Architecture 1
ARCH 541	(3)	Selected Topics in Architecture 2
ARCH 554	(2)	Mechanical Services
ARCH 555	(2)	Environmental Acoustics
ARCH 622	(3)	Critical Writing
ARCH 626	(4)	Critical Design Strategies
ARCH 679	(3)	Writing in Architecture
ARCH 684	(4)	Contemporary Theory 1
ARCH 685	(4)	Contemporary Theory 2

Note: Courses taken are to be used to fulfil one group only.

Elective Courses

0-6 credits

A maximum of 6 credits may be completed outside the School of Architecture (500- or 600-level electives).

11.1.6 Master of Architecture (M.Arch.); Professional (Non-Thesis) — Design Studio-Directed Research (60 credits)

The Directed Research concentration is a four-term, 60-credit option, which is a modified version of the regular three-term 45-credit program. This is a self-directed project-based investigation which allows for a transition to a Ph.D. program through an intensive research component.

Candidates within this concentration option are assigned a faculty adviser and engage in project-based directed research. Complementary and elective courses are approved in consultation with the adviser.

Required Courses (40 credits)

ARCH 550	(3)	Urban Planning and Development
ARCH 626	(4)	Critical Design Strategies
ARCH 672	(6)	Architectural Design 1
ARCH 673	(6)	Architectural Design 2
ARCH 674	(3)	Professional Practice 1
ARCH 678	(3)	Advanced Construction
ARCH 682	(6)	Directed Research Project 1
ARCH 683	(9)	Directed Research Project 2

Complementary Courses

(12-20 credits)

Group A:

6 credits chosen from the following courses:

ARCH 525	(3)	Seminar on Analysis and Theory
ARCH 531	(3)	Architectural Intentions Vitruvius - Renaissance
ARCH 532	(3)	Origins of Modern Architecture

ARCH 561	(3)	Affordable Housing Seminar 1
ARCH 562	(3)	Affordable Housing Seminar 2
ARCH 602	(4)	Urban Design Seminar 1
ARCH 604	(4)	Urban Design Seminar 2
ARCH 684	(4)	Contemporary Theory 1
ARCH 685	(4)	Contemporary Theory 2

Group B:

6 credits chosen from the following courses:

ARCH 512	(3)	Architectural Modelling
ARCH 514	(4)	Community Design Workshop
ARCH 515	(3)	Sustainable Design
ARCH 517	(3)	Sustainable Residential Development
ARCH 520	(3)	Montreal: Urban Morphology
ARCH 521	(3)	Structure of Cities
ARCH 522	(3)	History of Domestic Architecture in Quebec
ARCH 523	(3)	Significant Texts and Buildings
ARCH 525	(3)	Seminar on Analysis and Theory
ARCH 526	(3)	Philosophy of Structure
ARCH 527	(3)	Civic Design
ARCH 528	(3)	History of Housing
ARCH 529	(3)	Housing Theory
ARCH 531	(3)	Architectural Intentions Vitruvius - Renaissance
ARCH 532	(3)	Origins of Modern Architecture
ARCH 533	(3)	New Approaches to Architectural History
ARCH 534	(3)	Architectural Archives
ARCH 535	(3)	History of Architecture in Canada
ARCH 536	(3)	Heritage Conservation
ARCH 540	(3)	Selected Topics in Architecture 1
ARCH 541	(3)	Selected Topics in Architecture 2
ARCH 554	(2)	Mechanical Services
ARCH 555	(2)	Environmental Acoustics
ARCH 561	(3)	Affordable Housing Seminar 1
ARCH 562	(3)	Affordable Housing Seminar 2
ARCH 564	(3)	Design for Development
ARCH 566	(3)	Cultural Landscapes Seminar
ARCH 602	(4)	Urban Design Seminar 1
ARCH 604	(4)	Urban Design Seminar 2
ARCH 622	(3)	Critical Writing
ARCH 627	(4)	Research Methods for Architects
ARCH 679	(3)	Writing in Architecture
ARCH 680	(3)	Field Sketching

ARCH 684	(4)	Contemporary Theory 1
ARCH 685	(4)	Contemporary Theory 2
ARCH 688	(3)	Directed Research 1
ARCH 689	(3)	Directed Research 2

Note: Courses taken are to be used to fulfil one group only.

Unless otherwise indicated, the above courses are restricted to students in the professional area.

Elective Courses

(0-8 credits)

A maximum of 8 credits may be completed outside the School of Architecture (500- or 600-level electives) with the approval of an assigned faculty adviser.

11.1.7 Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Architectural History and Theory (45 credits)

The program consists of three semesters of coursework to be completed in 12 months. Intensive weekly seminars held during the first two terms focus on architectural history and theory. ARCH 623 (Project Preparation), taken during the second semester, culminates in a project. The studio themes engage urban issues critically, raising questions of program, form, and representation. A final document includes the project plus three papers.

Research Project (15 credits)

ARCH 624	(15)	History and Theory Project
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Required Courses (30 credits)

ARCH 622	(3)	Critical Writing
ARCH 623	(3)	Project Preparation
ARCH 650	(8)	Architectural History Seminar 1
ARCH 651	(8)	Architectural History Seminar 2
ARCH 652	(4)	Architectural Theory Seminar 1
ARCH 653	(4)	Architectural Theory Seminar 2

11.1.8 Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Cultural Mediations and Technology (45 credits)

Drawing on methods in philosophy, media studies, cultural landscapes, vernacular architecture studies, and material culture, students in this option study the ways in which we conceptualize and realize the built world. How are architectural practices mediated by their broader contexts?

The program consists of three semesters of coursework, to be completed in 12 months. Intensive weekly seminars held during the first two terms focus on contemporary theory and research methods. ARCH 647 Cultural Mediations and Technology Studio is taken in tandem with ARCH 623 Project Preparation during the Winter term, culminating in the Research Report (ARCH 629).

Research Report (15 credits)

ARCH 629	(15)	Cultural Mediations and Technology Research Report
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Required Courses (21 credits)

ARCH 623	(3)	Project Preparation
ARCH 627	(4)	Research Methods for Architects
ARCH 647	(6)	Cultural Mediations and Technology Studio
ARCH 684	(4)	Contemporary Theory 1
ARCH 685	(4)	Contemporary Theory 2

Complementary Courses (9 credits)

9 credits of courses at the 500 level or higher, approved by an adviser.

11.1.9 Master of Architecture (M.Arch.); Post-professional (Non-Thesis) — Urban Design and Housing (45 credits)

The program consists of three semesters of coursework, to be completed in 12 months. Intensive weekly seminars held during the first two terms focus on urban design and housing theory and research methods. ARCH 603 Urban Design Studio is taken in tandem with ARCH 623 Project Preparation during the winter term, culminating in the Urban Design and Housing Research Report (ARCH 632).

Research Report (15 credits)

ARCH 632	(15)	Urban Design and Housing Research Report
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Required Courses (21 credits)

ARCH 602	(4)	Urban Design Seminar 1
ARCH 603	(6)	Urban Design Studio
ARCH 604	(4)	Urban Design Seminar 2
ARCH 623	(3)	Project Preparation
ARCH 627	(4)	Research Methods for Architects

Complementary Courses (9 credits)

ARCH 515	(3)	Sustainable Design
ARCH 517	(3)	Sustainable Residential Development
ARCH 520	(3)	Montreal: Urban Morphology
ARCH 521	(3)	Structure of Cities
ARCH 523	(3)	Significant Texts and Buildings
ARCH 526	(3)	Philosophy of Structure
ARCH 527	(3)	Civic Design
ARCH 528	(3)	History of Housing
ARCH 529	(3)	Housing Theory
ARCH 531	(3)	Architectural Intentions Vitruvius - Renaissance
ARCH 532	(3)	Origins of Modern Architecture
ARCH 533	(3)	New Approaches to Architectural History
ARCH 535	(3)	History of Architecture in Canada
ARCH 536	(3)	Heritage Conservation
ARCH 540	(3)	Selected Topics in Architecture 1
ARCH 541	(3)	Selected Topics in Architecture 2
ARCH 550	(3)	Urban Planning and Development
ARCH 561	(3)	Affordable Housing Seminar 1
ARCH 562	(3)	Affordable Housing Seminar 2
ARCH 564	(3)	Design for Development
ARCH 566	(3)	Cultural Landscapes Seminar
ARCH 622	(3)	Critical Writing
ARCH 680	(3)	Field Sketching
URBP 501	(2)	Principles and Practice 1
URBP 504	(3)	Planning for Active Transportation
URBP 505	(3)	Geographic Information Systems

URBP 506	(3)	Environmental Policy and Planning
URBP 530	(3)	Urban Environmental Planning
URBP 536	(1)	Transportation Seminar 1
URBP 537	(1)	Transportation Seminar 2
URBP 538	(1)	Transportation Seminar 3
URBP 616	(3)	Selected Topics 1
URBP 617	(3)	Selected Topics 2
URBP 618	(3)	Selected Topics 3
URBP 619	(3)	Land Use and Transportation Planning
URBP 620	(3)	Transportation Economics
URBP 621	(3)	Theories of Urban Form
URBP 625	(2)	Principles and Practice 2
URBP 626	(2)	Principles and Practice 3
URBP 629	(3)	Cities in a Globalizing World

11.1.10 Doctor of Philosophy (Ph.D.); Architecture

Thesis

Required Courses

ARCH 700	(0)	Dissertation Proposal
ARCH 701	(0)	Comprehensive Oral Examination
ARCH 702	(0)	Progress Report 1
ARCH 703	(0)	Progress Report 2

11.2 Chemical Engineering

11.2.1 Location

Department of Chemical Engineering
 M.H. Wong Building
 3610 University Street
 Montreal, QC H3A 2B2
 Canada

Telephone: 514-398-4494

Fax: 514-398-6678

Email: info.chemeng@mcgill.ca

Website: www.mcgill.ca/chemeng

11.2.2 About Chemical Engineering

The Department offers programs leading to the Master of Engineering and the Doctor of Philosophy degrees.

The Department's offices and research laboratories are located in the M.H. Wong Building. Collectively, 17 members of the academic staff conduct research programs in almost all areas of modern chemical engineering, drawing upon theoretical, computational, and experimental methodologies. The Department's faculty have been well supported by government programs (e.g., NSERC, FQRNT, CIHR, CFI, and CRC) and industry through research partnerships and contracts. Our laboratories are equipped with state-of-the-art equipment, and we attract outstanding graduate students from all over the world. Our main current research areas are briefly described below.

Advanced materials and polymers – The Department has an internationally recognized research program in structural, functional, and biological materials, spanning synthesis, characterization, processing, modeling activities, with strong links to academic, government, and industrial research centres. Areas include plasma processing (e.g. nanofluids, carbon nanotubes, advanced coatings) and polymeric or “soft” materials research (e.g. self-assembling or structured materials, complex fluids, liquid crystals, colloids and soft composites and novel polymerization methods). Applications of the research are targeted towards the development of next-generation, high-density storage media, functional coatings, electronic devices, composite fluids and “smart” materials, to name but a few.

Biomedical engineering and biotechnology – The majority of the professors in the department have at least some involvement with biological engineering. This is a very broad research area that includes biotechnology and biomedical engineering. Biotechnology is an integrated approach of combining life sciences (eg. biochemistry and cell biology) with process engineering, design, and scale-up principles. This is the use of biological systems or living organisms to do practical things and manufacture valuable products such as biohydrogen, drugs, therapeutics, polymers, and surfactants. Biomedical engineering combines the principles of engineering with medicine as well as life sciences and biology. Examples of this include drug delivery methods, biomedical devices, cardiovascular and other biomechanics, biomaterials for applications such as artificial implants, and products such as bacteriophages for alternative treatment techniques.

Energy – Energy usage has increased significantly since the steam engine launched the Industrial Revolution. This is due to our ever-growing human population, increased production of consumer goods, and rising use of energy-intensive devices such as automobiles, cell phones, computers, and climate comfort units. Instability in oil production and the inevitable depletion of fossil fuels is forcing scientists to find new resources and develop new technologies to keep pace with elevating energy demands. The Chemical Engineering Department at McGill University has an extensive research effort related to energy including hydrogen production from microbial conversion of waste streams and electrolysis of water, hydrogen storage and molecular modeling of hydrogen storage, hydrogen fuel cells, and solid oxide fuel cells. Methane recovery, storage, and transportation using gas hydrates, and oil and gas flow assurance, as well as plasma technology to produce nanomaterials for energy conversion/storage devices.

Environmental engineering – Environmental engineering is the application of science and engineering principles to protect the environment and remediate contaminated sites. Chemical and environmental engineers develop and design processes to provide healthy air, water, and soil. They also develop green products and sustainable processes. Using their background in process engineering, environmental chemistry, earth sciences, and biology, engineers have to meet the current and future challenges in protecting, managing, and restoring the environment. Ongoing research in the area of environmental engineering in our department includes the study of wastewater treatment processes, biodegradation of emerging pollutants, advanced oxidation processes, transport and fate of waterborne contaminants, production of alternative fuels, environmental nanotechnology for remediation of contaminated soils and waters, green chemistry for safer products and processes, and development of biosensors for pollutant detection.

