University of Toronto

School of Graduate Studies 2008/2009 Calendar

63/65 St. George Street, Toronto, Ontario, Canada, M5S 2Z9

Mission Statement

The mission of the School of Graduate Studies is to promote excellence in graduate education and research University-wide and ensure consistency and high standards across the divisions. Sharing responsibility for graduate studies with graduate units and divisions, and operating through a system of collegial governance, consultation and decanal leadership, SGS defines and administers university-wide regulations for graduate education.

SGS also provides expertise, advice and information; oversees the design and delivery of programs; organizes reviews and develops performance standards; supports diversity, equity, fairness, and ethical conduct in graduate education; organizes services and financial assistance to graduate students; encourages a close and positive relationship between research and graduate instruction; and represents the cause of graduate education at the University of Toronto in the wider academic and general community.

Officers of the School of Graduate Studies

Dean of Graduate Studies and Vice-Provost, Graduate Education
S. Pfeiffer, BA, MA, PhD

Vice-Dean, Programs
E. A. Cowper, BA, AM, PhD

Vice-Dean, Students
J. J. B. Smith, BA, MA, PhD

Dean's Welcome

I am delighted to welcome you to the many graduate communities of the University of Toronto. We are proud of our accomplishments as a centre for graduate education that integrates advanced scholarship and research into every degree program. Please use this site to learn more about the excellent programs we offer.

Here at the largest graduate school in Canada, over 13,000 graduate students are studying in an extraordinary range of scholarly fields. The diversity of our departments, centres, and institutes means that the focus and expertise that you seek is very likely to be found within the graduate offerings at U of T. We also offer a number of interdisciplinary collaborative programs.

We welcome graduate applicants from around the world, inviting those who are successful to participate in advanced study that links research and scholarship with graduate training. We offer you a scholarly community of superb quality, one of the best academic library systems in the world, and a lively intellectual environment that sits within a remarkably cosmopolitan city.

You can investigate graduate studies at the University of Toronto more closely through the Web site: www.sgs.gradschool.utoronto.ca. That site is a gateway to the fields of study that you may choose.

Welcome to the University of Toronto's graduate school, where your intellect and aspirations can thrive.

With my best wishes for your academic success,

Susan Pfeiffer
Dean of Graduate Studies and
Vice-Provost, Graduate Education

About this Calendar

The *School of Graduate Studies Calendar* is pub-lished annually. It is posted on the SGS Web site at www.sgs.utoronto.ca in May. Published copies are printed by July and may be purchased using the online order form on the SGS Web site or in person from the SGS office at 63 St. George Street.

The *School of Graduate Studies Calendar* describes the broad range of graduate study opportunities available at the University of Toronto. It also contains policies and procedures related to graduate studies. The calendar is divided into six sections.

Section 1
General Regulations outlines admission, registration, enrolment, grading, and graduation policies and proce-dures. Selected policies and codes established by the University are also featured in this section with links to the full policy which is accessible online.

Section 2
Degree Regulations discusses general admission and degree requirements for programs offered by more than one graduate unit at the University. Specialized programs not mentioned in this section are described in the entry for the specific graduate unit offering the program.

Section 3
Fees and Financial Support
Fees schedules, types of fees, and fees for graduate student categories are explained.
Financial Support describes awards, assistantships, grants, and loans available to graduate students.

Section 4
Services for Students outlines University services avail-able to enhance graduate life at U of T. Look for student housing information in this section.

Section 5
Graduate Faculty members are appointed in one of three categories: full members, members emeriti, and associate members. Faculty with appointments as full members and members emeriti are listed alphabeti-cally, together with their home unit affiliation. Associate members are listed in the individual graduate unit entries in section 6.

Section 6
Graduate Programs. The largest component of the calendar features a comprehensive list of the graduate units that offer degree programs. The term "graduate unit" refers to a department, centre, or institute. The section is divided into three categories: degree programs, collabo-rative programs, and joint programs. Each graduate unit entry contains valuable information about the programs it offers together with admission and program requirements and courses of instruction. Faculty who are affiliated with the graduate unit are listed by appointment category. For additional details about a graduate program, visit the unit's Web site and/or consult the department's hand-book.

Important Notices

Changes in Programs of Study and/or Courses

The programs of study that the School of Graduate Studies Calendar lists and describes are available for the academic year September 1, 2008 to August 31, 2009. They may not necessarily be available in later years. If the University or the School must change the content of programs of study or withdraw them, all reasonable possible advance notice and alternative instruction will be given. However, the University will not be liable for any loss, damages, or other expenses that such changes might cause.

For each program of study offered by the University through the School of Graduate Studies, the courses necessary to complete the minimum requirements of the program will be made available annually. However, we must reserve the right otherwise to change the content of courses, instructors and instructional assignments, enrolment limitations, prerequisites and co-requisites, grading policies, requirements for promotion, and timetables without prior notice.

Regulations and Policies

As members of the University of Toronto community, students assume certain responsibilities and are guaranteed certain rights and freedoms.

The University has several policies that are approved by the Governing Council and which apply to all students. Each student must become familiar with the policies. The University will assume that he or she has done so. The rules and regulations of the School are listed in this calendar. In applying to the School, the student assumes certain responsibilities to the University and the School and, if admitted and registered, shall be subject to all rules, regulations and policies cited in the calendar, as amended from time to time.

All University policies can be found at www.governingcouncil.utoronto.ca/policies.htm. Those which are of particular importance to students are:
· Policy on Access to Student Academic Records
· Code of Behaviour on Academic Matters
· Code of Student Conduct
· Grading Practices Policy
· Policy on Official Correspondence with Students

More information about students' rights and responsibilities can be found at www.students.utoronto.ca/The_Basics/Rights_and_Rules.htm.

Enrolment Limitations

The University makes every reasonable effort to plan and control enrolment to ensure that all of our students are qualified to complete the programs to which they are admitted and to strike a practicable balance between enrolment and available instructional resources. Some-times such a balance cannot be struck and the number of qualified students exceeds the instructional resources that we can reasonably make available while at the same time maintaining the quality of instruction. In such cases, we must reserve the right to limit enrolment in the programs, courses, or sections listed in the calendar, and to withdraw courses or sections for which enrolment or resources are insufficient. The University will not be liable for any loss, damages, or other expenses that such limitations or withdrawals might cause.

Copyright in Instructional Settings

If a student wishes to tape-record, photograph, video-record, or otherwise reproduce lecture presentations, course notes or other similar materials provided by instructors, he or she must obtain the instructor's written consent beforehand. Otherwise, all such reproduction is an infringement of copyright and is absolutely prohibited. In the case of private use by students with disabilities, the instructor's consent will not be unreasonably withheld.

Person ID (Student Number)

Each student at the University is assigned a unique identification number. The number is confidential. The University, through the Policy on Access to Student Academic Records, strictly controls access to Person ID numbers. The University assumes and expects that students will protect the confidentiality of their Person ID's.

Notice of Collection of Personal Information

The University of Toronto respects your privacy. Personal information that you provide to the University is collected pursuant to section 2(14) of the University of Toronto Act, 1971. It is collected for the purpose of administering admission, registration, academic programs, university-related student activities, activities of student societies, financial assistance and awards, graduation and university advancement, and for the purpose of statistical reporting to government agencies. At all times it will be protected in accordance with the Freedom of Information and Protection of Privacy Act. If you have questions, please refer to www.utoronto.ca/privacy or contact the University Freedom of Information and Protection of Privacy Coordinator at 416 946-7303, McMurrich Building, Room 201, 12 Queen's Park Crescent West, Toronto, ON, M5S 1A8.

An expanded version of this Notice can be found at www.fippa.utoronto.ca/policy/nocx.htm

Fees and Other Charges

The University reserves the right to alter the fees and other charges described in the calendar.

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Academic Calendar 2008/2009

2008

M August 4	Civic Holiday
M August 11	Registration for September session begins
F August 29	Last date for payment of tuition fees to meet registration deadline
M September 1	Labour Day
M September 8	Most formal graduate courses and seminars begin in the week of September 8 [1]
F September 12	Registration for September session ends; after this date, a late registration fee will be assessed
M September 15	Final date to submit PhD theses to SGS to avoid fee charges for 2008-2009
F September 19	Coursework must be completed and grades submitted for summer session courses and extended courses
W September 24	Summer Session grades available for viewing by students on the Student Web Service
F October 3	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for Fall Convocation
F October 3	Final date to submit final PhD thesis for Fall Convocation
F October 3	Final date to add full year and September session courses [4]
M October 13	Thanksgiving Day
F October 31	Final date to drop September session full- or half-courses without academic penalty
November	Fall Convocation information and dates are posted at www.utoronto.ca/convocation, choose Fall
December	For last day of classes before Winter break, consult graduate units concerned

2009

M January 5	Most formal graduate courses and seminars begin in the week of January 5 [1]
F January 9	Final date for registration of students beginning program in January session; after this date, a late registration fee will be assessed
T January 13	Final date to submit PhD theses without fee payment for January session
F January 16	Coursework must be completed and grades submitted for September session courses [2]
F January 16	Final date to add January session courses [4]
W January 21	September session grades available for viewing by students on the Student Web Service
F January 30	Final date for receipt of degree recommendations and submission of any required theses for March or June graduation for master's students without fees being charged for the January session [3]
F January 30	Final date for all students to request that their degrees be conferred in absentia in March
F January 30	September dual registrants must be recommended for the master's degree by this date to maintain their PhD registration [3]
F February 27	Final date to drop full year or January session courses without academic penalty [4]
March	March graduation in absentia information is posted at www.utoronto.ca/convocation, choose March in absentia
F April 10	Good Friday
F April 24	For students obtaining degrees at June Convocation, course work must be completed and grades submitted for full year and January session courses

F April 24	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for June Convocation [3]
F April 24	Final date for submission of final PhD thesis for students whose degrees are to be conferred at the June Convocation
F April 24	Final date for degree recommendations of January dual registrants for the master's degree to maintain their PhD registration
May	For first day of summer classes, consult graduate unit concerned
F May 8	Final date for registration for May session
F May 15	Final date to enrol in May-June or May-August session courses
F May 15	Course work must be completed and grades submitted for full-year and January session courses (except for extended courses) [2]
M May 18	Victoria Day
W May 20	January Session grades available for viewing by students on the Student Web Service
June	Spring Convocation Information and Dates are posted at: www.utoronto.ca/convocation, choose Spring
F June 5	Final date to drop May/June F section courses without academic penalty
F June 26	Final date for registration for July-August courses
F June 26	Final date to drop May-August session Y section courses without academic penalty
W July 1	Canada Day Holiday
F July 24	Final date to drop July-August S section courses without academic penalty
F July 24	Coursework must be completed and grades submitted for May/June F Section Courses [2]
W July 29	Grades for May/June F Section Courses available for viewing by students on the Student Web Service

Notes

(1) The precise dates of commencement of courses are determined by the graduate units; students are urged to contact the relevant graduate units for information. The University policy states that the first day of classes in the September session in all teaching divisions should not be scheduled on the first and second days of Rosh Hashanah (from 1 1/2 hours before sunset on Monday, September 29 to about 1 1/2 hours after sunset on Wednesday, October 1) or on Yom Kippur (from about 1 1/2 hours before sunset on Wednesday, October 8 to about 1 1/2 hours after sunset on Thursday, October 9).

(2) Graduate units may establish earlier deadlines for completion of course work and may prescribe penalties for late completion of work and for failure to complete work, provided that these penalties are announced at the time the instructor makes known to the class the methods by which student performance shall be evaluated.

(3) For final dates for completing degree requirements, students should consult their own departments.

(4) Graduate units may establish earlier deadlines to add/drop courses. Please note that the last date to cancel a course or registration with no academic penalty is not the same as the last date to be eligible for a refund.

Divisional Structure

The graduate units (departments, centres, and institutes) are allocated into four divisions. Collaborative (interdisciplinary) Programs are designated as (CP); Joint programs are designated as (JP).

Division I - The Humanities

Ancient and Medieval Philosophy (CP)
Ancient Greek and Roman History (CP)
Art
Book History and Print Culture (CP)
Cinema Studies
Classics
Comparative Literature
Drama
East Asian Studies
Editing Medieval Texts (CP)
English
French Language and Literature
Germanic Languages and Literatures
History
History and Philosophy of Science and Technology
Jewish Studies (CP)
Italian Studies
Linguistics
Medieval Studies
Museum Studies
Music
Near and Middle Eastern Civilizations
Philosophy
Religion
Slavic Languages and Literatures
South Asian Studies (CP)
Spanish
Women and Gender Studies
Women and Gender Studies (CP)

Division II - The Social Sciences

Adult Education and Counselling Psychology
Anthropology
Architecture, Landscape, and Design
Asia-Pacific Studies (CP)
Community Development (CP)
Comparative, International and Development Education (CP)
Criminology
Curriculum, Teaching and Learning
Developmental Science (CP)
Dynamics of Global Change (CP)
Economics
Ethnic and Pluralism Studies (CP)
European, Russian, and Eurasian Studies
Financial Economics (JP)
Geography
Human Development and Applied Psychology
Industrial Relations and Human Resources
Information Studies
International Relations (CP)
Law
Management
Management and Economics (CP)
Political Science
Public Policy and Governance
Sexual Diversity Studies (CP)
Social Work
Sociology
Sociology and Equity Studies in Education
Theory and Policy Studies in Education

Division III - The Physical Sciences

Advanced Design and Manufacturing (JP)
Aerospace Science and Engineering
Astronomy and Astrophysics
Astrophysics (CP)
Biomedical Engineering
Biomedical Engineering (CP)
Chemical Engineering and Applied Chemistry
Chemistry
Civil Engineering
Computer Science
Electrical and Computer Engineering
Environment
Environment and Health (CP)
Environmental Engineering (CP)
Environmental Studies (CP)
Geology
Geology and Physics (CP)
Knowledge Media Design (CP)
Materials Science and Engineering
Mathematical Finance
Mathematics
Mechanical and Industrial Engineering
Optics (CP)
Physics
Statistics
Theoretical Astrophysics

Division IV - The Life Sciences

Aboriginal Health (CP)
Addiction Studies (CP)
Aging, Palliative and Supportive Care Across the Life Course (CP)
Biochemistry
Bioethics (CP)
Biomedical Toxicology (CP)
Biomolecular Structure (CP)
Biotechnology (JP)
Cardiovascular Sciences (CP)
Cell and Systems Biology
Dentistry
Developmental Biology (CP)
Doctor of Medicine/Doctor of Philosophy
Ecology and Evolutionary Biology
Exercise Sciences
Forestry
Genome Biology and Bioinformatics (CP)
Global Health (CP)
Health Care, Technology, and Place (CP)
Health Policy, Management and Evaluation
Health Services and Policy Research (CP)
Immunology
Laboratory Medicine and Pathobiology
Medical Biophysics
Medical Science
Molecular Genetics
Neuroscience (CP)
Nursing Science
Nutritional Sciences
Occupational Science and Occupational Therapy
Pharmaceutical Sciences
Pharmacology and Toxicology
Physical Therapy
Physiology
Psychology
Public Health Sciences
Rehabilitation Science
Speech-Language Pathology
Women's Health (CP)

General Regulations

Exemptions

The Council of the School of Graduate Studies has the power to waive the application of a regulation in individual cases. Such exemptions are granted only in exceptional circumstances and require the favourable recommendation of the graduate unit and of the School of Graduate Studies Admissions and Programs Committee.

Introduction

The University of Toronto began in 1827 as King's College at York, then the name of Toronto. Although master's degrees were being awarded by the middle of the nineteenth century, and the doctorate was established in the 1890s, the School of Graduate Studies did not become a distinct academic division within the University of Toronto until 1922. In 1965 the School was reorganized and expanded. Today it comprises about 80 departments, centres, and institutes, offering approximately 150 different graduate programs.

Most graduate units, although large enough to have a diversity of graduate courses, are small enough to allow students to have a sense of belonging to a recognized community of scholars, colleagues, and friends. The goal of graduate studies at the University of Toronto is to provide students with the best material and human resources to learn the methods and standards of research necessary to work professionally at the frontiers of knowledge. Research is central to graduate studies, particularly at the doctoral level. Research-oriented training conveys the importance of keeping pace with a subject, the knowledge of which is always changing. It fosters intellectual curiosity and a creative response to problems. It encourages the student to communicate original discoveries effectively.

In the educational process, the graduate student comes to grips with the phenomenon of emerging knowledge. The process enriches the individual as well as the community participating in the exercise. The training and experience is valuable for all areas of work, whether one is teaching in a university, working in government, industry, private enterprise, or pursuing a professional career.

Research-oriented graduate training provides the means to embark on a lifelong voyage of intellectual discovery, an opportunity and challenge that gives graduate studies pre-eminence in formal education.

Organization of the School of Graduate Studies

The School of Graduate Studies is responsible for the oversight of all graduate programs in the University of Toronto and for developing and implementing appropriate regulations and operating procedures for admissions, programs of study, and completion of degree requirements. Individual graduate units are responsible for maintenance of the official academic records of graduate students.

According to its Constitution, the School of Graduate Studies is governed by a Council and is organized into four divisions. Each of the departments, centres, and institutes (referred to generally as graduate units) belongs to one of the divisions.

The Divisions

Division I – Humanities
Division II – Social Sciences
Division III – Physical Sciences
Division IV – Life Sciences

Graduate Education Council

The Graduate Education Council is an academic advisory body reporting to the Governing Council of the University of Toronto. The Council consists of 35 elected members and numerous ex-officio members. Each division elects five faculty members and three students to the Council; the President of the Graduate Students' Union is an ex-officio member. There are three administrative staff seats. The Council is chaired by the Dean.

The Council is primarily responsible for determining policies and regulations affecting the administration and operation of graduate studies, and for advising Governing Council on initiatives in graduate studies. The Council is concerned with the quality of graduate education across the university as a whole.

Graduate Units

Graduate units (including departments, centres, and institutes) offer degree programs and courses and conduct research.

Each graduate student is enrolled in one of the graduate departments/centres/institutes which offer graduate study. Interdisciplinary studies may be undertaken within collaborative programs, but a student must first register in a home graduate unit. The graduate unit is responsible for ensuring that each student is admitted and enrolled in an appropriate program of studies and is responsible for thesis/research supervision in conformity with the policies and procedures of the School of Graduate Studies.

The Coordinator of Graduate Studies is responsible for the administration of graduate affairs within the unit, under the direction of the chair or director.

School of Graduate Studies Centres and Institutes

The centres and institutes within the School of Graduate Studies have two major roles: the creation and development of graduate interdisciplinary programs of teaching and of research, and the fostering of new disciplines where these cannot proceed easily within the existing University structure.

Some centres and institutes do not offer degree programs in their own areas, but offer teaching through seminars and through the sponsorship of collaborative programs.

The list of SGS Centres and Institutes is available at www.sgs.utoronto.ca/gradadmin/admin/centres.asp.

Graduate Programs

Graduate programs are listed alphabetically in the Graduate Programs section of this Calendar. They are also described on the University of Toronto Web site at www.gradschool.utoronto.ca.

Degree Programs

A diverse range of both research-oriented and professional programs are offered at both the master's and doctoral levels.

Collaborative Programs

The School of Graduate Studies currently offers more than 35 graduate collaborative programs. Collaborative programs emerge from cooperation between two or more graduate units. The collective experience of the participating graduate units provides the student with a broader base from which to explore a novel interdisciplinary area or some special development in a particular discipline.

The student must be admitted to, and enrol in, one of the collaborating graduate units and must fulfil all the requirements for the degree in the home unit and any additional requirements of the collaborative program. Each collaborative program is designed to allow a focus in the area of specialty. On successful completion of the program, the student receives a transcript notation.

Combined Programs

The University of Toronto offers a number of combined programs involving two existing degree programs in different disciplines. The combination may comprise two graduate programs or a graduate and an undergraduate program. In most cases, the combination involves at least one professionally oriented program.

Diploma Programs

A limited number of graduate diploma programs are offered.

Conjoint Programs

The University of Toronto and the Toronto School of Theology offer a limited number of graduate conjoint programs.

Joint Progams

The University of Toronto participates in three joint degree programs involving collaboration between two or more graduate units or universities.

Graduate Faculty

Responsibility for directing all elements of graduate teaching and supervision rests with members of the graduate faculty.

Appointments to the graduate faculty are made by the chairs and directors of the graduate units in the School. Appointments are made in one of three categories:
associate member
full member
member emeritus.

Graduate faculty membership permits an instructor to perform specified functions. An associate member may generally be permitted to teach graduate courses, supervise master's theses, assist in the supervision of doctoral theses and serve as a voting member of a final oral examination but not as chair. A full member may perform all duties of an associate member as well as act as major supervisor of a doctoral thesis and chair of a final oral examination. A member emeritus may be permitted to chair a final oral examination and carry out one or more of the

duties of a full member. Members emeriti may continue to serve as major supervisor of a doctoral or master's thesis but only take on new supervision with the approval of the graduate chair or director.

Student Categories

The University offers admissions to two categories of graduate students: Degree or Diploma Student and Special (non-degree) Student.

Degree or Diploma Student

A degree or diploma student is registered in a graduate program in the School of Graduate Studies.

A degree student who has completed all requirements for the PhD degree exclusive of thesis research will be designated as a doctoral candidate in the School of Graduate Studies.

Degree or Diploma Student on Probation

When credentials are from a university where the program of study cannot readily be appraised by the graduate unit, the applicant may be required to register on probation for a period of at least 4 months and not more than 12 months. Applicants must hold a recognized degree with appropriate standing.

After 4 months, but before the end of 12 months, the graduate unit may wish to recommend to the School that the student's probationary status be removed. Work completed during the period on probation will be credited towards the degree program. Students whose probationary status is not removed may remain registered on probation for the remainder of the academic year but will not be permitted to continue after that.

Special (non-degree) Student

Two categories of Special Students are described below. Special Students are not enrolled in a program of study which may lead to a degree. All Special Students must be enrolled in at least one graduate course; some may be enrolled in both undergraduate and graduate courses.

Special Student—Full Time

Students who are changing disciplines or require preparatory work may be admitted as full-time Special Students and enrol in a full-time program of study not leading to a degree.

Special Student—Part Time

Students wishing to take one or two graduate courses not for degree credit are admitted as part-time Special Students. Those accepted with less than mid-B standing may not apply for admission to a degree program at a later date.

Admission Standards and Procedures

The School's admission standards and procedures are designed so that students entering a graduate program may normally have the capacity and preparation necessary to meet the challenge of the program effectively. The regulations for admission specify minimal requirements only. Many graduate units have additional requirements. Meeting the minimal requirements of the graduate unit and the School does not guarantee admission.

The University reserves the right to determine whether or not credentials of other degree-granting institutions meet the standards for admission to University of Toronto programs. Admissions decisions are final and are not appealable.

The University may confer upon a person more than one graduate degree having the same title provided the degrees are completed in different fields of study.

Academic Requirements for Admission

Master's Programs
1.   An appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, is required. Under exceptional circumstances, for applicants with a three-year degree, equivalency may be demonstrated, for example, through relevant work experience or additional qualifications.
2.   High academic standing equivalent to a University of Toronto mid-B or better, normally demonstrated by an average grade in the final year or over senior courses, is required.
3.   At least two letters of reference are required.
4.   Other qualifications as may be specified by a graduate unit.

Doctor of Philosophy Programs
1.   An appropriate University of Toronto master's degree, or its equivalent from a recognized university, is required. Direct entry from a four-year bachelor's degree to a PhD program is also available when permitted by the graduate unit. See also Admission Requirements under Degree Regulations.
2.   An average grade equivalent to a University of Toronto B+ or better in a previous master's degree program. Where relevant, demonstrated research competence equivalent to at least a B+ grade will be considered. For direct entry applicants, an average grade equivalent to a University of Toronto A- or better in courses in the relevant discipline.
3.   At least two letters of reference are required.
4.   Other qualifications as may be specified by a graduate unit.

Other Doctoral Programs
1.   Normally, an appropriate University of Toronto master's degree, or its equivalent from a recognized university, is required. See appropriate graduate unit entry for specific details.

2. An average grade equivalent to a University of Toronto B+ or better in master's courses. Where relevant, demonstrated research competence equivalent to at least a B+ grade will be considered.
3. At least two letters of reference are required.
4. Other qualifications as may be specified by a graduate unit.

Applicants who graduated five or more years ago but without achieving sufficiently high standing for admission to the School may be considered for admission if, since graduation, they have done significant, intellectual work and/or made a significant professional contribution which can be considered equivalent to a higher academic standing. This contribution and its impact on the profession must be detailed and documented (e.g., publications, research, professional advancement, development of new skills, responsibility, etc.) and presented as part of the application. Such applicants may be considered for admission if they have achieved qualifications at least equivalent to those stated in the preceding sections and if a graduate unit so recommends.

Special Student Programs

Special Students must submit an application for admission for each academic year of study.

Applicants accepted as Special Student–Full Time must have completed an appropriate University of Toronto four-year bachelor's degree or its equivalent from a recognized university. They must have attained an average grade in the final year (or over senior courses) equivalent to mid-B or better.

Applicants accepted as Special Student–Part Time must hold an appropriate University of Toronto four-year bachelor's degree, or its equivalent, from a recognized university. Before applying, applicants should specify the courses they wish to take and obtain approval from the teaching graduate unit or graduate units.

Those accepted with less than mid-B standing may not apply for admission to a degree program at a later date.

Courses Taken as a Special Student

On the recommendation of the graduate unit, and with the School's approval, graduate courses taken as a Special Student may count for up to one full-course equivalent or 25% of the course requirements for the degree, whichever is greater, in a subsequent degree program at this University, provided that they have not already been credited towards another degree, diploma, certificate, or any other qualification. With the approval of the graduate unit, they may serve to satisfy prerequisite requirements. Special Students programs must include at least one graduate course. Any tuition fees paid as a Special Student cannot be transferred to a subsequent degree program.

English Language Facility

It is essential that all incoming graduate students have a good command of English. Facility in the English language must be demonstrated by all applicants educated outside Canada whose primary language is not English. This is a requirement of admission and should be met before application, but must be met before an offer of admission is made. This requirement may be satisfied using one of the following tests. Test results that are older than two years at the time of application cannot be accepted. The applicant must retake the English language facility test. Minimum scores are shown; however, many graduate units require a higher score, and applicants should consult the graduate unit to determine whether a higher minimum score applies.

Test of English as a Foreign Language (TOEFL)

Educational Testing Service
P. O. Box 6151
Princeton, New Jersey
U.S.A., 08541-6151
Web: www.toefl.org

TOEFL Minimum Score Requirements			
Consult the department to which you are applying to determine if a higher minimum score is required.			
ACADEMIC DIVISION	Paper-Based Test and TWE	Computer-Based Test and Essay Rating	Internet-Based Test and Writing and Speaking Sections
Humanities	Overall score 580 TWE 5	Overall score 237 Essay Rating 5	Overall score 93 Writing 22 Speaking 22
Social Sciences	Overall score 580 TWE 5	Overall score 237 Essay Rating 5	Overall score 93 Writing 22 Speaking 22
Physical & Engineering Sciences	Overall score 580 TWE 4	Overall score 237 Essay Rating 4	Overall score 93 Writing 22 Speaking 22
Life Sciences	Overall score 580 TWE 5	Overall score 237 Essay Rating 5	Overall score 93 Writing 22 Speaking 22

The TOEFL examination is offered in three formats: the traditional paper-based format (only offered on specific dates in a limited number of countries), the computer-based format (offered year-round), and the internet-based format (offered year-round). Applicants registering for the paper-based TOEFL must include the Test of Written English (TWE) component. The internet and computer-based tests include a component similar to the TWE; the internet-based test also includes a speaking section. All applicants must satisfy the minimum TOEFL score requirements set by each of the four SGS academic divisions listed in the accompanying chart.

Michigan English Language Assessment Battery (MELAB)
English Language Institute (ELI)
University of Michigan
Ann Arbor, Michigan
U.S.A., 48109-1057
Web: www.lsa.umich.edu/eli/melab.htm
Required score: 85

International English Language Testing System (IELTS)
University of Cambridge Local Examinations Syndicate
1 Hills Road
Cambridge, U.K.
CB1 2EU
Web: www.ielts.org
Applicants may also contact their nearest British Council Office. Please note that applicants must take the academic module of this test.
Required score: 7.0

The Certificate of Proficiency in English (COPE)
COPE Testing Limited
429 Danforth Avenue
P.O. Box 462
Toronto, Ontario
M4K 1P1
E-mail: info@copetest.com
Web: www.copetest.com
Required score: 76 minimum total with at least 22 in each component and 32 in writing

International ESL-Academic Preparation Level 60 (Advanced)
School of Continuing Studies
University of Toronto
158 St. George Street
Toronto, Ontario
M5S 2V8
E-mail: scs.registrar@utoronto.ca
Web: www.learn.utoronto.ca/esl
Required score: B

Eligibility of Senior Faculty Members
Members of the faculty of the University or its federated or affiliated colleges, senior in rank to Lecturer, are normally not eligible to be graduate students proceeding to a degree at the University of Toronto. Exceptions may be granted by the SGS Admissions and Programs Committee when it is confident that the graduate program is sufficiently remote from the faculty member that academic impartiality is not compromised.

Application for Admissions to a Degree Program

Procedures

1.   Formal application for admission should be submitted using the Online Application accessible through the graduate units. Applicants must pay an application fee of $100. (Some graduate programs have set higher application fees – see Payment options: (a) online using a credit card; (b) by mail using one of two methods (i) certified cheque or money order in Canadian funds made payable to the University of Toronto; (ii) Master Card or Visa credit card. No decision on the application will be sent to the applicant until this fee has been paid.

2.   Applicants must arrange to have one official copy of their complete academic records from all universities attended included with their application. Letters of reference are also required. Individual graduate units may require further documentation.

3.   Certified English translations of all international documentation written in a language other than English or French must also be submitted.

Application Deadlines

The graduate unit determines the date by which applicants should submit their applications, supporting documentation, and at least two letters of reference to be assured that they will be considered for a place in the program of their choice and for financial support. Applications received after the posted date will be considered if places and awards are still available, but early application is recommended.

For specific information on application and financial support deadlines, contact the graduate unit offering the program to which you are applying.

Earlier submission is recommended for applications from outside Canada to ensure timely arrival, particularly where special documentation (and/or translation) and proof of English language facility are required.

Not all graduate units offer January admission. Consult the graduate unit concerned for more information.

Financial Assistance

For detailed information about fellowships, see calendar section titled Fees and Financial Support.

Acceptance

1.   Applications for admission are decided by the graduate unit. The official acceptance letter is issued by the School of Graduate Studies. Admissions decisions are final and are not appealable.

2.   Applicants who are offered acceptance pending receipt of final transcripts must submit one official copy of their final transcripts to the graduate unit before final acceptance can be approved. If final transcripts do not indicate that the expected degree has been conferred, official documentation indicating the anticipated date of degree conferral must be submitted before registration.

3.   Normally students accepted to the School of Graduate Studies must commence their program of study on the date specified in their letter of acceptance. If circumstances prevent a student from starting study on the specified date, the graduate unit may decide that the offer of admission be valid for a period not to exceed 12 months from the original commencement date. In such a case, an official transcript will be required to document any new study completed in the interim. If the period exceeds 12 months from the original date of expected commencement, a new application must be submitted.

4.   If the graduate unit approves, students accepted to begin their programs in September will be permitted to start the preceding summer. Students taking courses during the summer will pay the Summer Session fee (academic and incidental), which is additional to the Fall and Winter Session fee. Students engaged only in research do not pay Summer Session fees.

Structure of Academic Programs

Academic Year

In the School of Graduate Studies, the academic year begins in September and ends in August. The academic year is divided into three sessions: the Fall Session from September to December, the Winter Session from January to April, and the Summer Session from May to August.

Academic Programs

Academic programs leading to graduate degrees are defined by the units which offer them and by the degree regulations found in the Graduate Programs section for the EdD, PhD, MA/MSc, MASc., MEd, MEng, and MHSc For other degrees, consult the relevant graduate unit listing in the Graduate Programs section of this Calendar or on the Web at www.sgs.utoronto.ca.

Minimum Period of Registration (formerly Program Length)

All academic programs specify a minimum period of registration defined as the shortest length of time a student must be registered in that program on a full-time basis in order to qualify for the degree. This period also establishes the minimum degree fee students must pay.

Residence

Many programs specify a period of residence during which the student is required to be on campus and consequently in such geographical proximity as to be able to participate fully in the university activities associated with the program. Residence provides the student with an opportunity to become immersed in the intellectual environment of the university.

Full-time Studies

Full-time graduate students are defined according to government regulations as follows:
1.   They must be pursuing their studies as a full-time occupation and identify themselves as full-time graduate students.
2.   They must be designated by the University as full-time students.
3.   They must be geographically available and visit the campus regularly.
4.   They must be considered to be full-time students by their supervisors.
5.   If an academic program requires an absence from the University, students must apply through their graduate unit for permission to be off campus.

Part-time Studies

From first registration, part-time studies are permitted in those master's degree programs offering a part-time program.

Students wishing to take one or two courses not for degree credit are admitted as part-time Special Students, in any session.

Time Limits

All degree requirements must be completed within a specific period of time. See Degree Regulations and Lapsed Status section below.

Registration Policies and Procedures

Registration Procedures

Graduate students are required to register at the beginning of each session they wish to attend. New graduate students will receive registration instructions prior to the registration dates listed in the Academic Calendar. Students may access Registration Instructions on the Web at www.sgs.utoronto.ca.

Students registering in programs offered by the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT) should consult OISE/UT for information.

For the Fall and Winter Sessions, registration material and a Fees Invoice are sent to the student's mailing address. Every effort is made to ensure that only students who are eligible to register receive registration material. However, receiving it does not override any other notification students receive about academic status and eligibility. New students who have received a conditional offer of admission should make arrangements with their graduate unit to clear conditions as soon as possible. The first step to registration is the payment of fees or arrangements to pay such fees. The second step is the presentation of the fees receipt to the graduate unit and collection of a School of Graduate Studies Handbook.

A student is considered to be registered as soon as academic and incidental fees are paid or arrangements for deferral of fees payment have been made.

Summer Session Courses

All students, whether attending formal courses or engaging in research or project work, must register for the Summer Session. Summer Session registration instructions are usually sent to the student's current address or to the graduate unit in April. Doctoral, MSc, and MASc. students register for the September-August or January-August period when they first register in September or January, and therefore are already registered for the Summer Session.

In addition to a large program of research supervision and independent study, the School of Graduate Studies offers a limited number of graduate courses for credit towards higher degrees during the summer. Many undergraduate courses will also be available for persons requiring prerequisite work in order to enter graduate programs. Students should consult the undergraduate calendars of the faculties of interest.

Summer courses are equivalent to those offered during the Fall and Winter Sessions but vary in duration and thus in frequency of meeting. Some courses will last 12 to 14 weeks while others will meet for only 7 weeks. In some cases, prerequisite courses will be six weeks long.

For persons attending the May-August session, the maximum possible load is two full courses. The maximum load in the May-June or July-August period is one full course or equivalent.

First Registration

Students beginning their degree programs normally register for the first time in September. In some cases graduate units may give permission for new students to start their programs either in January, May, or July.

Continuity of Registration

Failure to register as required will cause a student's registration to lapse. See Lapsed Status below.

Doctoral Students

Doctoral students must register annually until all degree requirements have been fulfilled.

Full-Time Master's Students

Once they have first registered, full-time master's students, in other than course-work only programs, must register annually in September until all degree requirements have been completed.

Full-time master's students in course-work only programs must register initially for the minimum registration period and thereafter for each session in which they are completing requirements for the degree. All full-time master's students who have completed the minimum period of registration may not register as part-time students.

Prior to completing all courses in a course-work only program, and with the permission of their graduate unit, master's students admitted to a full-time program may 'stop out' between sessions. However, no change is made to the time limit for completing the degree.