Plasma science and engineering – Plasma is often called the fourth state of matter, being the result of raising a gas to such an energy level that it contains conducting particles such as electrons and ions. While most of the universe is in a plasma state, plasmas on earth are relatively uncommon. Plasma science and engineering research examines the use of the plasma state to produce physical and chemical changes to matter (bulk and surfaces). Plasmas may be in non-equilibrium, a state in which the overall gas is at low temperature and only the electrons are very energetic, or in the equilibrium state, where the temperature of all constituents is essentially equal and may range from thousands to tens of thousands of Kelvins (e.g., the sun’s surface is in a plasma state, at a temperature of about 6,000K). Non-equilibrium plasmas are used in such applications as the deposition of coatings and functionalization of surfaces, the treatment of cells, and the treatment of harmful gases and liquids. Thermal plasmas are used in the synthesis of advanced materials such as nanoparticles, carbon nanotubes, and coatings, as well as in the treatment of toxic and persistent wastes and metallurgical processing. Both thermal and non-thermal plasmas are currently used and studied in the McGill Plasma Laboratory, which forms one of the founding groups of the Plasma-Québec Centre.

section 11.2.5: Master of Engineering (M.Eng.); Chemical Engineering (Thesis) (45 credits)

The M.Eng. in Chemical Engineering (Thesis) is a research-oriented degree that allows the candidates to refine their skills by expanding their knowledge of chemical engineering through coursework and a research thesis under the supervision of a Faculty member (professor). The M.Eng (Thesis) program offers advanced training in not only fundamentals but also research methods and is, therefore, the more suitable option for those whose primary interest is research. Graduates of this degree either pursue a Ph.D. or work in industry.

section 11.2.6: Master of Engineering (M.Eng.); Chemical Engineering (Non-Thesis) (45 credits)

The M.Eng. in Chemical Engineering (Non-Thesis) is a course-oriented degree, which includes a short project completed under the supervision of a Faculty member (professor). Through that program, graduate students can advance their knowledge in various chemical engineering disciplines through coursework and technical training.

section 11.2.7: Master of Engineering (M.Eng.); Chemical Engineering (Non-Thesis) — Environmental Engineering (45 credits)

The M.Eng. in Chemical Engineering (Non-Thesis) – Environmental Engineering is a specialized version of the M.Eng in Chemical Engineering (Non-Thesis). This inter-departmental graduate program leads to a master’s degree in Environmental Engineering. The objective of the program is to train environmental professionals at an advanced level. The program is designed for individuals with an undergraduate degree in engineering. This Non-Thesis degree falls within the M.Eng. and M.Sc. programs which are offered in the Departments of Bioresource, Chemical, Civil, and Mining, Metals and Materials Engineering. The Environmental Engineering program emphasizes interdisciplinary fundamental knowledge, practical perspective and awareness of environmental issues. It is a course-oriented degree, which includes prescribed courses related to environmental engineering and a short project completed under the supervision of a Faculty member (professor). Graduate students can specialize in environmental engineering through this program offered in collaboration with the McGill School of Environment.

section 11.2.8: Doctor of Philosophy (Ph.D.); Chemical Engineering

The Ph.D. is a research degree requiring few courses and an extensive thesis, conducted under the supervision of a Faculty member (professor), that makes a distinct contribution to knowledge. The Ph.D. program prepares candidates for a career in teaching, research and/or development and graduates are expected to have acquired autonomy in conducting research. McGill also offers various workshops that provide general, transitional, and professional skills development opportunities, preparing the candidates for the various career options following the Ph.D.

11.2.3 Chemical Engineering Admission Requirements and Application Procedures

11.2.3.1 Admission Requirements

Admission to graduate study requires a minimum CGPA of 3.0/4.0 (or equivalent) for the complete bachelor's program or a minimum GPA of 3.2/4.0 (or equivalent) in the last two years of full-time studies. 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 achieve a minimum TOEFL score of 90 on the Internet-based test with each component score not less than 20 (577 on the paper-based test) prior to admission.

M.Eng. (Thesis), M.Eng. (Non-Thesis)

Admission requires a bachelor's degree (or equivalent) in engineering or science disciplines.

Ph.D.

Admission requires a master's degree (or equivalent) from a recognized university. Students in the Department's M.Eng. (Thesis) program may petition to transfer to the Ph.D. program after one year without submitting the master's thesis following a formal "fast-track" procedure. At their request, applicants (without a master's degree) with exceptionally high Academic Standing and outstanding research potential will be considered for direct admission to the Ph.D. program.

11.2.3.2 Application Procedure

The application procedure is outlined at www.mcgill.ca/chemeng/grad/application. Full applications will be considered when the Graduate Admissions Committee has received:

1. application form of Graduate and Postdoctoral Studies (www.mcgill.ca/gradapplicants/apply);
2. two official transcripts;
3. two letters of reference;
4. application fee of CAD\$100;
5. TOEFL test results (if required).

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program.

Dates for guaranteed consideration differ for International and Canadian (and Permanent Resident) students, to allow time to obtain a visa.

11.2.4 Chemical Engineering Faculty

Chair

D. Berk

Emeritus Professors

J.M. Dealy; B.S.(Kansas), M.S.E., Ph.D.(Mich.), Eng.

M.R. Kamal; B.S.(III.), M.S., Ph.D.(Carn. Mell), Eng.

J.H. Vera; B.Mat.(Chile), Ing.Quim.(U.T.E.), M.S.(Calif.), Dr.Ing.(Santa Maria), Eng.

Professor

A.D. Rey; B.Ch.E.(CCNY), Ph.D.(Calif.) (*James McGill Professor*)

Associate Professors

D. Berk; B.Sc.(Bosphorus), M.E.Sc.(W. Ont.), Ph.D.(Calg.), P.Eng.

S. Coulombe; B.Sc., M.Sc.A.(Sher.), Ph.D.(McG.), Jr. Eng. (*CRC-Tier II*)

R.J. Hill; B.E.(Auck.), Ph.D.(C'nell) (*CRC-Tier II*)

R.L. Leask; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Tor.), P.Eng. (*William Dawson Scholar*)

M. Maric; B.Eng.Mgt.(McM.), Ph.D.(Minn.), P.Eng.

J.-L. Meunier; D.Ing.(E.P.F.L.), M.Sc., Ph.D.(I.N.R.S.), Eng.

S. Omanovic; B.Sc., Ph.D.(Zagreb)

Associate Professors

T.M. Quinn; B.Sc.(Qu.), S.M., Ph.D.(MIT), Jr. Eng. (*CRC-Tier I*)

P. Servio; B.A.Sc., Ph.D.(Br. Col.) (*CRC-Tier II*)

N. Tufenkji; B.Eng.(McG.), M.Sc., Ph.D.(Yale), Jr. Eng. (*CRC-Tier II*)

V. Yargeau; B.Ch.E., M.Sc.A., Ph.D.(Sher.), Eng.

Assistant Professors

P.-L. Girard-Lauriault; B.Sc.(Montr.), Ph.D.(École Poly., Montr.)

J. Gostick; B.Eng.(Ryerson), M.A.Sc., Ph.D.(Wat.)

E. Jones; B.A.Sc.(Wat.), M.S., Ph.D.(Cal. Tech.) Jr. Eng. (*CRC-Tier II*)

A. Kietzig; Dipl.Ing.(TU Berlin), Ph.D.(Br. Col.)

Paprican Adjunct Professor

G.J. Kubes; B.Sc., M.Sc.(Prague), Ph.D.(Bratislava), P.Eng.

Adjunct Professors

T. Addona, P. Bisailon, M. Davidovsky, A. DeMori, D. Dionne, M. Fokas, M. Mirmehrabi, M. Perrier, N. Peters, B. Sarkis, J. Simandl, S. Tadayon

11.2.5 Master of Engineering (M.Eng.); Chemical Engineering (Thesis) (45 credits)**Thesis Courses (31 credits)**

CHEE 697	(6)	Thesis Proposal
CHEE 698	(12)	Thesis Research 1
CHEE 699	(13)	Thesis Research 2

Required Courses (2 credits)

CHEE 681	(1)	Laboratory Safety 1
CHEE 682	(1)	Laboratory Safety 2

Complementary Courses (12 credits)

3-4 credits of Chemical Engineering courses at the 500, 600, or 700 level.

4 credits from the following:

CHEE 611	(4)	Heat and Mass Transfer
CHEE 621	(4)	Thermodynamics
CHEE 631	(4)	Foundations of Fluid Mechanics
CHEE 641	(4)	Chemical Reaction Engineering
CHEE 651	(4)	Advanced Biochemical Engineering
CHEE 662	(4)	Computational Methods
CHEE 672	(4)	Process Dynamics and Control

4-5 credits of Chemical Engineering or other Engineering or Science courses at the 500, 600, or 700 level.

11.2.6 Master of Engineering (M.Eng.); Chemical Engineering (Non-Thesis) (45 credits)

Research Project

Project (design or research): 6 - 12 credits.

6 credits must include the following course:

CHEE 695	(6)	Project in Chemical Engineering
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Complementary Courses

33-39 credits (a minimum of 18 credits in Chemical Engineering) at the 500, 600, or 700 level.

9 credits must be in an area of concentration

12 additional courses at the 500, 600, or 700 level.

11.2.7 Master of Engineering (M.Eng.); Chemical Engineering (Non-Thesis) — Environmental Engineering (45 credits)

Research Project (6 credits)

CHEE 695	(6)	Project in Chemical Engineering
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Required Courses (6 credits)

CHEE 591	(3)	Environmental Bioremediation
CIVE 615	(3)	Environmental Engineering Seminar

Complementary Courses (22 credits)

Minimum of 22 credits

Data analysis course: (3 credits)

AEMA 611	(3)	Experimental Designs 1
CIVE 555	(3)	Environmental Data Analysis
PSYC 650	(3)	Advanced Statistics 1

Toxicology: (3 credits)

OCCH 612	(3)	Principles of Toxicology
OCCH 616	(3)	Occupational Hygiene

Water pollution engineering: (4 credits)

CIVE 651	(4)	Theory: Water / Wastewater Treatment
CIVE 652	(4)	Biological Treatment: Wastewaters
CIVE 660	(4)	Chemical and Physical Treatment of Waters

Air pollution engineering: (3 credits)

CHEE 592	(3)	Industrial Air Pollution Control
MECH 534	(3)	Air Pollution Engineering

Soil and water quality management: (3 credits)

BREE 533	(3)	Water Quality Management
CIVE 686	(4)	Site Remediation

Environmental impact: (3 credits)

GEOG 501	(3)	Modelling Environmental Systems
GEOG 551	(3)	Environmental Decisions

or an approved 500-, 600-, or 700- level alternative

Environmental policy: (3 credits)

URBP 506	(3)	Environmental Policy and Planning
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or an approved 500-, 600-, or 700- level alternative

Elective Courses (11 credits)

CHEE 696	(6)	Extended Project
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or another Engineering or non-Engineering 500-, 600-, or 700- level course subject to approval.

11.2.8 Doctor of Philosophy (Ph.D.); Chemical Engineering**Thesis****Required Courses**

CHEE 681	(1)	Laboratory Safety 1
CHEE 682	(1)	Laboratory Safety 2
CHEE 795	(0)	Ph.D. Thesis Proposal
CHEE 796	(0)	Ph.D. Proposal Defence
CHEE 797	(0)	Ph.D. Seminar

Complementary Courses

(6-12 credits)

6-8 credits of Chemical Engineering courses (two courses) at the 500, 600, or 700 level.

12 credits (three courses) from the following list must be taken during the M.Eng. and/or Ph.D. program:

CHEE 611	(4)	Heat and Mass Transfer
CHEE 621	(4)	Thermodynamics
CHEE 631	(4)	Foundations of Fluid Mechanics
CHEE 641	(4)	Chemical Reaction Engineering
CHEE 651	(4)	Advanced Biochemical Engineering
CHEE 662	(4)	Computational Methods
CHEE 672	(4)	Process Dynamics and Control

* Note: 8 credits from the list, if taken during the Ph.D. program, can be used to meet the first coursework requirement of 6-8 credits of Chemical Engineering courses.

11.3 Civil Engineering and Applied Mechanics

11.3.1 Location

Department of Civil Engineering and Applied Mechanics
 Macdonald Engineering Building
 817 Sherbrooke Street West
 Montreal, QC H3A 2K6
 Canada

Telephone: 514-398-6858
 Fax: 514-398-7361
 Email: gradinfo.civil@mcgill.ca
 Website: www.mcgill.ca/civil

11.3.2 About Civil Engineering and Applied Mechanics

Advanced courses of instruction and laboratory facilities are available for engineering graduate students desiring to proceed to the degrees of **M.Eng., M.Sc. and Ph.D.**

Graduate studies and research are at present being conducted in the fields of structures and structural mechanics, infrastructure rehabilitation, risk engineering, fluid mechanics and hydraulics, materials engineering, soil behaviour, soil mechanics and foundations, water resources engineering, environmental engineering, and transportation engineering.

M.Eng. in Civil Engineering

The master's degree can be pursued as a research degree (thesis) or as a coursework-based degree (project). The thesis degree is for those who wish to undertake research while the project degree is for those who wish to have a broader and more specialized training in civil engineering.

section 11.3.5: Master of Engineering (M.Eng.); Civil Engineering (Thesis) (45 credits)

Students obtain a deeper understanding of their area of specialty through courses selected with their supervisor. A two- to three-semester independent research project is undertaken in the field of structures and structural mechanics, infrastructure rehabilitation, risk engineering, fluid mechanics and hydraulics, materials engineering, soil behaviour, soil mechanics and foundations, water resources engineering, environmental engineering, or transportation engineering.

section 11.3.6: Master of Science (M.Sc.); Civil Engineering (Thesis) (45 credits)

Candidates with a bachelor's degree in a discipline other than Engineering, such as Science or Arts, may be accepted into a M.Sc. program in the Department. Such students would typically study in the fluid mechanics, water resources, or environmental engineering areas, and would follow the Thesis option program.

section 11.3.7: Master of Engineering (M.Eng.); Civil Engineering (Non-Thesis) (45 credits)

This is primarily a coursework degree with a small independent project.

section 11.3.8: Master of Engineering (M.Eng.); Civil Engineering (Non-Thesis) — Environmental Engineering (45 credits)

This program is offered to students with a university undergraduate degree in engineering who desire graduate education in the environmental engineering field. This non-thesis option is within the context of the existing M.Eng. (Project option) programs currently offered in the Departments of Bioresource Engineering (Agricultural and Environmental Sciences), Chemical Engineering, Civil Engineering, and Mining, Metals, and Materials Engineering. This program emphasizes interdisciplinary fundamental knowledge courses, practical applications in diverse environmental contexts, and functional skills needed for solving environmental problems through a wide range of technical and non-technical courses offered by collaborating departments and faculties at the University. Candidates must possess a bachelor's degree in engineering. The Environmental Engineering Option is administered by the Faculty of Engineering. Further information may be obtained from the Program Coordinator, Department of Civil Engineering and Applied Mechanics.

section 11.3.9: Doctor of Philosophy (Ph.D.); Civil Engineering

Research can be conducted in the fields of structures and structural mechanics, infrastructure rehabilitation, risk engineering, fluid mechanics and hydraulics, materials engineering, soil behaviour, soil mechanics and foundations, water resources engineering, environmental engineering, and transportation engineering.

11.3.3 Civil Engineering and Applied Mechanics Admission Requirements and Application Procedures

11.3.3.1 Admission Requirements

The general rules of Graduate and Postdoctoral Studies apply and are detailed in the General Information section. The minimum academic standard for admission is a cumulative grade point average (CGPA) of 3.0/4.0.

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 write the iBT Test of English as a Foreign Language (TOEFL) and achieve an overall or total score of not less than 92 with each component score (i.e., Writing, Reading, Speaking, Listening) not less than 20. The test is administered by the Educational Testing Service and is available throughout the world. The results reach McGill approximately eight weeks after the test is taken. It is the student's responsibility to make the necessary arrangements with the examining board to write the test in the country of residence. Full information about the test and a registration form may be obtained by writing to: Test of English as a Foreign Language, Box 6191, Princeton, New Jersey 08540-6151, USA (www.ets.org/toefl).

11.3.3.2 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two official transcripts;
3. two confidential letters of reference;
4. \$100 application fee;
5. test results (TOEFL).

Applicants are requested to address their completed forms for admission to the Chair of the Graduate Studies Admissions Committee, Department of Civil Engineering and Applied Mechanics.

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program. McGill's online application form for graduate program candidates is available at www.mcgill.ca/gradapplicants/apply.

11.3.4 Civil Engineering and Applied Mechanics Faculty

Chair

V.T.V. Nguyen

Chair of Graduate Program

S. Gaskin

Emeritus Professors

P.J. Harris; B.Sc.(Manit.), M.Eng., Ph.D.(McG.), F.E.I.C., F.C.S.C.E., Eng.

M.S. Mirza; M.S., B.Eng.(Karachi), M.Eng., Ph.D.(McG.), F.E.I.C., F.C.S.C.E., F.A.C.I., Hon.F.I.E.P., Eng.

R.G. Redwood; B.Sc.(Brist.), M.A.Sc.(Tor.), Ph.D.(Brist.), F.C.S.C.E., FI Struct. Eng., Eng.

S.B. Savage; B.Eng.(McG.), M.S.Eng.(Cal. Tech.), Ph.D.(McG.), F.R.S.C.

Professors

V.H. Chu; B.S.Eng.(Taiwan), M.A.Sc.(Tor.), Ph.D.(MIT), Eng.

D. Mitchell; B.A.Sc., M.A.Sc., Ph.D.(Tor.), F.A.C.I., Eng.

V.T.V. Nguyen; B.M.E.(Vietnam), M.C.E.(A.I.T.), D.A.Sc.(Montr.), Eng.

J. Nicell; B.A.Sc., M.A.Sc., Ph.D.(Windsor), P.Eng.

A.P.S. Selvadurai; M.S.(Stan.), Ph.D., D.Sc.(Nott.), F.E.I.C., F.I.M.A., F.C.S.C.E., P.Eng.

S.C. Shrivastava; B.Sc.(Eng.)(Vikram), M.C.E.(Del.), Sc.D.(Col.)

Associate Professors

L. Chouinard; B.Eng., M.Eng.(Montr.), B.C.L.(McG.), Sc.D.(MIT), Eng.
 S.J. Gaskin; B.Sc.(Eng.)(Qu.), Ph.D.(Cant.), Eng.
 R. Gehr; B.Sc.(Eng.)(Witw.), M.A.Sc., Ph.D.(Tor.), P.Eng.
 S. Ghoshal; B.C.E.(India), M.S.(Missouri), Ph.D.(Carn. Mell), P.Eng.
 G. McClure; B.Eng.(Montr.), S.M.C.E.(MIT), Ph.D.(Montr.), Eng.
 M.A. Meguid; B.Sc.(Cairo), M.Sc., Ph.D.(W. Ont.), P.Eng.
 C. Rogers; B.A.Sc., M.A.Sc.(Wat.), Ph.D.(Syd.), P.Eng.
 Y. Shao; B.Sc., M.S.(Tongji), Ph.D.(N'western), P.Eng.

Assistant Professors

A.J. Boyd; B.Sc.Eng.(New Br.), M.A.Sc.(Tor.), Ph.D.(Br. Col.), P.Eng., F.A.C.I.
 N. Eluru; B.Sc.(Indian IT), M.Sc. Ph.D.(Texas-Austin)
 D. Frigon; B.Sc., M.Sc.(McG.), Ph.D.(Ill.-Urbana-Champaign)
 M. Hatzopoulou; B.Sc., M.Sc.(Beirut), Ph.D.(Tor.)
 D. Lignos; B.Sc.(Nat. Tech., Athens), M.Sc., Ph.D.(Stan.)
 L. Miranda-Moreno; B.Sc., M.Eng.(Mexico), Ph.D.(Wat.)

Adjunct Professors

S. Babarutsi, R. Edwards, J. Hadjinicolaou, J. Hawari, A. Keane, Z. Lounis, P. Lundahl, C. Manatakos, T.S. Nguyen, P. Rodrigue, S. Scola, W. Taylor, M. Villeneuve, J. Vrana

11.3.5 Master of Engineering (M.Eng.); Civil Engineering (Thesis) (45 credits)

Thesis Courses (27 credits)

CIVE 630	(3)	Thesis Research 1
CIVE 631	(3)	Thesis Research 2
CIVE 632	(3)	Thesis Research 3
CIVE 633	(6)	Thesis Research 4
CIVE 634	(6)	Thesis Research 5
CIVE 635	(6)	Thesis Research 6

Required Course

1 credit:

CIVE 662	(1)	Masters Research Seminar
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Complementary Courses (17 credits)

(minimum 17 credits)

A minimum of five courses at the 500 or 600 level, with at least 8 credits at the 600 level.

11.3.6 Master of Science (M.Sc.); Civil Engineering (Thesis) (45 credits)

Thesis Courses (27 credits)

CIVE 630	(3)	Thesis Research 1
CIVE 631	(3)	Thesis Research 2

CIVE 632	(3)	Thesis Research 3
CIVE 633	(6)	Thesis Research 4
CIVE 634	(6)	Thesis Research 5
CIVE 635	(6)	Thesis Research 6

Required Course

1 credit:

CIVE 662	(1)	Masters Research Seminar
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Complementary Courses (17 credits)

A minimum of five courses at the 500 or 600 level, with at least 8 credits at the 600 level.

11.3.7 Master of Engineering (M.Eng.); Civil Engineering (Non-Thesis) (45 credits)**Research Project**

(5-15 credits)

Credit for the project may vary between 5 and 15 credits, depending on the amount of work involved. Project courses are chosen from the following:

CIVE 691	(1)	Research Project 1
CIVE 692	(2)	Research Project 2
CIVE 693	(3)	Research Project 3
CIVE 694	(4)	Research Project 4
CIVE 695	(5)	Research Project 5
CIVE 696	(6)	Research Project 6
CIVE 697	(7)	Research Project 7

Complementary Courses

(30-40 credits)

A minimum of 30 credits at the 500 or 600 level, with at least 8 credits at the 600 level.

11.3.8 Master of Engineering (M.Eng.); Civil Engineering (Non-Thesis) — Environmental Engineering (45 credits)

The program consists of a minimum of 45 credits, of which, depending on the student's home department, a minimum of 5 and a maximum of 15 may be allotted to the research project. The balance of 30 to 40 credits is earned by coursework. The Department also allows students to complete the program using a minimum of 45 credits of coursework only.

The Environmental Engineering option is administered by the Faculty of Engineering. Further information may be obtained from the Program Coordinator, Department of Civil Engineering and Applied Mechanics.

Research Project

(0 or 5-15 credits)

The program may include a project or, with Departmental approval, may be completed with courses only.

Required Courses (6 credits)

CHEE 591	(3)	Environmental Bioremediation
CIVE 615	(3)	Environmental Engineering Seminar

Complementary Courses

(24-39 credits)

a minimum of 22 credits chosen from the following:

Data analysis:

AEMA 611	(3)	Experimental Designs 1
CIVE 555	(3)	Environmental Data Analysis
PSYC 650	(3)	Advanced Statistics 1

Toxicology:

OCCH 505	(0)	
OCCH 612	(3)	Principles of Toxicology

Water pollution engineering:

CIVE 651	(4)	Theory: Water / Wastewater Treatment
CIVE 652	(4)	Biological Treatment: Wastewaters
CIVE 660	(4)	Chemical and Physical Treatment of Waters

Air pollution engineering:

MECH 534	(3)	Air Pollution Engineering
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Soil and water quality management:

BREE 533	(3)	Water Quality Management
CIVE 686	(4)	Site Remediation

Environmental impact:

GEOG 501	(3)	Modelling Environmental Systems
GEOG 551	(3)	Environmental Decisions

Environmental policy

URBP 506	(3)	Environmental Policy and Planning
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Elective Courses

Also, 0-15 credits of graduate courses from an approved list of courses from the Faculties of Engineering, Agricultural and Environmental Sciences, Law, Management; Departments of Atmospheric and Oceanic Sciences, Biology, Chemistry, Earth and Planetary Sciences, Economics, Epidemiology and Biostatistics, Geography, Occupational Health, Political Science, Religious Studies, Sociology, and McGill School of Environment.

11.3.9 Doctor of Philosophy (Ph.D.); Civil Engineering

Thesis

CIVE 701	(0)	Ph.D. Comprehensive Preliminary Oral Exam
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Complementary Courses

6-8 credits at the 500 or 600 level taken from the Department of Civil Engineering.

11.4 Electrical and Computer Engineering

11.4.1 Location

Department of Electrical and Computer Engineering
 McConnell Engineering Building, Room 602
 3480 University Street
 Montreal, QC H3A 2A7
 Canada

Telephone: 514-398-7344
 Fax: 514-398-4470
 Email: grad.ece@mcgill.ca
 Website: www.mcgill.ca/ece

11.4.2 About Electrical and Computer Engineering

The Department offers programs of graduate studies leading to a degree of Master of Engineering (thesis or project/non-thesis) or Doctor of Philosophy.

The research interests and facilities of the Department are very extensive, involving more than 50 faculty members and 300 postgraduate students. The major activities are divided into the following groups: Bio-Electrical Engineering, Telecommunications and Signal Processing, Systems and Control, Integrated Circuits and Systems, Nano-Electronic Devices and Materials, Photonics Systems, Computational Electromagnetics, Power Engineering, and Intelligent Systems. The Department is equipped with state-of-the-art experimental laboratories and there are numerous multidisciplinary research projects, so students are provided with an ideal environment to develop new technologies, discover novel phenomena, and design revolutionary devices.

Research Facilities

The Department has extensive laboratory facilities for all its main research areas. In addition, McGill University often collaborates with other institutions for teaching and research.

- The laboratories for research in Robotics, Control, and Vision are in the Centre for Intelligent Machines (CIM).
- Telecommunications laboratories focus their work on signal processing, broadband communications, and networking; these laboratories form part of the Centre for Advanced Systems and Communications (SYTACom), a McGill University Research Centre devoted to foster innovation in the area of communications systems and technologies via advanced research and training of highly qualified personnel.
- The Integrated Circuits and Systems Laboratory (ICaS) supports research in FPGAs, MEMS, micro- and nano-systems, VLSI architectures for digital communications and signal processing, mixed signal, RF, and microwave integrated circuits and components, simulation of integrated circuits and microsystems, integrated antennas, design for testability, reconfigurable computing, high-speed circuits and packaging.
- Antenna and microwave research, and optical fibre and integrated optics research are carried out in a fully equipped facility.
- The Photonics Systems laboratory includes continuous wave and femtosecond Ti: Sapphire lasers, diode lasers, extensive optics and optomechanics, and sophisticated electronic and imaging equipment.
- Solid state facilities include measurement equipment for magnetic and electric properties of materials, vacuum deposition, and RF sputtering systems.
- The Computational Electromagnetics Laboratory provides tools for numerical analysis, visualization, interface design, and knowledge-based system development.
- There is also a well-equipped laboratory for power electronics and power systems research.

The Department has extensive computer facilities. Most research machines are networked, providing access to a vast array of hardware. In addition, McGill University is linked to the Centre de Recherche Informatique de Montréal (CRIM) and the University Computing Centre.

There are three other universities in Montreal: Concordia University is the other English-language university; l'Université de Montréal, and its affiliated school of engineering, l'École Polytechnique, is the largest francophone university; l'Université du Québec has a campus in Montreal and in major towns throughout the province.

The proximity of these schools to McGill University ensures a rich array of courses is available to suit individual needs. McGill also collaborates on research projects with many organizations such as l'Institut de la Recherche d'Hydro-Québec (IREQ) and l'Institut National de la Recherche Scientifique (INRS).

Financial Support

Graduate Assistantships: The Department awards several graduate assistantships to qualified full-time graduate students. These are normally funded from research grants or contracts awarded to individual faculty members. In return, the graduate assistant is expected to perform research-related tasks assigned by the professor from whose grant the assistantship is paid. A good part, but not necessarily all, of this work can be used for preparing a thesis. There is no special application form for graduate assistantships; all applicants who indicate a need for support on their application forms will be considered.

Teaching Assistantships: Graduate students, with the approval of their supervisors, may also undertake teaching assistantships for additional remuneration. These are awarded at the beginning of the term. The Department can make no prior commitments.