Part-Time Master's Students

Master's students proceeding to their degree on a part-time basis register in those sessions in which they are completing course requirements for the degree. When all course requirements have been completed, they must register annually until all other requirements have been completed.

Master's students are advised to consult their graduate units for further information on continuity of registration requirements, particularly with regard to the Summer Session; many graduate units expect their students to be registered for all three sessions.

Students are reminded that there are time limits for all degree programs.

Late Registration Fee

Since it is the student's responsibility to ensure that proper registration is completed on time, late registration will be subject to an additional fee as specified in the Fees and Financial Support section of this Calendar.

Failure to Register

Students will not receive credit for work completed during a session in which they have not registered.

Extension of Time for Completion of Degree Requirements

In exceptional circumstances, a degree student who has failed to complete all the requirements for the degree within the period specified in the degree regulations may be considered for a maximum of two one-year extensions provided that the graduate unit concerned so approves. To apply for an extension, the student must present to the graduate unit concerned the causes for the delay and evidence that the remaining degree requirements may be completed within the period of the extension request. See also section under Degree Regulations, Doctor of Philosophy, Program Requirements, titled Time for Completion of Program Requirements.

Lapsed Status

If a student or candidate fails to register, or is not permitted to register because the time limit for the degree sought has elapsed, registration in the School lapses. Normally, students or candidates whose registration has lapsed may not make demands upon the resources of the University, attend courses, or expect advice from their supervisor. There are two states of lapsed status, as noted below.

Before the Time Limit for the Degree has Expired

Failure to register as required within the time limit specified for the degree sought will result in lapsed status. An application for reinstatement is required and must be approved both by the graduate unit and the School, and payment is made of the prescribed fees for the year(s) in which the student or candidate failed to register.

After the Time Limit for the Degree has Expired

After the time limit for the degree has elapsed and further extensions cannot be recommended, a candidate may not register further and registration in the program is considered to have lapsed. In special circumstances, a candidate may be reinstated once only, for a maximum of 12 months. See Time for Completion of Program Requirements section in the PhD regulations. These regulations apply by analogy to master's students including those who have outstanding requirements other than a thesis.

Simultaneous Registration

Simultaneous registration in two full-time programs is not permitted. With the consent of both graduate units concerned, or of the graduate unit and another faculty or school, and written notification to the School of Graduate Studies, simultaneous registration in a full-time program and a part-time program may be permitted. Two part-time registrations in different programs may also be permitted. Students are responsible for the fees charged for both programs.

Dual Registration

A student in a master's program at this University who has been offered admission to a PhD program conditional on completion of the master's program, may be a dual registrant for only one session in both programs under the following conditions.
1.   A minimal amount of work remains to complete the requirements for the master's degree. A student may enrol in a maximum of one half-course for the master's program in the one session of dual registration with the approval of the graduate unit.
2.   Permission has been granted by the graduate unit.
3.   The student will be engaged in full-time PhD studies and will be registered full-time in the PhD and part-time in the master's program. Only the appropriate PhD fees will be charged.
4.   The period of dual registration will be either September 1 to January 31 or January 1 to April 30.

In order to receive credit for the PhD for the period as a dual registrant, the student must be recommended for the award of the master's degree by January 31 for September dual registrants, or by April 25 for January dual registrants. Otherwise, the PhD registration will be cancelled, no credit for the PhD will be allowed, and the student will continue to be registered as a master's student only. An appropriate fees adjustment will be made so that the student will be charged fees only as a master's student. PhD course credit will be retained for courses completed in the period of dual registration provided the graduate unit has informed the School.

Students who are not recommended for the master's degree by the deadline and whose enrolment in the PhD is thereby cancelled may not apply for dual registration a second time. They must successfully complete the requirements for the master's degree before registering in the PhD program.

Leave Policy

Graduate students whose programs require continuous registration may apply to their Graduate Coordinator for a one-session to three-session leave during their program of study for

1. serious health or personal problems which temporarily make it impossible to continue in the program, or
2. parental leave by either parent at the time of pregnancy, birth or adoption, and/or to provide full-time care during the child's first year. Parental leave must be completed within twelve months of the date of birth or custody. Where both parents are graduate students taking leave, the combined total number of sessions may not exceed four.

Once on leave, students will neither be registered nor will they be required to pay fees for this period. In general, students on leave may not make demands upon the resources of the University, attend courses, or expect advice from their supervisor. As an exception, students on leave for parental or serious health reasons who wish to consult with their supervisor or other faculty are advised to make special arrangements through their department. Students on leave will not be eligible to receive University of Toronto fellowships support. In the case of other graduate student awards, the regulations of the particular granting agency apply.

Students may make application for a leave by completing the Leave Request Form and submitting it to their Graduate Coordinator for approval. The form is then sent to the School of Graduate Studies for processing. The termination date of the degree program will be extended by the duration of the leave taken, i.e., one, two, or three sessions as appropriate. Except for parental leave or in exceptional circumstances, it is not expected that a student will be granted more than one leave under the terms of this policy. Normally the start and finish of the leave would coincide with the start and end of a session. When students require a leave to begin in mid-session, they are advised to contact the Director of Student Services at the School of Graduate Studies to make special arrangements.

Leave requests that do not fall under the terms of this policy will require final approval from the School of Graduate Studies.

Withdrawal from a Graduate Program

In order to withdraw from a program, students must submit a Program Change Form to the School of Graduate Studies and return student cards to the School. Withdrawal from a graduate program should be reported immediately to the School. A rebate of fees, if any, will be determined by the date on which written notification of withdrawal is received by the School. Any application for re-admission by a student who has withdrawn must be made in competition with all other applicants.

Students enrolled in course-work only degree programs who withdraw from all courses in which they are currently enrolled must withdraw from their programs. The School will approve recommendations from the graduate units that such students be eligible to re-register at any time within 12 months following withdrawal.

Enrolment Policies and Procedures

Graduate Courses

A graduate course is understood to require at least two hours per week of lectures or seminars plus such laboratory hours as may be required.

Enrolment

After registration, students enrol with their graduate units and arrange programs of study (courses, research topics, supervisors, and so on). Students should contact the graduate unit for enrolment procedures. Enrolment should be completed by the deadline noted in the Academic Calendar.

Most of the formal classes and seminars in the Fall Session begin in the week of September following the week in which Labour Day falls. However, starting dates are determined by the graduate units, and students are urged to contact the relevant graduate units for information.

Not every course will be given in any one year. Consult the graduate unit concerning course availability.

Deadlines for Enrolment Changes

Graduate units may establish earlier deadlines for course changes. Courses must be dropped by completing a Program Change Form or by using the Web service (if the department permits access). In order to avoid academic penalties, courses must be dropped by the following deadlines.

Oct. 3, 2008	Deadline to add full courses (Y) and half-courses (H).
Oct. 31, 2008	Deadline to drop a Fall Session full course or half-course without academic penalty.
Jan. 16, 2009	Deadline to add Winter Session full courses (Y) and half-courses (H).
Feb. 27, 2009	Deadline to drop a full course (Y) or Winter Session half-course (H), or withdraw from a program without academic penalty.

Students enrolled in course-work only programs who drop all courses by the deadlines, must withdraw from the program. See Withdrawal from a Graduate Program, above.

Completion of Course Work and Grade Submission

Course work must be completed and grades submitted by the following dates:

Jan. 16, 2009	Fall Session (Y, H) courses
May 15, 2009*	Fall/Winter Session (Y) and Winter Session (Y, H) courses *For students receiving degrees at Spring Convocation, grades must be submitted by April 24.
Sep. 18, 2009	Summer Session courses and ex-tended courses

Graduate units may establish earlier deadlines for completion of course work and may prescribe penalties for late completion of work and for failure to complete work, provided that these penalties are announced at the time the instructor makes available to the class the methods by which student performance shall be evaluated.

Course Work Extensions

Students are expected to meet the course deadlines both of the School and of the graduate units in which they are registered and are advised to plan their research projects accordingly. Students who find themselves unable to meet SGS deadlines for completing course work can, under certain conditions, receive extensions for completing the work after the date set by SGS.

Petitions for course work extensions

The authority to grant an extension for the completion of work in a course beyond the original SGS deadline for that course rests with the graduate unit in which the course was offered, not the instructor of the course. Students will petition the graduate unit for extensions, using a standard form provided by SGS.

The deadline for requesting an initial extension is the deadline for completion of course work and grade submission for courses offered in the relevant session, as specified in this calendar.

A student on extension who is unable to complete the required course work in the extension period specified by the graduate unit may apply to the graduate unit for a continuation of the extension (subject to the time-limits and deadlines for extensions, set out below); however, the student must make such a request before the expiry date of the extension period in place.

Grounds for course work extensions

Legitimate reasons for an extension can be academic in nature - e.g., unexpected problems of research in a course - or non-academic - e.g., illness. In order to ensure as much uniformity and fairness as possible in the granting of extensions (or continuations of extensions), the relevant graduate unit must be reasonably certain that:
a)   the reasons for the delay are both serious and substantiated: the student is to provide a statement detailing the reasons, together with a physician's letter in the case of illness;

a)   the student would not be granted an unfair academic advantage over fellow students in the course;
a)   the student would not be placing in jeopardy the normal and satisfactory completion of new course work; and
a)   the student does have a reasonable chance of completing outstanding requirements within the time to be allotted.

Time-limits for course work extensions

If a graduate unit grants a petition for an extension, it must specify an extension period, which is not to run beyond the SGS deadline for completion of course work and grade submission following the original SGS deadline for the course. Thus, the deadlines for course extensions are as follows:

May 15, 2009	Fall Session (Y, H) courses
Sep. 18, 2009	Fall/Winter Session (Y) and Winter Session (Y, H) courses
Jan. 15, 2010	Summer Session courses and extended courses

A graduate unit may grant a continuation of an extension that is already in place provided that it does not extend the total period of the extension beyond the foregoing deadlines.

Extensions beyond these deadlines will require the approval of both the graduate unit and the SGS Admissions and Programs Committee.

Grade-reporting procedures

The graduate unit will assign the temporary course report of 'SDF' ('Standing Deferred') to a student on extension, pending receipt from the instructor of a final course report. The final course report will take the form either of a regular grade or of the non-grade report 'INC' ('Incomplete'), as appropriate. It is due no later than the SGS deadline for completion of course work and grade submission following the original one for the course. If, by that date, a final grade is not available and the student has not submitted the outstanding course work, then the report of 'SDF' will be replaced by one of 'INC'. This will be a permanent transcript entry. (Amendments will require the approval of the SGS Admissions and Programs Committee.)

SGS and home graduate unit notification

Graduate units are to notify SGS of extensions no later than the original deadlines for submitting grades for the relevant courses or, in case of continuations, no later than the expiry dates of the original periods of extension, providing in each case the new deadline for completion of course work.

A graduate unit should, in addition, notify the graduate unit in which the student is registered when it is not the same as the one granting the extension.

Extra Courses Not Required for the Degree

Graduate units may permit students to enrol in additional courses not required for the degree. Such courses must be so designated on the student's enrolment form. These courses are subject to the same regulations regarding withdrawal, failure, and failure to complete work as are courses required for the degree, except that repetition or replacement of failed or incomplete courses may be waived by the graduate unit.

Prerequisite Courses

At least B- is required in all prerequisite courses but some graduate units may require a higher average; students should consult the graduate unit in advance.

Reading and/or Research Courses

Reading and/or research courses should involve as much reading and work as a normal seminar or other type of graduate course; written work should be a requirement of the course. Reading and/or research courses are subject to the grading practices policy in the same way as any other course.

Only faculty holding a graduate appointment may direct a reading and/or research course, and they must hold a faculty appointment in the graduate unit where the course is being offered, normally in the student's home graduate unit. In general, both the student and instructor should be on campus and the frequency of their meeting should be consistent with other courses.

Approval to take a reading and/or research course is given by the graduate unit.

Seminar/Workshop Courses

Some graduate units offer seminar/workshop courses. These courses vary in format and delivery from unit to unit, and they may or may not count towards the number of courses required for the completion of a degree program. Consult the home graduate unit for details and program requirements.

Auditing of Graduate Courses

Graduate units determine if they wish to allow auditing of their courses and which groups of students and non-students specified in the University's Policy on Auditing of Courses they wish to allow. When auditing is allowed, the final decision to permit an individual to audit rests with the instructor of the course. In all cases, students registered in the University who wish to audit courses have priority over others. An auditor may attend lectures and other class meetings, take part in class discussions, and, when the appropriate fee is paid, receive written confirmation of attendance. An auditor will not receive evaluations of participation and will not be allowed to submit assignments or write examinations and tests except by special and express permission. Audited courses are not recorded on the student's official transcript. The University's Code of Student Conduct applies to auditors. Further information about access, Certificates of Attendance, and fees for auditing may be obtained from the graduate school's Office of the Director of Student Services.

Good Academic Standing and Satisfactory Academic Progress

To be in good academic standing, a student registered in a degree program in the School of Graduate Studies must:
1.   comply with the General Regulations of the School as well as with the Degree Regulations and program requirements governing that degree program; and
2.   make satisfactory progress toward the completion of the degree.

All degree students are admitted under the General Regulations of the School, described in the General Regulations section of this Calendar. The Degree Regulations for the various doctoral and master's degrees offered by the School are specified in the Degree Regualtions section of this Calendar and in the Graduate Programs section, under the entry of the graduate unit offering the graduate program leading to the relevant degree. The specific requirements for the various graduate programs offered in the School are described under the entry of the graduate unit offering the program.

Failure to maintain good academic standing may result in various sanctions, including ineligibility for fellowships, lowest priority for bursaries and assistantships, and even termination. The School may terminate the registration and eligibility of a student
1.   who fails to comply with the General Regulations of the School, the relevant Degree Regulations, or the specific degree requirements of the graduate unit in which the student is registered or
2.   who fails to maintain satisfactory progress in the degree program in which the student is registered, as measured either by the general standards of the School or by the specific ones of the graduate unit.

Full-Time Studies

Students registered as full-time students in the School of Graduate Studies must be engaged in their studies on a full-time basis, as required by government regulations for full-time graduate studies. (See "Full-time Studies", above.) A full-time student may be absent from the University for an extended period or may participate in a program offered by another university if and only if the student has received written permission from the graduate unit in which he or she is registered. A graduate student who, in a given session, is absent from the University without receiving prior approval may lose good academic standing. In exceptional cases, a graduate unit may recommend to the School the termination of the student's registration and eligibility.

Timely Completion of Graduate Program Requirements

Each graduate unit establishes specific requirements for degree programs, in addition to those of the School, as well as standards of satisfactory performance and progress. These requirements and standards are described in the appropriate entry in the Graduate Programs section of this Calendar and in material published separately by graduate units. Continuation in a degree program requires satisfactory progress toward the completion of that program. A student's progress in a degree program will be considered satisfactory only if the student satisfies and completes the various requirements for that degree in a manner consistent with the graduate unit's time line for completion of the degree. A graduate unit may recommend to the School that a student's registration and degree eligibility be terminated when a student fails to maintain satisfactory progress toward the completion of the degree.

Satisfactory Completion of Graduate Courses

Satisfactory performance in a degree program requires the completion of every course taken for graduate credit with a grade of at least a B-; some graduate units may require a minimum grade above a B- for some or all courses. If a student fails to complete a graduate course in a satisfactory manner (i.e., receives a grade report of 'FZ' or 'NCR' in a course, receives a grade report below the minimum acceptable by the graduate unit, or receives a non-grade report of 'INC'), then the graduate unit in which the student is registered may recommend to the School the termination of registration and eligibility of that student. If the student is permitted to continue, he or she must repeat the relevant course, or an alternative course recommended by the graduate unit and approved by the School, and obtain a satisfactory grade. (The report for the course that was not completed in a satisfactory manner as well as the report for the repeated or alternative course will appear on the student's academic record.)

Supervision and Satisfactory Progress in a PhD Program

A PhD student is expected, with the assistance of the graduate unit, to select a supervisor and, with the assistance of the supervisor and graduate unit, to constitute a supervisory committee, consisting of the supervisor and at least two other members of the graduate faculty, as early as practicable in the student's program but, in any case, no later than the time specified by the time frame established by the graduate unit. The student's choice of supervisor and supervisory committee is subject to the approval of the graduate unit in which the student is registered. A student who encounters difficulties setting up a supervisory committee should consult the chair/director or the graduate coordinator of the graduate unit in advance of the relevant deadline. A student who fails to constitute a supervisory committee by the required time may lose good academic standing.

A student is expected to meet with this committee at least once a year, and more often if the committee so requires. At each meeting, the supervisory committee will assess the student's progress in the program and provide advice on future work. If in each of two consecutive meetings, a student's supervisory committee reports that the student's progress is unsatisfactory, the graduate unit may recommend to the School the termination of registration and eligibility of that student. A student who encounters difficulties arranging a meeting of this committee should consult the chair/director or the graduate coordinator of the graduate unit in advance of the relevant deadline for doing so. A student who, through the student's own neglect, fails to meet with the supervisory committee in a given year will be considered to have received an unsatisfactory progress report from the committee.

Time Limit for Completion of Program Requirements in a PhD Program

A student enrolled in a full-time (as opposed to a flexible-time) PhD degree program will be denied further registration in that program and will have his or her eligibility terminated at the end of the third year of registration, in the case of a four-year program, or at the end of the fourth year of registration, in the case of a five-year program, if by that time either
1. the student has not completed all requirements for the degree exclusive of thesis research—including course requirements, language requirements, qualifying departmental examinations—or
2. the student does not have an approved thesis topic, supervisor, or supervisory committee.
Note: The foregoing time limit does not apply to courses that run continuously throughout the program, e.g., ongoing research seminar courses.

In exceptional circumstances, a student who has not met these requirements may be permitted to register in the program for two further sessions at the discretion of the graduate unit concerned. Continuation beyond two sessions will require the approval of both the graduate unit and the SGS Admissions and Programs Committee.

Completion of the program requirements identified above will signal the achievement of candidacy.

Academic Appeals

General

Graduate students may dispute substantive or procedural academic matters, including grades, evaluation of comprehensive examinations and other program requirements; decisions about the student's continuation in any program; or concerning any other decision with respect to the application of academic regulations and requirements to a student. Decisions related to admission to an academic program, including admission to the doctoral program for current master's students, are not subject to appeal. Appeals must be initiated within the student's home graduate unit unless the appeal relates to a course outside the home unit, in which case, it must be initiated in the graduate unit in which the course was taken, upon notification to the student's home graduate unit chair.

Exception

The process of academic appeal described in this policy must be followed for all disputes except appeals related to failure of a final PhD oral examination or related to termination of registration in a program. Such appeals must be made directly to the SGS Graduate Academic Appeals Board (GAAB). These appeals begin at Graduate Appeal Step 3. In some such cases, the Chair of GAAB may refer the appeal to the Graduate Department Academic Appeals Committee (GDAAC) for prior consideration and a recommendation to GAAB. The GDAAC does not have the right to overturn a failed final PhD oral examination result or a termination of registration, but may recommend that such a decision be considered further by GAAB.

Informal Mediation

At any stage prior to filing an appeal with the SGS Graduate Academic Appeals Board, a student may consult the relevant SGS Vice-Dean for advice and/or informal mediation. The Vice-Dean will serve as informal mediator, attempting to resolve the dispute or clarify issues. Timelines are not affected by mediation. Consultation with the Vice-Dean at an early stage is encouraged.

Steps

The overall graduate appeals process is set out in the table below. Students should note the timelines for each stage carefully.

Step 1 – Informal

In the case of dispute, students must first attempt to resolve the matter with the instructor or other person whose ruling is in question. Should the matter not be resolved with the instructor, and should the student wish to pursue the matter, the student must discuss the matter with the graduate coordinator or associate chair of the department.

Step 2 – Department-level Appeal

Should such discussions fail to resolve the matter, the student may make a formal appeal in writing to the Graduate Department Academic Appeals Committee (GDAAC). The student must complete a Notice of Appeal to the GDAAC; a copy of this Notice is available from the graduate coordinator or associate chair in every graduate department. This form must be completed and delivered to the chair of the department or the chair of GDAAC within the specified timeline of 8 weeks from the date of the decision under appeal. The Chair of the Committee will determine, at his or her sole discretion, whether the appeal will proceed by way of an oral hearing and/or written submissions. In either case, at the conclusion of the hearing and/or review of the written submissions, the GDAAC will make a recommendation to the chair of the graduate department regarding the merits of the appeal. The chair will then render the department-level appeal decision. Guidelines for chairs are made available to all parties in an appeal.

Step 3 – Appeal to GAAB

1. The student may appeal from the decision of the chair of the department by filing a Notice of Appeal to the SGS Graduate Academic Appeals Board (GAAB) within 8 weeks of the decision of the Chair.
2. Appeal to GAAB is the first step for a student who is making an appeal regarding the failure of the final PhD oral examination or termination of registration in a graduate program.

Step 4 – Governing Council Appeal

A decision of the Graduate Academic Appeals Board (GAAB) may subsequently be appealed by a student to the Governing Council's Academic Appeals Committee, in accordance with its guidelines and procedures. An appeal to this Committee shall be commenced by filing a notice of appeal with its Secretary no later than ninety days after the date of the GAAB decision under appeal.

STEPS AND TIMELINES		
TIMELINE FOR STUDENT ACTION AT EACH STAGE *See Note A below*	**STEP** *See Note B below*	**TIMELINE FOR DECISION/ ACTION BY UNIVERSITY BODY AT EACH STAGE** *See Note C below.*
	1. Informal a. Student to instructor b. Student to graduate coordiantor	
8 weeks from date of decision being appealed	**2. Department-level Appeal** Notice of Appeal to GDAAC[1] Note: Appeals related to failure of the final PhD oral examination or to termination of registration in a graduate program must be made directly to GAAB[2] – see Step 3b below.	**8 weeks** from filing of Notice of Appeal to GDAAC[1]
a. **8 weeks** from decision of chair b. **8 weeks** from written notification of failure of the final PhD oral examination or termination of registration in a graduate program	**3. SGS Appeal** a. Notice of Appeal to GAAB[2] b. Appeal begins here for students who wish to appeal failure of the final PhD oral examination or termination of registration in a graduate program.	**8 weeks** from filing of Notice of Appeal to GAAB[2]
90 days from decision of GAAB[2]	**4. Governing Council Appeal** Notice of Appeal to GCAAC[3]	N/A

Note A: A student may apply, in writing and with reasons, for an extension of time. Such applications may be made to the Chair of GDAAC for department-level appeals or to the GAAB for SGS-level appeals. Any extension is within the discretion of the GDAAC Chair, or the GAAB, as appropriate, where the view is that compelling reasons exist. (Consult with the GCAAC Secretary regarding those guidelines and procedures).

Note B: Informal mediation is available via the SGS Vice-Dean at any stage before filing an appeal with the GAAB. Consultation with the Vice-Dean at an early stage is encouraged.

Note C: The chair of the appeal body retains discretion to extend time limits applicable to its response at any stage where, in its view, compelling reasons exist.

[1] Graduate Department Academic Appeals Committee
[2] Graduate Academic Appeals Board
[3] Governing Council Academic Appeals Committee

Policies

Important School of Graduate Studies policies affecting graduate students are included in the SGS Calendar. However, there are numerous additional policies and guidelines affecting graduate studies. These appear on the SGS Web site at www.sgs.utoronto.ca/current/policies/index.asp. Furthermore, University of Toronto-wide policies affecting students are posted at www.governing-council.utoronto.ca/policies.htm.

Graduate Grading and Evaluation Practices Policy

There are currently two grading policies affecting graduate students: the Graduate Grading and Evaluation Practices Policy (GGEPP) and the University Grading Practices Policy (UGPP). Both are under review. The text of the GGEPP is provided here. The university-wide policy is accessible at www.governingcouncil.utoronto.ca/policies/grading.htm.

Purpose

The purpose of the Graduate Grading and Evaluation Practices Policy is to ensure:
1. that grading practices in the School of Graduate Studies are consistent with those throughout the University and reflect appropriate academic standards;
2. that the evaluation of student performance is made in a fair and objective manner against these academic standards;
3. that grade scales in the School of Graduate Studies are compatible with those in other divisions of the University.

Application of Policy

The Policy applies to all individuals and committees taking part in the evaluation of student performance in courses in the School of Graduate Studies.

Amendment to Policy

Amendments to the Policy shall be recommended by the School of Graduate Studies Council through the Committee on Academic Policy and Programs to the Academic Board.

Distribution of Policy

A copy of the Graduate Grading and Evaluation Practices Policy shall be published in the SGS Calendar. A copy of the Calendar or other document containing the policy shall be given to all students upon initial registration and to all instructors and others involved in the evaluation of student performance.

The Policy is in three parts: Part I deals with grades, Part II outlines grading procedures, and Part III is the administrative appendix from the University Grading Practices Policy for undergraduate divisions, available upon request from the Graduate Student Services Office.

Part I: Grades

Meaning of Grades

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well he or she has command of the course materials.

I.1   A grade assigned in a course is not an assessment of standing within a program of studies. To determine the requirements for credit and standing in a program of studies, the academic regulations of the School of Graduate Studies and the appropriate graduate department, centre or institute should be consulted.

I.2   Grades for each course shall be assigned with reference to the following meanings:

Excellent
Good
Adequate
Inadequate

Grade Scales

I.3   Courses taken for graduate credit are assigned a letter grade according to the School of Graduate Studies usage as follows:

Letter Grade	Grade Meaning
A+	
A	Excellent
A-	
B+	
B	Good
B-	
FZ	Inadequate

Wherever an undergraduate course taken by a graduate student is assigned a numerical grade, the mark will be translated into a letter grade according to the following equivalencies:

Letter Grade	Grade Meaning
A+	90-100%
A	85-89%
A-	80-84%
B+	77-79%
B	73-76%
B-	70-72%
FZ	0-69%

Credit/No Credit Courses

A special category of graduate courses designated in graduate unit listings will be graded Credit (CR) or No Credit (NCR). Such courses are to be offered at the option of the graduate unit and must have the approval of the executive committee of the appropriate Division. CR and NCR evaluations are assigned for courses in which only very broad distinctions in assessing the quality of student performance are judged appropriate.

Non-Grade Course Reports

The following non-grade course reports may appear on transcripts:

INC   Incomplete: Assigned as a final report by a graduate unit review committee or SGS Vice-Dean on the basis of incomplete course work in special circumstances (e.g., medical reasons or when there are no grounds for assigning a failing grade). INC carries no credit for the course and is not considered for averaging purposes.

IPR   In Progress: Assigned by the instructor as the report for a course which is continued in a subsequent session or program. The final grade for the course will appear only once and only for the last enrolment period. IPR carries no credit for the course and is not considered for averaging purposes.

NGA   No Grade Available: Assigned by the division in the extraordinary case that a grade is not available for one of its students enrolled in a course. It must be replaced by a regular grade assigned by the instructor or by another symbol assigned during the divisional review. It carries no credit for the course and is not considered for averaging purposes.

SDF   Standing Deferred: Assigned by a graduate unit review committee to a student who has been granted an extension for the completion of course work beyond the SGS deadline for completion of course work, pending receipt from the instructor of a final course report. A final course report is due no later than the SGS deadline for completion of course work and grade submission following the original one for the course. If, by that date, a final grade is not available and the student has not submitted the outstanding course work, then the report of 'SDF' will be replaced by a final report of 'INC'. SDF carries no credit for the course and is not considered for averaging purposes.

TRF   Program Transfer: Assigned by the School of Graduate Studies to a continuing research/seminar course begun but not completed in the first program and not required in the new program to which the student has been officially transferred.

WDR   Withdrawal without academic penalty: Assigned by the graduate unit review committee, when there are extenuating circumstances, upon approval of the student's request for late withdrawal from a course. It carries no credit for the course and is not considered for averaging purposes.

All grade revisions must be submitted to the School according to the SGS revised grade procedures.

I.4   A table of correspondence and a translation table are defined in the appendix for each letter grade scale included in the University Grading Practices Policy in order to allow the conversion, when necessary, of a grade assigned from one scale to the corresponding grade in the other.

Grade Reporting
I.5   All letter grades assigned to graduate students enrolled in School of Graduate Studies courses shall be from the same scale, but, where approved, the CR/NCR scale may also be used. The grades assigned in a course must all be from the same scale except that non-SGS students in graduate courses will be assigned grades from the refined letter grade scale or the numerical scale of marks as found in Part III.
I.6   Grades in each course shall be reported according to the practice of the division administering the program in which the student is registered (the reporting division).
a)   Grades shall be reported as assigned when the division offering the course is also the reporting division, when the offering and reporting divisions use the same

grade scale, and when the grades are assigned from the H/P/FL or CR/NCR scales.
b)   In all other cases, grades shall be reported as converted to the scale used by the reporting division, and the conversion shall be made according to the tables of correspondence and translation tables defined in the appendix.
I.7   A list of the currently approved non-grade symbols and their meanings from the University Grading Practices Policy is given in the appendix. Those used by the School of Graduate Studies appear above and have in some cases been modified for graduate courses.
I.8   The information in grade reports and transcripts must be communicated to the user, whether within or outside the University, in a clear and meaningful way. To that end, transcripts issued by the School of Graduate Studies must indicate the relationships between the graduate grade scale, the grade meanings, the basic letter grade scale and the scale of numerical marks as well as the translation table. A list of non-grade symbols and meanings shall also be included in the transcript.

Part II: Grading Procedures

Course Procedures
II.1 To ensure that the method of evaluation in every course reflects appropriate academic standards and fairness to students, the School has adopted these regulations governing course procedures.
a)   As early as possible in each course (and no later than the School's last date for course enrolment), the instructor shall make available to the class, and shall file with the department, centre or institute, the method(s) by which student performance shall be evaluated.
This information should describe the method(s) (essays, tests, examinations, seminar presentations, etc.), the relative weight of these method(s) in relation to the overall grade, and the timing of each major evaluation.
Any penalties for late completion of, and for failure to complete work, should be announced at the time the instructor makes available to the class the method(s) by which student performance shall be evaluated.
b)   After the method(s) of evaluation have been made known, the instructor may not change them or their relative weight without the consent of at least a simple majority of the students enrolled in the course. Any changes shall be reported to the department, centre, or institute.
c)   The relative value of each part of an examination shall be indicated to the student at the time of the examination. In the case of a written examination, the value of each part shall be indicated on the examination paper.
d)   Commentary, appropriate in the instructor's judgement, on assessed work, other than final examinations, and time for discussion of it shall be made available to students. Commentary, appropriate in the instructor's judgement, on final examinations and time for discussion of it shall be made available to students at their request.
e)   Grades shall be recommended by the instructor in reference to the approved grade scales on the basis of each student's performance.

Examinations

II.2

a)   Students should be provided with clear information about the expectations of the examiners, including the types of anticipated questions.

b)   Students should have the opportunity to review their answers in written examinations within four months of the reporting of the grades. A recovery fee may be set to cover administrative costs, including photocopying.

c)   The School has developed a procedural guide for the re-reading, by an external reviewer, of examinations written for courses by graduate students. It is to be used only when departmental appeal mechanisms have been exhausted. Costs of preparing materials for the external reader are shared between the graduate unit and the student.

Other Departmental Assessments

II.3   Departments, centres, or institutes may expect graduate students to complete requirements for a degree other than course work, such as departmental examinations, language examinations, field work or internships. Graduate students should be given a written statement describing the evaluation processes. It is appropriate that departmental evaluations of performance in these settings should accord with the principles enunciated in the other sections of this Graduate Grading and Evaluation Practices Policy, and that the effect upon deadlines of disruptions to academic programs, as described below, be taken into account. Students should also be informed of procedures for appeal.

Grade Review and Approval Process

II.4

a)   Grades shall be recommended by the instructor to the chair or director, or designate, of the graduate department, centre or institute. The grades shall then be reviewed and approved following the graduate unit's procedure. Grades shall not be reported or released to students as official until this review procedure has been carried out. Normally, the graduate unit's review and approval by the chair or director constitutes final approval of grades, under the authority of the Dean of the School. Grades may be changed on appeal by the student, following the procedures of the School. Decisions regarding these matters will be made by the chair of the department.

b)   The distribution of grades in any course shall not be predetermined by any system of quotas that specifies the number or percentage of grades allowable at any grade level.

c)   The graduate unit's review of grades may result in the request for clarification of the evaluation methods used, or of apparent anomalies in the list of grades in a course. In the case of anomalies, the chair or director, or designate, must discuss the grade(s) with the instructor; no grade should be changed without such discussion. In the event the matter is not settled to the mutual satisfaction of the chair or director, or designate, and the instructor, the matter shall be referred to the Vice-Dean of SGS. If it is not settled at that level it should be referred to

the Dean of the School whose authority for the assigning and reporting of grades is final (subject only to the formal appeals procedures of the School).

d)   At any time, the School may request an explanation of any grades for a course that appear not to be based on the approved grade scales or otherwise appear anomalous in reference to this Policy.

Exceptional Circumstances and Academic Appeals

II.5

a)   Students with health problems or other personal circumstances which may adversely affect their performance in, or their ability to complete course work, examinations or other departmental assessments may request special consideration. Requests, supported by a medical certificate, or other appropriate evidence, should be submitted to the instructor or the coordinator of graduate studies as soon as possible or within 48 hours of the deadline or date of assessment. The medical certificate must confirm the student was adversely affected by the health problems and must show the dates of illness and that the physician was consulted at the time of the illness.

b)   Students may on occasion dispute substantive or procedural academic matters, including grades. The recommended route for the resolution of such disputes is to discuss the matter first with the instructor or the person whose ruling is in question. If the dispute persists, the student may wish to pursue a formal academic appeal – see Academic Appeals in the General Regulations section of this Calendar.

Conflict of Interest

II.6   When the instructor or a student has a conflict of interest, or is in a situation where a fair and objective assessment may not be possible, this should be disclosed to the chair or director, or designate, who shall take steps to ensure fairness and objectivity.

Procedures in the Event of Disruption

II.7

a)   In the event of disruption of the graduate academic program, the following principles shall apply:

i.   the academic integrity of academic programs must be honoured; and

ii.   students must be treated in a fair manner, recognizing their freedom of choice to attend class, and to use academic facilities, or not, without penalty. Decisions regarding these matters will be made by the chair of the department.

b)   The Vice-President and Provost, or the Academic Board, shall declare when a disruption of the graduate academic program has occurred. The Provost shall take steps to inform the University community at large of the changes to be implemented, and will report to the Committee on Academic Policy and Programs regarding the implementation of the procedures and changes to the status of the academic programs.

c)   Instructors responsible for courses that are disrupted shall determine, as the disruption proceeds, whether

any changes to classroom procedures are needed to complete the course.

d)   Changes in classroom procedures should, where possible, first be discussed with students prior to the class meeting in which a vote is to be taken by the students present on the proposed changes. Changes agreed upon unanimously should be forwarded to the chair or director, or designate, with a report on the attendance at the class.

If unanimity on changes has not been arrived at, or where a vote is not feasible, the instructor, after the class discussion, will provide the chair or director, or designate, with his or her recommendation, along with the results of any classroom votes. The chair or director, or designate, shall then make a decision.

e)   If classes are not able to convene, the instructor, with the prior approval of the chair or director, or designate, shall make changes deemed necessary to the classroom procedures.

f)   In the absence of the instructor such changes will be made by the Dean in consultation with the chair or director, or designate, and with the approval of the Provost.

g)   If courses are to be cancelled, approval of the SGS Council is required. If Council cannot meet, the approval of the Dean, or in the absence of the Dean, the approval of the Provost, is required.

h)   Students must be informed of changes to classroom procedures. This may be done by circulating the changes in writing to the class, posting in the office of the graduate unit, reporting to SGS Council, as well as listing in the campus press. When classes resume, students must be informed, at class, of any changes made during the disruption.

i)   If changes to the classroom procedures are made, students who do not wish to complete the course under the revised procedures may withdraw without academic penalty. This must be done prior to the last day of classes.

j)   If students have not attended classes that are meeting, they nonetheless remain responsible for the course work and for fulfilling course requirements. However, where possible, reasonable extension of deadlines for course requirements, or provision for make-up tests, shall be made. Reasonable alternative access to material covered should be provided.

k)   A student who feels, owing to his or her special circumstances, that changes to classroom procedures have unreasonably affected his or her grade may appeal the grade following procedures for appeal set out above.