Graduate students can also receive financial aid through fellowships, loans, or bursaries. For more information, please refer to the Fellowships and Awards website at www.mcgill.ca/gps, or contact Graduate and Postdoctoral Studies, McGill University, James Administration Building, Room 400, 845 Sherbrooke Street West, Montreal, QC, H3A 2T5.

section 11.4.5: Master of Engineering (M.Eng.); Electrical Engineering (Thesis) (46 credits)

The Master of Engineering degree (thesis option) involves six graduate courses and an externally examined thesis. This program is research oriented and the thesis is expected to involve a thorough examination of a topic of current interest in the research area within the Department. Undertaking this program at McGill University provides students with an opportunity to conduct intensive research under the supervision of researchers who are leaders in their field. The program is an ideal preparation for a Ph.D. degree or an industrial research career.

section 11.4.6: Master of Engineering (M.Eng.); Electrical Engineering (Thesis) — Computational Science and Engineering (47 credits)

This program is under review for 2011-2012 and may not be offered. Please inquire.

section 11.4.7: Master of Engineering (M.Eng.); Electrical Engineering (Non-Thesis) (47 credits)

The Master of Engineering degree (project option) involves nine graduate courses and an internally examined research project. The program is oriented more at professional development than the thesis option. The project is of significantly less scope than a thesis, and includes options such as a technical review, a design project, or a small-scale research project. Undertaking nine courses provides students with a very solid background in electrical and computer engineering, both in terms of breadth across the entire field and depth in the area of specialty. Graduates frequently pursue careers in research and development. A part-time program is possible.

section 11.4.8: Doctor of Philosophy (Ph.D.); Electrical Engineering

The Ph.D. degree recognizes a significant novel research contribution that is described in an externally examined thesis. Students who are admitted to this program normally have a master's degree. Research is conducted under the supervision of a faculty member. The Department provides an excellent environment for conducting research, with supervision by internationally renowned researchers and access to state-of-the-art experimental facilities. Graduates from the program most commonly pursue research and teaching careers in academia or research careers in industrial labs.

11.4.3 Electrical and Computer Engineering Admission Requirements and Application Procedures

11.4.3.1 Admission Requirements

English Proficiency Requirement: 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 documented proof of competency in English. Accepted English language tests and minimum test score requirements can be found on our website: www.mcgill.ca/ece/grad/admissions. Official results must be received before the dates for guaranteed consideration.

GRE Requirement: A GRE score on the General Aptitude Test is required by all students who have not completed their undergraduate or graduate degree in Canada. A minimum total score of 1100 for the verbal and quantitative sections and a minimum score of 3.5/6.0 on the analytical writing assessment section is required. Official results must be received before the dates for guaranteed consideration.

M.Eng. Degree (Admission Requirements)

The applicant must be the graduate of a recognized university and hold a bachelor's degree equivalent to a McGill degree in Electrical or Computer Engineering or a closely allied field. An applicant holding a degree in another field of engineering or science will be considered but a qualifying year may be given to make up any deficiencies. The applicant must have a high academic achievement: a standing equivalent to a cumulative grade point average (CGPA) of **3.0 out of 4** or a **GPA of 3.2 out of 4.0 for the last two full-time academic years**. Satisfaction of these general requirements does not guarantee admission. Admission to graduate studies is limited and acceptance is on a very competitive basis.

Ph.D. Degree (Admission Requirements)

In addition to satisfying the requirements for the M.Eng. program, candidates must hold a suitable master's degree from a recognized university. The applicant must have a high academic achievement: a standing equivalent to a cumulative grade point average (CGPA) of 3.0 out of 4.0. Satisfaction of these general requirements does not guarantee admission. Admission to graduate studies is limited and acceptance is on a very competitive basis.

11.4.3.2 Application Procedures

Applications will be considered upon receipt of:

1. completed application form;
2. application fee (CAD\$100);
3. two official copies of all previous and current transcripts;
4. two reference letters (sent directly by the referees);
5. Area of Research and Applicant Profile Form;
6. Proof of English Proficiency and GRE scores (if applicable).

The Department accepts most of its graduate students for September; the chance of acceptance for January is significantly lower.

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program.

All documents must be received by the Department's Admissions Committee by the dates for guaranteed consideration.

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

11.4.4 Electrical and Computer Engineering Faculty

Chair

Andrew G. Kirk

Graduate Program Director

Mark Coates

Emeritus Professors

Eric L. Adler; B.Sc.(Lond.), M.A.Sc.(Tor.), Ph.D.(McG.), F.I.E.E.E., Eng.

Pierre R. Bélangier; B.Eng.(McG.), S.M., Ph.D.(MIT), F.I.E.E.E., Eng.

Maier L. Blostein; B.Eng., M.Eng.(McG.), Ph.D.(Ill.), F.I.E.E.E., Eng.

Clifford H. Champness; M.Sc.(Lond.), Ph.D.(McG.)

Gerry W. Farnell; B.A.Sc.(Tor.), S.M.(MIT), Ph.D.(McG.), F.I.E.E.E., Eng.

Lorne Mason; M.Eng., Ph.D.(Sask.)

Tomas J.F. Pavlasek; B.Eng., M.Eng., Ph.D.(McG.), Eng.

Nicholas C. Rumin; B.Eng., M.Sc., Ph.D.(McG.), Eng.

Professors

Peter E. Caines; B.A.(Oxf.), D.I.C., Ph.D.(Lond.), F.R.S.C., F.I.E.E.E., F.C.I.A.R. (*James McGill Professor and Macdonald Professor*)

Lawrence Chen; B.Eng.(McG.), M.A.Sc., Ph.D.(Tor.)

James Clark; B.Sc., Ph.D.(Br. Col.) (*Associate Dean, Academic*)

Frank Ferrie; B.Eng., Ph.D.(McG.)

Francisco D. Galiana; B.Eng.(McG.), S.M., Ph.D.(MIT), F.I.E.E.E., Eng.

Vincent Hayward; Dip.d'Ing.(ENSM, Nantes), Doc.Ing.(Orsay), Eng.

Geza Joos; B.Sc.(C'dia), M.Eng., Ph.D.(McG.) (*CRC Chair*)

Peter Kabal; B.A.Sc., M.A.Sc., Ph.D.(Tor.)

Andrew G. Kirk; B.Sc.(Brist.), Ph.D.(Lond.) (*William Dawson Scholar*)

Tho Le-Ngoc; M.Eng.(McG.), Ph.D.(Ott.), F.I.E.E.E.

Harry Leib; B.Sc.(Technion), Ph.D.(Tor.)

Martin D. Levine; B.Eng., M.Eng.(McG.), Ph.D.(Lond.), F.C.I.A.R., F.I.E.E.E., Eng.

David A. Lowther; B.Sc.(Lond.), Ph.D.(C.N.A.A.), F.C.A.E., Eng. (*James McGill Professor*)

Boon-Teck Ooi; B.E.(Adel.), S.M.(MIT), Ph.D.(McG.), Eng.

David V. Plant; M.S., Ph.D.(Brown), F.I.E.E.E., F.O.S.A., F.E.I.C., F.C.A.E., P.Eng. (*James McGill Professor*)

Gordon Roberts; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.), Eng. (*James McGill Professor*) F.I.E.E.E.

Jonathan P. Webb; B.A., Ph.D.(Cant.)

Associate Professors

Ramesh Abhari; M.A.Sc.(Tehran), Ph.D.(Tor.)

Tal Arbel; M.Eng., Ph.D.(McG.)

Associate Professors

Jan Bajcsy; B.Sc.(Harv.), M.Eng., Ph.D.(Princ.)
 Benoit Boulet; B.Sc.(Laval), M.Eng.(McG.), Ph.D.(Tor.) (*William Dawson Scholar*)
 Benoit Champagne; B.Eng., M.Eng.(Montr.), Ph.D.(Tor.)
 Mark Coates; B.Eng.(Adel.), Ph.D.(Camb.)
 Jeremy R. Cooperstock; A.Sc.(Br. Col.), M.Sc., Ph.D.(Tor.)
 Mourad El-Gamal; B.Sc.(Cairo), M.Sc.(Nashville), Ph.D.(McG.) (*William Dawson Scholar*)
 Dennis Giannacopoulos; M.Eng., Ph.D.(McG.)
 Warren Gross; B.A.Sc.(Wat.), M.A.Sc., Ph.D.(Tor.)
 Roni Khazaka; M.Eng., Ph.D.(Car.)
 Fabrice Labeau; M.S., Ph.D.(Louvain)
 Steve McFee; B.Eng., Ph.D.(McG.)
 Hannah Michalska; B.Sc., M.Sc.(Warsaw), Ph.D.(Lond.)
 Milica Popovich; B.Sc.(Colo.), M.Sc., Ph.D.(N'western)
 Ioannis Psaromiligkos; B.Sc.(Patras), M.Sc., Ph.D.(Buffalo)
 Richard Rose; B.Sc., M.S.(Ill.), Ph.D.(GIT)
 Ishiang Shih; M.Eng., Ph.D.(McG.)
 Zeljko Zilic; B.Eng.(Zagreb), M.Sc., Ph.D.(Tor.)

Assistant Professors

François Bouffard; B.Eng., Ph.D.(McG.)
 Vamsy Chodavarapu; B.Eng.(Osmania), M.S., Ph.D.(NYU)
 Anas Hamoui; M.Eng.(McG.), Ph.D.(Tor.)
 Odile Liboiron-Ladouceur; B.Eng.(McG.), M.Sc., Ph.D.(Col.)
 Aditya Mahajan, B.Tech.(Indian IT), M.S., Ph.D.(Mich.)
 Zetian Mi; B.A.Sc.(Beijing), M.Sc.(Iowa), Ph.D.(Mich.)
 Sam Musallam; B.Sc., M.Sc., Ph.D.(Tor.)
 Michael Rabbat; B.S.(Ill.), M.S.(Rice), Ph.D.(Wisc.)
 Martin Rochette; B.A., M.Eng., Ph.D.(Laval)
 Thomas Szkopek; B.A.Sc., M.A.Sc.(Tor.), Ph.D.(Calif.-LA)
 Mai Vu; M.S., Ph.D.(Stan.)

Associate Members

Alan C. Evans, William R. Funnell, Henrietta L. Galiana, Jean Gotman, David Juncker, Robert E. Kearney, Xue Liu, Nathaniel J. Quitoriano

Adjunct Professors

Ray Bartnikas, Robert DiRaddo, Danny Grant, Cedric Guss, Cheng K. Jen, Irene Leszkowicz, Miguel Marin, Douglas O'Shaughnessy, Katarzyna Radecka, Anthony Rodolakis, Robert Sabourin, Joshua David Schwartz, Andras Swidan, Leszek Szczecinski, Kenneth D. Wagner, Lucan Wegrowicz

11.4.5 Master of Engineering (M.Eng.); Electrical Engineering (Thesis) (46 credits)

The M.Eng. Thesis program must be completed on a full-time basis in three years. The following requirements must be met:

Thesis Courses (28 credits)

ECSE 691 (4) Thesis Research 1

ECSE 692	(4)	Thesis Research 2
ECSE 693	(4)	Thesis Research 3
ECSE 694	(4)	Thesis Research 4
ECSE 695	(4)	Thesis Research 5
ECSE 696	(4)	Thesis Research 6
ECSE 697	(4)	Thesis Research 7

Students who choose the Thesis option must register for all 28 credits during the three terms of residency.

Complementary Courses

(18 credits minimum)

At least six 500, 600, or 700 level courses, normally with a minimum of four ECSE 500- or 600- level courses*

* Under special circumstances, and subject to Departmental approval, students may be allowed to take more than two non-Departmental courses; a letter of recommendation from their supervisor outlining the reason for such an action is required.

Under no circumstances will more than three non-Departmental courses be permitted.

11.4.6 Master of Engineering (M.Eng.); Electrical Engineering (Thesis) — Computational Science and Engineering (47 credits)

Program under review for 2011-12 - may not be offered.

Thesis Courses (28 credits)

ECSE 691	(4)	Thesis Research 1
ECSE 692	(4)	Thesis Research 2
ECSE 693	(4)	Thesis Research 3
ECSE 694	(4)	Thesis Research 4
ECSE 695	(4)	Thesis Research 5
ECSE 696	(4)	Thesis Research 6
ECSE 697	(4)	Thesis Research 7

Required Course (1 credit)

ECSE 670D1	(.5)	Computational Science Engineering Seminar
ECSE 670D2	(.5)	Computational Science Engineering Seminar

Complementary Courses (18 credits)

(minimum 18 credits)

Six courses at the graduate level (500 or above) are required (minimum 18 credits), with a grade of B- or better. Two courses (minimum 6 credits) from List A, and two courses (minimum 6 credits) from List B. At least two of the courses taken from Lists A and B must be from outside the Department of Electrical and Computer Engineering.

List A: Scientific Computer Courses

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

List B: Applications and Specialized Methods Courses

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 572	(3)	Computational Hydraulics
CIVE 601	(0)	
CIVE 603	(4)	Structural Dynamics
CIVE 613	(4)	Numerical Methods: Structural Engineering
COMP 505	(3)	Advanced Computer Architecture
COMP 557	(3)	Fundamentals of Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Program Analysis and Transformations
COMP 642	(4)	Numerical Estimation Methods
COMP 767	(4)	Advanced Topics: Applications 2
ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 651	(4)	Asymptotic Expansion and Perturbation Methods
MATH 761	(4)	Topics in Applied Mathematics 1
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics
MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 545	(3)	Advanced Stress Analysis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Geometry in Mechanics
MECH 577	(3)	Optimum Design
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 620	(4)	Advanced Computational Aerodynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics
MECH 650	(4)	Fundamentals of Heat Transfer
MECH 654	(4)	Compt. Fluid Flow and Heat Transfer

11.4.7 Master of Engineering (M.Eng.); Electrical Engineering (Non-Thesis) (47 credits)

Full-time students must complete the program in three years. A part-time program is possible. The following requirements must be met:

Research Project

(11-20 credits)

The credits assigned to the project can vary between 11 and 20 depending on the number of course credits taken from the following courses:

ECSE 651	(1)	M.Eng. Project 1
ECSE 652	(2)	M.Eng. Project 2
ECSE 653	(3)	M.Eng. Project 3
ECSE 654	(4)	M.Eng. Project 4
ECSE 655	(5)	M.Eng. Project 5
ECSE 656	(5)	M.Eng. Project 6

Students who choose the Non-Thesis option must register for the project courses during the three required terms of residency.

Complementary Courses

(27-36 credits)

At least nine 500-, 600-, or 700- level courses, normally with a minimum of six 500- or 600- level courses (ECSE only)*

* Under special circumstances, and subject to Departmental approval, students may be allowed to take more than three non-Departmental courses; a letter of recommendation from their supervisor outlining the reason for such an action is required.

Under no circumstance will more than four non-Departmental courses be permitted.

11.4.8 Doctor of Philosophy (Ph.D.); Electrical Engineering**Thesis****Required Courses**

ECSE 701	(0)	Ph.D. Qualifying Examination
ECSE 702	(0)	Ph.D. Research Plan Proposal
ECSE 703	(0)	Doctoral Research Seminar

In addition to the successful completion of the required courses above, students must complete the courses prescribed by the student's Supervisory Committee.

11.5 Mechanical Engineering**11.5.1 Location**

Department of Mechanical Engineering
 Macdonald Engineering Building
 817 Sherbrooke Street West, Room MD-270
 Montreal, QC H3A 2K6
 Canada

Telephone: 514-398-6281
 Fax: 514-398-7365

Email: gradcoordinator.mecheng@mcgill.ca
 Website: www.mcgill.ca/mecheng/grad

11.5.2 About Mechanical Engineering

Mechanical engineers are traditionally concerned with the conception, design, implementation, and operation of mechanical systems. Common fields of work include aerospace, energy, manufacturing, machinery, and transportation. Due to the broad nature of the discipline, there is usually a high demand for mechanical engineers with advanced training.

The Department includes more than 30 faculty members and 200 graduate students and is housed primarily within the Macdonald Engineering building, which was recently renovated. The Department contains state-of-the-art experimental facilities including a major wind tunnel facility and has extensive computational facilities. Professors within the Department collaborate widely with professors in other units, often through research centres including the Centre for Intelligent Machines (CIM), the McGill Institute for Advanced Materials (MIAM), and the Montreal Neurological Institute (MNI). The research interests within the Department are very broad and fall largely within the following five areas: i) aerodynamics, fluids, and thermal engineering; ii) mechanics of materials and structures; iii) dynamics and control; iv) design and manufacturing; and v) bioengineering. Within these areas, specific topics of research are given in the following:

Aerodynamics; fluids and thermal engineering

Experimental fluid mechanics and aerodynamics, aeroelasticity, aeroacoustics; theoretical fluid mechanics; turbulence, mixing in turbulent flows; fluid flow control; fluid-structure interactions; computational fluid dynamics, multidisciplinary optimization, computer flow visualization; heat transfer; combustion, shock wave physics, energetic materials, high-speed reacting flows, hypersonic propulsion, alternative fuels.

Mechanics of materials and structures

Composite materials: structural design, analysis, manufacturing and processing; micro/nano mechanics; MEMS/NEMS; adaptive structures; thermomechanics, wave propagation, computational mechanics.

Dynamics and control

Multibody systems, legged and wheeled vehicles, compliant mechanisms, kinematic geometry; tethered systems, lighter-than-air craft, underwater vehicles; spacecraft dynamics, space robotics; modelling and simulation; fluid-structure interactions, nonlinear and chaotic dynamics; dynamics of bladed assemblies.

Design and manufacturing

Design theory and methodology, design optimization; biomimetics; machine tools and systems, manufacturing processes, management and control; micro/nano machining; wear and comminution processes.

Bioengineering

Biomechanics, biomaterials, blood and respiratory flows, mechanics of soft tissues, cardiovascular devices, image processing for medical diagnostics, voice production.

Programs Offered

The Department offers programs of study leading to the M.Eng., M.Sc., and Ph.D. degrees in Mechanical Engineering. Both M.Eng. (Thesis) and M.Eng. (Non-Thesis) programs are offered.

There are several options for completing Master's degrees that do not involve the completion of a thesis. The M.Eng. (Non-Thesis) program has more extensive course requirements and will appeal to students who desire to gain both a broad understanding of subjects within Mechanical Engineering as well as in-depth information in a specific area. Two other options for non-thesis Master's degrees are described below.

section 11.5.5: Master of Engineering (M.Eng.); Mechanical Engineering (Thesis) (45 credits)

The M.Eng. (Thesis) program requires the completion of 16 credits of technical complementary courses, a seminar course, and a thesis. The thesis involves advanced research supervised by one or more professors who are internationally known in their field. This program prepares students for either an industrial research career or further academic research at the Ph.D. level.

section 11.5.6: Master of Science (M.Sc.); Mechanical Engineering (Thesis) (45 credits)

Please consult the Department for more information on this program.

section 11.5.7: Master of Engineering (M.Eng.); Mechanical Engineering (Thesis) — Computational Science and Engineering (46 credits)

For students who would like to concentrate on computational work for their research, the M.Eng. (Thesis) – Computational Science and Engineering (CSE) option is available. CSE is a rapidly growing multidisciplinary area with connections to the sciences, engineering, mathematics, and computer science. CSE focuses on the development of problem-solving methodologies and robust tools for the solution of scientific and engineering problems. In this program, students choose their complementary courses from within a list of scientific computing courses and courses that involve applications and specialized methods.

section 11.5.8: Master of Engineering (M.Eng.); Mechanical Engineering (Non-Thesis) (45 credits)

Students in this program must complete four required courses in addition to 16 credits of complementary courses and a seminar course. They also complete a project that is less involved than a thesis and may involve a limited research project, or a technical or design study. Graduates of this program are well-prepared for carrying out research and development in industry and may also proceed on to further research at the Ph.D. level.

section 11.5.9: Master of Engineering (M.Eng.); Aerospace Engineering (Non-Thesis) (45 credits)

The M.Eng. Aerospace Degree is offered to the students who wish to specialize in the general area of aerospace engineering. This degree is given in conjunction with Concordia University, École Polytechnique, Université Laval, Université de Sherbrooke, and École de Technologie Supérieure. Students registered at McGill are required to take two courses from two other institutions.

The aerospace industry is strongly established in Quebec. Representatives of the aerospace industry therefore requested that measures be taken to provide for qualified scientists in aerospace. Five universities offering courses in engineering came together to offer a Master's degree program in the field of aeronautics and space technology. This program is offered to students who wish to specialize in these disciplines. The industry's participation is a special

section 11.5.9: Master of Engineering (M.Eng.); Aerospace Engineering (Non-Thesis) (45 credits)

feature of this program. The universities and the participating industries, with the cooperation of the Centre of Aerospace Manpower Activities in Quebec (CAMAQ), have formed a Coordinating Committee, CIMGAS, to arrange for industrial internships and case study courses for the students and to implement specific program developments to meet the needs of the industry.

The M.Eng. (Aerospace) program requires a minimum of 45 credits, including an “Industrial Stage” (i.e., engineering work in an aerospace industry) of four months. Enrolment is limited to the number of industrial stages available, so admission to the program is typically quite competitive. While intended to be a full-time program, the M.Eng. (Aerospace) program may be completed on a part-time basis over a maximum of five years. By the time of completion of the program, graduates are extremely well-prepared to enter into a career in the aerospace industry.

Depending on their background, students would specialize in one of the four areas:

1. Aeronautics and Space Engineering;
2. Avionics and Control;
3. Aerospace Materials and Structures;
4. Virtual Environment.

section 11.5.10: Master of Management (M.M.M.); Manufacturing Management (Non-Thesis) (57 credits)

The Master in Manufacturing Management (M.M.M.) program attracts business professionals from around the world who wish to pursue a career in the effective management of global operations and supply chain. It is a professionally-oriented graduate program offered jointly through the Faculties of Engineering and Management, aimed at those candidates with engineering or science backgrounds.

In just eleven months of academic studies, M.M.M. students sharpen their expertise in supply chain and operations through an intensive program that includes:

- A challenging curriculum
- Extensive industrial interaction
- Innovative research projects

Additionally, students are exposed to the latest trends and developments in management and participate in professional development seminars to leverage their communication and leadership skills. After less than one year of studies, participants complete a paid work term at an industrial location. This is a unique opportunity to work on a real-world project with an M.M.M. partner company in North America.

section 11.5.11: Doctor of Philosophy (Ph.D.); Mechanical Engineering

In the Ph.D. program, students are required to demonstrate a significant new contribution to their field of research, as documented in an externally reviewed thesis. The research is carried out under the supervision of professors that are leaders in their field. Since research in Mechanical Engineering is often interdisciplinary in nature, it is common for Ph.D. students to have a co-supervisor in addition to their principle supervisor. Graduates from this program typically proceed to careers in research in either industrial or academic environments.

11.5.3 Mechanical Engineering Admission Requirements and Application Procedures**11.5.3.1 Admission Requirements**

The general rules of Graduate and Postdoctoral Studies apply. Candidates who come from other institutions are expected to have an academic background equivalent to the undergraduate curriculum in mechanical engineering at McGill or to make up any deficiencies in a qualifying year.

Applicants to the M.Eng. (Thesis) program, including the CSE Option, must hold an undergraduate degree (or equivalent) in Engineering. Applicants who hold an undergraduate degree in a non-Engineering discipline – typically the Physical Sciences – may apply for the M.Sc. (Thesis) program, which is governed by the same regulations as the M.Eng. (Thesis) program.

Applicants to the M.Eng. (Non-Thesis) program must hold an undergraduate degree (or equivalent) in Mechanical Engineering.

Applicants to the M.Eng. (Aerospace) program must hold an undergraduate degree (or equivalent) in Engineering.

Applicants to the Ph.D. program must have successfully completed a master's degree program (or equivalent) in Engineering or the Physical Sciences. Students are not admitted directly from an undergraduate program into the Ph.D. program.

In the case of all programs, applicants must have successfully completed their prior degree(s) with a minimum CGPA equivalent to 3.3 on a scale of 4.0. Satisfaction of these minimum requirements does not guarantee admission. 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 official results of either a TOEFL or an IELTS test. The minimum score required is 92 for the Internet-based TOEFL test, with each component score not less than 20 (or 580 on the paper-based test, with a minimum of 4.0 on the "Test of Written English"); or a minimum overall band of 7.0 on the IELTS test.

11.5.3.2 Application Procedures

Applications will be considered upon receipt of:

1. online application form;
2. \$100 application fee;
3. two official versions of ALL university transcripts, including transfer-credit transcripts;
4. two official Referee Reports;
5. proof of English Proficiency test results (TOEFL or IELTS);
6. one-page statement of interest;
7. an updated list of publications;
8. a list of extra-curricular activities;
9. a current CV.

Please consult www.mcgill.ca/mecheng/grad/admissions/doc for further details on required application documents.

The application form for graduate program candidates is available at www.mcgill.ca/gradapplicants/apply. All additional information is to be submitted directly to the Graduate Admissions Coordinator in the Mechanical Engineering Department.

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program. Please also consult the Departmental website for the Dates for Guaranteed Consideration: www.mcgill.ca/mecheng/grad/admissions/date/.

11.5.4 Mechanical Engineering Faculty

Chair

G. Haller

Associate Chair

S. Vengallatore

Graduate Program Director

D.L. Frost

Graduate Admissions and Scholarships Director

S. Nadarajah

Graduate Aerospace Director

P. Hubert

Graduate MMM Co-Director

V. Thomson

Emeritus Professors

A.M. Ahmed; B.Sc.(Dhaka), Ph.D.(McG.), Ing. (*Thomas Workman Emeritus Professor of Mechanical Engineering*)

R. Knystautas; B.Eng., M.Eng., Ph.D.(McG.), Ing.

M.P. Païdoussis; B.Eng.(McG.), Ph.D.(Camb.), Ing., F.I. Mech.E., F.A.S.M.E., F.A.A.M., F.C.S.M.E., F.R.S.C., F.C.A.E. (*Thomas Workman Emeritus Professor of Mechanical Engineering*)

S.J. Price; B.Sc., Ph.D.(Brist.), P.Eng.

Post-Retirement

G. Bach; B.Sc.(Alta.), M.Sc.(Birm.), Ph.D.(McG.)

L. Kops; B.Eng., M.Eng., D.Sc., Eng.(Krakow Tech U.), Ing., F.C.I.R.P., F.A.S.M.E., F.C.S.M.E., M.S.M.E.

Professors

M. Amabili; M.Sc.(Ancona), Ph.D.(Bologna) (*Canada Research Chair*)

Professors

J. Angeles; B.Sc., M.Sc.(UNAM Mexico), Ph.D.(Stan.), Eng., F.A.S.M.E., F.C.S.M.E., F.R.S.C. (*James McGill Professor*) (*NSERC Design Engineering Chair*)

B.R. Baliga; B.Tech.(I.I.T. Kanpur), M.Sc.(Case West.), Ph.D.(Minn.)

E. Fried; A.B.(Calif., Berk.), B.S.(Calif. Poly.), M.S., Ph.D.(Calif. Tech.) (*Canada Research Chair*)

W.G. Habashi; B.Eng., M.Eng.(McG.), Ph.D.(C'nell), Ing., F.A.S.M.E., F.C.A.E., F.R.S.C. (*NSERC-J. Armand Bombardier Industrial Research Chair*)

G. Haller; M.Sc.(Budapest), Ph.D.(Calif. Tech.) (*Faculty of Engineering Distinguished Professor*)

J.H.S. Lee; B.Eng.(McG.), M.Sc.(MIT), Ph.D.(McG.), Ing., F.R.S.C.

D.F. Mateescu; M.Eng.(Poli. U. Buch.), Ph.D.(Rom. Acad. Sci.), Doctor Honoris Causa(Poli. U. Buch.), A.F.A.I.A.A., F.C.A.S.I.

A.K. Misra; B.Tech.(I.I.T., Kgp.), Ph.D.(Br. Col.), P.Eng., F.A.A.S., A.F.A.I.A.A. (*Thomas Workman Professor of Mechanical Engineering*)

L. Mongeau; B.Sc., M.Sc.(École Poly., Montr.), Ph.D.(Penn St.), Ing. (*Canada Research Chair*)

M. Nahon; B.Sc.(Qu.), M.Sc.(Tor.), Ph.D.(McG.), Ing.

C. Pierre; B.Eng.(École Cent. Paris), M.Sc.(Princ.), Ph.D.(Duke), F.A.S.M.E. (*Canada Research Chair*)

Associate Professors

L. Cortelezzi; M.Sc., Ph.D.(Calif. Tech.)

D.L. Frost; B.A.Sc.(Br. Col.), M.S., Ph.D.(Calif. Tech.), P.Eng.