Part III: Administrative Appendix

Available at www.governingcouncil.utoronto.ca/policies/grading.htm.

Graduation and Submission of Thesis

It is the intention of the University of Toronto that there be no restriction on the distribution and publication of theses. However, in exceptional circumstances postponement of distribution and publication may be granted. For procedures see end of section under Doctor of Philosophy, Final Oral Examination.

Doctoral Thesis

Prior to the final oral examination, required copies of the doctoral thesis must be submitted by the candidate to the graduate unit. The candidate should consult the graduate coordinator regarding requirements and deadlines for submission of material.

The graduate unit is responsible for ensuring that one copy of the thesis is brought to the final oral examination.

Following successful completion of the final oral examination, at least one bound copy of the doctoral thesis in final form must be submitted by the candidate to the graduate unit. Candidates should consult their unit to determine the format, number, and distribution of copies. One copy must be submitted to the School, either in unbound paper format or electronically through T-space. These copies must be submitted before candidates can be recommended for the award of the degree. Otherwise, the awarding of the degree will be delayed. The "Authority to Distribute" form must be bound inside the front cover of the bound copy. A second "Authority to Distribute" form, the "Library and Archives Canada Theses Non-exclusive License" form, and the ProQuest Information and Learning "Subject Category" form, as well as any copyright permissions, must be submitted with the unbound paper copy, if this method of submission is chosen. If the thesis is submitted electronically, the School must receive an original signed copy of the "Library and Archives Canada Theses Non-exclusive Licence" form, as well as any copyright permission letters. Until September 2009, all theses will be microfilmed regardless of the submission method. The unbound copy will be returned to the University Library after a microfiche copy has been made by ProQuest. The Library will arrange for the binding of these copies which will be deposited in the University Library. Electronic submissions will be stored with the Library and with T-space at the University of Toronto. Candidates will be charged $20.00 for the binding of the thesis. All theses copies must have an abstract included. Theses that do not conform to the guidelines for preparation of the unbound copy for microfilming, for preparation of the abstract and thesis for reproduction in Dissertation Abstracts International, and for binding will not be accepted by the School or by ProQuest. For more information about binding, visit the Current Students' section of the SGS Web site www.sgs.utoronto.ca for "Guidelines for the Preparation of Theses".

Further details about doctoral theses may be found in the Degree Regulations section of this Calendar under Doctor of Philosophy, Final Oral Examination.

Master's Thesis

After completing the thesis defence, the original thesis must be submitted to the School, either in paper format or electronically. If submitting a paper copy, the School should receive an unbound copy, along with an abstract of no more than 150 words, the signed

University of Toronto "Authority to Distribute" form; the "Library and Archives Canada Theses Non-exclusive License" form, and "Subject Category" form must be submitted to the School of Graduate Studies. If submitting an electronic copy, the School must receive an original signed copy of the "Library and Archives Canada Theses Non-exclusive Licence" form, as well as any copyright permission letters. Deadline dates, "Guidelines for the Preparation of Theses", binding and copyright information, and the required three forms are available on the SGS Web site at www.sgs.utoronto.ca, under Current Students. The student must submit bound copies of master's theses to the relevant graduate unit. Consult the graduate unit for submission deadlines dates and copy quantity.

Degree recommendations submitted to SGS by the graduate units are approved when the thesis is received. The unbound thesis, along with the three forms, are forwarded to the Library and Archives Canada microfilming agent - ProQuest Information and Learning - for microfilming. These forms authorize Library and Archives Canada to make the microfiche available on demand. Electronic submissions will be stored with the Library and with T-space at the University of Toronto. ProQuest Information and Learning procures a copy and submits all abstracts to Master's Abstracts International. At the time the thesis is submitted to SGS, a fee of $42.89 is charged to the student to offset the cost incurred by Library and Archives Canada. Until September 2009, all theses will be microfilmed regardless of the submission method.

It is the intention of the University of Toronto that there be no restriction on the distribution and publication of theses. However, in exceptional cases, the author, in consultation with the thesis supervisor and with the approval of the chair of the graduate unit, shall have the right to postpone distribution and publication by microfilm for a period up to two years from the date of acceptance of the thesis. In exceptional circumstances and on written petition to the Dean of the School of Graduate Studies, the period might be extended, but in no case for more than five years from the date of acceptance of the thesis unless approved by the Graduate Education Council.

Degree Recommendations

When all requirements for a graduate degree program have been fulfilled, the graduate unit is required to submit a degree recommendation to the School of Graduate Studies indicating that the program has been satisfactorily completed by the student.

Convocation Ceremonies

Convocation ceremonies are held twice a year, in the spring and fall. Students may attend the ceremony which directly follows the completion of their degree requirements. The Director of U of the School of Graduate Studies submits the names of the graduands to the Office of Convocation which is responsible for the procedures for the convocation ceremony and the issuance of diplomas.

Upon the request of the student, graduate degrees may also be conferred in absentia in March, where there is no ceremony but rather diplomas are mailed to graduands.

Graduation information is available on the University of Toronto Web site at www.utoronto.ca/convocation.

Intellectual Property

Intellectual property created at the University of Toronto is governed by its Inventions Policy and its Copyright Policy:
www.utoronto.ca/govcncl/pap/policies/invent.html
www.utoronto.ca/govcncl/pap/policies/copyright.html

Works subject to the Canada Copyright Act are owned by their authors unless undertaken in the course of University employment or by specific commission.

Inventions are initially owned jointly by the inventors and the University. Except where otherwise determined by a separate third-party agreement, the University's Inventions Policy allows inventors to assume full ownership of their intellectual property. Faculty members have an obligation to inform students if they are involved in research funded under agreements that grant intellectual property rights to a sponsor. Faculty members also have an obligation to inform students in advance if the student's course work is related to the business of a company in which the faculty member has a financial interest.

Prior to commercialization, all intellectual property, including software, must be disclosed to the University of Toronto Research Services (UTRS). If the inventor(s) choose to assume full ownership, the University will assign its ownership interest to them in return for certain undertakings, including remitting to the University 25% of any proceeds from commercialization.

Among the commercialization options available to inventors is the expertise of Innovations at U of T (IUT). IUT combines the University's internal technology transfer operation with its former commercialization agency, the Innovations Foundation. IUT connects researchers with businesses and also facilitates licenses and patents.

Researchers are advised that public disclosure of any kind (written, verbal, or electronic) of intellectual property prior to the filing of a patent application may severely damage its commercial value. However, confidential disclosure to the University does not constitute a public disclosure.

Copies of the Inventions Policy, the Copyright Policy, the Confidential Disclosure Forms, and the SGS Guidelines on Intellectual Property for Graduate Students and Supervisors are available from IUT, UTRS, and SGS or can be printed conveniently from the Web sites listed above.

Telephone: (416) 978-7833
Fax: (416) 978-5821
E-mail: ip.officer@utoronto.ca
Web:
www.research.utoronto.ca/ipc/index.html
www.innovations.utoronto.ca
www.sgs.utoronto.ca/current/policies/intellproperty.asp

Research Ethics

The University Policy on Ethical Conduct in Research requires each academic division to formulate its own guidelines. The divisional guidelines apply to graduate students enrolled in graduate units within those faculties. See also SGS Student Guide on Ethical Conduct of Research Involving Human Subjects on the SGS Web site.

Policy on Academic Sanctions for Students who have Outstanding Obligations to the University

Academic sanctions are applicable to any student who has an outstanding obligation to the University. Recognized obligations are as follows:
1. tuition fees
2. academic and other incidental fees
3. residence fees and other residence charges
4. library fines
5. bookstore accounts
6. loans made by colleges, faculties or the University
7. health service accounts
8. unreturned or damaged instruments, materials and equipment
9. orders for the restitution, rectification, or the payment of damages, fines, bonds for good behaviour, and requirement of public service work imposed under the authority of the Code of Student Conduct.

The following academic sanctions will be imposed on students who have outstanding recognized financial obligations to the University.
1. Statements of results or official transcripts of record, or both will not be issued.
2. The University will not release the official document (called the diploma) which declares the degree earned, nor provide oral confirmation or written certification of degree status to external enquirers. Indebted graduands will be allowed to walk on stage and have their names appear on the convocation program.
3. Registration will be refused to a continuing or returning student. Payments made by continuing or returning students shall be applied first to outstanding University debts, and second, to current fees.
For a complete online text of this policy, please see the Governing Council Web site www.governingcouncil.utoronto.ca/policies/sanction.htm.

Code of Behaviour on Academic Matters

The Governing Council of the University of Toronto has approved a Code of Behaviour on Academic Matters applying to members of the University. The Code of Behaviour on Academic Matters addresses the responsibilities of all parties to the integrity of the teaching and learning experience. It concerns the accountability of faculty members and students as they cooperate in all phases of this relationship. Honesty and fairness must inform these activities, the foundation of which is mutual respect for the aims of education and for those ethical principles which characterize the pursuit and transmission of knowledge within the University.

The Code addresses offences, procedures, sanctions: more information appears in three appendices. The Code is enforced by Divisional Deans, the Provost, and the University Disciplinary Tribunal.

In cases involving graduate students, the divisional dean is the Dean of the School of Graduate Studies.

The full text of the Code of Behaviour on Academic Matters is available on the University of Toronto Web site at www.governingcouncil.utoronto.ca/policies/behaveac.htm.

Policy and Procedures: Sexual Harassment

Harassment in any situation is reprehensible. In particular, within the University community it fosters a hostile or unfair environment which counteracts the spirit of cooperation and education. To guard against sexual harassment, the Governing Council of the University of Toronto has approved a Policy and Procedures: Sexual Harassment, which protects students, faculty, and staff from sexual harassment within the University community. All complaints will be guided by a spirit of fairness to each party and insures a fair and impartial hearing. Under the policy, complainants have the right to seek a remedy and respondents have the right to know both the allegations and the accuser. The highest standards of confidentiality are maintained in order to protect any party against unsubstantiated claims which might result in harm or malicious gossip. The full text of the policy and procedures is available at www.governingcouncil.utoronto.ca/policies/sexual.htm.

Code of Student Conduct

Students have an obligation to make legal and responsible decisions concerning their conduct. The University has no general responsibility for the moral and social behaviour of its students. In the exercise of its disciplinary authority and responsibility, the University recognizes that students as free to organize their own

personal lives, behaviour and associations subject only to the law and to University regulations that are necessary to protect the integrity and safety of University activities, the peaceful and safe enjoyment of University housing by residents and neighbours, or the freedom of members of the University to participate reasonably in the programs of the University and in activities in or on the University's premises.

Non-academic offences are defined in the University's Code of Student Conduct. The Code addresses offences, procedures, interim conditions and measures, and sanctions. The full text of the Code of Student Conduct is available on the University of Toronto Web site at www.governingcouncil.utoronto.ca/policies/studentc.htm

Policy on Access to Student Academic Records

Academic records of students are ultimately the property of the University; it is the responsibility of the University to establish overall University policy in this area. The Policy on Access to Student Academic Records establishes university-wide aims, objectives, criteria and procedures which apply to the academic records of students.

The Policy ensures that students, alumni and former students are allowed as great a degree of access to their own academic records as is academically justifiable and administratively feasible. A student's right to privacy in relation to his or her academic records is safeguarded as far as both internal university access and external public access are concerned. The Policy calls for basic university-wide consistency in the kinds of information collected, recorded, filed and made available.

The complete Policy on Access to Student Academic Records is available on the University of Toronto Web site www.governingcouncil.utoronto.ca/policies/sturec.htm.

Policy on Official Correspondence with Students

The University and its divisions may use the postal mail system and/or electronic message services (e.g., electronic mail and other computer-based online correspondence systems) as mechanisms for delivering official correspondence to students.

Official correspondence may include, but is not limited to, matters related to students' participation in their academic programs, important information concerning University and program scheduling, fees information, and other matters concerning the administration and governance of the University.

Postal Addresses and Electronic Mail Accounts

Students are responsible for maintaining and advising the University, on the University's student information system (currently ROSI), of a current and valid postal address as well as the address for a University-issued electronic mail account that meets a standard of service set by the Vice-President and Provost.

Failure to do so may result in a student missing important information and will not be considered an acceptable rationale for failing to receive official correspondence from the University.

University Rights and Responsibilities Regarding Official Correspondence

The University provides centrally-supported technical services and the infrastructure to make electronic mail and/or online communications systems available to students. University correspondence delivered by electronic mail is subject to the same public information, privacy and records retention requirements and policies as are other university correspondence and student records. The University's expectations concerning use of information and communication technology are articulated in the guidelines on Appropriate Use of Information and Communication Technology Use of Information and Communication Technology (available on the web site of the Office of the Vice-President and Provost: www.provost.utoronto.ca/policy/use.htm.)

Students' Rights and Responsibilities Regarding Retrieval of Official Correspondence

Students are expected to monitor and retrieve their mail, including electronic messaging account(s) issued to them by the University, on a frequent and consistent basis. Students have the responsibility to recognize that certain communications may be time-critical. Students have the right to forward their University-issued electronic mail account to another electronic mail service provider address but remain responsible for ensuring that all University electronic message communication sent to the official University-issued account is received and read.
To read an online version of this policy, visit http://www.governingcouncil.utoronto.ca/policies/studentemail.htm.

Safety in Field Research

The University of Toronto Policy for Safety in Field Research states that working responsibility for safety in field research rests primarily upon the persons who directly supervise and carry out the research on location. Such persons are expected at all times to use good common sense. The University's concern in this policy is to require that due diligence be exercised by all concerned parties in giving attention to the nature of, and the means for dealing with, the categories of risk that may be associated with each location and kind of field research. It is the

intention of the University that participants enter into field research on the basis of their informed understanding of the associated risks and their consent to the means for dealing with such risks.

Students engaged in field research beyond the University's geographical boundaries should be familiar with the section of the policy which sets out the Requirements for Personal Care, and Responsibilities and Procedures. The full policy is available on the University of Toronto Web site at www.utoronto.ca/govc-ncl/pap/policies/safefr.html..

Students are also encouraged to review the Guidelines for Safety in Field Research produced by the Office of Environmental Health and Safety at www.utoronto.ca/safety/Policies/fieldres.htm.

Statement on Appropriate Use of Information and Communication Technology

The University of Toronto provides guidelines on the appropriate use of information and communication technology (ICT) within the University community. ICT resources are made available for all employees, students, and other members of the university community but remain the property of the University. Users are expected to limit their use to the performance of University-related activities, although a reasonable allowance will be made for personal use. Users should not have an expectation of complete privacy in using the University's ICT and related services. The full text of the guidelines is posted on the Provost's Web site at www.provost.utoronto.ca/policy/use.htm

Statement on Human Rights

Acknowledging its fundamental and distinctive commitment to freedom of thought, inquiry, and expression, the University of Toronto affirms its commitment to the values of equal opportunity, equity and social justice. In this affirmation, the university

1. acknowledges that it conducts its teaching, research and other activities in the context of a richly diverse society;

2. recognizes that the attainment of excellence in pursuit of its mission is furthered by the contribution made by persons reflecting this rich diversity;

3. acts within its purview to prevent or remedy discrimination or harassment on the basis of race, gender, sexual orientation, age, disability, ancestry, place of origin, colour, ethnic origin, citizenship, creed, marital status, family status, receipt of public assistance or record of offence;

4. acts conscientiously in keeping with its own policies and existing legislation related to human rights, such as its Code of Behaviour on Academic Matters, its Policies and Procedures: Sexual Harassment, its Employment Equity Policy and the Human Rights Code of the Province of Ontario.

Degree Regulations

All degree students are accepted under the **General Regulations** of the School of Graduate Studies. See separate section in this calendar.

Introduction

Graduate Student Supervision

While the special, collaborative relationship between student and supervisor serves as a foundation for graduate education, particularly at the PhD level, the primary responsibility for graduate programs and their supervision rests with the graduate unit. The Chair of the graduate unit has the principal obligation and authority for exercising these responsibilities, in accordance with the Statute of the School of Graduate Studies, and therefore, for implementing the academic and procedural standards established in the School in 1985/86 in the form of the "Report of the Committee on PhD Supervision" (Endrenyi Report).

Although the report indicates procedures to be followed in the supervision of PhD students, it is clear that these have general applicability for all graduate students to some degree. It is essential that students have access to information relevant to their graduate program of studies, in all domains. Thus each graduate unit will provide students with a document which provides details of all procedures involved with graduate training, a list of members of the graduate faculty with relevant information concerning their participation, fields of expertise and supervision, and a copy of Graduate Supervision: Guidelines for Students, Faculty, and Administrators (also available online at www.sgs.utoronto.ca/current/supervision/guidelines.pdf). In addition, updated statements must be made available to students on a regular basis. These will include a list of graduate students (with their general thesis topic, supervisor(s) and advisor(s)), the availability of financial assistance, and relevant information to affected students about the expected absences of their supervisor(s) and/or advisor(s). Any doctoral student who believes that his or her graduate unit is not following the supervision guidelines may inform his or her Coordinator of Graduate Studies or the Vice-Dean of the School of Graduate Studies.

The academic experience is greatly enhanced if members of the academic faculty, in addition to the direct supervisor, are readily and formally available for consultation and discussion with the graduate student. Therefore, an individual thesis supervisory committee or, as an alternative, an area supervisory committee, should be struck as early as possible for each graduate student, and certainly from the commencement of thesis supervision.

The graduate unit is responsible for adopting a procedure for monitoring the progress of PhD students registered in its programs. The procedure shall contain the following minimum elements, consistent with Graduate Supervision: Guidelines for Students, Faculty, and Administrators, available at graduate units and online at www.sgs.utoronto.ca/current/supervision/guidelines.pdf:

1. A supervisory committee consisting of the supervisor and at least two graduate faculty members.
2. The supervisory committee meets with the student at least once per year to assess the student's progress in the program and to provide advice on future work.

3. The committee submits a report detailing its observations of the student's progress and its recommendations.
4. The student must be given the opportunity to respond to the committee's report/recommendations and to append a response to the committee's report.
5. Copies of the report shall be given to the student and filed with the department.

Thesis Topic and Supervision

In those degree programs for which a thesis is part of the requirements, the work upon which the thesis is based must be conducted under the direction of one or more members of the faculty of the School of Graduate Studies.

A student must choose a thesis topic for which the graduate unit in which he or she is registered is able to provide adequate supervision.

A student's choice of thesis topic, as well as his or her choice of supervisor and supervisory committee, is subject to the approval of the graduate unit in which the student is registered.

Transfer Credit and Exemptions

Transfer credit for graduate work completed in another program is limited to one full course or equivalent, or 25 percent of the course requirements for any degree, whichever is greater, provided that the courses have not been credited towards another degree, diploma, certificate, or any other qualifications. Such credit may be given on the recommendation of the student's graduate unit and with the School's approval, normally upon admission. Exceptions to the limit are allowed when approved for specific degrees.

Students participating in an approved exchange program on the recommendation of their graduate unit may receive transfer credit for up to 50 percent of the course requirements for their degree. They may also complete language requirements while on the exchange. When recommended by the unit and approved by the SGS Dean, that percentage may be exceeded by doctoral students. In all cases transfer credit arrangements for exchange program participants must be approved in advance by the SGS Dean or designate.

Transfer of credit and course exemptions include the following categories:
1. **Transfer Credit - Course Equivalent:** Credit received for course completed in a prior program is considered to be equivalent to course offered by the graduate unit thus reducing the overall course credit requirements for degree.
2. **Transfer Credit - General Equivalent:** Unassigned credit for course not identifiable with course offerings but which is evaluated as being appropriate for academic credit on transfer thus reducing overall course credit requirements for degree.
3. **Course Exemption:** The graduate unit may exempt a student from a specific course requirement permitting the substitution of another course to meet degree requirements. Overall course credit requirements for degree are not reduced.

Advanced Standing

Advanced standing refers to academic credit awarded upon admission to a program of study which enables direct entry to an identified higher academic achievement level of the program. Students are eligible for advanced standing if they meet a clearly articulated set of objectives and/or course requirements for an advanced standing option as defined in the graduate program calendar entry. Not every program will offer an advanced standing option. Consult the graduate unit regarding advanced standing options.

Doctor of Philosophy

For specific admission and program requirements, please consult graduate unit entries. The Council of the School of Graduate Studies has recommended that all graduate units offering the PhD design a four-year program that can be completed on a full-time basis by a student who has a master's degree in a discipline appropriate to the intended field of study. Where graduate units are aware that it may be difficult for students to complete their PhD programs within four years, they have been asked to include a statement to that effect in their calendar entries.

Admission Requirements

1. **Four-Year PhD Program**
Students admitted to this program require a University of Toronto master's degree or equivalent with at least B+ standing from a recognized university in a discipline deemed appropriate to the intended field of study.
2. **Five-Year PhD Program**
Students admitted to this program require a four-year University of Toronto bachelor's degree or its equivalent with at least A- standing from a recognized university in courses in the relevant discipline. Students who hold a master's degree in another discipline or require further preparation would also normally be admitted to this program.

Registration

1. A Doctor of Philosophy student must be regularly registered in the School of Graduate Studies in accordance with the procedures of the General Regulations. PhD students must register for every successive session, including summers, on a full-time basis following their first session of registration unless granted a leave of absence. The minimum period of registration is one academic year, that is, three consecutive sessions.
2. A student who is admitted on condition that the requirements for an acceptable master's degree at another university be completed may be permitted conditional registration, unless this is excluded by the terms of the letter of admission. A student who is conditionally registered must submit to the graduate unit, not later than January 31 of the first year of enrolment, official verification of completion of the requirements for the master's

degree. If verification is not submitted by that date, additional requirements may be added to the PhD program.

Transfers

1. **Master's to PhD**

A student may be recommended for transfer from a master's program to a PhD program. In such cases, the student will transfer to a five-year PhD with the years in the master's program being counted as part of the PhD program. The total number of courses required for the PhD is the sum of the normal master's and PhD course requirements unless otherwise specified by the graduate unit.

2. **PhD to Master's**

Students transferring from the PhD to the master's program must complete all of the normal master's degree requirements, or their equivalent, in order to be awarded the master's degree. These transfers are made on the recommendation of the graduate unit and must be approved by the Vice-Dean. A second University of Toronto master's degree of the same name will not be conferred unless it is undertaken in a different field of study from the first. Students who transfer from the PhD to the master's program will not be permitted to register subsequently in the PhD program within the same graduate unit unless approved by the SGS Admissions and Programs Committee.

Program Requirements

1. **Approval**

A student shall pursue a program of advanced study and research which must be approved by the graduate unit.

2. **Program**

Specific program requirements are set by the graduate units and are found in their respective entries. The thesis topic and the name of the supervisor must be submitted by the middle of the first session of the second year. Graduate units may, at their discretion, require an earlier date.

3. **Language Requirement**

The student must have an adequate knowledge of such language or languages, other than English, as are required by the major graduate unit (see individual graduate unit entries for specific requirements).

Testing and certification of languages (including French and German) may be administered by the appropriate language department or by the student's own graduate unit.

The major graduate unit is responsible for ensuring that an acceptable certificate of language competence is deposited in the official student file.

4. **Time Limit for Completion of Program Requirements**

A student enrolled in a full-time (as opposed to a flexible-time) PhD degree program will be denied further registration in that program and will have his or her eligibility terminated at the end of the third year of registration, in the case of a four-year program, or at the end of the fourth year of registration, in the case of a five-year program, if by that time either

a)   the student has not completed all requirements for the degree exclusive of thesis research—including course requirements, language requirements, qualifying departmental examinations—or

b)   the student does not have an approved thesis topic, supervisor, or supervisory committee.

Note: The foregoing time limit does not apply to courses that run continuously throughout the program, e.g., ongoing research seminar courses.

In exceptional circumstances, a student who has not met these requirements may be permitted to register in the program for two further sessions at the discretion of the graduate unit concerned. Continuation beyond two sessions will require the approval of both the graduate unit and the SGS Admissions and Programs Committee.

Completion of the program requirements identified above will signal the achievement of candidacy.

5. **Thesis**

The candidate, through the graduate unit, shall present a thesis embodying the results of original investigation, conducted by the candidate, on the approved topic from the major field. The thesis shall constitute a significant contribution to the knowledge of the field and must be based on research conducted while registered for the PhD program.

A thesis should have a coherent topic with an introduction presenting the general theme of the research and a conclusion summarizing and integrating the major findings. Nonetheless, it may contain a collection of several papers. The collection of papers may be expanded or supplemented by unpublished material, scholarly notes, and necessary appendices. In all theses, pagination should be continuous; there should be a common table of contents and an integrated bibliography for the whole thesis. A thesis must be prepared in a standard format (see National Library guidelines and Guidelines for the Preparation of Theses referred to below).

The thesis should normally be written in English, but with the permission of the School, a graduate unit may permit, or require, students in that unit to write the thesis in French.

In Division I, the humanities, permission may be given for a thesis to be written in a language other than English or French when the language has been approved for use in theses by the graduate unit concerned. Before such permission can be granted, the graduate unit chair must certify in writing to the School that the candidate has passed a supervised essay-type examination, written in English, that demonstrates his or her proficiency in writing correct and idiomatic English prose. A supplementary abstract of about 5,000 words in English or French must form part of a thesis that is written in a language other than English or French, and no language other than English or French may be used for the conduct of final doctoral examinations.

6. **Time for Completion of Degree**

All requirements must be completed within six years from first enrolment for the four-year PhD program and within seven years for the five-year PhD program.

In exceptional circumstances, a candidate who has failed to complete all the requirements for the degree within this period may be considered for a maximum of two one-year extensions provided that the graduate unit concerned approves. To qualify for an extension, the candidate must present to the graduate unit concerned the causes for the delay and evidence of substantial progress on the thesis. A candidate who is granted an extension must register as a full-time student. Any extension granted must be calculated as beginning immediately upon the termination of the permitted periods.

PhD students who have not completed the degree before the time limit for the degree or by the end of the extension period may not enrol further but, after an interval, may apply to be re-instated once only as a candidate for the purpose of presenting a thesis and defending it at a final oral examination. The reinstatement must have the approval of both the graduate unit and SGS. It will be for a maximum of 12 months starting September, January, or May. Reinstatement is normally not approved until the defence has been scheduled. The final oral examination must be held within the 12-month reinstatement period. A student reinstated after the degree time limit will pay a re-instatement fee equivalent to a one session full-time fee (Fall or Winter). No fees will be charged for the sessions after the normal time limit for the degree during which the student was not registered. In the case of a reconvened examination for a student reinstated after the normal time limit for the degree, no fees would be charged, but the student must remain registered.

Flexible-time PhD Degree

Departments may develop, for approval, PhD programs which may be completed on a "flexible-time" basis. Such programs will be offered where there is sufficient demand by practicing professionals for design and delivery of PhD programs that, except for short specified periods of time, permit continued employment in areas related to the fields of research. In these programs, theory and praxis would uniquely engage and inform each other.

The flexible-time PhD differs from the full-time PhD only in design and delivery. Students in a flexible-time program will normally register full-time during the first four years and part-time during subsequent years of the program. Students are required to be registered for every successive session, including summers, following their first session of registration unless granted a leave of absence.

The time limit, between six to eight years, will be specified by the departmental regulations. Extensions are permitted under existing policy; students granted an extension may register full-time or part-time.

Transfers between the full-time PhD program and the flexible-time PhD program will not be permitted.

Final Oral Examination

1.   The candidate shall defend the thesis at a final oral examination organized by the graduate unit with the cooperation of SGS. The process of scheduling the examination, allowing time for professional appraisal, can be expected to take at least eight weeks at the best of times, and candidates should discuss the timing with the graduate administration of their unit. Candidates should also ascertain whether or not their unit imposes regulations over and above the minimal conditions required by SGS.

2.   The graduate unit will notify SGS eight weeks prior to the examination when the thesis is ready to go forward for examination. In the absence of any particular local procedure, the candidate's supervising committee will advise SGS that the thesis is ready to proceed. In rare cases, a thesis may proceed to examination without the approval of the supervising committee: candidates should contact the SGS Vice-Dean, Programs.

3.   The thesis will be sent to an appraiser external to the University of Toronto, appointed by SGS on the recommendation of the graduate unit. (The Supervisor of the thesis will propose a list of three or more names of possible external appraisers to the graduate coordinator or Chair, who will choose one and send the recommendation to SGS for approval. The graduate unit will certify that the external appraiser has an arm's-length relationship to the candidate and Supervisor.) The external appraiser should be a recognized expert on the subject of the thesis and should be external to the University as well as to its affiliated teaching hospitals and research institutes. Such an individual must be an associate or full professor at the home institution or, if the individual comes from outside the academic sector, must possess the qualifications to be appointed to an academic position at this level. Arrangements with external appraisers are the responsibility of the graduate unit. In particular, the graduate unit must allow the external appraiser sufficient time to act. The graduate unit must have a copy of the thesis delivered to the appraiser at least six weeks, and preferably longer, in advance of the examination date. Appraisals must be submitted to SGS at least two weeks in advance of the examination date; if they are not, the examination may have to be rescheduled. The graduate unit must also ensure that copies of the thesis are made available to all other voting members of the Examination Committee at least four weeks in advance of the examination date.

4.   An Examination Committee, appointed by SGS on the recommendation of the graduate unit, will conduct the Final Oral Examination. The Examination Committee must include at least four, but no more than six, voting members: one to three of the voting members will have served on the candidate's Supervisory Committee, and at least one voting member will not have been closely involved in the supervision of the thesis. Eligible for inclusion in the latter group are the external appraiser (in person or by audio connection), members of the graduate faculty of the candidate's graduate unit, and members of the graduate faculty of other departments, centres, or institutes of the University. The Examination Committee may include, in addition, up to two non-voting members, who will be members of the graduate faculty of the candidate's graduate unit or members of the graduate faculty of another graduate unit of the University. A quorum is

four voting members. Graduate units must ascertain in advance the willingness of the persons named to act.

The SGS Vice-Dean, Programs, may modify the composition of the Examination Committee to fit exceptional circumstances.

5.   SGS will appoint a non-voting Chair to the Examination Committee. The Chair will be a full member or member emeritus of the graduate faculty, holding no appointment to the graduate faculty of the candidate's graduate unit.

6.   The graduate unit is responsible for scheduling the examination, booking a room, and making appropriate technical arrangements.

7.   The graduate unit must submit to SGS a Certificate of Completion together with the nomination form confirming completion of all other academic requirements, such as language and field requirements; an abstract of the thesis not longer than 350 words; and a copy of the Examination Program.

8.   The graduate unit will send a copy of the external appraisal of the thesis to SGS as soon as it is received. The graduate unit is responsible for the distribution of copies of the external appraisal to the candidate (two weeks before the examination) and members of the Examination Committee. To avoid prejudicing the result of the examination, the external appraisal is not to be discussed with the candidate by members of the Examination Committee until the examination takes place, nor should it be distributed beyond that group and the relevant administrative officers.

9.   Members of the graduate faculty are entitled to attend the examination, and with the permission of the Chair, they may ask questions of the candidate, but they must withdraw before the Committee's discussion and vote. A qualified observer may attend, subject to the same restrictions, if the graduate unit has received approval for such attendance in writing beforehand from the SGS Vice-Dean, Programs. Otherwise the examination is closed to the public. The vote at the examination takes into account both the thesis and the oral defence itself.

10. The Examination Committee represents the SGS Graduate Education Council and through it the University. It is therefore responsible for the standard of the PhD degree in this University. Graduate unit examinations held immediately in advance of the final oral must not therefore interfere with attendance at, or thoroughness of, the final examination.

The Committee must evaluate the external appraisal of the thesis, which is to be considered only as an individual opinion to be employed as the committee sees fit. It must examine the candidate on the content and implications of the thesis. Where someone other than the candidate is a co-author of any portion of the thesis, the Examination Committee must be satisfied that the candidate's personal contribution to the thesis is sufficient to fulfil the requirements of the PhD degree. In addition to determining the adequacy of the thesis, the committee must satisfy itself that the thesis document meets the proper standards of scholarship.

The committee possesses the full authority of the School with respect to the examination.

11. A quorum for the final examination is four voting members, plus the Examination Committee Chair who has no vote. Voting shall be by signed ballot, and the names of the examiners and their respective votes shall be read to the Examination Committee by the Chair. If a quorum is not present the Chair may delay the examination to obtain a quorum or may postpone the examination to another date.

12. The candidate passes on the first examination:
a)   if the decision is unanimous, OR
b)   if there is not more than one negative vote or abstention.

If there is more than one negative vote or abstention, adjournment is mandatory.

In the event of adjournment, the Examination Committee must provide the candidate, as soon as possible, with a written statement that indicates the reasons for adjournment and the committee's requirements for the reconvened oral examination. In addition, the Examination Committee must decide the approximate date of the reconvened examination. The time between the adjourned examination and the reconvened examination should be as short as circumstances will permit and in no case shall exceed one year.

At the reconvened examination, no new committee members shall be added, except for necessary replacements. It is the obligation of the examiners to attend the reconvened examination.

The candidate passes on the reconvened examination:
a)   if the decision is unanimous, OR
b)   if there is not more than one negative vote or abstention.

No further adjournment will be allowed.

If a candidate is not recommended for the degree by the committee in charge of the second examination, the candidate is ineligible for further PhD candidacy at the University. The Examination Committee must provide the candidate, as soon as possible, with a written statement that explains clearly and directly why the examiners found the candidate's performance unsatisfactory on the written and/or oral components of the examination, as may be relevant.

13. If minor corrections in style are a condition of acceptance of the thesis, the candidate must complete the corrections within one month of the date of the examination, and the supervisor will inform the candidate of the necessary corrections. The supervisor must notify the School of Graduate Studies directly in writing that the required corrections have been made by the candidate, with a copy of the correspondence sent to the graduate coordinator of the graduate unit, before the candidate is recommended for the degree.

14. If minor modifications are a condition of acceptance of the thesis, the Chair of the Examination Committee will appoint a Subcommittee of the Examination Committee (to be approved by the Examination Committee) to supervise the proposed modifications. One member of the Subcommittee is designated by the Chair, with the approval of the Examination Committee, as the Convenor. The Convenor will be responsible for the preparation of a

statement detailing the modifications required. Modifications must be completed within three months of the date of the oral examination. The members of the Subcommittee will report on the acceptability of the completed modifications to the Convenor. If all members of the Subcommittee approve the completed modification, the candidate will be passed without the necessity of reconvening the Examination Committee. The Convenor of the Subcommittee must certify in writing to the School of Graduate Studies, within three months of the original examination, that the modifications have or have not been satisfactorily completed. If one or more members of the Subcommittee do not approve the completed modifications, the final oral examination must be reconvened within a year of the date of the original examination.

The Examination Committee must decide the nature of minor modifications, but it is intended that minor modifications should be more than corrections in style and less than major changes in the thesis. A typical example of minor modifications might be clarification of textual material or qualification of research findings and conclusions. The option of acceptance with minor modifications does not apply to the reconvened examination.

If major changes are required, the examination must be adjourned and the Committee reconvened after the changes have been made.

15. The University Library authorization form and publication agreement must be signed by the candidate when the final thesis is submitted. The format of the submitted thesis must comply with the School of Graduate Studies guidelines.

16. The School requires that every PhD thesis be published substantially as it is accepted.

It is the intention of the University of Toronto that there be no restriction on the distribution and publication of theses. However, in exceptional cases, the author, in consultation with the thesis supervisor and with the approval of the chair of the graduate unit, shall have the right to postpone distribution and publication for a period up to two years from the date of acceptance of the thesis. In exceptional circumstances and on written petition to the Dean of the School of Graduate Studies, the period might be extended, but in no case for more than five years from the date of acceptance of the thesis unless approved by the SGS Graduate Education Council.