A.J. Higgins; B.Sc.(Ill.), M.S., Ph.D.(Wash.)

P. Hubert; B.Eng., M.A.Sc.(École Poly., Montr.), Ph.D.(Br. Col.), Ing. (*Canada Research Chair*)

J Kövecses; M.Sc.(U. Miskolc), Ph.D.(Hung. Acad. Sci.), Ing.

T. Lee; M.S.(Portland St.), Ph.D.(Idaho)

L. Lessard; B.Eng.(McG.), M.Sc., Ph.D.(Stan.), Ing.

R. Mongrain; B.Sc., M.Sc.(Montr.), Ph.D.(École Poly., Montr.), Ing. (*William Dawson Scholar*)

L. Mydlarski; B.Sc.(Wat.), Ph.D.(C'nell)

S. Nadarajah; B.Sc.(Kansas), M.S., Ph.D.(Stan.)

D. Pasini; M.Sc.(Pavia), Ph.D.(Brist.), Ing.

P. Radziszewski; B.Sc.(Br. Col.), M.Sc., Ph.D.(Laval), Ing.

I. Sharf; B.A.Sc., Ph.D.(Tor.)

V. Thomson; B.Sc.(Windsor), Ph.D.(McM.) (*Werner Graupe Professor of Manufacturing Automation*)

E.V. Timofeev; M.Sc., Ph.D.(S.T.U. St. Petersburg), Eng., A.F.A.I.A.A.

S. Vengallatore; B.Tech.(B.H.U), Ph.D.(MIT) (*Canada Research Chair*)

P.J. Zsombor-Murray; B.Eng., M.Eng., Ph.D.(McG.), Ing., F.C.S.M.E.

Assistant Professors

F. Barthelat; M.Sc.(Roch.), Ph.D.(N'western)

J. M. Bergthorson; B.Sc.(Manit.), M.Sc., Ph.D.(Calif. Tech.), P.Eng.

Non-Tenure-Track Faculty

H. Attia, J.A. Nemes, D. Zorbas

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

Applicants who hold an undergraduate degree in a non-Engineering discipline – typically the Physical Sciences – may apply for the M.Sc. (Thesis) program, which is governed by the same regulations as the M.Eng. (Thesis) program.

Thesis Courses (28 credits)

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

* Note: MECH 691 must be taken in the first term of the student's program.

Required Courses

1 credit:

MECH 609	(1)	Seminar
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Complementary Courses (16 credits)

A minimum of 16 credits (500, 600, or 700 level), at least 8 of which must be from within the Faculty of Engineering. FACC courses will not count toward the complementary course credits.

11.5.6 Master of Science (M.Sc.); Mechanical Engineering (Thesis) (45 credits)

Applicants who hold an undergraduate degree in a non-Engineering discipline – typically the Physical Sciences – may apply for the M.Sc. (Thesis) program, which is governed by the same regulations as the M.Eng. (Thesis) program.

Thesis Courses (28 credits)

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

* Note: MECH 691 must be completed in the first term of the student's program.

Required Course

1 credit:

MECH 609	(1)	Seminar
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Complementary Courses (16 credits)

A minimum of 16 credits (500, 600, or 700 level), at least 8 of which must be from within the Faculty of Engineering. FACC courses will not count toward the complementary course credits.

11.5.7 Master of Engineering (M.Eng.); Mechanical Engineering (Thesis) — Computational Science and Engineering (46 credits)

Thesis Courses (28 credits)

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

* Note: MECH 691 must be complete in the first term of the student's program.

Required Courses (2 credits)

MECH 609	(1)	Seminar
MECH 669	(1)	Computational Science Engineering Seminar

Complementary Courses (16 credits)

A minimum of 16 credits (500 level or above), at least 8 of which must be from within the Faculty of Engineering. Two courses (minimum 6 credits) from List A, and two courses (minimum 6 credits) from List B. At least two of the courses taken from Lists A and B must be from outside the Department of Mechanical Engineering. FACC courses will not count toward the complementary course credits.

List A - Scientific Computing Courses:

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

List B - Applications and Specialized Methods Courses:

ATOC 512	(3)	Atmospheric and Oceanic Dynamics
ATOC 513	(3)	Waves and Stability
ATOC 515	(3)	Turbulence in Atmosphere and Oceans
CIVE 572	(3)	Computational Hydraulics
CIVE 601	(0)	
CIVE 603	(4)	Structural Dynamics
CIVE 613	(4)	Numerical Methods: Structural Engineering
COMP 505	(3)	Advanced Computer Architecture
COMP 557	(3)	Fundamentals of Computer Graphics
COMP 558	(3)	Fundamentals of Computer Vision
COMP 567	(3)	Discrete Optimization 2
COMP 621	(4)	Program Analysis and Transformations
COMP 642	(4)	Numerical Estimation Methods
COMP 767	(4)	Advanced Topics: Applications 2
ECSE 507	(3)	Optimization and Optimal Control
ECSE 532	(3)	Computer Graphics
ECSE 547	(3)	Finite Elements in Electrical Engineering
ECSE 549	(3)	Expert Systems in Electrical Design
MATH 555	(4)	Fluid Dynamics
MATH 560	(4)	Optimization
MATH 651	(4)	Asymptotic Expansion and Perturbation Methods
MATH 761	(4)	Topics in Applied Mathematics 1
MECH 533	(3)	Subsonic Aerodynamics
MECH 537	(3)	High-Speed Aerodynamics
MECH 538	(3)	Unsteady Aerodynamics

MECH 539	(3)	Computational Aerodynamics
MECH 541	(3)	Kinematic Synthesis
MECH 545	(3)	Advanced Stress Analysis
MECH 572	(3)	Introduction to Robotics
MECH 573	(3)	Mechanics of Robotic Systems
MECH 576	(3)	Geometry in Mechanics
MECH 577	(3)	Optimum Design
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 620	(4)	Advanced Computational Aerodynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics
MECH 650	(4)	Fundamentals of Heat Transfer
MECH 654	(4)	Compt. Fluid Flow and Heat Transfer

11.5.8 Master of Engineering (M.Eng.); Mechanical Engineering (Non-Thesis) (45 credits)

Research Project (13 credits)

MECH 603	(9)	M. Eng. Project 1
MECH 604	(3)	M. Eng. Project 2
MECH 609	(1)	Seminar

Note: Industrial liaison is encouraged in these courses taken near the end of the program.

Required Courses (16 credits)

MECH 605	(4)	Applied Mathematics 1
MECH 610	(4)	Fundamentals of Fluid Dynamics
MECH 632	(4)	Theory of Elasticity
MECH 642	(4)	Advanced Dynamics

Complementary Courses (16 credits)

A minimum of 16 credits (500, 600, or 700 level) from the Faculty of Engineering may be selected by the student, based on interest and the choice of area of concentration. Courses at the graduate level from other faculties may also be taken, with prior approval from the student's project supervisor and the Graduate Program Director. A maximum of 3 credits of FACC courses at the 500, 600, or 700 level may be credited toward the degree.

11.5.9 Master of Engineering (M.Eng.); Aerospace Engineering (Non-Thesis) (45 credits)

The M.Eng. Aerospace Degree is offered to the students who wish to specialize in the general area of aerospace engineering. This degree is given in conjunction with Concordia University, École Polytechnique, Université Laval, Université de Sherbrooke, and École de Technologie Supérieure. Students registered at McGill are required to take two courses from two other institutions.

Depending on their background, students would specialize in one of the four areas:

1. Aeronautics and Space Engineering
2. Avionics and Control
3. Aerospace Materials and Structures
4. Virtual Environment

Required Courses (9 credits)

MECH 687	(3)	Aerospace Case Studies
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MECH 688 (6) Industrial Stage

Complementary Courses (36 credits)

The other courses, depending on the area of concentration, will be chosen in consultation with an Aerospace Engineering Adviser. A maximum of 3 credits of FACC courses at the 500, 600, or 700 level may be credited toward the degree.

11.5.10 Master of Management (M.M.M.); Manufacturing Management (Non-Thesis) (57 credits)

Note: This program is either a 56- or 57-credit program.

Required Courses - General Business and Management (11 credits)

MGCR 651	(4)	Managing Resources
MGCR 652	(4)	Value Creation
MGSC 608	(3)	Data Decisions and Models

Complementary Courses - General Business and Management (6 credits)

6 credits from the following:

ACCT 624	(3)	Management Accounting: Planning & Control
INDR 603	(3)	Industrial Relations
ORGB 625	(3)	Managing Organizational Change
ORGB 632	(3)	Managing Teams in Organizations
ORGB 633	(3)	Managerial Negotiations
ORGB 640	(3)	The Art of Leadership
ORGB 685	(3)	Cross Cultural Management

Required Courses - Manufacturing and Supply Chain Operations (15 credits)

MECH 524	(3)	Computer Integrated Manufacturing
MGSC 602	(3)	Strategic Management of Operations
MGSC 603	(3)	Logistics Management
MGSC 605	(3)	Total Quality Management
MGSC 631	(3)	Analysis: Production Operations

Complementary Courses - Manufacturing and Supply Chain Operations (13 credits)

(12-13 credits)

6 credits from the following:

MECH 526	(3)	Manufacturing and the Environment
MGSC 575	(3)	Applied Time Series Analysis Managerial Forecasting
MGSC 601	(3)	Management of Technology in Manufacturing
MGSC 615	(3)	Procurement and Distribution

6-7 credits from the following:

0 or 6 credits from:

Discrete Manufacturing Option

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

0-7 credits from:

Process Manufacturing Option

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

Required Courses - Industry (12 credits)

MECH 627	(9)	Manufacturing Industrial Stage
MECH 628	(2)	Manufacturing Case Studies
MECH 629	(1)	Manufacturing Industrial Seminar

11.5.11 Doctor of Philosophy (Ph.D.); Mechanical Engineering

Candidates normally register for the M.Eng. degree in the first instance. However, in exceptional cases where the research work is proceeding very satisfactorily, or where the equivalent of the M.Eng. degree has been completed at another university, candidates may be permitted to proceed directly to the Ph.D. degree without submitting a master's thesis as long as they have satisfied the course requirements for the M.Eng. degree.

Thesis

Required Courses

MECH 700	(0)	Ph.D. Literature Review
MECH 701	(0)	Ph.D. Thesis Proposal
MECH 702	(0)	Ph.D. Comprehensive Preliminary Oral Examination

11.6 Mining and Materials Engineering

11.6.1 Location

Department of Mining and Materials Engineering
 M.H. Wong Building
 3610 University Street
 Montreal, QC H3A 2B2
 Canada

Email: barbara.hanley@mcgill.ca
 Website: www.mcgill.ca/minmat

Mining Engineering
 Telephone: 514-398-2215
 Fax: 514-398-7099

Materials Engineering
 Telephone: 514-398-4383
 Fax: 514-398-4492

11.6.2 About Mining and Materials Engineering

Graduate programs leading to M.Eng., M.Sc., and Ph.D. research degrees are available in the areas of Geomechanics, Mining Environments, Strategic Mine Planning and Optimization, Stochastic Modelling, Operations Research, Mineral Economics, Materials Handling, Process Metallurgy, Computational Thermodynamics, Hydrometallurgy, Effluent and Waste Treatment, Mineral Processing, Metal Casting and CFD Modelling, Surface Engineering, Composites, Ceramics, Electron Microscopy, Automotive and Aerospace Materials, Biomaterials, Nanomaterials, and Electronic and Solar Cell Materials.

Course programs leading to the M.Eng. (Project) degree in Mining or Materials Engineering and the Graduate Diploma in Mining Engineering are also available.

Special programs are available for those holding degrees in subjects other than Materials or Mining Engineering (e.g., Chemical, Civil, or Mechanical Engineering, Chemistry, Physics, Geology).

section 11.6.5: Master of Engineering (M.Eng.); Mining and Materials Engineering (Thesis) (45 credits)

The M.Eng. (Thesis) degree is open to graduates holding the B.Eng. degree or its equivalent in Materials Engineering, Mining Engineering, or other related engineering fields.

section 11.6.6: Master of Science (M.Sc.); Mining and Materials Engineering (Thesis) (45 credits)

The M.Sc. (Thesis) degree is open to graduates holding the B.Sc. degree in Chemistry, Materials Science, Physics, Geology, or related fields.

Direct Transfer from a Master's to a Ph.D. – Students enrolled in a master's program (Thesis) may transfer into the Ph.D. program without obtaining a master's degree if they have satisfied the following:

1. they have a minimum CGPA of 3.3 for the last two full-time undergraduate years;
2. they have been in the master's program for less than 15 months;
3. they have passed with the minimum CGPA of 3.6 at least three of the required master's courses, and given one seminar with a minimum grade of A-;
4. they have obtained a letter of recommendation from their supervisor.

Direct Entry from B.Eng. to Ph.D.

Exceptional B.Eng. graduates may be admitted directly to the Ph.D. program. The Ph.D. 1 students admitted through this process are required to complete at least four graduate-level courses.