For further details, students should consult the pamphlet, Guidelines for the Preparation of Theses at www.sgs.utoronto.ca/current/thesis.

Doctor of Education

The EdD program is designed to provide opportunities for more advanced study for those already engaged in a career related to education. Specific admission and program requirements are available through the graduate units.

Admission Requirements

1. A University of Toronto MEd or MA in Education, or its equivalent from a recognized university, in the same area of specialization proposed at the doctoral level, completed with standing equivalent to a University of Toronto B+ or better;

2. Ordinarily, one year of professional preparation for education;

3. Successful professional experience in education, or in a relevant field.

A student may be enrolled in one of the following graduate units:
- Adult Education and Counselling Psychology
- Curriculum, Teaching and Learning
- Human Development and Applied Psychology
- Sociology and Equity Studies in Education
- Theory and Policy Studies in Education

Program of Study

For specific program and registration requirements, consult the home graduate unit.

1. Normally, a minimum of one Fall Session and one Winter Session of full-time study must be taken consecutively (i.e., Fall Session - September to December, followed by Winter Session - January to April, or Winter Session - January to April, followed by Fall Session - September to December).

2. In most programs, students may begin their studies on a part-time basis.

3. Eight half-courses are required for students who have an MEd or MA degree or the equivalent in the same area of specialization proposed at the doctoral level. Upon the recommendation of the home department, students beginning the degree program on a full-time basis can add prerequisite courses to their program. Otherwise, students must take prerequisite courses as "Special Students" at OISE/UT.

An eight half-course EdD program should include at least four half-courses in the home department except as otherwise stated in departmental program descriptions.

4. Students in some departments or specializations will be required to take a comprehensive examination. Consult specific departments for details.

5. A thesis embodying the results of original investigation conducted by the student under the direction of an OISE/UT thesis committee. The student must file the names of thesis committee members by April 1 of the year following the period of required full-time study.

The thesis will report the results of a study, which might address theoretical issues applicable to professional concerns and practice, or which might focus directly on the exploitation of knowledge in order to study or influence aspects of educational practice.

The thesis must conform to the tenets of scholarly writing in a rigorous style of presentation. All students using human subjects in their thesis research must have their thesis proposals reviewed by the OISE/UT-wide Student Education Ethics Review Committee (SEERC) administered by University of Toronto Research Services (UTRS). Please consult the OISE/UT Guidelines for Theses and Orals regarding thesis and ethical review procedures.

6. Students undergo a final oral examination on the content and implications of the thesis, to determine the

adequacy of both the thesis and its defence by the student.

7.   All requirements for the EdD must be completed within six years of first enrolment as an EdD student.

Master of Philosophy

The University of Toronto no longer offers programs of study leading to the degree of Master of Philosophy.

Master of Arts and Master of Science

Admission Requirements
1.   Students are admitted under the general regulations.
2.   If the master's program is not a continuation of a course of study previously pursued as an undergraduate, or if there are deficiencies in meeting graduate unit admission requirements, prerequisite work may be required and the minimum length of program may be extended.

Program of Study
1.   Under the direction of one graduate unit, a student in this University shall pursue a program of advanced study approved by the graduate unit.
2.   All requirements for the degree of MA or M.Sc. must be satisfactorily completed within 5 years from first enrolment if the minimum period of full-time registration is up to 12 months and within 6 years from first enrolment if the minimum period of full-time registration is 16 to 24 months.

For specific admission and program requirements, please see the appropriate graduate unit entry. In advance, prospective students should consult the Coordinator of Graduate Studies of the appropriate graduate unit to ensure that the proper undergraduate courses are being taken in preparation for the master's program.

Master of Applied Science

The MASc degree is intended primarily for those who wish to prepare for a career in research and/or plan to continue their graduate studies through the PhD degree.

Admission Requirements
1.   Students are admitted under the general regulations.
2.   Applicants shall hold the degree of Bachelor of Applied Science of this University or an equivalent degree in engineering. An applicant having a bachelor's degree in science or applied mathematics may be admitted as a student by the graduate unit concerned.
A student may be enrolled in one of the following graduate units:

- Aerospace Science and Engineering
- Biomaterials and Biomedical Engineering
- Chemical Engineering and Applied Chemistry
- Civil Engineering
- Electrical and Computer Engineering
- Geology
- Materials Science and Engineering
- Mechanical and Industrial Engineering

Program of Study
1.   Under the direction of one graduate unit, a student in this University shall pursue a program of advanced study approved by the graduate unit. Normally the program shall include not more than three full-year courses or equivalent and the preparation of a research thesis, the latter being the major requirement.
2.   The minimum residence requirement for the degree is two sessions (eight months), and the requirements for the degree must be completed within three calendar years.

Master of Engineering

The MEng degree is intended primarily for those who wish to pursue advanced study at the master's level which is especially suited for professional practice.

Admission Requirements
1.   Students are admitted under the general regulations.
2.   Applicants shall hold the degree of Bachelor of Applied Science of this University or an equivalent degree in engineering. An applicant having a bachelor's degree in science or applied mathematics may be admitted as a student by the graduate unit concerned.

A student may be enrolled in one of the following graduate units:
- Aerospace Science and Engineering
- Chemical Engineering and Applied Chemistry
- Civil Engineering
- Electrical and Computer Engineering
- Materials Science and Engineering
- Mechanical and Industrial Engineering

Program of Study
1.   Under the direction of one graduate unit, a student in this University shall pursue a program of study approved by the graduate unit. The program shall be equivalent in weight to full-time study for at least two sessions (eight months), and may include a project in addition to lecture and laboratory courses.
2.   There is no general residence requirement for the degree. However, a period of residence may be required, depending on the individual student's program and experience. This required period shall be as recommended by the graduate unit and approved by the School of Graduate Studies, but shall not exceed two sessions.
3.   The degree program must be completed within six calendar years of registration.

Master of Health Science

The degree of Master of Health Science is offered in the following graduate units:
- Biomedical Engineering
- Health Policy, Management and Evaluation
- Medical Science
- Public Health Sciences
- Speech-Language Pathology

Since requirements for these programs differ, students should consult the individual graduate unit entry for details.

Master of Education

Admission Requirements
1.   Students are admitted under the general regulations.
2.   An appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, completed with standing equivalent to a University of Toronto mid-B or better in the final year. Under exceptional circumstances, for applicants with a three-year degree, equivalency may be demonstrated, for example, through relevant work experience or additional qualifications.
3.   A year of professional education for teaching, or the equivalent in pedagogical content, is helpful.
4.   At least one year of relevant, successful, professional experience.

A student may be enrolled in one of the following graduate units:
- Adult Education and Counselling Psychology
- Curriculum, Teaching and Learning
- Human Development and Applied Psychology
- Sociology and Equity Studies in Education
- Theory and Policy Studies in Education

Program of Study
The minimum program requirements for the MEd degree are as follows:
1.   Under the direction of one graduate unit, a student undertakes one of four options to complete the program.
Option I—Course Work Plus Comprehensive
5.0 full-course equivalents (FCE) plus a comprehensive examination/requirement.

Option II—Research Project
4.0 full-course equivalents (FCE) plus a research project or a Major Research Paper.

Option III—Thesis
3.0 full-course equivalents (FCE) plus a thesis.

Option IV—Course Work Only
5.0 full-course equivalents (FCE).

The MEd degree program requires that a minimum of half of the courses must be taken in the home department unless otherwise specified by the department.
2.   All requirements for the degree must be satisfactorily completed within six years of first enrolment.

Fees and Financial Support

Fees

Schedule of Fees

The annual Schedule of Fees, updated each year in June, is available at www.fees.utoronto.ca.

Fees and Registration

New and returning students eligible to register will be mailed their fees invoices prior to the registration period. Payment of fees must be made through a Canadian bank, in Canadian funds, payable to the University of Toronto. Holders of certain scholarships, awards, research assistantships, teaching assistantships, or loans may make arrangements through their graduate unit to defer payment of fees. Students are considered to be registered as soon as they have paid academic and incidental fees or have made appropriate arrangements for deferral of payment. By virtue of being registered, a student thereby agrees to abide by all of the academic and non-academic policies, rules, and regulations of the University of Toronto, the School of Graduate Studies, and the graduate unit in which the student is registered.

Academic Fees Structure

Because the course of study in many graduate units is unstructured and often cannot be described in terms of a specific number of courses, and because graduate education more often than not results from the sum of experience encountered during the program, Graduate School fees are assessed on a program basis rather than on the number of courses taken. Degree Students and Special Students who pay the full-time fee for the previous Fall or Winter Session do not pay fees for the Summer Session. However, Part-time Special Students pay summer fees. In addition, part-time degree students who register for the Summer Session, but who have not registered in both sessions of the previous academic year, pay summer fees.

A degree program is defined on a sessional basis and the full fee is charged regardless of the number of courses taken. All students (except Special Students not proceeding to a degree) are accepted into a program with a minimum period of registration, specified on the offer of admission. This period establishes the minimum degree fee that must be paid before graduation.

In the graduate units of Industrial Relations and Human Resources, Management, and Information Studies, where there is no residence or full-time attendance required and the master's degree is achieved by course work only, the length of program will be determined by the number of full-course equivalents (FCE) required to complete the degree requirements. For example, for the MBA degree:
Up to 6.0 FCE is equivalent to a 1-year program.
6.5 to 8.5 FCE is equivalent to a 1½-year program.
9.0 to 12 FCE is equivalent to a 2-year program.

Full-Time Student Fee

The full-time student fee is charged to a full-time student for the minimum period of registration and all subsequent registrations.

Dual Registrations

Dual registrants will be required to maintain their registration for the master's degree, register also for the PhD degree, and pay only the appropriate PhD fees.

Full-Time Students Commencing a Degree Program in January

Students commencing a degree program in January will pay half the appropriate fee for the year.

Summer Students

Students commencing a degree program in the summer and taking courses will pay the Summer Session fee. These fees are in addition to the annual fees which will be assessed in September.

Students commencing a degree program in September but who start research in the preceding summer do not pay fees for the Summer Session. Continuing Degree Students and Special Students who pay the full-time fee for the previous Fall or Winter Session do not pay fees for the Summer Session. However, part-time Special Students pay summer fees. In addition, part-time degree students who register for the Summer Session, but who have not registered in both sessions of the previous academic year, pay summer fees.

Students returning in the Summer Session from an approved leave (see Leave Policy) do not pay Summer Session fees.

Part-Time Degree Students

Students undertaking their studies on a part-time basis are required to pay the part-time academic and incidental fees each year they register to the completion of their program.

Part-time students engaging in studies for only one session in the Fall or Winter may pay half the part-time fee.

Special Students

Full-time Special Students pay the full academic fee per annum. Special Students enrolling on a part-time basis will pay for each course or half-course. Fees paid as a special student cannot be applied to any subsequent degree program.

Refund dates are different for part-time Special Students. For details check www.fees.utoronto.ca.

Fees for International Students

In accordance with the recommendations of the Ontario government, certain categories of international students are charged academic fees equal to those for Canadian citizens and Permanent Residents (landed immigrants).

If an international student's status in Canada changes during a session, exemption from the higher fees may be granted. The fees will be adjusted in the current session, provided the status change occurs before November 1 in the Fall Session or before February 1 in the Winter Session. Status changes with supporting documents must be reported to the SGS Student Services Office prior to the above deadlines. However, if a status change effective before these dates is reported with a minor delay, fees adjustment may still be possible.

Incidental Fees

Compulsory incidental fees are charged for the Graduate Students' Union, the Health Service, Hart House, the Athletic Centre, and other student services.

Minimum Payment (for other than those registering for only one session)

The first fee payment is due by the end of the September registration period and consists of 60% of the academic fee and 100% of incidental fees. The balance of the required fees may be paid at any time but is due by April 30 without further notice and is subject to monthly service charges.

Service Charges

All outstanding fees, regardless of the source of payment, are subject to a service charge of 1.5% per month compounded (19.56% per annum), first assessed on November 15 and on the 15th of every month thereafter until paid in full.

Late Registration

Any student registering after the deadline date specified in the Academic Calendar is required to pay a late registration fee of $44.00 plus $5.00 for each day of delay to a maximum of $94.00.

Balance of Degree Fee

The length of the program, as defined by the graduate unit, into which a student is admitted predetermines the minimum total academic fee that a student must pay prior to graduation. Many part-time master's students must pay a balance of degree fee prior to graduation.

Full-time students who accelerate their programs and finish the degree requirements in less time than the normal program length must pay a balance of degree fee.

If a student has paid more than the full-time program fee due to the time taken to complete the degree requirements, there will be no refund of fees.

Fees for Graduating Master's Students

Master's students who are recommended for graduation by the deadline date for Fall Convocation will not be assessed fees for the Fall Session. Master's students who miss this deadline but complete their degree requirements by January 30, 2009 are required to register for the Fall Session and pay the appropriate fees.

Fees for Final Year Doctoral Students

Academic fees for the final year will be prorated, based on a 12-month academic year, for the number of months that elapse between September and (including) the month in which the final thesis (including corrections required by the final oral examination committee) is submitted to the School of Graduate Studies. Fees for the final month will not be charged if the requirements are met before the 16th day of the month.

Reinstatement Fees

A reinstatement fee equivalent to the one session full-time fee is applied when a full-time student has been reinstated after the time limit for a period of 12 months.

Part-time students who have been reinstated after the time limit pay part-time fees for the session(s) (one to three sessions) in which they register.

Outstanding Fees and Charges

See General Regulations for policy on academic sanctions for students who have outstanding University obligations.

Receipts for Income Tax

Tuition Fee Certificates are available online at www.rosi.utoronto.ca. There is a charge of $5.00 for the preparation of duplicate receipts.

Transcripts

A $10.00 fee is charged for each copy of a transcript of record. These fees are subject to change. Transcripts will not be issued for students whose fees are in arrears. Transcripts may be ordered from the University of Toronto Transcript Centre, 100 St. George Street, Toronto, Ontario M5S 3G3 or online at www.rosi.utoronto.ca.

Calendars

The entire calendar is accessible on the Web at www.sgs.utoronto.ca. Printed copies of the School of Graduate Studies Calendar may be purchased from the School at a cost of $8.00 each, plus any necessary postage charges. Details and order form are available at www.sgs.utoronto.ca/current/calendar/orderform.asp.

Financial Support

Financial Aid

The University of Toronto gives high priority to the matter of graduate financial support. For many doctoral-stream students, programs commit to a minimum level of funding at the beginning of each year, for up to five years of study. For further information about the funding available from specific programs, see the Graduate Funding Structures document www.sgs.utoronto.ca/current/financial.

Although financial support cannot be guaranteed for all graduate students in all programs, we encourage you to inquire about financial assistance at your academic department or the Graduate Awards Office at the School of Graduate Studies.

Internal Awards

The School of Graduate Studies offers a number of internal awards to meritorious graduate students such as the University of Toronto Fellowships (UTF), the Connaught Scholarship as well as other endowed awards. For more information on internal awards visit http://www.sgs.utoronto.ca/current/financial/scholarshipsfellowshipsdec18.pdf

External Awards

Canadians and landed-immigrants may also apply for external support in the form of scholarships and fellowships offered by the Natural Sciences and Engineering Research Council of Canada (www.nserc.ca), the Social Sciences and Humanities Research Council of Canada (www.sshrc.ca) and the Canadian Institutes of Health Research (www.cihr.ca). All three granting councils (NSERC, SSHRC, and CIHR) also offer Canadian Graduate Scholarships (CGS).

The Government of the Province of Ontario provides graduate scholarships tenable at Ontario universities. Ontario Graduate Scholarships, (http://osap.gov.on.ca/eng/not_secure/Plan_Grants_full_sepapp_OGS_12345.htm) are available for graduate studies in all disciplines. Sixty of these awards are available to visa students.

Ontario Graduate Scholarships in Science and Technology (OGSST) are designed to encourage excellence in graduate studies in science and technology; only available to Canadian citizens or permanent residents.

Ontario Student Assistance Program (OSAP)

The federal and provincial governments provide financial support to qualified students who are Canadian citizens or permanent residents of Ontario. The loan amount depends on your calculated financial need. Students can apply online at /osap.gov.on.ca/

Awards for Non-Canadians

In addition to the internal funding normally available to all international students, a number of external funding sources can also be explored. For more information on

awards for non-Canadians, please visit www.sgs.utoronto.ca/prospective/financial/international.asp. International students are encouraged to apply for all possible funding opportunities in their home country.

Other Funding Sources

Teaching Assistantships
Some graduate units hire teaching assistants who spend up to 10 hours a week conducting tutorials, grading undergraduate essays/exams, and acting as a resource for undergraduate students. For further information, write to the chair of your graduate unit, giving full particulars of your academic training and experience.

Research Assistantships
Research assistants normally work with a faculty member, assisting with research projects. Apply directly to the graduate unit chair concerned.

Financial Need

Emergency Grant Program
The Emergency Grant Program is designed to assist currently registered, full-time graduate students beyond their first year of studies who generally are not part of the funded cohort, and who encounter an unanticipated serious financial emergency. This is not considered to be a source of routine or long-term funding. For more information on the Emergency Grant Program, visit http://www.sgs.utoronto.ca/current/financial/bursary_and_loans.asp.

Emergency Loan Program
The Emergency Loan Program is designed to alleviate temporary cash flow problems for students who are expecting to receive a payment in the near future. The maximum loan amount is $500 and is interest free until the mutually agreed upon repayment date. For more information on the Emergency Grant Program, visit www.sgs.utoronto.ca/current/financial/bursary_and_loans.asp

Financial Counselling
Financial counselling can relieve stress, resolve immediate financial problems, and help plan for the future. Financial Counsellors are trained to assist students in all aspects of financial management including budget planning and debt load management. Financial counselling sessions are confidential and available to graduate students free of charge. To schedule an appointment, contact the Graduate Awards Office by telephone (416) 946-0808 or by e-mail graduate.awards@utoronto.ca.

Further information on financial support

Visit
www.sgs.utoronto.ca

Contact
Graduate Awards Office
School of Graduate Studies
University of Toronto
63 St. George Street, Room 202
Toronto, Canada M5S 2Z9
Telephone: (416) 978-2379
Fax: (416) 978-4367
E-mail: graduate.awards@utoronto.ca or
gradschool@utoronto.ca

Services for Students

A variety of student support, opportunities, and infrastructure is available to graduate students at the University of Toronto. Here is a sample listing of many of the most commonly sought after organizations and services. More diversified information is available from the Web sites listed here as well as those available from www.students.utoronto.ca/servicesandlinks.htm.

Accessibility Services
Anti-Racism and Cultural Diversity
Athletic Facilities and Programs
Career Centre
Community Safety
Counselling and Learning Skills Services
English Language and Writing Support
Family Care
Graduate Student Initiative
Graduate Students' Union
Hart House
Health
Housing
International Student Centre
Lesbian, Gay, Bisexual, Transgendered, Queer
  Resources and Programs
Library System
Ombudsperson
Sexual Harassment
Status of Women

Accessibility Services

University of Toronto - St. George
E-mail: disability.services@utoronto.ca
Web: disability.sa.utoronto.ca

University of Toronto at Mississauga
E-mail: eamartin@utm.utoronto.ca
Web: www.erin.utoronto.ca/~w3access

University of Toronto at Scarborough
E-mail: ability@utsc.utoronto.ca
Web: www.utsc.utoronto.ca/ability

Anti–Racism and Cultural Diversity
E-mail: antiracism@utoronto.ca
Web: www.antiracism.utoronto.ca

Athletic Facilities and Programs
Athletic Centre
Varsity Centre for Physical Activity and Health
Web: www.athletics.utoronto.ca/

Career Centre
University of Toronto Career Centre
Web: www.careers.utoronto.ca

Community Safety
Web: www.communitysafety.utoronto.ca

Counselling and Learning Skills Services (CALSS)
Web: www.calss.utoronto.ca

English Language and Writing Support (ELWS)
E-mail: jane.freeman@utoronto.ca
Web: www.sgs.utoronto.ca/english

Family Care
E-mail: family.care@utoronto.ca
Web: www.familycare.utoronto.ca/

Graduate Student Initiative (GSI)
Web: www.studentservices.utoronto.ca/gsi

Graduate Students' Union (GSU)
E-mail: info.gsu@utoronto.ca
Web: www.gsu.utoronto.ca

Hart House
Web: www.harthouse.ca

Health

Health Service
E-mail: health.services@utoronto.ca
Web: www.utoronto.ca/health/

Psychiatric Service
Telephone: (416) 978-8070
Web: www.utoronto.ca/psychservices/

Housing

University Student Housing and Off Campus Housing

St. George Campus
E-mail: housing.services@utoronto.ca
Web: www.housing.utoronto.ca

Student Family Housing
E-mail: family.housing@utoronto.ca
Web: www.housing.utoronto.ca

University of Toronto Mississauga
E-mail: resdesk@utm.utoronto.ca
Web: www.utm.utoronto.ca/housing

University of Toronto Scarborough
E-mail: residences-office@utsc.utoronto.ca
Web: www.utsc.utoronto.ca/~residences/

Residences on Campus

Graduate House
E-mail: information.gradhouse@utoronto.ca
admissions.gradhouse@utoronto.ca
Web: www.sgs.utoronto.ca/gradhouse

Massey College
E-mail: g.sharpe@utoronto.ca
Web: www.utoronto.ca/massey/

International Student Centre (ISC)
E-mail: isc.information@utoronto.ca
Web: www.isc.utoronto.ca

Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) Resources and Programs
Web: www.lgbtq.utoronto.ca

Library System
E-mail: utweb@library.utoronto.ca
Web: www.library.utoronto.ca

Resource Centre for Academic Technology (RCAT)
E-mail: info.rcat@utoronto.ca
Web: www.rcat.utoronto.ca

Ombudsperson
E-mail: ombuds.person@utoronto.ca
Web: www.utoronto.ca/ombudsperson

Sexual Harassment, Education, Counselling, and Complaint Office
Web: www.utoronto.ca/sho
www.enough.utoronto.ca/ (regarding online harassment)

Status of Women
E-mail: status.women@utoronto.ca
Web: www.status-women.utoronto.ca

Graduate Faculty

There are three categories of graduate faculty. This section contains a single alphabetical listing of full members and members emeriti; the home department is listed. Associate members, which form the third category, are listed in the graduate unit entries in which they hold an appointment.

For more details about each faculty member's appointment category, degrees, honours, and chairs held, consult the graduate unit entry. Information is also available on the SGS Web site (www.sgs.utoronto.ca).

Full Members and Members Emeriti

A

Parham Aarabi - Electrical & Computer Engineering
Jonathan Abbatt - Chemistry
Mohamed Abdelhaleem - Laboratory Medicine & Pathobiology
Abdo Abdelmessih - Mechanical & Industrial Engineering
Tarek Abdelrahman - Electrical & Computer Engineering
Baher Abdulhai - Civil Engineering
Sharon Abel - Medical Science
Mounir AbouHaidar - Cell & Systems Biology
Roberto Abraham - Astronomy & Astrophysics
Rona Abramovitch - Psychology
Peter Abrams - Ecology & Evolutionary Biology
L Jane Abray - History
Robert Accinelli - History
Sandra Acker - Sociology & Equity Studies in Education
Alan Ackerman - English
Edgar Joel Acosta - Chemical Engineering & Applied Chemistry
Thomas Adamowski - English
Barry Adams - Civil Engineering
Susan Adamson - Physiology
Jean Addington - Medical Science
Khosrow Adeli - Laboratory Medicine & Pathobiology
Emanuel Adler - Political Science
Raviraj Adve - Electrical & Computer Engineering
Aneil Agrawal - Ecology & Evolutionary Biology
Victor Aguirregabiria - Economics
Anne Agur - Medical Science
William Aide - Music
Donald Ainslie - Philosophy
Paul Aird - Forestry
Phyllis Airhart - Religion
J. Stewart Aitchison - Electrical & Computer Engineering
Johan Aitken - Curriculum, Teaching & Learning
Varouj Aivazian - Economics
Suzanne Akbari - English
Mustafa Akcoglu - Mathematics
Virginia Aksan - Near & Middle Eastern Civilizations
Ramona Alaggia - Social Work
Claude Alain - Psychology
Gavin Alderson-Smith - Anthropology
Dionne Aleman - Mechanical & Industrial Engineering
Mary (Jacqui) Alexander - Women & Gender Studies
Michelle Alexopoulos - Economics
Johane Allard - Medical Science
Christine Allen - Pharmaceutical Sciences
D Grant Allen - Chemical Engineering & Applied Chemistry
Derek Allen - Philosophy
Donald Allen - Mechanical & Industrial Engineering
Patrick Allen - Curriculum, Teaching & Learning
Peter Allen - English
Kenneth Allison - Public Health Sciences
Thomas Alloway - Psychology
Benjamin Alman - Medical Science
Veronika Ambros - Slavic
Terry Amburgey - Management
Joel Amernic - Management

Cristina Amon - Mechanical & Industrial Engineering
Carl Amrhein - Geography
Cristiana Amza - Electrical & Computer Engineering
Robert Andersen - Sociology
Adam Anderson - Psychology
Christy Anderson - Art
Geoff Anderson - Health Policy, Management &
  Evaluation
Gerald Anderson - Nutritional Sciences
Gordon Anderson - Economics
Gregor Anderson - Geology
James Anderson - Ecology & Evolutionary Biology
Nicole Anderson - Psychology
Stephen Anderson - Theory & Policy Studies in
  Education
Maydianne Andrade - Ecology & Evolutionary Biology
Edward Andrew - Political Science
Brenda Jean Andrews - Molecular Genetics
David Andrews - Statistics
Gavin John Andrews - Public Health Sciences
Robert Andrews - Civil Engineering
Irene Andrulis - Molecular Genetics
Omer Angel - Mathematics
Janet Angus - Nursing Science
Eileen Antone - Adult Education & Counselling
  Psychology
Rashid Anwar - Biochemistry
Michael Archer - Nutritional Sciences
Stavros Argyropoulos - Materials Science & Engineering
George Arhonditsis - Geography
Sergey Arkhipov - Mathematics
Kay Armatage - Drama
Raffi Armenian - Music
Lawrin Armstrong - Medieval Studies
Mary Louise Arnold - Human Development & Applied
  Psychology
Sonja Arntzen - East Asian Studies
Cheryl Arrowsmith - Medical Biophysics
James Arthur - Mathematics
Pawel Artymowicz - Astronomy & Astrophysics
Sylvia Asa - Laboratory Medicine & Pathobiology
Frederick Asals - English
Nasser Ashgriz - Mechanical & Industrial Engineering
Mary Jane Ashley - Public Health Sciences
Sidney Aster - History
Janet Astington - Human Development & Applied
  Psychology
John Astington - Drama
Leslie Atkinson - Psychology
Liliana Attisano - Biochemistry
Isabelle Aubert - Laboratory Medicine & Pathobiology
Jane Aubin - Molecular Genetics
Julie Audet - Biomedical Engineering
Karl Aust - Materials Science & Engineering
Henry Auster - English
Robert Austin - European, Russian, & Eurasian Studies
Zubin Austin - Pharmaceutical Sciences
Igor Averbakh - Management
Gage Averill - Music
George Awad - Medical Science
Arthur Axelrad - Medical Biophysics

B
Fahiem Bacchus - Computer Science
Peter Backx - Medical Science
Gary Bader - Molecular Genetics
Robin Badgley - Public Health Sciences
Elizabeth Badley - Public Health Sciences
Ronald Baecker - Computer Science
Michael Bagby - Medical Science
Darius Bagli - Medical Science
Brian Baigrie - History & Philosophy of Science &
  Technology
David Bailey - Physics
Richard Bailey - Physics
Andrew Baines - Laboratory Medicine & Pathobiology
Cornelia Baines - Public Health Sciences
William Baines - Mechanical & Industrial Engineering
George Baird - Architecture, Landscape, & Design
John Baird - English
Allan Baker - Ecology & Evolutionary Biology
Andrew Baker - Medical Science
G. Ross Baker - Health Policy, Management & Evaluation
Michael Baker - Economics
Michael Baker - Medical Science
Robert Baker - Biochemistry
Robert Baker - Ecology & Evolutionary Biology
Ravin Balakrishnan - Computer Science
Jorge Balan - Theory & Policy Studies in Education
John Balatinecz - Forestry
Ahmet Baris Balcioglu - Mechanical & Industrial
  Engineering
Bernd Baldus - Sociology
Stephen Balke - Chemical Engineering & Applied
  Chemistry
Peri Ballantyne - Pharmaceutical Sciences
Keith Balmain - Electrical & Computer Engineering
Sandra Bamford - Anthropology
Salvatore Bancheri - Italian
Edward Banning - Anthropology
Brenda Banwell - Medical Science
Bharati Bapat - Laboratory Medicine & Pathobiology
Howard Barbaree - Medical Science
Edward Barbeau - History & Philosophy of Science &
  Technology
Brian Barber - Immunology
Dwayne Barber - Medical Biophysics
Berj Bardakjian - Electrical & Computer Engineering
Tim Barfoot - Aerospace Science & Engineering
Joshua Barker - Anthropology
Dror Bar-Natan - Mathematics
Christopher Barnes - Slavic
Timothy Barnes - Classics
Debora E Barnett Foster - Dentistry
Rachel Barney - Classics
Janet Barnsley - Health Policy, Management & Evaluation
Cathy Barr - Medical Science
F Michael Barrett - Cell & Systems Biology
Spencer Barrett - Ecology & Evolutionary Biology
Lee Bartel - Music
Kenneth Bartlett - History
Bruce Barton - Drama
Sylvain Baruchel - Medical Science

Virginijus Barzda - Physics
Nina Bascia - Theory & Policy Studies in Education
Sylvia Bashevkin - Political Science
Nathan Basiliko - Geography
Anne Bassett - Medical Science
John Bassili - Psychology
Darrin Bast - Laboratory Medicine & Pathobiology
Robert Alexander Batey - Chemistry
Harald Bathelt - Political Science
Joel Baum - Management
William Bawden - Civil Engineering
David Bazett-Jones - Biochemistry
David Beach - Music
Christine Bear - Physiology
George Beaton - Nutritional Sciences
John Beattie - Criminology
Mary Beattie - Curriculum, Teaching & Learning
Paul-Alain Beaulieu - Near & Middle Eastern Civilizations
Clive Beck - Curriculum, Teaching & Learning
J. Christopher Beck - Mechanical & Industrial
  Engineering
Roger Beck - Classics
Andrew Becker - Molecular Genetics
Charles Bedford - Slavic
Clare Beghtol - Information Studies
David Begun - Anthropology
Dean Behrens - Sociology
Ronald Beiner - Political Science
Morton Beiser - Medical Science
Joseph Beitchman - Public Health Sciences
Jaques Belik - Medical Science
Donald Bellamy - Social Work
Denise Belsham - Physiology
Foued Ben Amara - Mechanical & Industrial Engineering
Ridha Ben Mrad - Mechanical & Industrial Engineering
Solomon Benatar - Public Health Sciences
Samuel Benchimol - Medical Biophysics
Lawrence Bencze - Curriculum, Teaching & Learning
Yacov Ben-David - Medical Biophysics
Reina Bendayan - Pharmaceutical Sciences
Michelle Bendeck - Laboratory Medicine & Pathobiology
Daniel Eric Bender - History
Timothy Bender - Chemical Engineering & Applied
  Chemistry
Bensiyon Benhabib - Mechanical & Industrial Engineering
Dwayne Benjamin - Economics
Barrie Bennett - Curriculum, Teaching & Learning
Anders Bennick - Dentistry
Peter Benson - Law
Gerald Bentley (Jr) - English
Evan Bentz - Civil Engineering
Jennifer Berdahl - Management
Carl Bereiter - Human Development & Applied
  Psychology
Katherine Berg - Physical Therapy
Doris Bergen - History
Carl Berger - History
Stuart Berger - Immunology
Catherine Bergeron - Laboratory Medicine &
  Pathobiology
Bridget Bergquist - Geology

Neil Berinstein - Immunology
Joseph Berkovitz - History & Philosophy of Science &
  Technology
Thomas Berleth - Cell & Systems Biology
Oded Berman - Management
William Berman - History
Alan Bernstein - Molecular Genetics
R Albert Berry - Economics
Malcolm Bersohn - Chemistry
Jacques Bertrand - Political Science
Chantal Bertrand-Jennings - French
Alan Bewell - English
Parth Bhatt - French
Bhagu Bhavnani - Medical Science
Kathy Bickmore - Curriculum, Teaching & Learning
Andrew Biemiller (Jr) - Human Development & Applied
  Psychology
Arlene Bierman - Nursing Science
Edward Bierstone - Mathematics
Ilia Binder - Mathematics
Robert Binnick - Linguistics
Richard Bird - Management
Peter Birkemoe - Civil Engineering
Ritu Birla - History
Anne-Emanuelle Birn - Public Health Sciences
Eleazar Birnbaum - Near & Middle Eastern Civilizations
George Bisztray - Slavic
Matthew Bjerknes - Medical Biophysics
Deborah Black - Philosophy
Sandra Black - Medical Science
Josiah Blackmore - Spanish
Ian Blake - Electrical & Computer Engineering
Terence Blake - Forestry
Peter Blanchard - History
Ray Blanchard - Medical Science
John Bland - Mathematics
Kirk Blankstein - Psychology
Benjamin Blencowe - Molecular Genetics
J Michael Bliss - History
Valentin Blomer - Mathematics
Thomas Bloom - Mathematics
Marion Blute - Sociology
Alan Bocking - Medical Science
Janice Boddy - Anthropology
Michal Bodemann - Sociology
Deanne Bogdan - Theory & Policy Studies in Education
Ralph Bogert - Slavic
Joan Boggs - Laboratory Medicine & Pathobiology
Andrew Bognar - Molecular Genetics
Marion Bogo - Social Work
Earl Bogoch - Medical Science
Heidi Bohaker - History
Alana Boland - Geography
Megan Boler - Theory & Policy Studies in Education
Jorg Bollmann - Geology
Charles Bolton - Astronomy & Astrophysics
Claire Bombardier - Health Policy, Management &
  Evaluation
J Richard Bond - Theoretical Astrophysics
Susan Bondy - Public Health Sciences
Richard Bonert - Electrical & Computer Engineering

Anthony Bonner - Computer Science
David Boocock - Chemical Engineering & Applied
  Chemistry
Heather Boon - Pharmaceutical Sciences
Charlie Boone - Molecular Genetics
Rudy Boonstra - Ecology & Evolutionary Biology
David Booth - Curriculum, Teaching & Learning
James Booth - Immunology
Laurence Booth - Management
Sandford Borins - Management
Allan Borodin - Computer Science
Douglas Bors - Psychology
Kathryn Ann Boschen - Rehabilitation Science
Robert Bothwell - History
Gabrielle Boulianne - Molecular Genetics
Peter Boulton - Electrical & Computer Engineering
Larry Bourne - Geography
Nicole Boursier - French
Craig Boutilier - Computer Science
Barry Bowen - Pharmaceutical Sciences
William Bowen - Music
Dwight Boyd - Theory & Policy Studies in Education
Monica Boyd - Sociology
Norman Boyd - Nutritional Sciences
Joseph Boyle - Philosophy
T. Douglas Bradley - Medical Science
Donald Branch - Medical Science
Loren Brandt - Economics
Brian Branfireun - Geography
Aurel Braun - Political Science
Donald Brean - Management
Roderick Angus Bremner - Laboratory Medicine &
  Pathobiology
James Brenan - Geology
David Brenner - Statistics
Tim Bressmann - Speech-Language Pathology
Margot Breton - Social Work
Raymond Breton - Sociology
M. Clare Brett - Curriculum, Teaching & Learning
Julie Brill - Molecular Genetics
Robert Glen Bristow - Medical Biophysics
John Britton - Geography
Michael Bronskill - Medical Biophysics
Adrian Brook - Chemistry
Daniel Brooks - Ecology & Evolutionary Biology
Dina Brooks - Physical Therapy
Leonard Brooks - Management
Mireille Broucke - Electrical & Computer Engineering
Dianne Broussard - Medical Science
Anne-Marie Brousseau - French
Samuel Broverman - Statistics
Elspeth Brown - History
Grant Brown - Biochemistry
Ian Brown - Cell & Systems Biology
James Brown - Philosophy
Martha Brown - Molecular Genetics
Robert Craig Brown - History
Russell Brown - English
Stephen Brown - Electrical & Computer Engineering
Theodore Brown - Physiology
Virginia Brown - Medieval Studies

David Brownfield - Sociology
John Brownlee - History
Patricia Brubaker - Physiology
Ashley Bruce - Cell & Systems Biology
Robert Bruce - Nutritional Sciences
Patricia Bruckmann - English
Alan S Brudner - Law
John Brumell - Molecular Genetics
Paul Brumer - Chemistry
Jutta Brunnee - Law
Lawrence Brunner - Statistics
James Brunton - Medical Science
Christer Bruun - Classics
Rorke Bryan - Forestry
Joseph Bryant - Religion
Robert Brym - Sociology
Manuel Buchwald - Molecular Genetics
Ragnar-Olaf Buchweitz - Mathematics
Leslie Buck - Cell & Systems Biology
Antje Budde - Drama
Ronald Buliung - Geography
Shelley Bull - Public Health Sciences
Michael Bunce - Geography
Almut Burchard - Mathematics
Jonathan Burgess - Classics
Ralph Burgess - Dentistry
James Burke - Spanish
Willets Burnham - Pharmacology & Toxicology
Peter Burns - Medical Biophysics
Lori Burrows - Medical Science
Bonnie Burstow - Adult Education & Counselling
  Psychology
Frances Burton - Anthropology
Markus Bussmann - Mechanical & Industrial Engineering
Usanda Busto - Pharmaceutical Sciences
Yvonne Margareth Buys - Medical Science
Philip Byer - Civil Engineering

C
Nadia Caidi - Information Studies
M. Celia Cain - Music
Christopher Caldarone - Biomedical Engineering
John Callahan - Biochemistry
William Callahan - History
Jeffrey Callen - Management
Livianna Calzavara - Public Health Sciences
David Cameron - Political Science
Elspeth Cameron - English
Linda Cameron - Curriculum, Teaching & Learning
Douglas Campbell - Sociology
Elizabeth Campbell - Curriculum, Teaching & Learning
James Campbell - Molecular Genetics
Malcolm Campbell - Cell & Systems Biology
Michele Campolieti - Industrial Relations & Human
  Resources
John Canfield - Philosophy
Isabella Caniggia - Physiology
Rocco Capozzi - Italian
Joseph Carens - Political Science
Raymond Carlberg - Astronomy & Astrophysics
Peter Carlen - Physiology

Terence Carleton - Ecology & Evolutionary Biology
James Carlyle - Immunology
Heather Carnahan - Occupational Science &
  Occupational Therapy
Jean-Bernard Caron - Geology
Jack Carr - Economics
Peter Carstens - Anthropology
Anne Carswell - Occupational Science & Occupational
  Therapy
Michael Carter - Mechanical & Industrial Engineering
Jeremy Carver - Molecular Genetics
Francois Casas - Economics
Michael Casas - Dentistry
Jill Caskey - Art
Robert Casper - Medical Science
John Caspersen - Forestry
David Cassidy - Public Health Sciences
Pamela Catton - Medical Science
Mark Cattral - Medical Science
Daniel Cattran - Medical Science
Eric Cazdyn - East Asian Studies
Charles Chaffey - Chemical Engineering & Applied
  Chemistry
Avijit Chakrabartty - Medical Biophysics
Anjan Chakravartty - History & Philosophy of Science &
  Technology
Tigran Chalikian - Pharmaceutical Sciences
Catherine Chalin Clark - Public Health Sciences
John Challis - Physiology
Beverley Chalmers - Nursing Science
J Edward Chamberlin - English
Craig Chambers - Psychology
Douglas Chambers - English
John Chambers - Linguistics
Simone Chambers - Political Science
Adrienne Chambon - Social Work
Helen Chan - Medical Science
Hue Sun Chan - Biochemistry
Ka Nin Chan - Music
Voon Chan - Molecular Genetics
Warren Chan - Biomedical Engineering
Anthony Chan Carusone - Electrical & Computer
  Engineering
Sanjeev Chandra - Mechanical & Industrial Engineering
Belinda Chang - Ecology & Evolutionary Biology
Bruce Chapman - Law
Kenneth Chapman - Exercise Sciences
Michael Charles - Chemical Engineering & Applied
  Chemistry
Milton Charlton - Physiology
Alison Chasteen - Psychology
Tom Chau - Biomedical Engineering
Michael Chazan - Anthropology
Marsha Chechik - Computer Science
Mark Cheetham - Art
Charles Chen - Adult Education & Counselling
  Psychology
Jing Chen - Geography
Robert Chen - Medical Science
Hazel Pl Cheng - Medical Biophysics

Yu-Ling Cheng - Chemical Engineering & Applied
  Chemistry
Joan Cherry - Information Studies
Angela Cheung - Health Policy, Management &
  Evaluation
Peter Cheung - Medical Biophysics
Douglas Cheyne - Medical Science
Mark Chignell - Mechanical & Industrial Engineering
Ruth Childs - Human Development & Applied Psychology
Carol Chin - History
Jik Chin - Chemistry
Mary Chipman - Public Health Sciences
Han Cho - Physics
Man-Duen Choi - Mathematics
Chun Wei Choo - Information Studies
Nanda Choudhry - Economics
Sujit Choudhry - Law
Paul Chow - Electrical & Computer Engineering
Christina Christara - Computer Science
Dinesh Christendat - Cell & Systems Biology
Constantin Christopoulos - Civil Engineering
Kin-Yip Chun - Physics
Stacy (Jr.) Churchill - Curriculum, Teaching & Learning
Lisa Cicutto - Nursing Science
Brian Ciruna - Molecular Genetics
David Clandfield - French
Caryl Clark - Music
Philip Clark - Philosophy
David Clarke - Medical Science
E Aileen Clarke - Public Health Sciences
George Elliott Clarke - English
Joe Clarke - Medical Science
William Clarke - Astronomy & Astrophysics
Stephen Clarkson - Political Science
William Cleghorn - Mechanical & Industrial Engineering
Andrew Clement - Information Studies
Christine Clement - Astronomy & Astrophysics
Maurice Clement - Astronomy & Astrophysics
Cameron Clokie - Dentistry
Cecile Cloutier-Wojciechowska - French
William Cluett - Chemical Engineering & Applied
  Chemistry
Allan Coates - Physiology
Michael Cobb - English
Richard Cobbold - Biomedical Engineering
David Coburn - Public Health Sciences
Isabelle Cochelin - History
Alan Cochrane - Molecular Genetics
Rhonda Cockerill - Health Policy, Management &
  Evaluation
Richard Code - Physics
Adam Cohen - Art
Amos Cohen - Immunology
Joanna Cohen - Public Health Sciences
Jon Cohen - Economics
Marsha Cohen - Health Policy, Management & Evaluation
Paul Cohen - History
Rina Cohen - Curriculum, Teaching & Learning
Zane Cohen - Medical Science
Jillian Cohen-Kohler - Pharmaceutical Sciences
Laura Colantoni - Spanish

Angela Colantonio - Occupational Science & Occupational Therapy
Ardra Cole - Adult Education & Counselling Psychology
David Cole - Laboratory Medicine & Pathobiology
Donald Cole - Public Health Sciences
Edward Cole - Medical Science
William Cole - Medical Science
John Coleman - Cell & Systems Biology
John Coles - Medical Science
James Colliander - Mathematics
Michael Collins - Civil Engineering
Nicholas Collins - Ecology & Evolutionary Biology
Richard Collins - Molecular Genetics
Rebecca Comay - Philosophy
Carola Conle - Curriculum, Teaching & Learning
Michael Connelly - Curriculum, Teaching & Learning
Philip Connelly - Laboratory Medicine & Pathobiology
Mariano Consens - Mechanical & Industrial Engineering
Tenley Conway - Geography
David Cook - Political Science
Eleanor Cook - English
Ramsay Cook - History
Rebecca Cook - Law
Stephen Cook - Computer Science
Karyn Cooper - Curriculum, Teaching & Learning
Paul Cooper - Forestry
Nancy Copeland - Drama
Sabine Cordes - Molecular Genetics
Mary Corey - Public Health Sciences
Paul Corey - Public Health Sciences
Donald Cormack - Chemical Engineering & Applied Chemistry
Brian Corman - English
Derek Corneil - Computer Science
Carl Corter - Human Development & Applied Psychology
Kenneth Corts - Management
Brenda Cossman - Law
Pierre Cote - Public Health Sciences
Stephane Cote - Management
Cheryl Cott - Physical Therapy
Michelle Cotterchio - Public Health Sciences
Gary Coupland - Anthropology
David Courtman - Laboratory Medicine & Pathobiology
Deborah Cowen - Geography
Leah Cowen - Molecular Genetics
Sharon Cowling - Geography
Elizabeth Cowper - Linguistics
Brian Cox - Materials Science & Engineering
Thomas Coyle - Materials Science & Engineering
Peter C Coyte - Health Policy, Management & Evaluation
Angela Cozea - French
Barbara Craig - Information Studies
Fergus Craik - Psychology
Virgil Radu Craiu - Statistics
Adrian Crawford - Civil Engineering
Gary Crawford - Anthropology
George Scott Cree - Psychology
John Crispo - Management
Ken Croitoru - Medical Science
Alexander Cruden - Geology
Imre Csizmadia - Chemistry

Melba Cuddy-Keane - English
Joseph Culotti - Molecular Genetics
Tony Culyer - Health Policy, Management & Evaluation
Alister Cumming - Curriculum, Teaching & Learning
James Cummins - Curriculum, Teaching & Learning
Alastair Cunningham - Medical Biophysics
Frank Cunningham - Philosophy
Hilary Cunningham - Anthropology
John Cunningham - Psychology
William Cunningham - Psychology
Gerald Chaim Cupchik - Psychology
John Curran - Civil Engineering
Douglas Currie - Ecology & Evolutionary Biology
Iain Currie - Mechanical & Industrial Engineering
Michael Cusimano - Medical Science
Asher Cutter - Ecology & Evolutionary Biology
Ernest Cutz - Laboratory Medicine & Pathobiology
Dennis Cvitkovitch - Dentistry
Myron Cybulsky - Laboratory Medicine & Pathobiology
Helene Cyr - Ecology & Evolutionary Biology

D
Abdallah Daar - Public Health Sciences
Lucia Dacome - History & Philosophy of Science & Technology
Alan Dainard - French
Christopher Damaren - Aerospace Science & Engineering
Ettore Vincenzo Damiano - Economics
Denis Daneman - Medical Science
Meredyth Daneman - Psychology
Marcel Danesi - Anthropology
Amrita Daniere - Geography
Jayne Danska - Immunology
D Christopher Darling - Ecology & Evolutionary Biology
Vivian Darroch-Lozowski - Curriculum, Teaching & Learning
Michele Daviau - Near & Middle Eastern Civilizations
Alan Richard Davidson - Molecular Genetics
Robert Davidson - Spanish
Lynn Davie - Curriculum, Teaching & Learning
Alan Davies - Religion
John Davies - Dentistry
Aileen Davis - Physical Therapy
Anthony Davis - Geography
David Davis - Health Policy, Management & Evaluation
Donald Davis - Geology
H Chandler Davis - Mathematics
John Davis - Theory & Policy Studies in Education
Karen Davis - Medical Science
Natalie Davis - History
Edward Davison - Electrical & Computer Engineering
Deirdre Dawson - Occupational Science & Occupational Therapy
Francis Dawson - Electrical & Computer Engineering
Laura Dawson - Medical Science
Richard Day - Political Science
Joseph D'Cruz - Management
Joyce De Azavedo - Laboratory Medicine & Pathobiology
Hans de Groot - English
Derrick De Kerckhove - French

Eyal De Lara - Computer Science
Jacob de Leeuw - Aerospace Science & Engineering
Luc De Nil - Speech-Language Pathology
A Hugo de Quehen - English
Eve De Rosa - Psychology
Ronald De Sousa - Philosophy
Gabriel de Veber - Medical Science
William Dean - Geography
Charles Deber - Biochemistry
Raisa Deber - Health Policy, Management & Evaluation
Kari Dehli - Sociology & Equity Studies in Education
George JS Dei - Sociology & Equity Studies in Education
Ronald Deibert - Political Science
Andres Del Junco - Mathematics
James DeLaurier - Aerospace Science & Engineering
Gabriele D'Eleuterio - Aerospace Science & Engineering
Angela Demke Brown - Computer Science
Nancy Dengler - Ecology & Evolutionary Biology
Cindy-Lee Dennis - Nursing Science
James Dennis - Molecular Genetics
Maureen Dennis - Medical Science
Michael Denny - Economics
Gregory Denomme - Laboratory Medicine & Pathobiology
Julian Dent - History
Douglas Deporter - Dentistry
Sandy Der - Laboratory Medicine & Pathobiology
W. Brent Derry - Molecular Genetics
Nicholas Derzko - Mathematics
Rashmikant Desai - Physics
Joseph Desloges - Geography
Pierre Desrochers - Geography
Sherwin Desser - Cell & Systems Biology
Darrell Desveaux - Cell & Systems Biology
Allan Detsky - Health Policy, Management & Evaluation
Gerald Devins - Medical Science
Shashi Dewan - Electrical & Computer Engineering
Michael Dewar - Classics
Donald Dewees - Economics
Arti Dhand - Religion
Al-Amin Dhirani - Chemistry
Eleftherios Diamandis - Laboratory Medicine &
  Pathobiology
Nicholas Diamant - Medical Science
Colin Diamond - Curriculum, Teaching & Learning
Miriam Diamond - Geography
James DiCenso - Religion
John Dick - Molecular Genetics
Bernard Dickens - Law
Sven Josef Dickinson - Computer Science
Timothy Dickinson - Ecology & Evolutionary Biology
Augustinus Dierick - German
Peter Dietsche - Theory & Policy Studies in Education
Richard DiFrancesco - Geography
Juris Dilevko - Information Studies
Martin Dimnik - Medieval Studies
Karen Dion - Psychology
Levente Diosady - Chemical Engineering & Applied
  Chemistry
Peter Dirks - Laboratory Medicine & Pathobiology
Sarma Dittakavi - Laboratory Medicine & Pathobiology
Alf Dolan - Biomedical Engineering

Lubomir Dolezel - Slavic
Milena Dolezelova - East Asian Studies
Lori Anne Dolloff - Music
Eric William Domville - English
D. James Donaldson - Chemistry
Terence Donaldson - Religion
Susan Done - Laboratory Medicine & Pathobiology
Michael Donnelly - Political Science
Peter Donnelly - Exercise Sciences
Sandra Donnelly - Health Policy, Management &
  Evaluation
Gail Donner - Nursing Science
Anthony Doob - Criminology
Ann Dooley - Medieval Studies
Diane Doran - Nursing Science
Paul Dorian - Pharmacology & Toxicology
Hans Dosch - Immunology
Jonathan Dostrovsky - Physiology
E Wayne Dowler - History
Paul Downes - English
Gregory Downey - Medical Science
James Drake - Medical Science
Thomas Drake - Physics
B Elan Dresher - Linguistics
Robert Drewitt - Anthropology
Daniel Drucker - Medical Science
James Drummond - Physics
Jin-Chuan Duan - Management
Andrew Dubois - English
Adam Dubrowski - Nursing Science
Joseph Ducharme - Human Development & Applied
  Psychology
David Grant Duff - Law
Wendy Duff - Information Studies
Dennis Duffy - English
Anthony Duggan - Law
Daniel Dumont - Medical Biophysics
Kevin Dunbar - Psychology
David Dunlop - Physics
James Dunn - Geography
Gilles Duranton - Economics
Peter Durie - Medical Science
Daniel Durocher - Molecular Genetics
JoAnna Dutka - English
Alexander Dyck - Management
Harvey Dyck - History
Charles Dyer - Astronomy & Astrophysics
David Dyzenhaus - Law

E
Joan Eakin - Public Health Sciences
Lorna Earl - Theory & Policy Studies in Education
Stephen Michael Easterbrook - Computer Science
Anthony Easty - Biomedical Engineering
James Eckenwalder - Ecology & Evolutionary Biology
Scott Eddie - Economics
Aled Edwards - Medical Biophysics
Darryl Edwards - Music
Elizabeth Edwards - Chemical Engineering & Applied
  Chemistry
Richard Edwards - Physics

Sean Egan - Molecular Genetics
Margrit Eichler - Sociology & Equity Studies in Education
Thomas Einarson - Pharmaceutical Sciences
Gillian Einstein - Psychology
John Eisenberg - Theory & Policy Studies in Education
Konrad Eisenbichler - Italian
Moshe Eizenman - Biomedical Engineering
Alis Ekmekci - Aerospace Science & Engineering
Modris Eksteins - History
Tamer El-Diraby - Civil Engineering
Luba Eleen - Art
George Eleftheriades - Electrical & Computer
  Engineering
Ramy Elitzur - Management
Charles Elkabas - French
Rodolphe El-Khoury - Architecture, Landscape, & Design
Faith Ellen - Computer Science
Richard Ellen - Dentistry
Erich Ellers - Mathematics
George Elliott - Mathematics
Robin Elliott - Music
James Ellis - Molecular Genetics
Keith Aa Ellis - Spanish
Omar El-Mowafy - Dentistry
Harry Elsholtz - Laboratory Medicine & Pathobiology
Ahmed El-Sohemy - Nutritional Sciences
M. Reza Emami - Aerospace Science & Engineering
Andrew Emili - Molecular Genetics
Anver Emon - Law
Laszlo Endrenyi - Pharmacology & Toxicology
Mark Engstrom - Ecology & Evolutionary Biology
Wayne Enright - Computer Science
Suzanne Erb - Psychology
Uwe Erb - Materials Science & Engineering
Bonnie Erickson - Sociology
Patricia Erickson - Sociology
Alice Eriks-Brophy - Speech-Language Pathology
Andres Erosa - Economics
Deborah Esch - English
Michael Escobar - Public Health Sciences
Uzoma Esonwanne - English
George Espie - Cell & Systems Biology
Mary Jane Esplen - Nursing Science
James Estes - History
Edward Etchells - Medical Science
C Ross Ethier - Mechanical & Industrial Engineering
James Eubanks - Medical Science
Gregory Evans - Chemical Engineering & Applied
  Chemistry
Martin Evans - Management
Michael Evans - Statistics
Nicholas Everett - History
Martin Paul Evison - Anthropology
Bjorn Ewald - Art
Nicholas Eyles - Geology
Dickson Eyoh - Political Science
Gail Eyssen - Public Health Sciences
Shereen Ezzat - Medical Science

F
Miquel Faig - Economics
Thomas Fairgrieve - Computer Science
Alexander Falconer - French
Victor Falkenheim - Political Science
George Fantus - Medical Science
James Farge - Medieval Studies
Matthew Farish - Geography
Diane Farmer - Sociology & Equity Studies in Education
Ramin Farnood - Chemical Engineering & Applied
  Chemistry
Joseph Farrell - Curriculum, Teaching & Learning
Guy Faulkner - Exercise Sciences
Yiftach Fehige - History & Philosophy of Science &
  Technology
Michael Fehlings - Medical Science
Anthony Feinstein - Medical Science
Ulrich Fekl - Chemistry
Brian Feldman - Health Policy, Management & Evaluation
Zhong Ping Feng - Physiology
Angelica Fenner - German
Robert Fenton - Mechanical & Industrial Engineering
Gillian Fenwick - English
Susanne Ferber - Psychology
Bruce Ferguson - Public Health Sciences
Geoffrey Fernie - Biomedical Engineering
John Fernie - Astronomy & Astrophysics
Michel Ferrari - Human Development & Applied
  Psychology
Roberta Ferrence - Public Health Sciences
Grant Ferris - Geology
Lorraine Ferris - Public Health Sciences
Andrey Feuerverger - Statistics
Grace Feuerverger - Curriculum, Teaching & Learning
Edward Fillery - Dentistry
Jorge Filmus - Medical Biophysics
Sarah Finkelstein - Geography
Michael Finlayson - History
Benedikt Fischer - Public Health Sciences
Eleanor Fish - Immunology
Joel Fish - Medical Science
Joseph Fisher - Medical Science
Brian Fitch - French
Margaret Fitch - Nursing Science
Peter Fitting - French
Eugene Fiume - Computer Science
Frederick Flahiff - English
John Flanagan - Medical Science
James Fleck - Management
David James Fleet - Computer Science
Alison Fleming - Psychology
E Patricia Fleming - Information Studies
John Fleming - French
Neil Fleshner - Medical Science
Joseph Fletcher - Political Science
Paul Fletcher - Psychology
Alastair Flint - Medical Science
Colleen Flood - Law
John Floras - Medical Science
Richard Florida - Management
John Floyd - Economics

Patrick Foley - Mechanical & Industrial Engineering
Eric Fong - Sociology
David Foot - Economics
Donald Forbes - Political Science
Maureen Ford - Theory & Policy Studies in Education
Julie Forman-Kay - Biochemistry
Giovanni Forni - Mathematics
Christopher Forrest - Medical Science
Marie-Josee Fortin - Ecology & Evolutionary Biology
Paul Fortin - Health Policy, Management & Evaluation
Stuart Foster - Medical Biophysics
Georgia Fotopoulos - Civil Engineering
Frank Foulkes - Chemical Engineering & Applied
  Chemistry
Marc Fournier - Psychology
Bonnie Fox - Sociology
Harry Fox - Religion
Mark Fox - Mechanical & Industrial Engineering
Antonio Franceschetti - Italian
Bruce Francis - Electrical & Computer Engineering
John Frank - Public Health Sciences
Roberta Frank - Medieval Studies
Paul Frankland - Physiology
Ursula Franklin - Materials Science & Engineering
Paul Franks - Philosophy
Lori Frappier - Molecular Genetics
Craig Fraser - History & Philosophy of Science &
  Technology
Donald AS Fraser - Statistics
Paul Fraser - Medical Biophysics
Simon John Fraser - Chemistry
Richard Frecker - Biomedical Engineering
Jonathan Freedman - Psychology
Stephen Fremes - Medical Science
Normand Frenette - Curriculum, Teaching & Learning
Brendan Frey - Electrical & Computer Engineering
Judith Friedland - Occupational Science & Occupational
  Therapy
Martin Friedland - Law
John Friedlander - Mathematics
Shimon Friedman - Dentistry
Harriet Friedmann - Sociology
Sharon Friefeld - Occupational Science & Occupational
  Therapy
T Max Friesen - Anthropology
James Fullard - Ecology & Evolutionary Biology
Esme Fuller-Thomson - Social Work
Roberta Fulthorpe - Ecology & Evolutionary Biology
Barbara Funnell - Molecular Genetics
Melvyn Fuss - Economics
Maria Luisa Fuster - Economics

G
Gunter Gad - Geography
Antoinette Gagne - Curriculum, Teaching & Learning
Herbert Gaisano - Medical Science
David Galbraith - English
Kathleen Marie Gallagher - Curriculum, Teaching &
  Learning
Brenda Gallie - Molecular Genetics
Steven Gallinger - Medical Science

Ruth Gallop - Nursing Science
John Galloway - Geography
Peter Gamlin - Adult Education & Counselling
  Psychology
Jerzy Ganczarczyk - Civil Engineering
Yashar Ganjali - Computer Science
Ralph Garber - Social Work
Paul Garfinkel - Medical Science
Jean Gariepy - Medical Biophysics
Frances Garrett - Religion
Robert Garrison - Astronomy & Astrophysics
Libby Garshowitz - Near & Middle Eastern Civilizations
Rosemary Gartner - Criminology
Jane Gaskell - Theory & Policy Studies in Education
Denise Gastaldo - Nursing Science
Douglas Paul Gauvreau - Civil Engineering
Charles Genno - German
Roman Genov - Electrical & Computer Engineering
Susan George - Pharmacology & Toxicology
Tony George - Psychology
Usha George - Social Work
Michael Georges - Chemistry
Diane Gerin-Lajoie - Curriculum, Teaching & Learning
Robert Gerlai - Psychology
Lloyd Gerson - Philosophy
Meric Gertler - Geography
Michael Gervers - History
Esther Geva - Human Development & Applied
  Psychology
Rebecca Ghent - Geology
Adria Giacca - Physiology
Guri Giaever - Pharmaceutical Sciences
Robert Gibbs - Philosophy
David Gibo - Ecology & Evolutionary Biology
Manuela Gieri - Italian
Monique Gignac - Public Health Sciences
Emily Gilbert - Geography
Richard Gilbert - Medical Science
Joseph Gillis - Adult Education & Counselling Psychology
Ronald Gillis - Sociology
Gillian Gillison - Anthropology
Brendan Gillon - History & Philosophy of Science &
  Technology
Anne-Claude Gingras - Molecular Genetics
Yves Gingras - History & Philosophy of Science &
  Technology
Stephen Girardin - Laboratory Medicine & Pathobiology
Luigi Girolametto - Speech-Language Pathology
Dafna Gladman - Medical Science
Richard Glazier - Health Policy, Management &
  Evaluation
Robert Glickman - Spanish
Judith Globerman - Social Work
Michael Glogauer - Dentistry
John Glover - Biochemistry
Dorothea Godt - Cell & Systems Biology
Ashvin Goel - Electrical & Computer Engineering
Vivek Goel - Health Policy, Management & Evaluation
Joseph Goering - History
Paula Goering - Medical Science
Willi Goetschel - German

Walter Goffart - History
M Cynthia Goh - Chemistry
Marvin Gold - Molecular Genetics
Brian Golden - Management
Andrei Goldenberg - Mechanical & Industrial Engineering
Gerald Joseph Goldenberg - Pharmacology & Toxicology
Marlene Beth Goldman - English
David Goldreich - Management
David Goldstein - Psychology
Michael Goldstein - Mathematics
Roger Goldstein - Medical Science
Tara Goldstein - Curriculum, Teaching & Learning
Daniel Goldstick - Philosophy
Lisa Golombek - Near & Middle Eastern Civilizations
Andre Gombay - Philosophy
Jennifer Gommerman - Immunology
Siew-Ging Gong - Dentistry
Paul William Gooch - Philosophy
Robert Goode - Exercise Sciences
Jack Goodman - Exercise Sciences
Michael Stephen Goodstadt - Public Health Sciences
Kanishka Goonewardena - Geography
Reginald Gorczynski - Immunology
Myron Gordon - Management
Daphne Goring - Cell & Systems Biology
Michael Gorton - Geology
Avrum Gotlieb - Laboratory Medicine & Pathobiology
Calvin Carl Gotlieb - Computer Science
James Gottlieb - Aerospace Science & Engineering
William Gough - Geography
Elizabeth Gould - Music
Christian Gourieroux - Economics
Murray Grabinsky - Civil Engineering
Claudiu Gradinaru - Physics
Cheryl Grady - Psychology
G Scott Graham - Computer Science
Ian Graham - Mathematics
Simon Graham - Medical Biophysics
Denis Grant - Pharmaceutical Sciences
John Grant - Classics
Peter Grant - Aerospace Science & Engineering
John Granton - Medical Science
Giovanni Grasselli - Civil Engineering
Patrick Gray - Medieval Studies
Scott Gray-Owen - Molecular Genetics
Rene' Ic Graziani - English
Kenneth Green - Religion
Jack Greenblatt - Molecular Genetics
Richard Greene - English
Daniel Greeno - Management
Brian Greenwood - Geography
Carol Greenwood - Nutritional Sciences
Allan Greer - History
Richard Gregor - Political Science
Peter Greiner - Mathematics
Paul Grendler - History
Nicholas Griffin - History & Philosophy of Science & Technology
P Allan Griffin - Physics
Franklyn Jc Griffiths - Political Science
Sergio Grinstein - Biochemistry

Catherine Grise - French
Paul Grootendorst - Pharmaceutical Sciences
Allan Gross - Biomedical Engineering
Gil Gross - Medical Science
Mart Gross - Ecology & Evolutionary Biology
Clinton Groth - Aerospace Science & Engineering
Michael Gruninger - Mechanical & Industrial Engineering
Larry Grupp - Pharmacology & Toxicology
Joan Grusec - Psychology
Marc Grynpas - Laboratory Medicine & Pathobiology
Krzysztof Grzymski - Near & Middle Eastern Civilizations
Francesco Guardiani - Italian
Axel Guenther - Mechanical & Industrial Engineering
Sebastian Guenther - Near & Middle Eastern Civilizations
Abhijit Guha - Medical Science
Cynthia Guidos - Immunology
Richard Wl Guisso - East Asian Studies
Glenn Gulak - Electrical & Computer Engineering
Omer Gulder - Aerospace Science & Engineering
Joseph Gulsoy - Spanish
Erik Gunderson - Classics
Morley Gunderson - Economics
Hugh Gunz - Management
Neeru Gupta - Medical Science
James Gurd - Biochemistry
David Guttman - Cell & Systems Biology
Irwin Guttman - Statistics
Mary Alice Guttman - Adult Education & Counselling
  Psychology
Darryl Gwynne - Ecology & Evolutionary Biology

H
Anthony Haasz - Aerospace Science & Engineering
Denis Hache - Theory & Policy Studies in Education
Ian Hacking - Philosophy
Jason Hackworth - Geography
Rodney Haddow - Political Science
Vassos Hadzilacos - Computer Science
John Hagan - Sociology
Michael Hager - German
John Haines - Music
Razqallah Hakem - Medical Biophysics
William Halewood - English
David Haley - Psychology
Bert Hall - History & Philosophy of Science & Technology
Henry Halls - Geology
J Stephen Halperin - Mathematics
Baruch Halpern - Near & Middle Eastern Civilizations
Eric Halpern - History
Paul Halpern - Management
Paul Hamel - Laboratory Medicine & Pathobiology
Gillian Hamilton - Economics
Michael Hamilton - Geology
David Hampson - Pharmaceutical Sciences
Anthony Hanley - Nutritional Sciences
Gila Hanna - Curriculum, Teaching & Learning
Mary Hannah - Health Policy, Management & Evaluation
Kelly Hannah-Moffat - Sociology
John Hannigan - Sociology
Jorn Hansen - Aerospace Science & Engineering
Randall Hansen - Political Science

Wahidul Haque - Mathematics
Birgit Harley - Curriculum, Teaching & Learning
Elizabeth Harney - Art
Patricia Harper - Pharmacology & Toxicology
Amir Harrak - Near & Middle Eastern Civilizations
Lea Anne Harrington - Medical Biophysics
Tony Harris - Cell & Systems Biology
Alexander Harrison - Chemistry
Rene Harrison - Cell & Systems Biology
Robert Harrison - Medical Science
Timothy Harrison - Near & Middle Eastern Civilizations
J Russell Hartenberger - Music
Bart Harvey - Public Health Sciences
Edward Harvey - Sociology
Elisabeth Ruth Harvey - English
Elizabeth Harvey - English
Harold Harvey - Ecology & Evolutionary Biology
Leslie Harvey - Geography
William Harvey - Medical Science
Clare Hasenkampf - Cell & Systems Biology
Lynn Hasher - Psychology
Amir Hassanpour - Near & Middle Eastern Civilizations
John Ef Hastings - Health Policy, Management & Evaluation
Dimitrios Hatzinakos - Electrical & Computer Engineering
Christos Hatzis - Music
Ezra Hauer - Civil Engineering
Barbara Havercroft - French
George Hawken - Art
Gillian Hawker - Health Policy, Management & Evaluation
Cynthia Hawkins - Laboratory Medicine & Pathobiology
Scott Hawkins - Management
Sean Hawkins - History
John Hay - Immunology
Ruth Hayhoe - Theory & Policy Studies in Education
Barrie Hayne - English
Martin Head - Geology
Antonette Healey - Medieval Studies
Joseph Heath - Philosophy
Elizabeth Jenny Heathcote - Medical Science
Philip Hebert - Medical Science
David Hedley - Medical Biophysics
Heiko Heerklotz - Pharmaceutical Sciences
Johannes Heersche - Dentistry
Ingrid Hehmeyer - History & Philosophy of Science & Technology
Eric Hehner - Computer Science
Walid Hejazi - Management
Gerald Helleiner - Economics
Monica Heller - Sociology & Equity Studies in Education
Richard Helmstadter - History
Amr Helmy - Electrical & Computer Engineering
Charles Helwig - Psychology
Wolfgang Hempel - German
Grant Henderson - Geology
Greig Henderson - English
Jeffrey Henderson - Pharmaceutical Sciences
Mark Henkelman - Medical Biophysics
Elise Heon - Medical Science
C Peter Herman - Psychology
Peter Herman - Electrical & Computer Engineering

Michael Herren - Medieval Studies
Nathan Herrmann - Medical Science
Aaron Hertzmann - Computer Science
Ronald Heslegrave - Exercise Sciences
Paul Hess - Geography
C Ross Hetherington - Psychology
David Hewitt - Public Health Sciences
James Hewitt - Curriculum, Teaching & Learning
Marsha Hewitt - Religion
Scott Heximer - Physiology
Glenn Hibbard - Materials Science & Engineering
David Higgs - History
Nasrat Hussein Hijazi - Environment
Angela Hildyard - Theory & Policy Studies in Education
Richard Hill - Medical Biophysics
Edith Hillan - Nursing Science
Jocelyn Hillgarth - Medieval Studies
K Wayne Hindmarsh - Pharmaceutical Sciences
Aleksander Hinek - Laboratory Medicine & Pathobiology
Geoffrey Hinton - Computer Science
Ran Hirschl - Political Science
Graeme Hirst - Computer Science
Brian Hodges - Theory & Policy Studies in Education
Ellen Hodnett - Nursing Science
Derek Hodson - Curriculum, Teaching & Learning
Frank Hoff - East Asian Studies
Ronald Hofmann - Civil Engineering
David Hogg - Medical Science
Sheilah Hogg-Johnson - Public Health Sciences
Anne Holbrook - Pharmaceutical Sciences
Bob Holdom - Physics
John Holladay, Jr. - Near & Middle Eastern Civilizations
Samuel Hollander - Economics
D Linn Holness - Public Health Sciences
Thomas Homer-Dixon - Political Science
Adrienne Hood - History
Frank Hooper - Mechanical & Industrial Engineering
R Douglas Hooton - Civil Engineering
Ole-Kristian Hope - Management
Paul Horgen - Cell & Systems Biology
Kentaro Hori - Physics
Richard Horner - Medical Science
Gad Horowitz - Political Science
Sandra Horst - Music
Ignatius Horstmann - Management
Arthur Hosios - Economics
Margaret Hough - Laboratory Medicine & Pathobiology
Walid Houry - Biochemistry
Kenneth Howard - Geology
William Howard - English
Lynne Howarth - Information Studies
Doris Howell - Nursing Science
Lynne Howell - Biochemistry
Nancy Howell - Sociology
Susan Howson - Economics
Ping-Chun Hsiung - Sociology
James Hu - Dentistry
Jim Hu - Medical Science
Martin Hubbes - Forestry
Christopher Hudson - Medical Science
Thomas J Hudson - Molecular Genetics

Andrew Hughes - Music
Peter Hughes - Aerospace Science & Engineering
Timothy Hughes - Molecular Genetics
Chi-Chung Hui - Molecular Genetics
J David Hulchanski - Social Work
James Hull - History & Philosophy of Science &
  Technology
John Hull - Management
Sean Hum - Electrical & Computer Engineering
James Hume - Computer Science
Thomas Humphries - Human Development & Applied
  Psychology
David Hunt - Adult Education & Counselling Psychology
John Hunt, Prof. Emeritus - Medical Biophysics
Mark Hunter - Geography
Vanolin Hurdle - Civil Engineering
Thomas Hurka - Philosophy
Mansoor Husain - Laboratory Medicine & Pathobiology
Linda Hutcheon - English
Douglas Hutchinson - Philosophy
William Hutchison - Physiology
Paul Als Hwang - Medical Science
Douglas Hyatt - Industrial Relations & Human Resources
Martyn Hyde - Speech-Language Pathology
J Allan Hynes - Economics
Kullervo Hynynen - Medical Biophysics