M.Eng. (Project) Degrees

section 11.6.7: Master of Engineering (M.Eng.); Mining and Materials Engineering (Non-Thesis) (45 credits)

The Master of Engineering (Project) program (Materials Option) is primarily designed to train people with appropriate engineering or scientific backgrounds to allow them to work effectively in the metals and materials industries. The Master of Engineering (Project) program (Mining Option) is primarily designed for graduates from mining engineering programs who have received adequate academic training in modern mining technology, mineral economics, computer programming, and probabilities and statistics.

section 11.6.8: Master of Engineering (M.Eng.); Mining and Materials Engineering (Non-Thesis) — Environmental Engineering (45 credits)

This interdepartmental graduate program leads to a master's degree in Environmental Engineering. The objective of the program is to train environmental professionals at an advanced level. The program is designed for individuals with an undergraduate degree in engineering. This Non-Thesis degree falls within the M.Eng. and M.Sc. programs, which are offered in the Departments of Bioresource, Chemical, Civil, and Mining and Materials Engineering. The Environmental Engineering program emphasizes interdisciplinary fundamental knowledge, practical perspectives, and awareness of environmental issues through a wide range of technical and non-technical courses offered by collaborating departments and faculties at the University. Students are strongly encouraged to consult with the Graduate Program Director prior to enrolling in the program.

section 11.6.9: Doctor of Philosophy (Ph.D.); Mining and Materials Engineering

Please consult the Department for more information about the Ph.D.

section 11.6.10: Graduate Diploma in Mining Engineering (30 credits)

This program normally requires one academic year of full-time study to complete. Candidates are required to take an integrated group of courses based on their academic background.

11.6.3 Mining and Materials Engineering Admission Requirements and Application Procedures

11.6.3.1 Admission Requirements

The Graduate Diploma in Mining Engineering is open to graduates with suitable academic standing in any branch of engineering or science. It is designed to provide a sound technical mining engineering background to candidates intending to work in the minerals industry.

The M.Eng. (Thesis) degree is open to graduates holding the B.Eng. degree or its equivalent in Materials Engineering, Mining Engineering, or other related engineering fields.

The M.Sc. (Thesis) degree is open to graduates holding the B.Sc. degree in Chemistry, Materials Science, Physics, Geology, or related fields.

The Master of Engineering (Project) program (Materials Option) is primarily designed to train people with appropriate engineering or scientific backgrounds to allow them to work effectively in the metals and materials industries. Industrial experience is favourably viewed for entrance into the program, but is not considered a necessity.

The Master of Engineering (Project) program (Mining Option) is primarily designed for graduates from mining engineering programs who have received adequate academic training in modern mining technology, mineral economics, computer programming, and probabilities and statistics. Students without this academic training must follow a qualifying term. Industrial experience is favourably viewed for entrance into the program, but is not considered a necessity.

The Master of Engineering (Project) program (Environmental Engineering Option) is also offered.

Ph.D. degree applicants may either be “directly transferred” from the M.Eng. or M.Sc. program (see below) or hold an acceptable master's degree in Materials Engineering, Mining Engineering, or other related fields, or under exceptional circumstances may be admitted directly from the bachelor's degree. In the latter case they are admitted to Ph.D. 1 as opposed to those holding a master's degree that are admitted to Ph.D. 2.

11.6.3.2 Application Procedures

Applications will be considered upon receipt of:

1. application form;
2. two official copies of transcripts;
3. two letters of reference;
4. CAD\$100 application fee;
5. TOEFL test results.

All information is to be submitted directly to the Graduate Coordinator in the Department of Mining and Materials Engineering.

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult the following website: www.mcgill.ca/gradapplicants/programs. Then select the appropriate program.

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

11.6.4 Mining and Materials Engineering Faculty

Department Chair

Steve Yue

Graduate Program Director

George P. Demopoulos

Graduate Program Coordinator

Barbara Hanley

Emeritus Professors

John E. Gruzleski; B.Sc., M.Sc.(Qu.), Ph.D.(Tor.), Eng., F.C.I.M., F.A.S.M. (*Gerald G. Hatch Emeritus Professor*)

John J. Jonas; B.Eng.(McG.), Ph.D.(Cant.), Eng., F.A.S.M., F.R.S.C. (*Henry Birks Emeritus Professor*)

Gordon W. Smith; B.Eng., M.Eng., Ph.D.(McG.), Eng.

Professors

George P. Demopoulos; Dipl.Eng.(NTU Athens), M.Sc., Ph.D.(McG.), Eng., F.C.I.M. (*Gerald Hatch Faculty Fellow*)

Professors

Roussos Dimitrakopoulos; B.Sc.(Thessaloniki), M.Sc.(Alta.), Ph.D.(École Poly., Montr.) (*Canada Research Chair I*)
 James A. Finch; B.Sc.(Birm.), M.Eng., Ph.D.(McG.), Eng., F.C.I.M., F.R.S.C. (*Gerald G. Hatch Professor*)
 Raynald Gauvin; B.Eng., Ph.D.(Montr.), Eng.
 Roderick I.L. Guthrie; B.Sc., Ph.D.(Lond.), D.I.C., Eng., A.R.S.M., F.C.I.M., R.R.S.C. (*William C. Macdonald Professor*)
 Faramarz (Ferri) P. Hassani; B.Sc., Ph.D.(Nott.), C.Eng.(U.K. Reg.) (*George Boyd Webster Professor*)
 Hani S. Mitri; B.Sc.(Cairo), M.Eng., Ph.D.(McM.), Eng.
 Steve Yue; B.Sc., Ph.D.(Leeds) (*James McGill Professor*) (*Lorne Trotter Chair in Aerospace Engineering*)

Associate Professors

Mathieu Brochu; B.Eng.(Laval), Ph.D.(McG.) (*Canada Research Chair II*)
 Mainul Hasan; B.Eng.(Dhaka), M.Eng.(Dhahran), Ph.D.(McG.)
 Frank Mucciardi; B.Eng., M.Eng., Ph.D.(McG.), Eng.
 Showan Nazhat; B.Eng., M.Sc., Ph.D.(Lond.) (*Gerald Hatch Faculty Fellow*)
 Mihriban Pegguleryuz; B.Sc., M.Eng.(Flor.), Ph.D.(McG.)

Assistant Professors

Marta Cerruti; B.Sc., Ph.D.(Torino)
 Richard Chromik; B.Sc.(Penn. St.), M.Sc., Ph.D.(SUNY, Binghamton)
 In-Ho Jung; B.Sc., M.Sc.(POSTECH), Ph.D.(École Poly., Montr.) (*Gerald Hatch Faculty Fellow*)
 Nathaniel Quitarano; B.S.(Calif., Berk.), Ph.D.(MIT)
 Kristian Waters; M.Eng., M.Sc.(UMIST), Ph.D.(Birm.)

Post-Retirement Professor

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

Adjunct Professors

Mostafa Benzaazoua, Marc Betournay, Martin Bureau, Robin A.L. Drew, Daryoush Emadi, Elhachmi Essadiqi, Carlton Fuerst, Bryn Harris, Ahmad Hemami, Wynand Kleingeld, Eric Lifshin, Joe Stachulak, Serge Vézina

Lecturers

John Mossop; B.Eng.(McG.)
 Florence Paray; B.Eng.(CSP), M.Eng., Ph.D.(McG.)

11.6.5 Master of Engineering (M.Eng.); Mining and Materials Engineering (Thesis) (45 credits)**Thesis Courses (27 credits)**

MIME 690	(6)	Thesis Research 1
MIME 691	(3)	Thesis Research 2
MIME 692	(6)	Thesis Research 3
MIME 693	(3)	Thesis Research 4
MIME 694	(6)	Thesis Research 5
MIME 695	(3)	Thesis Research 6

Required Seminar (6 credits)

One of the following courses:

Note: MIME 672D1 and MIME 672D2 should be taken concurrently

MIME 670	(6)	Research Seminar 1
MIME 672D1	(3)	Rock Mechanics Seminar
MIME 672D2	(3)	Rock Mechanics Seminar
MIME 673	(6)	Mining Engineering Seminar

Required Courses (12 credits)

Four 3-credit courses or the equivalent.

11.6.6 Master of Science (M.Sc.); Mining and Materials Engineering (Thesis) (45 credits)

Thesis Courses (27 credits)

MIME 690	(6)	Thesis Research 1
MIME 691	(3)	Thesis Research 2
MIME 692	(6)	Thesis Research 3
MIME 693	(3)	Thesis Research 4
MIME 694	(6)	Thesis Research 5
MIME 695	(3)	Thesis Research 6

Required Seminar (6 credits)

One of the following:

Note: MIME 672D1 and MIME 672D2 should be taken concurrently.

MIME 670	(6)	Research Seminar 1
MIME 672D1	(3)	Rock Mechanics Seminar
MIME 672D2	(3)	Rock Mechanics Seminar
MIME 673	(6)	Mining Engineering Seminar

Required Courses (12 credits)

Four 3-credit courses at the graduate level or the equivalent.

11.6.7 Master of Engineering (M.Eng.); Mining and Materials Engineering (Non-Thesis) (45 credits)

Students registered in this program specialize either in Mining Engineering or Materials Engineering.

Research Project

(6-15 credits)

MIME 628	(6)	Mineral Engineering Project 1
MIME 629	(6)	Mineral Engineering Project 2
MIME 634	(3)	Mineral Engineering Project 3
MIME 682	(3)	Metallurgical/Materials Engineering Project 3

Required Courses (6 credits)

One of the following courses:

MIME 670	(6)	Research Seminar 1
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MIME 673 (6) Mining Engineering Seminar

Complementary Courses

(24-33 credits)

12 credits of 500-, 600-, or 700- level MIME courses

12 to 21 credits of 500-, 600-, or 700- level courses from within or, subject to Departmental approval, outside the Department.

11.6.8 Master of Engineering (M.Eng.); Mining and Materials Engineering (Non-Thesis) — Environmental Engineering (45 credits)

Students are strongly encouraged to consult with the Graduate Program Director prior to enrolling in this program.

Research Project (6 credits)

MIME 628 (6) Mineral Engineering Project 1

Required Courses (6 credits)

CHEE 591 (3) Environmental Bioremediation

CIVE 615 (3) Environmental Engineering Seminar

Complementary Courses (22 credits)

(minimum 22 credits)

Data Analysis Course

One of the following courses:

AEMA 611 (3) Experimental Designs 1

CIVE 555 (3) Environmental Data Analysis

PSYC 650 (3) Advanced Statistics 1

Toxicology Course

One of the following courses:

OCCH 612 (3) Principles of Toxicology

OCCH 616 (3) Occupational Hygiene

Water Pollution Engineering Course

One of the following courses:

CIVE 651 (4) Theory: Water / Wastewater Treatment

CIVE 652 (4) Biological Treatment: Wastewaters

CIVE 660 (4) Chemical and Physical Treatment of Waters

Air Pollution Engineering Course

One of the following courses:

CHEE 592 (3) Industrial Air Pollution Control

MECH 534 (3) Air Pollution Engineering

Soil and Water Quality Management Course

One of the following courses:

BREE 533	(3)	Water Quality Management
CIVE 686	(4)	Site Remediation

Environmental Impact Course

One of the following courses:

GEOG 501	(3)	Modelling Environmental Systems
GEOG 551	(3)	Environmental Decisions

or an approved 500-, 600-, or 700- level alternative.

Environmental Policy Course

URBP 506	(3)	Environmental Policy and Planning
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or an approved 500-, 600-, or 700- level alternative.

Elective Courses (11 credits)

(minimum 11 credits)

Another project course and/or Engineering or non-Engineering 500-, 600-, or 700- level course subject to approval of the Department.

The relevant Project course in Mining and Materials Engineering is the following:

MIME 629	(6)	Mineral Engineering Project 2
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11.6.9 Doctor of Philosophy (Ph.D.); Mining and Materials Engineering

A candidate for this degree must pass a minimum of two courses assigned by the Department. These are selected on the basis of the student's previous academic training and research interests. The candidate is required to participate in an appropriate Research Seminar course and is expected to take a preliminary examination within the first year of his/her Ph.D. registration.

The candidate must submit an acceptable thesis based upon successfully completed research and must satisfy the examiners in an oral examination of the thesis.

Thesis

11.6.10 Graduate Diploma in Mining Engineering (30 credits)

Required Course (6 credits)

MIME 673	(6)	Mining Engineering Seminar
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Complementary Courses (24 credits)

24 credits selected in consultation with the Program Adviser.

11.7 Urban Planning

11.7.1 Location

School of Urban Planning
Macdonald Harrington Building, Room 400

815 Sherbrooke Street West
 Montreal, QC H3A 2K6
 Canada

Telephone: 514-398-4075

Fax: 514-398-8376

Email: admissions.planning@mcgill.ca

Website: www.mcgill.ca/urbanplanning

11.7.2 About Urban Planning

McGill University was the first institution in Canada to offer a full-time planning program, starting in 1947. The School of Urban Planning was created in 1976 as a separate academic unit within the Faculty of Engineering. It shares a heritage building with the School of Architecture, right on the main open space of McGill's Downtown campus. The School has a strong track record of contributing to urban communities and to the profession of planning. It participates in the study of urban problems and in the formulation of policies and plans in Québec, elsewhere in Canada, and in developing regions.

The main objective of the School is to educate professional urban planners for leadership in the public, private, and not-for-profit sectors. It also prepares doctoral students for high-level research and teaching positions. The Master of Urban Planning (M.U.P.) is a two-year program with a strong emphasis on practical work in studio courses. The core program provides a general education in spatial planning in its functional, environmental, and social dimensions. Formal specializations are available in Urban Design and in Transportation Planning. M.U.P. students in the core program may also participate in the Barbados Field Study Semester, which focuses on global environmental issues. Details concerning these concentrations are available at www.tram.mcgill.ca, www.mcgill.ca/urbandesign, and www.mcgill.ca/bfs respectively.

The School's teaching and research activities pertain to community planning, environmental policy and planning, international development planning, land-use planning and regulation, transportation planning, and urban design. They occur at the local, national, and international levels and are often done in partnership with other McGill departments (notably Architecture, Civil Engineering, Geography, and Law) and with units at other institutions in Montréal, across Canada, and abroad. The School uses Montreal and its region as its main teaching laboratory, and it enjoys good relationships with the local, professional, and political communities.

Master of Urban Planning (M.U.P.) Program

The Master of Urban Planning (M.U.P.) program is a two-year course of study that attracts students from Québec, Canada, the U.S., and overseas. It is recognized by the Ordre des urbanistes du Québec (O.U.Q.) and the Canadian Institute of Planners (C.I.P.). Graduates may become full members of the O.U.Q. and other provincial planning associations by completing their respective internship and examination requirements. Similar requirements must be met for admission to the American Institute of Certified Planners (A.I.C.P.) and other such organizations.