I
Edward Iacobucci - Law
Franca Iacovetta - History
Keigo Iizuka - Electrical & Computer Engineering
Mitsuhiko Ikura - Medical Biophysics
Tadanobu Inaba - Pharmacology & Toxicology
John Ingham - History
C James Ingles - Biochemistry
Robert Inman - Medical Science
Brad Inwood - Classics
Michael Inzlicht - Psychology
Michela Ippolito - Linguistics
Mohammad Iravani - Electrical & Computer Engineering
Louis Iribarne - Slavic
Howard Irving - Social Work
David Irwin - Laboratory Medicine & Pathobiology
Marjorie Irwin - Classics
Meredith Irwin - Medical Science
Wsevolod Isajiw - Sociology
Norman Iscove - Medical Biophysics
Judy Iseke-Barnes - Sociology & Equity Studies in
  Education
David Isenman - Biochemistry
Milton Israel - History
Shinya Ito - Pharmacology & Toxicology
Victor Ivrii - Mathematics
Gwendolyn Ivy - Psychology
Michael Iwama - Occupational Science & Occupational
  Therapy

J
Reiner Jaakson - Geography
Donald Jackson - Ecology & Evolutionary Biology
Heather Jackson - English
James Jackson - English
Kenneth Jackson - Computer Science
Nancy Jackson - Adult Education & Counselling
  Psychology
Allan Jacobs - Physics
Ira Jacobs - Exercise Sciences
Hans-Arno Jacobsen - Electrical & Computer
  Engineering
Alejandro Jadad - Health Policy, Management &
  Evaluation
Audrey Jaffe - English
David Jaffray - Medical Biophysics
Susan Jaglal - Physical Therapy
Eva-Lynn Jagoe - Spanish
Sebastian Jaimungal - Statistics
Kajri Jain - Art
R. Michael Jalland - Management
Daniel James - Physics
David James - Mechanical & Industrial Engineering
Gregory Jamieson - Mechanical & Industrial Engineering
Wasyl Janischewskyj - Electrical & Computer
  Engineering
Robert Jankov - Physiology
Andrew Jardine - Mechanical & Industrial Engineering
Keith Jarvi - Medical Science
Ray Jayawardhana - Astronomy & Astrophysics
Edouard Jeauneau - Medieval Studies
Khursheed Jeejeebhoy - Nutritional Sciences
Robert Jefferies - Ecology & Evolutionary Biology
Lisa Jeffrey - Mathematics
David Ja Jenkins - Nutritional Sciences
Jennifer Jenkins - History
Jennifer Jenkins - Human Development & Applied
  Psychology
Eric Jennings - History
Allan Jepson - Computer Science
Robert Jerrard - Mathematics
Robert Jervis - Chemical Engineering & Applied
  Chemistry
Michael Jewett - Medical Science
Charles Jia - Chemical Engineering & Applied Chemistry
Zhengping Jia - Physiology
Tianru Jin - Medical Science
Bina John - Music
Sajeev John - Physics
Alana Johns - Linguistics
David Andrew Johns - Electrical & Computer Engineering
Carla Johnson - Speech-Language Pathology
Elizabeth Johnson - Psychology
Robert Johnson - History
Stephen Johnson - Drama
Alexandra Johnston - English
Darlene Johnston - Law
Gregory Johnston - Music
K. Wayne Johnston - Biomedical Engineering
Miles Johnston - Laboratory Medicine & Pathobiology
Asbjorn Jokstad - Dentistry

Alexander Jones - Classics
Charles Jones - Sociology
Dylan Jones - Physics
Gaynor Grey Jones - Music
Glen Jones - Theory & Policy Studies in Education
Nicola Jones - Physiology
Jan Jongstra - Immunology
Steve Joordens - Psychology
Anne Jordan - Curriculum, Teaching & Learning
Annelise Jorgensen - Biochemistry
Reva Joshee - Theory & Policy Studies in Education
Sadhna Joshi-Sukhwal - Molecular Genetics
Serge Jothy - Laboratory Medicine & Pathobiology
Michael Joy - Electrical & Computer Engineering
Stephen Julian - Physics
Michael Julius - Immunology
Gregory Jump - Economics
Velimir Jurdjevic - Mathematics
Igor Jurisica - Medical Biophysics
Daniel Justice - English
Albertine Jwaideh - Near & Middle Eastern Civilizations

K

Dezso Kadar - Pharmacology & Toxicology
Kevin Kain - Laboratory Medicine & Pathobiology
Harold Kalant - Pharmacology & Toxicology
Ivan Kalmar - Anthropology
Suzanne Kamel-Reid - Laboratory Medicine &
  Pathobiology
Raymond Kan - Management
Chelvanayakam Kanaganayakam - English
Rita Kandel - Laboratory Medicine & Pathobiology
Yoon Jung Kang - Linguistics
Shashi Kant - Forestry
Allan Kaplan - Medical Science
David Kaplan - Molecular Genetics
Louis Kaplan - Art
Vitali Kapovitch - Mathematics
Raymond Kapral - Chemistry
Shitij Kapur - Medical Science
Andras Kapus - Medical Science
Bryan Karney - Civil Engineering
Yael Karshon - Mathematics
Malavika Kasturi - History
Christina Katsougiannopoulou - Art
Bernard Katz - Philosophy
Giuliana Katz - Italian
Joel Katz - Medical Science
Rupert Kaul - Medical Science
Ethan Matt Kavaler - Art
Brian Kavanagh - Medical Science
Masahiro Kawaji - Chemical Engineering & Applied
  Chemistry
Ken Kawashima - East Asian Studies
Lewis Kay - Molecular Genetics
Russell Kazal - History
Edward Keall - Near & Middle Eastern Civilizations
Armand Keating - Medical Science
Daniel Keating - Human Development & Applied
  Psychology
Hae-Young Kee - Physics

Frederick Keeley - Biochemistry
James Keffer - Mechanical & Industrial Engineering
Charles Keil - History
Alison Keith - Classics
Gordon Keller - Medical Biophysics
Shana Kelley - Pharmaceutical Sciences
Brendan Kelly - Curriculum, Teaching & Learning
Merrijoy Kelner - Public Health Sciences
David Kelvin - Immunology
Christopher Kennedy - Civil Engineering
James Kennedy - Medical Science
John Kennedy - Psychology
Sidney Kennedy - Medical Science
Theodore Kenney - Civil Engineering
David Kenny - Dentistry
Thembela Kepe -Geography
Robert Kerbel - Medical Biophysics
Julie Kerekes - Curriculum, Teaching & Learning
Gretchen Kerr - Exercise Sciences
P Donald Kerr - Geography
Lawrence Kerslake - French
John Kervin - Sociology
Shafique Keshavjee - Medical Science
Olivera Kesler - Mechanical & Industrial Engineering
Anthony Key - Physics
Thomas Keymer - English
Konstantin Khanin - Mathematics
Nazilla Khanlou - Nursing Science
Nazir Kherani - Electrical & Computer Engineering
Boris Khesin - Mathematics
Rama Khokha - Medical Biophysics
Antoine Khoury - Biomedical Engineering
Askold Khovanskii - Mathematics
Bruce Kidd - Exercise Sciences
Brent Kilbourn - Curriculum, Teaching & Learning
Henry Kim - Mathematics
Peter Kim - Medical Science
Yong Baek Kim - Physics
Young-In Kim - Nursing Science
Young-June Kim - Physics
Peter King - Philosophy
Robert King - Cinema Studies
Paul Kingston - Political Science
Mark Kingwell - Philosophy
James Kippen - Music
Donald Kirk - Chemical Engineering & Applied Chemistry
Michael Kirkham - English
Bonnie Kirsh - Occupational Science & Occupational
  Therapy
John Kirton - Political Science
Eric Kirzner - Management
Stephen John Kish - Pharmacology & Toxicology
Juri Kivimae - History
Pamela Klassen - Religion
David Klausner - Medieval Studies
Pia Kleber - Drama
Martin Klein - History
Maxine Kleindienst - Anthropology
Amira Klip - Biochemistry
John Kloppenborg - Religion
Laurence Klotz - Medical Science

Ronald Kluger - Chemistry
Keith Knight - Statistics
Karen Knop - Law
J Gary Knowles - Adult Education & Counselling
  Psychology
Alexei Kochetov - Linguistics
Lev Kofman - Theoretical Astrophysics
Midori Koga - Music
Linda Kohn - Ecology & Evolutionary Biology
Nancy Kokaz - Political Science
Michael Kolios - Medical Biophysics
Harvey Kolodny - Management
Ann Komaromi - Comparative Literature
Adalbert Konrad - Electrical & Computer Engineering
Alkis Kontos - Political Science
Mary Kooy - Curriculum, Teaching & Learning
Jeffrey Kopstein - Political Science
Gideon Koren - Medical Science
Jacques Kornberg - History
Mark Kortschot - Chemical Engineering & Applied
  Chemistry
Clare Kosnik - Curriculum, Teaching & Learning
Peter Kotanen - Ecology & Evolutionary Biology
Lakshmi Kotra - Pharmaceutical Sciences
Nick Koudas - Computer Science
Taras Koznarsky - Slavic
Gary Kraemer - Psychology
Murray Krahn - Health Policy, Management & Evaluation
Christina Kramer - Slavic
Harry Krashinsky - Industrial Relations & Human
  Resources
Michael Krashinsky - Industrial Relations & Human
  Resources
Dmitry Krass - Management
Henry Krause - Molecular Genetics
Nancy Kreiger - Public Health Sciences
Nikolai Krementsov - History & Philosophy of Science &
  Technology
Philip Kremer - Philosophy
Jiri Krepinsky - Molecular Genetics
Alexander Kresge - Chemistry
Peter Krieger - Physics
Thomas Krogh - Geology
Maria Krondl - Nutritional Sciences
Herbert Kronzucker - Ecology & Evolutionary Biology
Ulrich Krull - Chemistry
John Kruspe - Music
Candace Kruttschnitt - Sociology
Frank Kschischang - Electrical & Computer Engineering
Walter Kucharczyk - Medical Science
Stephen Kudla - Mathematics
Gary Kulesha - Music
Eugenia Kumacheva - Chemistry
Prabha Kundur - Electrical & Computer Engineering
Hans Kunov - Electrical & Computer Engineering
Ivan Kupka - Mathematics
Eva Kushner - Comparative Literature
Paul Kushner - Physics
Kiriakos Kutulakos - Computer Science
Roy Kwon - Mechanical & Industrial Engineering
Raymond Kwong - Electrical & Computer Engineering

L
Normand Labrie - Curriculum, Teaching & Learning
Thomas Lahusen - History
Marilyn Laiken - Adult Education & Counselling
  Psychology
Ernest Lam - Dentistry
Tong Lam - History
Tony Lam - Curriculum, Teaching & Learning
Michael Lambek - Anthropology
Anne Lancashire - English
D Ian Lancashire - English
Krista Lanctot - Pharmacology & Toxicology
Richard Landon - English
Byron Lane - Biochemistry
Daniel Lang - Theory & Policy Studies in Education
Norma Lang - Social Work
Angela Lange - Cell & Systems Biology
Lynda Lange - Philosophy
B Lowell Langille - Laboratory Medicine & Pathobiology
Brian A Langille - Law
Janis Langins - History & Philosophy of Science &
  Technology
Sharon Lapkin - Curriculum, Teaching & Learning
Ellen Larsen - Cell & Systems Biology
Gary Latham - Management
Martha Latta - Anthropology
Herbert Lau - Laboratory Medicine & Pathobiology
Edward Laufer - Music
Andreas Laupacis - Health Policy, Management &
  Evaluation
Mark Lautens - Chemistry
Douglas Lavers - Electrical & Computer Engineering
James Lavery - Public Health Sciences
Brigitte Lavoie - Molecular Genetics
Sharmistha Law - Management
Herenia Lawrence - Dentistry
Yuri Lawryshyn - Chemical Engineering & Applied
  Chemistry
Todd Lawson - Near & Middle Eastern Civilizations
Stephen Lawton - Theory & Policy Studies in Education
Alan Lazarus - Medical Science
Dzung Le - Pharmacology & Toxicology
Roland Le Huenen - French
James Leake - Dentistry
Julie LeBlanc - French
Lawrence LeDuc - Political Science
Chi-Guhn Lee - Mechanical & Industrial Engineering
E Stewart Lee - Electrical & Computer Engineering
Martin Lee - Physics
Ping Lee - Pharmaceutical Sciences
Richard Lee - Anthropology
Sherry Lee - Music
Alexander Leggatt - English
Elizabeth Mm Legge - Art
Shawn Lehman - Anthropology
Peter Lehn - Electrical & Computer Engineering
Emile Lehouck - French
Lawrence Alan Leiter - Nutritional Sciences
Larry Leith - Exercise Sciences
Kenneth Leithwood - Theory & Policy Studies in
  Education

Louise Lemieux-Charles - Health Policy, Management & Evaluation
Trudo Lemmens - Law
James Lemon - Geography
Helen Lenskyj - Sociology & Equity Studies in Education
Pedro Leon - Spanish
Pierre Leon - French
Garry Leonard - English
Kevin Leonard - Health Policy, Management & Evaluation
Alberto Leon-Garcia - Electrical & Computer Engineering
Ronald Leprohon - Near & Middle Eastern Civilizations
William Leriche - Public Health Sciences
Deborah Leslie - Geography
John Lester - Astronomy & Astrophysics
Michelle Letarte - Immunology
Michael Lettieri - Italian
Mark Levene - English
Jill Levenson - English
Trevor Levere - History & Philosophy of Science & Technology
Hector Levesque - Computer Science
Ofer Levi - Biomedical Engineering
Ron Levi - Criminology
Benjamin Levin - Theory & Policy Studies in Education
Michael Levin - Anthropology
Brian Levine - Psychology
David Levine - Theory & Policy Studies in Education
Joel Levine - Ecology & Evolutionary Biology
Wendy Levinson - Medical Science
Evonne Levy - Art
Gary Levy - Medical Science
Gary Lewis - Medical Science
Marc Lewis - Human Development & Applied Psychology
Peter Lewis - Biochemistry
Robert Lewis - Geography
Susanna Lewis - Molecular Genetics
Baochun Li - Electrical & Computer Engineering
Hao Li - Economics
Hao Li - English
Peter Pun Li - Pharmacology & Toxicology
Ren-Ke Li - Medical Science
Tania Li - Anthropology
Victor Li - English
Yue Li - Management
Keryn Lian - Materials Science & Engineering
Ben Liang - Electrical & Computer Engineering
Leonid Libkin - Computer Science
David Lie - Electrical & Computer Engineering
Jorg Liebeherr - Electrical & Computer Engineering
Bernard Liebgott - Medical Science
Bernard Lightman - History & Philosophy of Science & Technology
Ernie Lightman - Social Work
W. Conrad Liles - Medical Science
Lothar Lilge - Medical Biophysics
Ryan Lilien - Computer Science
Teng Joon Lim - Electrical & Computer Engineering
Anthony Liman - East Asian Studies
Hardy Limeback - Dentistry
Martin Lin - Philosophy
Xiaodong Lin - Statistics

Ralph Lindheim - Slavic
Peter Lindsay - Human Development & Applied Psychology
Thomas Lindsay - Medical Science
Lorelei Lingard - Theory & Policy Studies in Education
Clifford Lingwood - Laboratory Medicine & Pathobiology
Paul Links - Medical Science
Howard Lipshitz - Molecular Genetics
Carla Lipsig-Mumme - Industrial Relations & Human Resources
Albert Litherland - Physics
Fei-Fei Liu - Medical Biophysics
Geoffrey Liu - Medical Biophysics
Hugh Liu - Aerospace Science & Engineering
Jun Liu - Molecular Genetics
Mingyao Liu - Medical Science
Peter Liu - Medical Science
Peter Liu - Physiology
Leonid Livak - Slavic
David Livingstone - Sociology & Equity Studies in Education
Sue Lloyd - Art
Trevor Lloyd - History
Hoi-Kwong Lo - Electrical & Computer Engineering
Marius Locke - Exercise Sciences
David Locker - Dentistry
Robert Lockhart - Psychology
Penelope Lockwood - Psychology
Lori Loeb - History
Alexander Logan - Health Policy, Management & Evaluation
Robert Logan - Physics
Michel Lord - French
Joseph Lorimer - Mathematics
Wen-Yi Wendy Lou - Public Health Sciences
Rhonda Love - Public Health Sciences
David Lovejoy - Cell & Systems Biology
Nathan Richard Lovejoy - Ecology & Evolutionary Biology
Maureen Lovett - Psychology
Donald Low - Laboratory Medicine & Pathobiology
Julian Lowman - Astronomy & Astrophysics
Andres Lozano - Medical Science
Wei Yang Lu - Medical Science
Zheng-Hong Lu - Materials Science & Engineering
Peter Ludlow - Philosophy
Gergely Lukacs - Biochemistry
Michael Luke - Physics
Charles Lumsden - Medical Science
Hy Van Luong - Anthropology
George Luste - Physics
R.Theodore Lutz - Near & Middle Eastern Civilizations
Rein Luus - Chemical Engineering & Applied Chemistry
Stephen Lye - Physiology
Deidre Lynch - English
Richard Lynn - East Asian Studies
Mikhail Lyubich - Mathematics

M

Scott Mabury - Chemistry
Hugh Maccallum - English
Geoffrey MacDonald - Psychology
John MacDonald - Physiology
Kelly MacDonald - Medical Science
Ken MacDonald - Geography
Lorna Macdonald - Music
Peter Macdonald - Chemistry
Robert Macdonald - Medical Science
Russell MacDonald - Medical Science
Laurel MacDowell - History
Robert MacFadden - Social Work
Robert Macgregor - Pharmaceutical Sciences
Jeffrey Macintosh - Law
Donald Mackay - Chemical Engineering & Applied
  Chemistry
Gillian MacKay - Music
William Mackay - Physiology
Linda MacKeigan - Pharmaceutical Sciences
Patrick Macklem - Law
Audrey Macklin - Law
Virginia Maclaren - Geography
Heather MacLean - Civil Engineering
Wallace James MacLean - Electrical & Computer
  Engineering
David Maclennan - Biochemistry
Margaret MacMillan - History
Margaret MacNeill - Exercise Sciences
Jay Macpherson - English
John Magee - Classics
William Magee - Sociology
Avner Magen - Computer Science
Manfredi Maggiore - Electrical & Computer Engineering
Dennis Magill - Sociology
Jamie-Lynn Magnusson - Theory & Policy Studies in
  Education
Lynne Magnusson - English
Paul Magocsi - Political Science
Radhakrishnan Mahadevan - Chemical Engineering &
  Applied Chemistry
John Maheu - Economics
Jan Mahrt-Smith - Management
Minelle Mahtani - Geography
Don Mahuran - Laboratory Medicine & Pathobiology
Jens-Erik Mai - Information Studies
Lynda Mainwaring - Exercise Sciences
Tak Mak - Medical Biophysics
Brian Maki - Medical Science
Viliam Makis - Mechanical & Industrial Engineering
Jay Malcolm - Forestry
David Malkin - Medical Science
Andreas Mandelis - Mechanical & Industrial Engineering
Robert Mann - Public Health Sciences
Steve Mann - Electrical & Computer Engineering
Lisa Manne - Ecology & Evolutionary Biology
Morris Manolson - Dentistry
Armen Manoukian - Medical Biophysics
Ronald Manzer - Political Science
Peter Josef Marbach - Computer Science
Robin Marjoribanks - Physics

Frederick Marker - English
Alexander Marks - Biochemistry
Michael Marmura - Near & Middle Eastern Civilizations
Loraine Marrett - Public Health Sciences
Michael Marrus - History
Tanya Mars - Art
Philip Marsden - Medical Science
John Marshall - Medical Science
John Marshall - Religion
Victor Marshall - Public Health Sciences
Joan Marshman - Pharmaceutical Sciences
Anne Martel - Medical Biophysics
David Martell - Forestry
Alberto Martin - Immunology
John Martin - Physics
Kenneth Martin - Electrical & Computer Engineering
Peter Martin - Theoretical Astrophysics
Philippe Martin - French
Roger Martin - Management
Rosemary Martino - Speech-Language Pathology
Joaquim Martins - Aerospace Science & Engineering
Elsa Marziali - Social Work
Andrew Mason - Ecology & Evolutionary Biology
Hugh Mason - Classics
Diane Massam - Linguistics
John Massey - Art
David Masson - Mathematics
Emma Master - Chemical Engineering & Applied
  Chemistry
Gilbert Mathewson - Economics
Rudolf Mathon - Computer Science
Mohan Matthen - Philosophy
Robert Matthews - Political Science
Stephen Matthews - Physiology
Jill Matus - English
Christopher Matzner - Astronomy & Astrophysics
Jamshed D Mavalwala - Anthropology
Albert May - Physics
Hartwig Mayer - German
John Mayhall - Dentistry
Pauline Mazumdar - History & Philosophy of Science &
  Technology
Tony Mazzulli - Laboratory Medicine & Pathobiology
John McAndrews - Ecology & Evolutionary Biology
Mary Patricia McAndrews - Psychology
Brenda McCabe - Civil Engineering
Susan McCahan - Mechanical & Industrial Engineering
Robert McCann - Mathematics
Patricia McCarney - Political Science
John Alan McClelland - French
Robert McClelland - Chemistry
Ryan McClelland - Music
James McConica - Medieval Studies
James McCool - Mathematics
Peter McCourt - Cell & Systems Biology
Susan McCracken - Management
Christopher McCulloch - Dentistry
Ernest Mcculloch - Medical Biophysics
Thomas McCurdy - Management
Lynn McDonald - Social Work
Christopher McDonough - Classics

Peggy Mcdonough - Public Health Sciences
Douglas McDougall - Curriculum, Teaching & Learning
Philip McDunnough - Statistics
Bonnie McElhinny - Anthropology
William McEvily - Management
Anita McGahan - Management
Martin McGavin - Laboratory Medicine & Pathobiology
Linda McGillis - Nursing Science
Kathy McGilton - Nursing Science
Jane Mcglade-Dolson - Medical Biophysics
Mark McGowan - History
Deborah McGregor - Geography
Sheila McIlraith - Computer Science
William McIlroy - Physical Therapy
Roderick McInnes - Molecular Genetics
C. Thomas McIntire - Religion
Anthony Randal McIntosh - Psychology
Nancy McKee - Medical Science
Patricia McKeever - Nursing Science
Colin McKerlie - Laboratory Medicine & Pathobiology
Martin McKneally - Medical Science
John Ross Mclaughlin - Public Health Sciences
Peter Mclaughlin - Medical Science
Joanne McLaurin - Laboratory Medicine & Pathobiology
Alexander Mclean - Materials Science & Engineering
Stewart McLean - Chemistry
Tom Mclellan - Exercise Sciences
Deborah McLennan - Ecology & Evolutionary Biology
Kenneth McLeod - Music
Robert Mcleod - English
Robert McMillan - Economics
David McMillen - Chemistry
Neil McMullin - Religion
Helen McNeill - Molecular Genetics
Angus McQuibban - Biochemistry
Tirzah Meacham - Near & Middle Eastern Civilizations
Jeffrey Medin - Medical Biophysics
Donald Meeks - Social Work
Shaker Meguid - Mechanical & Industrial Engineering
Nitin Mehta - Management
Eckhard Meinrenken - Mathematics
Angelo Melino - Economics
Eric Mendelsohn - Mathematics
Julie Mendelson - Speech-Language Pathology
Marc Meneghini - Molecular Genetics
Yue Meng - East Asian Studies
Ulrich Menzefricke - Management
Michael Menzinger - Chemistry
Brian Merrilees - French
Hans Messner - Medical Science
Kelly Metcalfe - Nursing Science
Sarianna Metso - Near & Middle Eastern Civilizations
Mark Meyerson - History
Michael Meyn - Molecular Genetics
Andrew Miall - Geology
William Michelson - Sociology
Pascal Michelucci - French
Solveiga Miezitis - Adult Education & Counselling
  Psychology

Alex Mihailidis - Occupational Science & Occupational
  Therapy
Grigory Mikhalkin - Mathematics
David Mikulis - Medical Science
Angela Miles - Adult Education & Counselling Psychology
Norton Milgram - Psychology
Paul Milgram - Mechanical & Industrial Engineering
Bernd Milkereit - Physics
Anthony Miller - Public Health Sciences
Eric Miller - Civil Engineering
Fiona Miller - Health Policy, Management & Evaluation
Freda Miller - Molecular Genetics
Heather Miller - Anthropology
John Miller - Curriculum, Teaching & Learning
Judith Miller - Medical Science
R J Dwayne Miller - Chemistry
Renee Miller - Computer Science
Richard Miller - Medical Biophysics
Jane Millgate - English
Michael Millgate - English
James Mills - Mechanical & Industrial Engineering
Kenneth Mills - History
Linda Mills - Physiology
Margaret Millson - Public Health Sciences
Pierre Milman - Mathematics
Joseph Milner - Management
Charles Mims - Chemical Engineering & Applied
  Chemistry
Berge Minassian - Medical Science
Mark Minden - Medical Biophysics
Salomon Minkin - Medical Biophysics
Joe Minta - Laboratory Medicine & Pathobiology
Kiran Mirchandani - Adult Education & Counselling
  Psychology
John Miron - Geography
Cheryl Misak - Philosophy
Dieter Misgeld - Theory & Policy Studies in Education
Faye Mishna - Social Work
Andrew Mitchell - Management
Jane Mitchell - Pharmacology & Toxicology
Matthew Mitchell - Management
Jerry Mitrovica - Physics
Stefan Mochnacki - Astronomy & Astrophysics
David Mock - Dentistry
Gordon Moe - Medical Science
Jason Moffat - Molecular Genetics
Donald Moggridge - Economics
Jeremy Mogridge - Laboratory Medicine & Pathobiology
Bibhuti Mohanty - Civil Engineering
Shahrzad Mojab - Adult Education & Counselling
  Psychology
Mohammad Mojahedi - Electrical & Computer
  Engineering
Harvey Moldofsky - Medical Science
Mihnea (Michael) Moldoveanu - Management
Michael Moles - Mechanical & Industrial Engineering
Michael Molloy - Computer Science
Jean-Marc Moncalvo - Ecology & Evolutionary Biology
Ashley Monks - Psychology
Philippe Monnier - Physiology

Alan Moody - Medical Science
Dae-Sik Moon - Astronomy & Astrophysics
Chris Moore - Human Development & Applied
  Psychology
GW Kent Moore - Physics
Malcolm Moore - Pharmacology & Toxicology
Sridhar Moorthy - Management
Giampaolo Moraglia - Psychology
Laurence Moran - Biochemistry
Mayo Moran - Law
Michael Moran - Molecular Genetics
Cecilia Louise Morgan - Theory & Policy Studies in
  Education
Edward Morgan - Law
Kathryn Morgan - Philosophy
Naomi Morgenstern - English
Jennifer Mori - History
Quaid Morris - Molecular Genetics
Robert Morris - Chemistry
Stephen Morris - Physics
Margaret Morrison - Philosophy
Cindi Marie Morshead - Medical Science
Desmond Morton - History
Mario Moscarello - Biochemistry
Morris Moscovitch - Psychology
Andreas Moshovos - Electrical & Computer Engineering
Andrea Most - English
Javad Mostaghimi - Mechanical & Industrial Engineering
Andreas Motsch - French
Howard Mount - Medical Science
Nick Mount - English
Nicholas Mrosovsky - Cell & Systems Biology
Amy Mullin - Philosophy
Karen Mundy - Adult Education & Counselling
  Psychology
James Mungall - Geology
Sanda Munjic - Spanish
D Scott Munro - Geography
Ian Munro - Nutritional Sciences
John Munro - Economics
Carles Muntaner - Nursing Science
Kunio Murasugi - Mathematics
Helios Murialdo - Molecular Genetics
Fiona Murnaghan - Mathematics
Jennifer Murphy - Chemistry
Michelle Murphy - History
Robert Murphy - Ecology & Evolutionary Biology
Alexander Murray - History
Heather Murray - English
Norman Murray - Theoretical Astrophysics
Robert Murray - Biochemistry
Vijayakumar Murty - Mathematics
Nakanyike Musisi - History
Cameron Mustard - Public Health Sciences
Paul Muter - Psychology
Linda Muzzin - Theory & Policy Studies in Education
Ted Myers - Public Health Sciences
John Myles - Sociology
John Mylopoulos - Computer Science

N

Alexander Nabutovsky - Mathematics
Adrian Nachman - Mathematics
Sukriti Nag - Laboratory Medicine & Pathobiology
Shuichi Nagata - Anthropology
Jennifer Nagel - Philosophy
Hani Naguib - Mechanical & Industrial Engineering
Andras Nagy - Molecular Genetics
Philip Nagy - Curriculum, Teaching & Learning
John Nairn - Pharmaceutical Sciences
Farid Najm - Electrical & Computer Engineering
Hindy Najman - Religion
Kazuko Nakajima - East Asian Studies
Anthony Naldrett - Geology
Valentina Napolitano - Anthropology
Claudio Naranjo - Pharmacology & Toxicology
Steven Narod - Public Health Sciences
Joanne Nash - Cell & Systems Biology
Jagdish Nautiyal - Forestry
William Navarre - Molecular Genetics
C. David Naylor - Public Health Sciences
Juvenal Ndayiragije - French
Radford Neal - Statistics
Jennifer R Nedelsky - Political Science
Benjamin Neel - Medical Biophysics
Erminio Neglia - Spanish
Sioban Nelson - Nursing Science
Wendy Nelson - History
Peter Nesselroth - French
C. Barth Netterfield - Astronomy & Astrophysics
Shirley Neuman - English
A Wilhelm Neumann - Mechanical & Industrial
  Engineering
Neil Nevitte - Political Science
Judith Newman - Religion
Roger Charles Newman - Chemical Engineering &
  Applied Chemistry
Melanie Newton - History
Sheila Neysmith - Social Work
Dominic Ng - Physiology
Roxana Ng - Adult Education & Counselling Psychology
Wai Tung Ng - Electrical & Computer Engineering
Heyu Ni - Laboratory Medicine & Pathobiology
Graeme Nicholson - Religion
Matthias Niemeier - Psychology
Martina Nieswandt - Curriculum, Teaching & Learning
Emmanuel Nikiema - French
Shizuhiko Nishisato - Curriculum, Teaching & Learning
Corey Nislow - Molecular Genetics
Jose Nobrega - Pharmacology & Toxicology
Janet Noel - History
Jun Nogami - Materials Science & Engineering
Geoffrey Norris - Geology
Thomas North - Materials Science & Engineering
Linda Northrup - Near & Middle Eastern Civilizations
Kenneth Norwich - Physiology
David Novak - Religion
Arnold Noyek - Public Health Sciences
John Noyes - German
David Nussbaum - Psychology
Mary Nyquist - English

O

Keith Oatley - Human Development & Applied
  Psychology
Peter John O'Brien - Pharmaceutical Sciences
Linda-Lee O'Brien-Pallas - Nursing Science
Hugh Mervyn O'Brodovich - Medical Science
Patricia O'Campo - Public Health Sciences
Joseph O'Connell - Religion
Deborah O'Connor - Nutritional Sciences
Danton O'Day - Cell & Systems Biology
Patrick O'Donnell - Physics
Brian O'dowd - Pharmacology & Toxicology
Pam Ohashi - Medical Biophysics
Michael Ohh - Laboratory Medicine & Pathobiology
Arne Ohlsson - Health Policy, Management & Evaluation
Allan Okey - Pharmacology & Toxicology
William Oliver - French
Nancy Olivieri - Medical Science
Marion Olmsted - Medical Science
Christopher Olsen - Theory & Policy Studies in Education
David Olson - Human Development & Applied
  Psychology
Paul Olson - Sociology & Equity Studies in Education
Sidney Olyan - Social Work
Daniel Ondrack - Management
Mariel O'Neill-Karch - French
Michal Opas - Laboratory Medicine & Pathobiology
Andrew Orchard - Medieval Studies
Ian Orchard - Cell & Systems Biology
Phillip Oreopoulos - Economics
Robert Orr - Physics
Beverley Orser - Physiology
Clifford Orwin - Political Science
Donna Orwin - Slavic
Richard Osborn - Public Health Sciences
Lucy Osborne - Molecular Genetics
Martin Osborne - Economics
Victor Ostapchuk - Near & Middle Eastern Civilizations
Roger O'Toole - Sociology
Peter Ottensmeyer - Medical Biophysics
Joanne Oxley - Management
Hilmi Ozcelik - Laboratory Medicine & Pathobiology
Geoffrey Ozin - Chemistry

P

Cecil Pace-Asciak - Pharmacology & Toxicology
Jeffrey Packer - Civil Engineering
Marian Packham - Biochemistry
Susan Padro - Theory & Policy Studies in Education
Emil Pai - Biochemistry
Christopher Paige - Medical Biophysics
Robert Painter - Biochemistry
Nades Palaniyar - Laboratory Medicine & Pathobiology
Daman Panesar - Civil Engineering
Cho Pang - Medical Science
K Sandy Pang - Pharmaceutical Sciences
Vladimiros Papangelakis - Chemical Engineering &
  Applied Chemistry
Joseph Paradi - Chemical Engineering & Applied
  Chemistry
Arun Paramekanti - Physics

Chul Park - Mechanical & Industrial Engineering
Brian Parker - English
James Parker - Music
John Parker - Medical Science
Mary Ann Parker - Music
Thomas Parker - Medical Science
Patricia Parkin - Medical Science
John Parkinson - Biochemistry
Esteban Parra - Anthropology
Charles Pascal - Theory & Policy Studies in Education
Subbarayan Pasupathy - Electrical & Computer
  Engineering
Janet Paterson - French
Dennis Patrick - Music
Julian Patrick - English
Louis Pauly - Political Science
Peter Pauly - Management
Lacra Pavel - Electrical & Computer Engineering
Nicolae Pavliuc - Slavic
Anthony Pawson - Molecular Genetics
Christopher Pearson - Molecular Genetics
Erminia Pedretti - Curriculum, Teaching & Learning
Amanda Peet - Physics
John Peever - Cell & Systems Biology
York Po-Chee Pei - Medical Science
Janette Pelletier - Human Development & Applied
  Psychology
Laurence Pelletier - Molecular Genetics
W Richard Peltier - Physics
Ue-Li Pen - Theoretical Astrophysics
Paul Pencharz - Nutritional Sciences
Steven Penfold - History
Gerald Penn - Computer Science
Linda Penn - Medical Biophysics
Peter Pennefather - Pharmaceutical Sciences
John Penner - Molecular Genetics
Josef Penninger - Medical Biophysics
Derek Penslar - History
Anthony Percival - Spanish
Carol Percy - English
John Percy - Astronomy & Astrophysics
Jose Luis Perez Velazquez - Medical Science
Ana Teresa Perez-Leroux - Spanish
Doug Perovic - Materials Science & Engineering
Paul Perron - French
John Perz - Physics
James Pesando - Economics
Elizabeth Peter-Hardtke - Nursing Science
Jordan Peterson - Psychology
Michele Peterson-Badali - Human Development &
  Applied Psychology
Ted Petit - Psychology
Laura Ann Petitto - Psychology
Arturas Petronis - Medical Science
Susan Pfeiffer - Anthropology
David Phillips - Information Studies
James Phillips - Law
Mary Phillips - Chemical Engineering & Applied
  Chemistry
Robert Phillips - Medical Biophysics
Stuart Philpott - Anthropology

Kathy Pichora-Fuller - Psychology
Terry Picton - Psychology
Edward Pien - Art
Ruth Pierson - Sociology & Equity Studies in Education
Albert Pietersma - Near & Middle Eastern Civilizations
Domenico Pietropaolo - Italian
Jean-Phillipe Pignol - Medical Biophysics
Robert Pilliar - Dentistry
Micheline Piquette-Miller - Pharmaceutical Sciences
Niva Piran - Adult Education & Counselling Psychology
Toniann Pitassi - Computer Science
Carolyn Pitchik - Economics
Andrew Plaks - East Asian Studies
Jason Plaks - Psychology
Richard Plant - Drama
Konstantinos Plataniotis - Electrical & Computer
  Engineering
Donald Plewes - Medical Biophysics
Patricia Pliner - Psychology
Michael Plyley - Exercise Sciences
Anthony Poe - Chemistry
Blake Poland - Public Health Sciences
John Polanyi - Chemistry
Helene Polatajko-Howell - Occupational Science &
  Occupational Therapy
Janet Polivy - Psychology
Regis Pomes - Biochemistry
Constantin Ponomareff - Slavic
Joyce Poon - Electrical & Computer Engineering
Milos Popovic - Biomedical Engineering
Erich Poppitz - Physics
Yannick Portebois - French
John Portelli - Theory & Policy Studies in Education
Morton Posner - Mechanical & Industrial Engineering
Martin Post - Physiology
Constantine Poulos - Psychology
Philippe Poussier - Immunology
John Powell - Chemistry
Jay Pratt - Psychology
R Cranford Pratt - Political Science
Alison Prentice - Theory & Policy Studies in Education
Kim Pressnail - Civil Engineering
Anthony Price - Geography
Dorothy Pringle - Nursing Science
Kenneth Pritzker - Laboratory Medicine & Pathobiology
Gil Prive - Medical Biophysics
Aleksandar Prodic - Electrical & Computer Engineering
Terry Promane - Music
Scott Prosser - Chemistry
Nicholas Provart - Cell & Systems Biology
Scott Prudham - Geography
Gerald Prud'homme - Laboratory Medicine &
  Pathobiology
Ronald Pruessen - History
Charles Pugh - Mathematics
Mary Pugh - Mathematics
Olga Pugliese - Italian
David Pulleyblank - Biochemistry
James Purdham - Public Health Sciences
Jennifer Purtle - Art
Russell Pysklywec - Geology

Q
Li Qian - Electrical & Computer Engineering
Susan Elizabeth Quaggin - Medical Science
Jack Quarter - Adult Education & Counselling Psychology
Jeremy Quastel - Mathematics
Ato Quayson - English

R
Marlene Rabinovitch - Medical Science
Janet Raboud - Public Health Sciences
David Raby - History
Charles Rackoff - Computer Science
Ian Radforth - History
Milica Radisic - Biomedical Engineering
Manny Radomski - Exercise Sciences
Diana Raffman - Philosophy
J Ambrose Raftis - Medieval Studies
Martin Ralph - Psychology
Margaret Rand - Laboratory Medicine & Pathobiology
Katharine Rankin - Geography
A Venketeshwer Rao - Nutritional Sciences
Doreen Rao - Music
Leticia Rao - Medical Science
Vivek Rao - Medical Science
Alexander Rapoport - Music
Susan Rappolt - Occupational Science & Occupational
  Therapy
Michael Ratcliffe - Immunology
A Michael Rauth - Medical Biophysics
Arun Ravindran - Medical Science
J Alan Rawlinson - Medical Biophysics
Ajit Ray - Anthropology
Peter Ray - Molecular Genetics
David Rayside - Political Science
Sherene Razack - Sociology & Equity Studies in
  Education
Paul Read - Music
Stanley Read - Medical Science
Denise Reaume - Law
Magdalene Redekop - English
Donald Redelmeier - Health Policy, Management &
  Evaluation
Douglas Reeve - Chemical Engineering & Applied
  Chemistry
Cheryl Regehr - Social Work
Glenn Regehr - Theory & Policy Studies in Education
Henry Regier - Environment
Jurgen Rehm - Public Health Sciences
John Reibetanz - English
Peter Reich - Linguistics
Denise Reid - Occupational Science & Occupational
  Therapy
Dennis Reid - Art
Frank Reid - Economics
Lloyd Reid - Aerospace Science & Engineering
Nancy Reid - Statistics
Stephen Reid - Cell & Systems Biology
James Reilly - Near & Middle Eastern Civilizations
Raymond Reilly - Pharmaceutical Sciences
Eyal Reingold - Psychology

Marciano Reis - Laboratory Medicine & Pathobiology
Robert Reisz - Ecology & Evolutionary Biology
Reinhart Reithmeier - Biochemistry
Jeffrey Reitz - Sociology
Edward Relph - Geography
Gary Remington - Medical Science
Robert Remis - Public Health Sciences
Rebecca Renwick - Occupational Science &
  Occupational Therapy
Joseph Repka - Mathematics
Diego Restuccia - Economics
James Retallack - History
Rebecca Reuber - Management
Martin Revermann - Drama
Jeffrey Reynolds - Music
Roger Reynolds - Medieval Studies
W John Reynolds - Chemistry
Richard Reznick - Medical Science
John Ricco - Art
Keren Rice - Linguistics
Larry Richards - Architecture, Landscape, & Design
Robin Richards - Medical Science
Douglas Richardson - Art
G Peter Richardson - Religion
Gordon Richardson - Management
Warnie Richardson - Sociology & Equity Studies in
  Education
David Riddick - Pharmacology & Toxicology
Timothy Ries - Music
George Rigg - Medieval Studies
Charles Riggs - Cell & Systems Biology
Marcel Rindisbacher - Management
Maurice Ringuette - Cell & Systems Biology
James Rini - Molecular Genetics
Arthur S Ripstein - Law
James Rising - Ecology & Evolutionary Biology
John Rist - Classics
Velimir Ristic - Electrical & Computer Engineering
Kerry Rittich - Law
Kent Roach - Law
Emmet Robbins - Classics
Yves Roberge - French
Joanne Roberts - Economics
Timothy Roberts - Medical Science
Ann Robertson - Public Health Sciences
Ian Robertson - History
Janice Robertson - Laboratory Medicine & Pathobiology
Pierre-Yves F Robin - Geology
William Robins - English
Brian Robinson - Biochemistry
Vincent Robinson - Geography
Ann Robson - History
Jonathan Rocheleau - Biomedical Engineering
Elizabeth Rochon - Speech-Language Pathology
Frederic Rochon - Mathematics
Paula Rochon - Health Policy, Management & Evaluation
Stephen Rockel - History
F. Helen Rodd - Ecology & Evolutionary Biology
John Roder - Molecular Genetics
Carol Rodgers - Exercise Sciences
Gary Rodin - Medical Science

Nestor Rodriguez - Spanish
Henry Rogers - Linguistics
Tracy Rogers - Anthropology
Carol Rogerson - Law
Chaim Roifman - Immunology
N Carol Rolheiser - Curriculum, Teaching & Learning
Wendy Rolph - Spanish
Shauna Rolston - Music
Myroslava Romach - Medical Science
Richard Roman - Sociology
Patricia Romans - Cell & Systems Biology
Johanna Rommens - Molecular Genetics
Paul Rooney - Mathematics
Matthew Roorda - Civil Engineering
David Rootman - Medical Science
Irving Rootman - Public Health Sciences
David Rose - Medical Biophysics
Jonathan Rose - Electrical & Computer Engineering
Mark Rosenberg - History & Philosophy of Science &
  Technology
Norman Rosenblum - Medical Science
Jeffrey Rosenthal - Statistics
Peter Rosenthal - Mathematics
Heather Ross - Medical Science
Jill Ross - Comparative Literature
John Ross - Curriculum, Teaching & Learning
Robert Bruce Ross - Dentistry
Janet Rossant - Molecular Genetics
Walter Rosser - Public Health Sciences
Andrew Rossos - History
Wendy Rotenberg - Management
Natalie Rothman - History
Daniela Rotin - Biochemistry
Regina Rotman - Mathematics
Abraham Rotstein - Political Science
Ori Rotstein - Medical Science
Robert Rottapel - Immunology
Maria Rotundo - Management
Sean Rourke - Medical Science
Joanne Rovet - Human Development & Applied
  Psychology
David Rowe - Physics
Locke Rowe - Ecology & Evolutionary Biology
Sam Roweis - Computer Science
Shoukry Roweis - Geography
Dean Rowe-Magnus - Laboratory Medicine &
  Pathobiology
John Rowlands - Medical Biophysics
Timothy Rowley - Management
Dibyendu Roy - Forestry
Peter John Roy - Molecular Genetics
Maria Rozakis-Adcock - Laboratory Medicine &
  Pathobiology
Marleen Rozemond - Philosophy
Barry Rubin - Medical Science
Laurence Rubin - Medical Science
Catherine Rubincam - Classics
Arthur Rubinoff - Political Science
John Rubinstein - Biochemistry
John L Rubinstein - Biochemistry
Slavek Rucinski - Astronomy & Astrophysics

John Rucklidge - Geology
Harry Ruda - Materials Science & Engineering
Susan Ruddick - Geography
Karin Ruhrdanz - Near & Middle Eastern Civilizations
Klaas Ruitenbeek - East Asian Studies
Stephen Rupp - Spanish
Brian Rush - Public Health Sciences
Paul Russell - Political Science
Paul Rutherford - History
James Rutka - Laboratory Medicine & Pathobiology
John Rutter - Materials Science & Engineering
James Ryan - Theory & Policy Studies in Education
Jennifer Ryan - Psychology

S
Creso Sa - Theory & Policy Studies in Education
Christa Saas - German
Joel Sadavoy - Medical Science
Ann Saddlemyer - English
Paul Sadowski - Molecular Genetics
Albert Safarian - Management
Linda Safran - Art
Rowan Sage - Ecology & Evolutionary Biology
Tammy Sage - Ecology & Evolutionary Biology
Mohini Sain - Forestry
Jean Saint-Cyr - Medical Science
Atsuko Sakaki - East Asian Studies
Isaac Sakinofsky - Public Health Sciences
Alan Saks - Management
Janet Salaff - Sociology
Andre Salama - Electrical & Computer Engineering
Walid Saleh - Religion
Sara Salih - English
Irving Salit - Medical Science
Michael Salter - Physiology
Robert Salter - Medical Science
William Samarin - Anthropology
Stella Sandahl - East Asian Studies
Richard Sandbrook - Political Science
Graham Sanders - East Asian Studies
Todd Sanders - Anthropology
Rivanne Sandler - Near & Middle Eastern Civilizations
George Sandor - Dentistry
Ruth Sandwell - Theory & Policy Studies in Education
Annette Sanger - Music
Paul Santerre - Dentistry
Jan Sapp - History & Philosophy of Science &
  Technology
Rosa Sarabia - Spanish
Edward Sargent - Electrical & Computer Engineering
Bibudhendra Sarkar - Biochemistry
Stefan Saroiu - Computer Science
Konstantinos Sarris - Electrical & Computer Engineering
Andrea Sass-Kortsak - Public Health Sciences
Shiho Satsuka - Anthropology
Pierre Savard - Physics
Bradley Saville - Chemical Engineering & Applied
  Chemistry
Jeannelle Savona - French
Roger Savory - Near & Middle Eastern Civilizations
Lawrence Sawchuk - Anthropology

Peter Sawchuk - Sociology & Equity Studies in Education
John Sawyer - Management
Marlene Scardamalia - Curriculum, Teaching & Learning
Giuseppe Scavizzi - Art
Russell James Schachar - Human Development &
  Applied Psychology
Harry Schachter - Biochemistry
Joseph Schallert - Slavic
Stephen Scharper - Environment
Edward Schatz - Political Science
Susan Schelle - Art
Glenn Schellenberg - Psychology
Emil Schemitsch - Medical Science
Stephen Scherer - Molecular Genetics
John Scherk - Mathematics
Ulrich Schimmack - Psychology
Aaron Schimmer - Medical Biophysics
Bernard Schimmer - Pharmacology & Toxicology
Wayne Schlepp - East Asian Studies
Benjamin Schlesinger - Social Work
Lyanne Schlichter - Physiology
Andre Schmid - East Asian Studies
Lawrence Schmidt - Religion
Emmett Schmitt - English
Mark Schmuckler - Psychology
Bruce Schneider - Psychology
Margaret Schneider - Adult Education & Counselling
  Psychology
David Schneiderman - Law
Jeremy Schofield - Chemistry
Greg Scholes - Chemistry
James Scholey - Medical Science
monica schraefel - Computer Science
Richard Schreier - Electrical & Computer Engineering
Daniel Schugurensky - Adult Education & Counselling
  Psychology
Andre Schuh - Medical Science
Daniel Schulze - Geology
Donald Schwartz - Political Science
Walfried Schwerdtner - Geology
Ian Scott - Molecular Genetics
Katreena Scott - Human Development & Applied
  Psychology
Steven Scott - Geology
William Edward Seager - Philosophy
Ernest Seaquist - Astronomy & Astrophysics
Luis Seco - Mathematics
Sonia Sedivy - Philosophy
Adel Sedra - Electrical & Computer Engineering
Mary Seeman - Medical Science
Philip Seeman - Pharmacology & Toxicology
Michael Sefton - Chemical Engineering & Applied
  Chemistry
Dan Segal - Management
Dvira Segal - Chemistry
Harold Segal - Pharmaceutical Sciences
Jacqueline Segall - Biochemistry
Kenneth Selby - Civil Engineering
Paul Selick - Mathematics
Helfried Seliger - German
Daniel Sellen - Anthropology

Edward Sellers - Pharmacology & Toxicology
Ze'ev Seltzer - Dentistry
Adam Semlyen - Electrical & Computer Engineering
John Semple - Medical Science
John Wesley Semple - Pharmacology & Toxicology
Dipak Sen - Mathematics
John Senders - Mechanical & Industrial Engineering
Barry Sessle - Dentistry
Arun Seth - Laboratory Medicine & Pathobiology
Aysan Sev'er - Sociology
Ayelet Shachar - Law
Martha Shaffer - Law
Chandrakant Shah - Public Health Sciences
Amer Shalaby - Civil Engineering
Patricia Shand - Music
Ben Shapiro - Social Work
Colin Shapiro - Medical Science
James Sharpe - Medical Science
Richard Sharpe - Mathematics
Simon J Sharpe - Biochemistry
Brian Shaw - Medical Science
Joseph Shaw - Art
Maria Shaw - Art
Patricia Shaw - Laboratory Medicine & Pathobiology
Neil Shear - Pharmacology & Toxicology
Shamim Sheikh - Civil Engineering
Ali Sheikholeslami - Electrical & Computer Engineering
Ben-Zion Shek - French
Pang Shek - Laboratory Medicine & Pathobiology
Chen Shen - East Asian Studies
Vincent Tsing-song Shen - Philosophy
Roy Shephard - Exercise Sciences
Theodore Shepherd - Physics
Wes Shera - Social Work
Michael Sherar - Medical Biophysics
F Arthur Sherk - Mathematics
Philip Sherman - Medical Science
Barbara Sherwood Lollar - Geology
Sara Shettleworth - Psychology
Mengze Shi - Management
Shouyong Shi - Economics
Jumi Shin - Chemistry
Robert Shirley - Anthropology
Molly Shoichet - Chemical Engineering & Applied
  Chemistry
Steven Short - Ecology & Evolutionary Biology
Edward Shorter - History
Lily Shu - Mechanical & Industrial Engineering
Michael Shub - Mathematics
Marc Shulman - Immunology
Paul Shuper - Psychology
Frank Sicheri - Molecular Genetics
Henri-Paul Sicsic - Music
Souraya Sidani - Nursing Science
Jack Sidnell - Anthropology
Michael Sidnell - English
Krystyna Sieciechowicz - Anthropology
Linda Siegel - Curriculum, Teaching & Learning
Israel Michael Sigal - Mathematics
Becky Sigmon - Anthropology
Giulio Silano - History

Edward Silva - Sociology
Brian Silverman - Management
Earl Silverman - Immunology
Frances Silverman - Medical Science
Melvin Silverman - Medical Science
Ronald Silvers - Curriculum, Teaching & Learning
Rachel Silvey - Geography
Richard Simeon - Political Science
Katherine Siminovitch - Immunology
Louis Siminovitch - Molecular Genetics
Craig Simmons - Mechanical & Industrial Engineering
James Simmons - Geography
Roger Simon - Sociology & Equity Studies in Education
Andre Simpson - Chemistry
John Simpson - Sociology
Myrna Simpson - Geography
Anthony Sinclair - Mechanical & Industrial Engineering
Pekka Sinervo - Physics
Peter Singer - Medical Science
Karan Singh - Computer Science
Eric Single - Sociology
Robert Sinkewicz - Medieval Studies
Aloysius Siow - Economics
John Sipe - Physics
Jean Sislian - Aerospace Science & Engineering
Chi-Hung Siu - Biochemistry
Frances Skinner - Physiology
Harvey Skinner - Public Health Sciences
Grace Skogstad - Political Science
Michael Skolnik - Theory & Policy Studies in Education
Raymond Skyrme - Spanish
Brent Sleep - Civil Engineering
Gordon Slemon - Electrical & Computer Engineering
James Slotta - Curriculum, Teaching & Learning
Arthur Slutsky - Medical Science
Michael Smart - Economics
Craig Smibert - Biochemistry
Waldemar Smieliauskas - Management
Alison Smith - History
Brian Cantwell Smith - Information Studies
C.Tattersall Smith - Forestry
David Smith - Anthropology
David Smith - French
J.J. Berry Smith - Cell & Systems Biology
James Smith - Chemical Engineering & Applied
  Chemistry
Kenneth Smith - Electrical & Computer Engineering
Marilyn Smith - Psychology
Mary Louise Smith - Psychology
Peter Smith - Electrical & Computer Engineering
Sandy Smith - Forestry
Stuart Smith - Mathematics
Denis Smyth - History
Elizabeth Smyth - Curriculum, Teaching & Learning
Ronald Smyth - Linguistics
Carter Snead III - Medical Science
Jordan Sobel - Philosophy
Richard Soberman - Civil Engineering
Philip Sohm - Art
Marla Sokolowski - Ecology & Evolutionary Biology
Stefan Soldovieri - German

Michael Sole - Physiology
Samuel Solecki - English
Peter Solomon - Political Science
Susan Solomon - Political Science
Dilip Soman - Management
Luca Somigli - Italian
Iain Sommerville - Materials Science & Engineering
Je Sook Song - East Asian Studies
Andre Sorensen - Geography
Ann Marie Sorenson - Sociology
Olav Johann Sorenson - Management
Lorne Sossin - Law
Elvino Sousa - Electrical & Computer Engineering
Nina Spada - Curriculum, Teaching & Learning
Jan Spelt - Mechanical & Industrial Engineering
Andrew Spence - Molecular Genetics
Ian Spence - Psychology
Metta Spencer - Sociology
Paula Sperdakos - Drama
Michael Spino - Pharmaceutical Sciences
Edward Spooner - Geology
Beth Sproule - Pharmaceutical Sciences
W Gary Sprules - Ecology & Evolutionary Biology
Paula Ann Square - Speech-Language Pathology
Jeremy Squire - Laboratory Medicine & Pathobiology
Gopal Sreenivasan - Philosophy
Gopalan Srinivasan - Geology
Rajalakshmi Srinivasan - Laboratory Medicine & Pathobiology
Muni Srivastava - Statistics
Mark Stabile - Economics
James Stafford - Public Health Sciences
Shelley Stagg Peterson - Curriculum, Teaching & Learning
Igor Stagljar - Biochemistry
Vuk Stambolic - Medical Biophysics
Alan Stanbridge - Museum Studies
William Stanford - Biomedical Engineering
Peter Stangeby - Aerospace Science & Engineering
Greg Stanisz - Medical Biophysics
Elise Stanley - Physiology
Sabine Stanley - Physics
Keith Stanovich - Human Development & Applied Psychology
Andrew Stark - Management
Catriona Steele - Speech-Language Pathology
Jeffrey Steele - French
Lisa Steele - Art
Ingrid Stefanovic - Philosophy
Sasa Stefanovic - Ecology & Evolutionary Biology
J. Gregory Steffan - Electrical & Computer Engineering
Janice Stein - Political Science
Martin Steinbach - Medical Science
Aephraim Steinberg - Physics
David Steinman - Mechanical & Industrial Engineering
Boris Steipe - Biochemistry
Douglas Stephan - Chemistry
Richard Stephenson - Cell & Systems Biology
Stergios Stergiopoulos - Electrical & Computer Engineering

Lana Stermac - Adult Education & Counselling Psychology
Susan Stern - Social Work
Ricardo Sternberg - Spanish
Gerald Steuart - Civil Engineering
Bonnie Stevens - Nursing Science
Paul Stevens - English
Suzanne Ava Stevenson - Computer Science
Bryan Stewart - Cell & Systems Biology
Donna Stewart - Medical Science
Duncan Stewart - Medical Science
Hamish Stewart - Law
Keith Stewart - Medical Science
Patricia Stewart - Anatomy & Cell Biology
Suzanne Stiegelbauer - Theory & Policy Studies in Education
John Stinchcombe - Ecology & Evolutionary Biology
Brian Stock - English
Markus Stock - German
Antonio Strafella - Medical Science
William Strange - Management
Bradley Strauss - Laboratory Medicine & Pathobiology
Brian Street - Mathematics
David Streiner - Medical Science
Richard Stren - Political Science
Carol Strike - Public Health Sciences
Kimberly Strong - Physics
Stephen Strother - Medical Biophysics
Therese Stukel - Health Policy, Management & Evaluation
Michael Stumm - Electrical & Computer Engineering
Donald Stuss - Psychology
Maria Subtelny - Near & Middle Eastern Civilizations
Shuzo Sugita - Physiology
Catherine Sulem - Mathematics
Edmund Sullivan - Adult Education & Counselling Psychology
Philip Sullivan - Aerospace Science & Engineering
Pierre Sullivan - Mechanical & Industrial Engineering
Rosemary Sullivan - English
L Wayne Sumner - Philosophy
Lei Sun - Public Health Sciences
Yu Sun - Mechanical & Industrial Engineering
Merrill Swain - Curriculum, Teaching & Learning
Carol Swallow - Medical Science
Ronald Sweet - Near & Middle Eastern Civilizations
Neil Sweezey - Medical Science
Heather Sykes - Curriculum, Teaching & Learning
Alison Syme - Art
Balazs Szegedy - Mathematics

T
Jennifer Tackett - Psychology
Anna Taddio - Pharmaceutical Sciences
Romin Tafarodi - Psychology
Sali Tagliamonte - Linguistics
Chetankumar Tailor - Molecular Genetics
Kimberly Tait - Geology
Franklin Tall - Mathematics
Ashwini Tambe - Women & Gender Studies
Julian Tanner - Sociology

Ian Tannock - Health Policy, Management & Evaluation
Rosemary Tannock - Human Development & Applied Psychology
Stephen Tanny - Mathematics
Alan Tanswell - Medical Science
Valerie Tarasuk - Nutritional Sciences
Susan Tarlo - Medical Science
Maxim Tarnawsky - Slavic
Charles Tator - Medical Science
Mohamad Tavakoli-Targhi - Near & Middle Eastern Civilizations
Glen Taylor - Religion
Ian Taylor - Anatomy & Cell Biology
Judith Taylor - Sociology
Margot Taylor - Medical Science
Michael Taylor - Laboratory Medicine & Pathobiology
Robert Taylor - French
Alexie Tcheuyap - French
Lynne Teather - Museum Studies
Judith Ann Teichman - Political Science
Raymond Tellier - Laboratory Medicine & Pathobiology
Douglas Templeton - Laboratory Medicine & Pathobiology
Neil Ten Kortenaar - English
Howard Tenenbaum - Dentistry
Sergio Tenenbaum - Philosophy
Roderick Tennyson - Aerospace Science & Engineering
Ulrich Tepass - Cell & Systems Biology
Lorne Tepperman - Sociology
Nicholas Terpstra - History
Richard Teuscher - Physics
Dennis Thiessen - Curriculum, Teaching & Learning
Alan Thomas - Adult Education & Counselling Psychology
Scott Thomas - Exercise Sciences
Sean Thomas - Forestry
Christopher Thompson - Theoretical Astrophysics
Evan Thompson - Philosophy
Lilian Thompson - Nutritional Sciences
Margaret Thompson - Molecular Genetics
Michael Thompson - Chemistry
Paul Thompson - History & Philosophy of Science & Technology
William Thompson - Psychology
H. Leslie Thomson - English
James Thomson - Ecology & Evolutionary Biology
Murray Thomson - Mechanical & Industrial Engineering
Roger Thomson - Slavic
Paul Thorner - Laboratory Medicine & Pathobiology
Steven Thorpe - Materials Science & Engineering
Joseph Thywissen - Physics
Thomas Tidwell - Chemistry
Mary Tierney - Medical Science
James Till - Medical Biophysics
Elizabeth Tillier - Medical Biophysics
Victor Timmer - Forestry
John Timusk - Civil Engineering
Tanya Titchkosky - Sociology & Equity Studies in Education
Teresa To - Public Health Sciences
Stephen Tobe - Cell & Systems Biology
Joanne Tod - Art

Barbara Todd - History
Stevo Todorcevic - Mathematics
Cameron Tolton - French
Mihkel Tombak - Management
Kim Tomczak - Art
Denise Tomkins - Pharmacology & Toxicology
George Tomlinson - Public Health Sciences
Brenda Toner - Medical Science
Sam Toueg - Computer Science
Ann Tourangeau - Nursing Science
David Robert Townsend - Medieval Studies
Richard Townsend - Theory & Policy Studies in Education
John Trachtenberg - Medical Science
John Traill - Classics
Honghi Tran - Chemical Engineering & Applied Chemistry
Nhung Tran - History
Olev Trass - Chemical Engineering & Applied Chemistry
Ross Traub - Curriculum, Teaching & Learning
Michael Trebilcock - Law
Daniel Trefler - Management
Sandra Trehub - Psychology
Luc Tremblay - Exercise Sciences
Peter Trifonas - Curriculum, Teaching & Learning
William Trimble - Biochemistry
William Trischuk - Physics
David Tritchler - Medical Biophysics
Nicolas Trocme - Social Work
Tamara Trojanowska - Slavic
Graham Trope - Medical Science
Vince Tropepe - Cell & Systems Biology
Harold Troper - Theory & Policy Studies in Education
Alissa Trotz - Sociology & Equity Studies in Education
Kien (Kevin) Truong - Electrical & Computer Engineering
Ka Tat Tsang - Social Work
Ming-Sound Tsao - Laboratory Medicine & Pathobiology
Florence Tsui - Immunology
Reiko Tsukimura - East Asian Studies
Robert Tsushima - Physiology
Jack Ven Tu - Health Policy, Management & Evaluation
Endel Tulving - Psychology
Carolyn Tuohy - Political Science
Ismail Turksen - Mechanical & Industrial Engineering
David Turner - Anthropology
Francis Turner - Social Work
Matthew Turner - Economics
Douglas Tweed - Physiology
Michael Tyers - Molecular Genetics
Michael Tymianski - Physiology
Rachel Tyndale - Pharmacology & Toxicology

U
Jack Uetrecht - Pharmaceutical Sciences
Sheldon Ungar - Sociology
Ross Edward Upshur - Medical Science
David Urbach - Medical Science
Murray Urowitz - Medical Science
Alasdair Urquhart - Philosophy
Torstein Utigard - Materials Science & Engineering
Shuzo Uyenaka - East Asian Studies

V

Leif Vaage - Religion
Franco Vaccarino - Psychology
Mary Vachon - Public Health Sciences
Borje Vahamaki - Slavic
Shahrokh Valaee - Electrical & Computer Engineering
Catherine Valcke - Law
Mario Valdes - Comparative Literature
John Philip Valleau - Chemistry
Mariana Valverde - Criminology
Johannes Van Biesebroeck - Economics
John Van De Vegte - Mechanical & Industrial Engineering
Derek Van Der Kooy - Molecular Genetics
Emilie Van Deventer - Electrical & Computer Engineering
Henry Van Driel - Physics
Blanche van Ginkel - Architecture, Landscape, & Design
Marten van Kerkwijk - Astronomy & Astrophysics
Sylvia Van Kirk - History
Pascal van Lieshout - Speech-Language Pathology
Willem Vanderburg - Civil Engineering
Rosamond Vanderburgh - Anthropology
Greg Vanlerberghe - Cell & Systems Biology
Susannah Varmuza - Cell & Systems Biology
Eugene Vayda - Health Policy, Management & Evaluation
Frank Vecchio - Civil Engineering
Andreas Veneris - Electrical & Computer Engineering
Anastasios Venetsanopoulos - Electrical & Computer
  Engineering
Ronald Venter - Mechanical & Industrial Engineering
Nicolaas Verhoeff - Medical Science
Anil Verma - Management
Mary (Molly) Verrier - Physical Therapy
Joseph Michael Vertin - Religion
Jack Veugelers - Sociology
Maria Vicedo Castello - History & Philosophy of Science
  & Technology
Joaquim Jose Vicente - Mechanical & Industrial
  Engineering
Reinhold Vieth - Laboratory Medicine & Pathobiology
John Vincent - Medical Science
Lynne Viola - History
Robert Vipond - Political Science
Balint Virag - Statistics
Colin Visser - English
Alex Vitkin - Medical Biophysics
Sorin Voinigescu - Electrical & Computer Engineering
Allen Volchuk - Biochemistry
Richard Volpe - Human Development & Applied
  Psychology
Peter Von Bitter - Geology
Zvonko Vranesic - Electrical & Computer Engineering
Mladen Vranic - Physiology
Vladimir Vuksan - Nutritional Sciences

W

Stephen Waddams - Law
Thomas Waddell - Medical Science
Narendra Wagle - History
Helene Wagner - Ecology & Evolutionary Biology
Merlin Wahlstrom - Curriculum, Teaching & Learning
Sarah Wakefield - Geography

Rinaldo Walcott - Sociology & Equity Studies in
  Education
Robert Wald - Medical Science
Paul Walfish - Medical Science
Gilbert Walker - Chemistry
John Walker - French
Kaley Walker - Physics
Michael Walker - Physics
Scott Walker - Pharmaceutical Sciences
Alan Walks - Geography
James Wallace - Mechanical & Industrial Engineering
John Wallace - Curriculum, Teaching & Learning
Malcolm Wallace - Classics
Faith Wallis - History & Philosophy of Science &
  Technology
Denis Walsh - Philosophy
Cameron Walter - Music
Njoki Wane - Sociology & Equity Studies in Education
Chen Wang - Laboratory Medicine & Pathobiology
Elaine Wang - Health Policy, Management & Evaluation
Lu-Yang Wang - Physiology
Paul Wang - Biomedical Engineering
Qing (Kevin) Wang - Management
Qinghua Wang - Physiology
Zhirui Wang - Materials Science & Engineering
Frank Wania - Chemistry
Charles Ward - Mechanical & Industrial Engineering
Michael Ward - Medical Science
Wendy Ward - Nutritional Sciences
Padraig Warde - Medical Science
Holly Wardlow - Anthropology
Wesley Wark - History
Germaine Warkentin - English
Jerry Warsh - Medical Science
Donald Wasylenki - Health Policy, Management &
  Evaluation
David Waterhouse - East Asian Studies
Melville Watkins - Political Science
Andrew Watson - Economics
Jeanne Watson - Adult Education & Counselling
  Psychology
Philip Watson - Dentistry
Tania Watts - Immunology
Judith Watt-Watson - Nursing Science
Michael Wayne - History
Jill Webster - Spanish
John Wedge - Medical Science
Jason Wei - Management
John Wei - Physics
Ernest Weinrib - Law
Lorraine Weinrib - Law
Arthur Weis - Ecology & Evolutionary Biology
Richard Weisel - Medical Science
Karen Weisman - English
William Weiss - Mathematics
Rosanna Weksberg - Medical Science
David Welch - Political Science
Barry Wellman - Sociology
James Wells - Pharmaceutical Sciences
Lilian Wells - Social Work
Mathew Wells - Geography

Peter Wells - Pharmaceutical Sciences
Sandy Welsh - Sociology
Anthony Wensley - Management
Gordon West - Physics
Lori West - Medical Science
Carol Westall - Medical Science
John Westgate - Geology
J. Timothy Westwood - Cell & Systems Biology
Heinz Wetzel - German
John Wevers - Near & Middle Eastern Civilizations
Blair Wheaton - Sociology
Michael Wheeler - Physiology
William Whelan - Medical Biophysics
Alan White - Management
Graham White - Political Science
Linda White - Political Science
Rodney White - Geography
Catharine Isobel Whiteside - Medical Science
Jennifer Whiting - Philosophy
Gordon Whitmore - Medical Biophysics
Joseph Whitney - Geography
Stuart Whittington - Chemistry
Glen Whyte - Management
Frederick Wicks - Geology
Judith Wiener - Human Development & Applied
  Psychology
Blossom Wigdor - Psychology
Shirley Wiitasalo - Art
Andrew Rhys Wilde - Molecular Genetics
Mike Wiley - Medical Science
George Will - Civil Engineering
Andrew Willan - Public Health Sciences
D Dudley Williams - Ecology & Evolutionary Biology
David Williams - Biochemistry
Derek Williams - History
George Williams - Biochemistry
Melissa Williams - Political Science
Paul Williams - Health Policy, Management & Evaluation
Nancy Williamson - Information Studies
Dale Willows - Human Development & Applied
  Psychology
Brian Wilson - Medical Biophysics
David Wilson - Curriculum, Teaching & Learning
David Wilson - History
Gregory Wilson - Laboratory Medicine & Pathobiology
Kathleen Wilson - Geography
Thomas Wilson - Economics
Rudolf Winklbauer - Cell & Systems Biology
Mitchell Winnik - Chemistry
Gordon Winocur - Psychology
Mary Winsor - History & Philosophy of Science &
  Technology
Frederick Winter - Art
Richard Winterbottom - Ecology & Evolutionary Biology
Nelson Wiseman - Political Science
Joan Wither - Immunology
Rebecca Wittmann - History
Carin Wittnich - Medical Science
Shoshana Wodak - Biochemistry
Victoria Wohl - Classics
J. Martin Wojtowicz - Physiology

Thomas Wolever - Nutritional Sciences
David Wolfe - Human Development & Applied Psychology
David Wolfe - Political Science
Richard Wolfe - Human Development & Applied
  Psychology
Jens Wollesen - Art
Albert Wong - Pharmacology & Toxicology
Chong Shun Wong - Medical Biophysics
Joseph Wong - Political Science
Ming F Agnes Wong - Medical Science
Pui-Yuen Wong - Laboratory Medicine & Pathobiology
Samuel Wong - Physics
Willy Wong - Electrical & Computer Engineering
Walter Wonham - Electrical & Computer Engineering
Minna Nancy Woo - Medical Science
Michael Wood - Medical Biophysics
James Woodgett - Medical Biophysics
Melanie Woodin - Cell & Systems Biology
Malcolm Woodland - English
Earl Woodruff - Human Development & Applied
  Psychology
Blake Woodside - Medical Science
Donald Woodside - Dentistry
Terence Wooldridge - French
G Andrew Woolley - Chemistry
N. Scot Wortley - Criminology
David Wortman - Computer Science
Ulrich Wortmann - Geology
Jeff Wrana - Molecular Genetics
Graham Wright - Medical Biophysics
James Wright - Medical Science
Piotr Jan Wrobel - History
Gillian Wu - Immunology
Xiao Yu Wu - Pharmaceutical Sciences
Yanqin Wu - Astronomy & Astrophysics
Jay Wunder - Medical Science

X
Kaiwen Xia - Civil Engineering
Jia Lin Xie - Management

Y
Martin Yaffe - Medical Biophysics
Michael Yampolsky - Mathematics
Ning Yan - Forestry
Burton Yang - Laboratory Medicine & Pathobiology
Adonis Yatchew - Economics
Terrence Yau - Medical Science
Chen-Pang Yeang - History & Philosophy of Science &
  Technology
Howard Yee - Astronomy & Astrophysics
Herman Yeger - Laboratory Medicine & Pathobiology
Wen-Chen Yeh - Medical Biophysics
Erik Yeo - Medical Science
John Yeomans - Psychology
Rae Yeung - Immunology
Byeong-Uk Yi - Philosophy
Christopher Yip - Chemical Engineering & Applied
  Chemistry
Karen Yoshida - Physical Therapy

Keiko Yoshioka - Cell & Systems Biology
Lidan You - Mechanical & Industrial Engineering
Kue Young - Public Health Sciences
Lionel Trevor Young - Health Policy, Management &
  Evaluation
R. Paul Young - Civil Engineering
John Youson - Cell & Systems Biology
Eric Yu - Information Studies
Wei Yu - Electrical & Computer Engineering
Xian-Min Yu - Dentistry
Yeni Yucel - Laboratory Medicine & Pathobiology
Andrei Yudin - Chemistry

Z
Eldad Zacksenhaus - Medical Biophysics
David Zakus - Nursing Science
Safwat Zaky - Electrical & Computer Engineering
Konstantine Zakzanis - Psychology
Deborah Zamble - Chemistry
Peter Zandstra - Biomedical Engineering
Brent Zanke - Medical Science
George Zarb - Dentistry
Robert Zee - Aerospace Science & Engineering
Irving Zeitlin - Sociology
Philip Zelazo - Psychology
Suzanne Zeller - History & Philosophy of Science &
  Technology
Richard Zemel - Computer Science
Haibo Zhang - Medical Science
Li Zhang - Laboratory Medicine & Pathobiology
Liang Zhang - Medical Science
Ping Zhang - Management
Zhaolei Zhang - Molecular Genetics
Mei Zhen - Molecular Genetics
Gang Zheng - Medical Biophysics
Jianwen Zhu - Electrical & Computer Engineering
Xiaodong Zhu - Economics
Min Zhuo - Physiology
Maria Zielenska - Laboratory Medicine & Pathobiology
John Zilcosky - German
Ann Zimmerman - Ecology & Evolutionary Biology
David Zingg - Aerospace Science & Engineering
Bernard Zinman - Medical Science
Robert Zipursky - Medical Science
Stanley Zlotkin - Nutritional Sciences
Ron Zohar - Dentistry
Jean Zu - Mechanical & Industrial Engineering
Ezra Zubrow - Anthropology
Kenneth Zucker - Psychology
Marvin Zuker - Theory & Policy Studies in Education
Stefan Zukotynski - Electrical & Computer Engineering
Juan Carlos Zuniga-Pflucker - Immunology
David Zweig - Industrial Relations & Human Resources

Graduate Programs

This section contains a listing of graduate programs offered by the School of Graduate Studies at the University of Toronto. it is divided into three categories, by program type:
1. Degree programs
2. Collaborative programs
3. Joint programs
SGS comprises over 80 graduate units (departments, centres, and institutes), over 35 collaborative (interdisciplinary) programs, and 3 joint programs.