Urban planning was developed as a profession in the early decades of the twentieth century thanks to joint efforts of architects, landscape architects, engineers, government reformers, lawyers, public-health specialists, and others. Today, students in the M.U.P. program come from diverse backgrounds as well, including the design professions, engineering and applied sciences, environmental and social studies, and other fields; most of them have gained some professional experience after their undergraduate studies. A key feature of planning education is learning to view issues in multidisciplinary ways and to generate equitable and efficient solutions to complex problems of urban change and development. The M.U.P. program was designed with a strong emphasis on project-based learning, i.e., practical work done in teams in a studio setting. About half of the curriculum is devoted to required courses that teach basic knowledge and skills in urban planning; the other half enables students to select courses that match their particular interests. Three studio courses, a summer internship, and a semester-long Supervised Research Project prepare them for professional practice and research. Students participate actively in professors' research programs or define their own research objectives, sometimes with their own research funding from major agencies (e.g., SSHRC, NSERC, FQRSC, FQRNT).

Graduates of the M.U.P. program work as planners, designers, and policy analysts, and as advocates and mediators, at various levels of government, in civil-society organizations, and with private consulting firms. Their expertise ranges from community planning to transportation planning, from policy-making in housing to computer-assisted decision-making. They devote their efforts in increasing numbers to sustainable development in its environment, social, and economic dimensions.

section 11.7.5: Master of Urban Planning (M.U.P.); Urban Planning (Non-Thesis) (66 credits)

The M.U.P. requires two years of study, including a three-month internship with a member of a recognized planning association. Upon completion, graduates are expected to have acquired basic planning skills, a broad understanding of urban issues, and specialized knowledge in a field of their own choice.

section 11.7.6: Master of Urban Planning (M.U.P.); Urban Planning (Non-Thesis) — Transportation Planning (66 credits)

The Transportation Planning option enables students to specialize in this field as part of their course of study for the M.U.P. degree. Studio courses, an internship, and a final project involve real-life work that prepares students for the professional practice of Urban Transportation Planning.

section 11.7.7: Master of Urban Planning (M.U.P.); Urban Planning (Non-Thesis) — Urban Design (66 credits)

NOTE: The Urban Design option is being suspended. Students interested in Urban Design will be able to specialize in this field of practice as part of the core M.U.P. program.

The Urban Design option allows students to specialize in this field as part of their course of study for the M.U.P. degree. Studio courses, an internship, and a final project involve real-life work that prepares students for the professional practice of Urban Design.

11.7.3 Urban Planning Admission Requirements and Application Procedures

11.7.3.1 Admission Requirements

The M.U.P. degree is open to students holding a bachelor's degree or equivalent in Anthropology, Architecture, Economics, Engineering, Environmental Studies, Geography, Law, Management, Political Science, Social Work, Sociology, or Urban Studies. Students from other backgrounds are considered for admission on an individual basis.

In addition to the documents for admission required by Graduate and Postdoctoral Studies, the following must be submitted:

1. Statement of specific interest in the area of Urban Planning (one to two pages)
2. Curriculum Vitae
3. Portfolio: For architects only, a portfolio containing at least five (5) examples of architectural work accomplished in school and in practice demonstrating creativity and imagination. All applicants interested in the urban design concentration may wish to submit such a portfolio. Portfolios are not to exceed 8½" x 11" in size.
4. 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 documented proof of competency in oral and written English. By the dates for guaranteed consideration, appropriate exam results must be submitted directly from the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing Systems) Office. The minimum requirement for the TOEFL test is as follows: PBT - 600, iBT - 100, with each component score not less than 23. The minimum score for the IELTS test is 7.0.

11.7.3.2 Application Procedures

Dates for Guaranteed Consideration

For dates for guaranteed consideration, please consult: www.mcgill.ca/gradapplicants/programs and select the appropriate program. McGill's online application form for graduate program candidates is available at www.mcgill.ca/gradapplicants/apply.

Awards and Financial Assistance

The School offers several fellowships and supports student applications to external grants from provincial and federal agencies. For information regarding awards and financial assistance, please refer to the *Graduate Fellowships and Awards Calendar* available at www.mcgill.ca/students/courses/calendars.

11.7.4 Urban Planning Faculty

Director

Raphaël Fischler

Emeritus Professor

Jane Matthews-Glenn; B.A., LL.B.(Qu.), D. en droit(Stras.)

Associate Professors

Madhav G. Badami; B.Tech., M.S.(IIT, Madras) M.E.Des.(Calg.), Ph.D.(Br. Col.) (*joint appt. with McGill School of Environment*)

Lisa Bornstein; B.Sc.(Calif., Berk.), M.R.P.(C'nell), Ph.D.(Calif., Berk.)

David F. Brown; B.A.(Bishop's), M.U.P.(McG.), Ph.D.(Sheff.)

Raphaël Fischler; B.Eng.(Eindhoven), M.Sc., M.C.P.(MIT), Ph.D.(Calif., Berk.)

Assistant Professors

Ahmed Elgeneidy; B.A.A., M.Arch.(Alexandria), Ph.D.(Port. St.)

Nik Luka; B.A.A.(Ryerson), M.Arch.(Laval), Ph.D.(Tor.) (*joint appt. with School of Architecture*)

Adjunct Professors

Cameron Charlebois, David Farley, Mario Polèse, Ray Tomalty

Guest Lecturers

Paul LeCavalier, Marc-André Lechasseur, Brenda Lee, Denis Lévesque, Pierre Morissette, Richard Shearmur, Larry Sherman, Alain Trudeau, Martin Wexler, Joshua Wolfe

11.7.5 Master of Urban Planning (M.U.P); Urban Planning (Non-Thesis) (66 credits)

The M.U.P. requires two years of study including a three-month internship with a member of a recognized planning association.

Research Project (15 credits)

URBP 630	(3)	Supervised Research Project 1
URBP 631	(6)	Supervised Research Project 2
URBP 632	(6)	Supervised Research Project 3

Required Courses (27 credits)

URBP 609	(3)	Planning Graphics
URBP 612	(3)	History and Theory of Planning
URBP 622	(6)	Planning Studio 1
URBP 623	(3)	Planning Studio 2
URBP 624	(6)	Planning Studio 3
URBP 633	(3)	Planning Methods
URBP 635	(3)	Planning Law

Required Internship (6 credits)

URBP 628	(6)	Practical Experience
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Complementary Courses

12-18 credits

In choosing courses from the following list, students are encouraged to complete at least one course in each of the four areas of design, environment, housing, and transportation.

ARCH 515	(3)	Sustainable Design
ARCH 520	(3)	Montreal: Urban Morphology
ARCH 521	(3)	Structure of Cities
ARCH 527	(3)	Civic Design
ARCH 528	(3)	History of Housing
ARCH 529	(3)	Housing Theory
CIVE 540	(3)	Urban Transportation Planning
URBD 602	(3)	Urban Design Seminar 1: Foundations
URBD 604	(3)	Urban Design Seminar 2: Advanced Topics
URBP 501	(2)	Principles and Practice 1
URBP 504	(3)	Planning for Active Transportation
URBP 505	(3)	Geographic Information Systems
URBP 506	(3)	Environmental Policy and Planning
URBP 507*	(3)	Planning and Infrastructure
URBP 519*	(6)	Sustainable Development Plans
URBP 520*	(3)	Globalization: Planning and Change
URBP 530	(3)	Urban Environmental Planning

URBP 536	(1)	Transportation Seminar 1
URBP 537	(1)	Transportation Seminar 2
URBP 538	(1)	Transportation Seminar 3
URBP 605	(3)	Graduate Seminar
URBP 607	(3)	Reading Course: Urban Planning
URBP 608	(3)	Advanced GIS Applications
URBP 616	(3)	Selected Topics 1
URBP 617	(3)	Selected Topics 2
URBP 618	(3)	Selected Topics 3
URBP 619	(3)	Land Use and Transportation Planning
URBP 620	(3)	Transportation Economics
URBP 625	(2)	Principles and Practice 2
URBP 626	(2)	Principles and Practice 3
URBP 629	(3)	Cities in a Globalizing World
URBP 634*	(3)	Planning Water Resources in Barbados

* Courses open only to students enrolled in the Barbados Field Study Semester.

Students may elect to complete a Field Study Semester in Barbados during the Fall term of their second year in the program. With this option, URBP 519 is substituted for URBP 624. Coursework must include URBP 507, URBP 520, and URBP 634. All other requirements for the M.U.P. degree apply.

Elective Courses

0-6 credits

Students may take courses at the 500- or 600- levels offered by any academic unit at McGill or at another Montreal university if they help students develop an in-depth knowledge of one or more subject areas in the field of planning, with the approval of the School. Frequent choices include courses in real-estate analysis, urban geography, sociology, anthropology, law, politics, and environmental science. Students must confirm prior to registration that the elective course(s) will be counted toward the M.U.P. degree.

11.7.6 Master of Urban Planning (M.U.P); Urban Planning (Non-Thesis) — Transportation Planning (66 credits)

The Transportation Planning Option enables students to specialize in this field as part of their course of study for the Master of Urban Planning degree (M.U.P.). Studio courses, an internship, and a final project involve real-life work that prepares students for the professional practice of urban transportation planning.

Research Project (15 credits)

URBP 630	(3)	Supervised Research Project 1
URBP 631	(6)	Supervised Research Project 2
URBP 632	(6)	Supervised Research Project 3

Required Internship (6 credits)

URBP 628	(6)	Practical Experience
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Required Courses (33 credits)

URBP 505	(3)	Geographic Information Systems
URBP 609	(3)	Planning Graphics
URBP 612	(3)	History and Theory of Planning
URBP 619	(3)	Land Use and Transportation Planning
URBP 622	(6)	Planning Studio 1

URBP 623	(3)	Planning Studio 2
URBP 624	(6)	Planning Studio 3
URBP 633	(3)	Planning Methods
URBP 635	(3)	Planning Law

Complementary Courses

6-12 credits from the following:

CIVE 540	(3)	Urban Transportation Planning
URBP 504	(3)	Planning for Active Transportation
URBP 506	(3)	Environmental Policy and Planning
URBP 536	(1)	Transportation Seminar 1
URBP 537	(1)	Transportation Seminar 2
URBP 538	(1)	Transportation Seminar 3
URBP 608	(3)	Advanced GIS Applications
URBP 620	(3)	Transportation Economics

Elective Courses

0-6 credits

Students may take courses at the 500- or 600-level offered by any academic unit at McGill or another Montreal university if they help students develop an in-depth knowledge of one or more subject areas in the field of planning, with the approval of the School. Frequent choices include courses in real-estate analysis, urban geography, sociology, anthropology, law, politics, and environmental science. Students must confirm prior to registration that the elective course(s) will be counted towards the M.U.P. degree.

11.7.7 Master of Urban Planning (M.U.P); Urban Planning (Non-Thesis) — Urban Design (66 credits)

The Urban Design concentration in the professionally-accredited M.U.P. degree enables students to specialize in this area of scholarship and professional practice in their second year of studies. Three studio courses, an internship, two intensive seminar courses, and a final Supervised Research Project in Urban Design enable students to prepare for professional practice as urban design specialists skilled in analysis and design development for existing (sub)urban landscapes and newly-urbanizing contexts. This option is open to students with a professional and/or undergraduate degree in Architecture, Landscape Architecture, Environmental Design, Urban Planning, or related fields. Qualified applicants are admitted to the core M.U.P. program and then apply to be placed in the concentration at the end of their first year of study. Successful applicants must meet the admission requirements for the core M.U.P. program and also demonstrate visual acuity, spatial literacy, and skills in graphic communication during their first two terms of study.

Research Project (15 credits)

URBP 630	(3)	Supervised Research Project 1
URBP 631	(6)	Supervised Research Project 2
URBP 632	(6)	Supervised Research Project 3

Required Internship (6 credits)

URBP 628	(6)	Practical Experience
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Required Courses (33 credits)

URBD 602	(3)	Urban Design Seminar 1: Foundations
URBD 604	(3)	Urban Design Seminar 2: Advanced Topics
URBP 609	(3)	Planning Graphics
URBP 612	(3)	History and Theory of Planning
URBP 622	(6)	Planning Studio 1

URBP 623	(3)	Planning Studio 2
URBP 624	(6)	Planning Studio 3
URBP 633	(3)	Planning Methods
URBP 635	(3)	Planning Law

Complementary Courses

9-12 credits from the following including at least one ARCH course and one URBP course:

ARCH 515	(3)	Sustainable Design
ARCH 520	(3)	Montreal: Urban Morphology
ARCH 521	(3)	Structure of Cities
ARCH 527	(3)	Civic Design
ARCH 561	(3)	Affordable Housing Seminar 1
ARCH 562	(3)	Affordable Housing Seminar 2
ARCH 566	(3)	Cultural Landscapes Seminar
URBP 504	(3)	Planning for Active Transportation
URBP 506	(3)	Environmental Policy and Planning
URBP 530	(3)	Urban Environmental Planning
URBP 616	(3)	Selected Topics 1
URBP 619	(3)	Land Use and Transportation Planning

0-3 credits can be selected from other courses at the 500 or 600 levels in any academic unit at McGill or at another university subject to the approval of the School.

ARCH 515	(3)	Sustainable Design
ARCH 528	(3)	History of Housing
ARCH 529	(3)	Housing Theory
ARCH 550	(3)	Urban Planning and Development
URBP 501	(2)	Principles and Practice 1
URBP 505	(3)	Geographic Information Systems
URBP 530	(3)	Urban Environmental Planning
URBP 605	(3)	Graduate Seminar
URBP 607	(3)	Reading Course: Urban Planning
URBP 617	(3)	Selected Topics 2
URBP 618	(3)	Selected Topics 3
URBP 619	(3)	Land Use and Transportation Planning
URBP 625	(2)	Principles and Practice 2
URBP 626	(2)	Principles and Practice 3
URBP 627	(1)	Urban Design Competition
URBP 629	(3)	Cities in a Globalizing World