Within each program type, graduate units are listed alphabetically with a descriptive overview, contact information, a list of degree programs offered, together with admission and program requirements and courses. The calendar entry concludes with a list of graduate faculty appointed to the graduate unit.

For further details about a program, visit the graduate unit's Web site, listed in the contact information.

Adult Education and Counselling Psychology   AEC

Faculty Affiliation
Ontario Institute for Studies in Education

Degree Programs Offered
Adult Education and Community Development
 – MA, MEd, PhD
Counselling Psychology:
 Counselling Psychology for Psychology Specialists
 – MA, PhD
 Counselling Psychology for Community Settings
 – MEd, EdD
 Guidance and Counselling for Schools
 – MEd

Collaborative Programs Offered
 Degree programs that participate in:
1. Aboriginal Health, see p. 404
    • Adult Education and Community Development, MA, PhD
    • Counselling Psychology, MA, PhD
2. Addiction Studies, see p. 406
    • Counselling Psychology, MA, PhD
3. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
    • Adult Education and Community Development, MA, MEd, PhD
    • Counselling Psychology, MA, MEd, EdD, PhD
4. Community Development, see p. 428
    • Adult Education and Community Development, MA, MEd
    • Counselling Psychology, MA, MEd
5. Comparative, International and Development Education, see p. 430
    • Adult Education and Community Development, MA, MEd
6. Environmental Studies, see p. 443
    • Adult Education and Community Development, MA, MEd, PhD
    • Counselling Psychology, MA, MEd, EdD, PhD
7. Women and Gender Studies, see p. 473
    • Adult Education and Community Development, MA, MEd, PhD

Overview
    The Department of Adult Education and Counselling Psychology is the second largest of the five departments within the Ontario Institute for Studies in Education OISE and offers a full range of graduate degrees - **Master of Arts**, **Master of Education**, **Doctor of Education**, and **Doctor of Philosophy** - in each of two major programs:
1. Adult Education and Community Development
2. Counselling Psychology
    The **Adult Education and Community Development** (AECD) program provides a place to study and contribute to theory, practice, and policy concerning adult learning in organizations, communities, workplaces, and social movements in local, national, and international contexts. We are an interdisciplinary program which highlights critical social analysis, transformative learning, creative inquiry, and international/global awareness. Perspectives represented in the program include: aboriginal/indigenous; anti-racist/anti-colonial; feminist; environmental/ecological; socialist/Marxist.
    The Adult Education and Community Development program faculty are grouped into four areas of emphasis:
1. Aboriginal/Indigenous Education
2. Workplace Learning and Change
3. Creative Inquiry, Personal and Professional Learning
4. Community, International, and Transformative Learning
    The **Counselling Psychology** program is designed to provide critical and scholarly skills in counselling and counsellor education and to train counsellors and psychologists in the general domain of human servicers. The Counselling Psychology program offers three fields of specialization:
1. Counselling Psychology for Psychology Specialists (MA, PhD)
2. Counselling Psychology for Community Settings (MEd, EdD)
3. Guidance and Counselling for Schools (MEd)

Contact and Address

Admission
    For application information and forms, visit the Registrar's Office Web site: www.ro.oise.utoronto.ca

E-mail: gradstudy@oise.utoronto.ca
Telephone: (416) 978-1682

The Ontario Institute for Studies in Education (OISE)
University of Toronto
Registrar's Office
Graduate Studies, Admissions Unit
Fourth Floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

    Admission enquiries should be made well in advance of the regular deadline for receipt of applications. Given the limited number of students the Department may accept into the majority of its programs, not all eligible applicants will be admitted.

    For further application information, contact:

E-mail: gradstudy@oise.utoronto.ca
Telephone: 416-978-1682

Graduate Studies Admissions Unit
Room 4-485

Program

Web: aecp.oise.utoronto.ca
Fax: (416) 926-4749

Department of Adult Education and Counselling
  Psychology
The Ontario Institute for Studies in Education (OISE)
University of Toronto
Seventh Floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Adult Education and Community Development

Master of Arts

The MA is a research-based degree and can be taken on a full-time or part-time basis. During their program of study, MA students are expected to have exposure to both qualitative and quantitative approaches to research.

Minimum Admission Requirements
- A four-year University of Toronto bachelor's degree in a relevant discipline or professional program with a grade of B+ or better in the final year, or its equivalent from a recognized university.

Program Requirements
- 4.0 full-course equivalents (FCE) plus a thesis based on original research.
- The program normally requires more than one year.
- Course work taken is mainly at the 1000 level, of which at least 2.0 FCE must be from the Adult Education and Community Development program. Additional courses may be required of some students. Students must take AEC 1100H Outline of Adult Education and AEC 1183H Master's Thesis Seminar. 0.5 FCE in research methods is required.
- MA students complete a thesis which may lay the groundwork for doctoral research.

Master of Education

The MEd is a non-thesis degree program which can be taken on either a full-time or part-time basis.

Minimum Admission Requirements
- A four-year University of Toronto bachelor's degree in a relevant discipline or professional program with a grade of mid-B or better in the final year, or its equivalent from a recognized university.

Program Requirements
- Normally 5.0 full-course equivalents (FCE), usually at the 1000 level. At least half of the courses must be from the Adult Education and Community Development program. Students are required to take course AEC 1100H Outline of Adult Education as well as one research methods course.

Doctor of Philosophy

The PhD degree program is designed to provide opportunities for advanced study in the theoretical foundations of adult education and community development and in the application of such knowledge to practice. The Adult Education and Community Development program offers both a full-time and flexible-time PhD Full-time PhD students must complete their degree within six years; flexible-time PhD students must complete their degree within eight years.

Minimum Admission Requirements
- A University of Toronto MA in Education, or its equivalent from a recognized university, in the same field of specialization at the doctoral level.
- A standing equivalent to a University of Toronto B+ or better in master's courses.

Program Requirements
- Full-time and flexible time PhD students begin as a cohort. Except for the time to completion, requirements for both programs are the same.
- It is recommended that students take course AEC 3102H Doctoral Thesis Course in Adult Education in the first session of their program.
- All students must complete 3.0 full-course equivalents (FCE), of which at least 2.0 FCE must be from the Adult Education and Community Development program. Students with little background in the field of Adult Education and Community Development will be required to do an additional 0.5 FCE providing such background. A minimum of 2.0 FCE must be at the doctoral/3000 level, normally including course AEC 3102H. Students also normally take at least 0.5 FCE specialized research methods course.
- All students are expected to complete a comprehensive requirement and a thesis.

Courses

Not all courses are given each year. Please consult the course schedules available from the Registrar's Office.

AEC 1100H   Outline of Adult Education
AEC 1101H   Program Planning in Adult Education
AEC 1102H   Community Development: Innovative
              Models
AEC 1103H   Introduction to Research Methods in Adult
              Education
AEC 1104H   Community Education and Organizing

AEC 1107H   Developing and Leading High Performing
                     Teams: Theory and Practice
AEC 1108H   Adult Learning (Credit/No Credit)
AEC 1110H   Basic Processes in Teaching Adults
AEC 1113H   Gender and Hierarchy at Work
AEC 1114H   Comparative and International Perspectives
                     in Adult Education
AEC 1117H   Consulting Skills for Adult Educators
AEC 1119H   Creating a Learning Organization
AEC 1122H   Practicum in Adult Education and
                     Community Development (Credit/No
                     Credit)
AEC 1125H   Contemporary Issues in Adult Literacy
AEC 1131H   Special Topics in Adult Education (Master's)
AEC 1135H   Practicum in Organization Development
                     (Credit/No Credit)
AEC 1141H   Organizations and the Adult Educator:
                     Historical and Theoretical Perspectives on
                     Organization Development
AEC 1143H   Introduction to Feminist Perspectives on
                     Society and Education
AEC 1145H   Participatory Research in the Community
                     and the Workplace
AEC 1146H   Women, War, and Learning
AEC 1148H   An Introduction to Workplace,
                     Organizational, and Economic Democracy
AEC 1150H   Critical Perspectives on Organizational
                     Theory, Development and Practice
AEC 1152H   Individual Reading and Research in Adult
                     Education: Master's Level
AEC 1156H   Power and Difference in the Workplace
AEC 1160H   Introduction to Transformative Learning
                     Studies
AEC 1165H   Poetry, Social Movements, and Adult
                     Learning
AEC 1170H   Practitioners' Experienced Knowledge
AEC 1171H   Treaty Rights and Aboriginal Education:
                     Contemporary Policies and Programs
AEC 1173H   Creativity and Wellness: Learning to Thrive
AEC 1178H   Practitioner/Ecological Identity and
                     Reflexive Inquiry
AEC 1180H   Aboriginal World Views: Implications for
                     Education
AEC 1181H   Embodied Learning and Qi Gong
AEC 1182H   Teaching, Learning and Working in Non-
                     profit and Public Sector Organizations
AEC 1183H+   Master's Thesis Seminar (Credit/No
                     Credit)
AEC 1184H   Aboriginal Knowledge: Implications for
                     Education
AEC 1185H   Leadership in Organizations: Changing
                     Perspectives
AEC 1186H   Perspectives On Organizational Change
AEC 1187H   Alternative Ways of Researching Aging,
                     Illness and Health
AEC 3102H+   Doctoral Thesis Course in Adult Education
                     (Credit/No Credit)

+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

AEC 3103H   Teaching about Global and Social Issues
AEC 3104H   Political Economy of Adult Education in
                     Global Perspectives
AEC 3113H   Adult Education and Public Policy
AEC 3119H   Global Perspectives on Feminist Education,
                     Community Development, and Community
                     Transformation
AEC 3126H   Transformative Education and the Global
                     Community: Creativity and Social Change
AEC 3131H   Special Topics in Adult Education (Doctoral)
AEC 3132H   Special Topics in Women in Development
                     and Community Transformation
AEC 3133H   Special Topics in Aboriginal Community
                     Learning: Current Issues and Practices
AEC 3138H   Social Theories and Adult Education
AEC 3140H   Post-Colonial Relations and Transformative
                     Education
AEC 3152H   Individual Reading and Research in Adult
                     Education: Doctoral Level
AEC 3170H   Perspectives on Qualitative Research:
                     Part I
AEC 3171H   Perspectives on Qualitative Research:
                     Part II
AEC 3173H   Effecting Change: Creating Wellness
AEC 3176H   Sense of Place in Professional and Natural
                     Contexts
AEC 3177H   Arts-InforMEd Perspectives in Educational
                     Research
AEC 3179H   Work, Technology and the Knowledge
                     Economy
AEC 3180H   Global Governance and Educational
                     Change: the Politics of International
                     Cooperation in Education
AEC 3181H   Feminist Standpoints: Critical and Post-
                     Structural Approaches
AEC 3182H   Citizenship Learning and Participatory
                     Democracy
AEC 3183H   Mapping Social and Organizational
                     Relations in Adult Education
CIE 1001H   Introduction to Comparative, International
                     and Development Education
CIE 1002H   Practicum in Comparative, International and
                     Development Education

Interprogram Courses
      The following courses are accepted for credit in the
Adult Education program and will satisfy that program's
specialization requirement. For descriptions, see the
relevant programs.

AEC 1400H   Special Topics in Adult Education and
                     Counselling Psychology
AEC 1405H   Introduction to Qualitative Research: Part I
AEC 1406H   Introduction to Qualitative Research: Part II
AEC 1408H   Working with Survivors of Trauma
AEC 1409H   Creative Empowerment Work with the
                     Disenfranchised
SES 1925H   Indigenous Knowledge and Decolonization:
                     Pedagogical Implications
SES 2942H   Education and Work

SES 2970H   Countering Myths about Aboriginal Peoples
                   through Multiple Medias
SES 3951H   Canadian Political Economy and Education

Counselling Psychology

Counselling Psychology for Psychology Specialists

Master of Arts

This MA program is designed for applicants interested in working as researchers or practitioners in a variety of psychological and educational settings. The program meets the basic academic and clinical requirements for registration with the College of Psychologists of Ontario as a Psychological Associate. It also meets the needs of students who plan to apply to the PhD program in Counselling Psychology for Psychology Specialists.

Minimum Admission Requirements
- A four-year University of Toronto bachelor's degree in psychology or any four-year undergraduate degree which would contain the psychology requirement equivalent (defined as 6.0 full-course equivalents (FCE) in psychology, including 0.5 FCE in research methods, 0.5 FCE in statistics and at least 3.0 FCE at the third- and fourth-year level).
- A standing equivalent to a University of Toronto A- better in the final year.

Program Requirements
- The MA in Counselling Psychology for Psychology Specialists consists of 4.0 full-course equivalents (FCE)
- 500 hours of practicum
- A master's thesis
- Every program of study includes courses in counselling theory, practice, assessment, ethics, personality and cognitive assessment skills, and research methodology, as well as a practicum placement.
- Full-time on-campus study is required from September to April, which represents the Fall and Winter Sessions; however, students may begin their program of study in the preceding Summer Session. Normally, 1.5 FCE are taken in each of the Fall and Winter Sessions and a maximum of 1.0 FCE in the Summer Session.
- It is expected that all degree requirements will be completed within two years.

Doctor of Philosophy

The principal emphasis of this degree program is the development of research and theoretical knowledge in counselling psychology, assessment skills, and knowledge and training in professional issues. Students are expected to conduct advanced research and to develop professional knowledge and skills in counselling psychology. Graduates will be prepared to assume a variety of positions in psychological practice and research in schools and universities, in community settings, in agencies offering psychological services, and in university or college counselling centres. The program of study must be taken on a full-time basis and progress in the program will be reviewed annually.

Please note that the Counselling Program is currently adjusting course requirements to conform to the guidelines and principles for the Canadian Psychological Association accreditation of programs in professional psychology.

Minimum Admission Requirements
- Students may be admitted to the PhD program via one of two routes:
  - from a **bachelor's degree:** a four-year University of Toronto bachelor's degree in psychology or any four-year undergraduate degree which would contain the psychology requirement equivalent (defined as 6.0 FCE in psychology, including 0.5 FCE in research methods, 0.5 FCE in statistics, and at least 3.0 FCE at the third- and fourth-year level). A standing equivalent to a University of Toronto A- better in the final year.
  - from a **master's degree:** a University of Toronto M.A. degree with specialization in Counselling Psychology for Psychology Specialists with a grade of A- or better, or its equivalent.

Program Requirements
- The PhD program requires a minimum of 5.0 full-course equivalents (FCE) (including practicum AEC 3217Y and internship AEC 3268Y).
- Practicum. Complete a 500-hour practicum in conjunction with the doctoral practicum course AEC 3217Y
- Internship (AEC 3268Y). 2,000 hours of internship. All internship arrangements must be made in consultation with the Coordinator of Internship and Counselling Services.
- Comprehensive examination. Students will be examined systematically in general psychology and in professional psychology.
- Doctoral dissertation. All students must develop, complete, and defend in an oral examination, a doctoral dissertation supervised by a full-time member of the Counselling Psychology faculty. The content of such dissertation research may address theoretical issues applicable to counselling concerns and practice, relate to the development of programs in a variety of educational or applied settings, or in some other way contribute to the development and practice of counselling psychology.

Counselling Psychology for Community Settings

Master of Education

This degree program provides individuals with the opportunity to learn and develop counselling skills appropriate for a variety of work settings. Students are encouraged to develop their courses and practicum learning experiences to suit their own goals. Examples of the types of goals for which suitable programs of study could be developed are adult counselling, college and university counselling centres, career counselling, geriatrics counselling, multicultural counselling, and community mental health and family life centres. The program of study provides students with the basic preparation for certification as a Certified Canadian Counsellor (CCC) with the Canadian Counselling Association (CCA).

Minimum Admission Requirements

- A four-year University of Toronto bachelor's degree--of any background or discipline—with a grade of B+ or better in the final year, or its equivalent from a recognized university.
- At least one year of relevant experience.

Program Requirements

- The MEd in Counselling Psychology for Community and Educational Settings requires 5.0 full-course equivalents (FCE) plus a comprehensive examination.
- The 3.0 FCE required in Counselling Psychology include courses in counselling, group theory, ethics, and a practicum.
- Arrangements regarding a practicum placement must be made in consultation with the Coordinator of Internship and Counselling Services. MEd students can also pursue research in the area of Work and Career which is offered jointly by the Counselling Psychology program and the Adult Education and Community Development program.

Doctor of Education

Counsellor training in this degree program emphasizes the role of the counsellor in the educational system, the acquisition of effective supervisory and consultative skills, and the development and assessment of student counselling services in addition to the advanced study of counselling theory and practice. Graduates will be prepared to take leadership positions in the field of educational counselling; as educators in colleges and institutes of education; as directors and coordinators of school guidance programs; as specialists in the provision of counselling-related, in-service training for school personnel; and as providers of advanced levels of personal counselling to school, college, and related populations.

This option will be especially attractive to individuals who have demonstrated a career commitment to the provision of counselling services in an educational and community setting.

Minimum Admission Requirements

- Students may be admitted to the PhD program via one of two routes:
  - from a **bachelor's degree:** A four-year University of Toronto bachelor's degree--of any background or discipline--or its equivalent from a recognized university
  - from a **master's degree:** An MA or MEd degree in Counselling Psychology from the University of Toronto with a grade of B+ or better, or its equivalent from a recognized university. The applicant must have had successful professional experience as a counsellor in an educational setting or in a related position. Applicants who hold an MEd or other non-thesis master's degree must submit evidence of their ability to identify a research or development problem, to design and conduct a study or project, and to report the findings or results, all in a rigorous manner. This constitutes a Qualifying Research Paper (QRP).

Program Requirements

- All students are required to take courses related to the development of competence in counselling theory and practice and to the development of research skills.
- The EdD program requires a minimum of 4.5 full-course equivalents (FCE) (including practicum and internship) and a doctoral dissertation.
- 3.5 of the 4.5 FCE must be in Counselling Psychology.
- Each student must complete a minimum of one year of full-time, on-campus study.
- Practicum. Complete a 500-hour practicum in conjunction with the doctoral practicum course AEC 3217Y.
- Internship (AEC 3270H). Complete 500 hours of internship. All internship arrangements must be made in consultation with the Coordinator of Internship and Counselling Services.
- Thesis. All students must develop, complete, and defend in an oral examination, a doctoral dissertation. The content of such dissertation research may address theoretical issues applicable to counselling concerns and practice, relate to the development of programs in a variety of educational or applied settings, or in some other way contribute to the development and practice of counselling psychology.

Guidance and Counselling for Schools

Master of Education

This degree program helps meet the need for well-prepared practitioners in the field of guidance and counselling in the schools. Therefore, strong preference for admission to this degree program is given to experienced teachers who are interested in specializing in guidance and counselling in the schools. The program of study provides students with the basic preparation for certification as a Certified Canadian Counsellor (CCC) with the Canadian Counselling Association (CCA). Students completing this MEd program may have their degree credited toward Parts I and II of the Ontario College of Teachers' (OCT) Specialist Certificate in Guidance. Students may pursue the MEd degree on a full-time or part-time basis.

Minimum Admission Requirements
- An appropriate four-year University of Toronto bachelor's degree with a grade of B+ or better in the final year, or its equivalent from a recognized university.
- Teacher certification.

Program Requirements
- 5.0 full-course equivalents (FCE) plus a comprehensive examination.
- The program of study, planned by the student in consultation with the faculty advisor, cannot be reduced because of guidance certificates held. Within the 3.0 FCE required in Counselling Psychology, every program of study must include counselling and group theory and a practicum experience.

Courses

Not all courses are given each year. Please consult the course schedules available from the Registrar's Office.

AEC 1202H Theories and Techniques of Counselling
AEC 1203Y+ Practicum in Counselling
AEC 1207H Counselling Topics in Sexual Orientation and Gender Identity Diversity
AEC 1214H Critical Multicultural Practice: Diversity Issues in Counselling
AEC 1219H Ethical Issues in Professional Practice in Psychology
AEC 1228H Individual and Group Psychotherapy: Family and Marital Counselling
AEC 1229H Individual and Group Psychotherapy for Counselling
AEC 1245H Brief Counselling Strategies
AEC 1247H Practicum in Adult Counselling
AEC 1252H Individual Reading and Research in Counselling Psychology: Master's Level

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

AEC 1253H Feminist Issues in Counselling Psychology and Psychotherapy
AEC 1261H Group Work in Counselling
AEC 1262H Educational and Psychological Testing for Counselling
AEC 1263H Seminar in Research Methods for MA Students
AEC 1266H Career Counselling and Development: Transition from School to Work
AEC 1267Y Advanced Practicum in Counselling
AEC 1268H Career Counselling and Development: Transitions in Adulthood
AEC 1269H Use of Guided Imagery in Counselling and Psychotherapy
AEC 1275H Special Topics in Counselling Psychology (Master's)
AEC 1278H Cognitive Therapy
AEC 1289H Community Mental Health
AEC 3211H Counselling and Researching in Context: Critical Perspectives on Counselling and Health Promotion Research
AEC 3215H Seminar in Counselling Psychology: Part I
AEC 3216H Seminar in Counselling Psychology: Part II
AEC 3217Y+ Practicum in Counselling Psychology
AEC 3218H Research Seminar in Counselling
AEC 3224H Individual Cognitive and Personality Assessment
AEC 3225H Assessment and Diagnosis of Personality and Psychopathology
AEC 3253H Individual Reading and Research in Counselling Psychology: Doctoral Level
AEC 3260H Psychopathology and Diagnosis
AEC 3267H Training for Counselling Supervision
AEC 3268Y PhD Internship

Interprogram Courses

The following courses are accepted for credit in the Counselling Psychology program and will satisfy that program's specialization requirements. For descriptions, see the relevant programs.

AEC 1173H Creativity and Wellness: Learning to Thrive
AEC 3173H Effecting Change: Creating Wellness
AEC 1400H Special Topics in Adult Education and Counselling Psychology
AEC 1405H Introduction to Qualitative Research: Part I
AEC 1406H Introduction to Qualitative Research: Part II
AEC 1408H Working with Survivors of Trauma
AEC 1409H Creative Empowerment Work with the Disenfranchised
HDP 1223H Depression in the Schools: Assessment, Prevention, and Intervention
HDP 3204H Contemporary History and Systems in Human Development and Applied Psychology

Graduate Faculty

Full Members
Eileen Antone - BA, BEd, MEd, EdD
Bonnie Burstow - BA, MA, MEd, PhD
Charles Chen - BA, MEd, MA, PhD
Ardra Cole - BA, BEd, MEd, MEd, EdD
Joseph Gillis - BSc, MA, PhD
Mary Alice Guttman - BEd, MSc, PhD
Nancy Jackson - BA, MA, PhD
J Gary Knowles - BA, MS, PhD
Marilyn Laiken - BA, MA, PhD *(Chair)*
David Livingstone - BA, PhD,CRC
Angela Miles - BA, MA, PhD
Kiran Mirchandani - BA, MA, PhD
Shahrzad Mojab - MEd, PhD
Karen Mundy - BA, MA, PhD, Canada Research Chair
Roxana Ng - BA, MA, PhD
Niva Piran - BA, PhD *(Coordinator of Graduate Studies)*
Jack Quarter - BA, MA, PhD
Margaret Schneider - BA, MA, PhD
Daniel Schugurensky - BEd, MEd, PhD
Harry Smaller
Lana Stermac - BSc, MA, PhD
Richard Volpe - BA, MA, PhD
Jeanne Watson - BA, MA, PhD

Members Emeriti
Peter Gamlin - BA, MA, PhD
David Hunt - BS, MA, PhD
Solveiga Miezitis - BA, MA, PhD, CPsych
Edmund Sullivan - PhD
Alan Thomas - BA, MA, PhD

Associate Members
Diane Abbey-Livingston - BA, MEd
Jeffrey Abracen
Olakunle Akingbola - BSC, MSc, MA, PhD, CHRP
Donna Akman
Anne Archer - BScN, MEd, EdD
Mary Ann Archer
Ann Armstrong
Leena Augimeri
Marie Ann Battiste - BS EdM EdD LLD DH L
Lori Bernstein
Ray Blanchard - BA, MA, PhD
Ana Bodnar
Diana Brecher - BA, MA, EdD
Isla Carmichael - MA, MEd, PhD
Kathryn Church - BA, MA, PhD
Christine Connelly
Christine Courbasson - BA, MA, PhD
David Martin Day - BA, MA, PhD
Diana Denton - BA, MA, PhD
Guy Ewing - AB, BEd, MA, PhD
Margaret Fisher - BA, MEd, EdD
Lawrence Freedman
Brenda Gainer
Anne Goodman - BSc, MEd, PhD

Yasmin Gopal - MA, PhD
Andre Grace - BSc, BEd, MEd, PhD
Denise Grocke - BM, MM, PhD
Zelda Groener
Norman Halpern - PEng, MEd, EdD
Mary Hamilton - BA, PhD
Greg Hamovitch
Femida Handy
Jennifer Horsman - BA, MEd, EdD
Loretta Howard - BSC, MEd, EdD
Michaela Hynie
Ana Isla - BA, MA, PhD
Karin Jasper - MEd, MA, PhD
Liss Jeffrey
Nina Josefowitz - BA, MSc, PhD
N. Jane Knight - BA, MED, PHD, MPA
Kenneth Kwan - PhD, RMFT, C Psych
Calvin Langton
Laurent Leduc - BA, MA, PhD
Uri Leviatan - BA, MA, PhD
Becky Liddle - BA, MEd, PhD
Rod McCormick - PhD
Maura McIntyre - BA, MEd, EdD
Edward Meade - BA, MEd, EdD
Sam Minsky - BSc, MA, PhD
Roy Moodley - BPhil, MPhil, PhD
Rick Morris
Susan D. Phillips
Jean-Paul Restoule - BA, MA, PhD
Ingrid Richter
Susan Rodger
Judith Silver - BSc, PhD
Patricia Simpson - BA, MEd, PhD
Dalia Slonim - BA, MA, PsyD
Jennifer Stewart - BA, MSc, PhD
John Stewart - BA, BEd, MEd, EdD
Suzanne Stewart
Danilo Streck
Noreen Stuckless - PhD
Jennifer Sumner - BA, MSc, PhD
Brenda Toner - BA, MA, PhD
Ronald Warner - BA, BEd, MA, EdD
Peter Waterhouse
Seodi Venekai-Rudo White
Robin J Wilson - PhD
Christine Zeuner

Aerospace Science and Engineering   AER

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Aerospace Science and Engineering - MASc, MEng, PhD

Overview
The University of Toronto Institute for Aerospace Studies (UTIAS) offers a complete undergraduate and graduate program in aerospace science and engineering. Since the establishment of UTIAS during the 1940s, the aerospace field has evolved into a multidisciplinary activity that finds itself at the cutting edge of high technology research and development.

The full-time **Master of Applied Science** program is research oriented and includes a major thesis.

The **Master of Engineering** program is oriented towards professional engineering practice and consists primarily of course work. It is available on a full-time and part-time basis.

The **Doctor of Philosophy** program requires advanced graduate research.

Research, categorized into five main areas, apply directly to major scientific and engineering areas of emphasis within the aeronautical and space industry in Canada. Further details appear on the UTIAS Web site.
1. *Aircraft Flight Systems*: aircraft design, vehicle simulation
2. *Aerodynamics, Fluid Dynamics and Propulsion*: gasdynamics, aerodynamics, propulsion, computational fluid dynamics
3. *Structures and Multidisciplinary Optimization*: composite structures and structural analysis
4. *Space Systems Engineering*: space vehicles, microsatellites, space robotics
5. *Engineering Physics*: fusion energy

The admission and program information provided here supplements the SGS general and degree regulations. Further details concerning departmental regulations are available in the Graduate Office at UTIAS.

Contact and Address:
Web: www.utias.utoronto.ca
Telephone: (416) 667-7714
Fax: (416) 667-7743

Graduate Department of Aerospace Science and
 Engineering
Room 169, 4925 Dufferin Street
Toronto, Ontario M3H 5T6
Canada

Degree Programs

Master of Engineering

Minimum Admission Requirements
- Bachelor of Applied Science of this University or an equivalent four-year degree in engineering.

Program Requirements
- 10 courses selected under the guidance of the graduate coordinator or a staff supervisor. Individual programs are arranged to make up for background deficiencies.
- Program may be pursued on a full-time or part-time basis.

Master of Applied Science

Minimum Admission Requirements
- Admitted under the SGS general regulations. Qualified graduates in engineering, mathematics, physics, or chemistry are encouraged to apply. Individual programs are arranged to make up for background deficiencies.

Program Requirements
- Minimum of five courses, one of which must be AER 1800H *Research Seminar in Aerospace Science and Engineering.* All required courses must be completed during the first year of the program.
- A thesis based on research or development, selected in consultation with the student's supervisor.
- Research performance is assessed by a Research Assessment Committee (RAC), which includes the student's supervisor.
- MASc students are anticipated to complete their degree requirements in 18 months.
- Students interested in pursuing a PhD degree, who have achieved excellent performance in an MASc program at UTIAS, are encouraged to transfer directly into a PhD program, under the same supervisor, at the end of their first year of MASc studies. Approval for transfer is based on the student's research ability, research progress during the first year, and academic standing. Students transferring from an MASc to a PhD program shall be referred to as 'transfer students'.

Doctor of Philosophy

Minimum Admission Requirements
- MASc degree in engineering, mathematics, physics, or chemistry and demonstrated ability to perform advanced research. Applicants with a bachelor's degree who wish to pursue PhD studies at UTIAS will initially be admitted into the MASc program and

Degree Programs

will be considered for direct transfer into the PhD program.

Program Requirements
- Full-time continuous registration for every session, in-cluding the summer session, until all degree require-ments are completed. PhD students starting with an MASc or MEng degree must spend a minimum of two years in the program. Transfer students spend a minimum of three years in the program from the date of registration in the MASc program.
- Following acceptance into a PhD program, the student shall undertake a program of study under the guidance of a Doctoral Examination Committee (DEC) which includes the student's supervisor.
- Course work and a thesis which must be based on research conducted while registered for the PhD program. PhD students starting with an MASc or MEng degree require four courses. Transfer students need two courses in addition to the five completed prior to the MASc to PhD transfer for a total of seven courses. All courses must be completed during the first two years in the PhD program.
- A student with a master's degree in a discipline ap-propriate to the field of PhD study is anticipated to complete the PhD program on a full-time basis in less than four years. The anticipated period for transfer students is less than five years from the date of registration in the MASc program. The DEC plays an important role in assisting students to meet this goal.
- Upon thesis completion, the student presents the thesis at a Departmental Doctoral Seminar before de-fending it at the Final Oral Examination as prescribed under the SGS degree regulations in this calendar.
- Prior to convocation, PhD students must prepare at least one formal manuscript, based on the thesis, for publication in refereed journals or refereed confer-ence proceedings.

Courses

This list represents course offerings at the time of publication. Course descriptions are available on the UTIAS Web site.

Aircraft Flight Systems
AER 0503H   Aeroelasticity
AER 1202H   Advanced Flight Dynamics
AER 1211H   Human Control of Flight Systems
AER 1214H   Airplane Dynamics (Flight Laboratory)
AER 1215H   Aerodynamics and Flight Mechanics of Rotorcraft
AER 1220H   Remotely Piloted Flight Vehicles

Aerodynamics, Fluid Dynamics and Propulsion
AER 0510H   Aerospace Propulsion
AER 1301H   Kinetic Theory of Gases
AER 1302H   Viscous Flows and Boundary Layers
AER 1304H   Fundamentals of Combustion
AER 1306H   Special Topics in Reacting Flows
AER 1310H   Turbulence Modelling

AER 1311H   Unsteady Gasdynamics
AER 1312H   High Temperature Compressible Flows
AER 1314H   Dynamics of Dusty Gases (reading course)
AER 1316H   Fundamentals of Computational Fluid Dynamics
AER 1318H   Topics in Computational Fluid Dynamics
AER 1320H   Air-breathing Propulsion

Structures and Multidisciplinary Optimization
AER 0501H   Advanced Mechanics of Structures
AER 1401H   Introduction to Composite Materials
AER 1402H   The Finite Element Method and Applications
AER 1411H   Theory of Composite Materials
AER 1415H   Optimization Concepts and Applications

Space Systems Engineering
AER 0506H   Spacecraft Dynamics and Control I
AER 0525H   Robotics
AER 1503H   Spacecraft Dynamics and Control II
AER 1512H   Multibody Dynamics
AER 1515H   Intelligent Robotics
AER 1520H   Microsatellite Design I
AER 1521H   Microsatellite Design II

Engineering Physics
AER 1705H   Plasma Physics and Fusion Energy
AER 1706H   Fusion Reactor Systems
AER 1716H   Fusion Reactor Materials (reading course)
AER 1717H   Applied Plasma Physics I (reading course)
AER 1720H   Applied Plasma Physics II (reading course)
AER 1725H   Introduction to Surface Analysis

Research Seminars and Professional Courses
AER 1800H   Research Seminar in Aerospace Science and Engineering (for first-year MASc students only)
AER 1810H   MEng Project I (for MEng students only)
AER 1811H   MEng Project II (for MEng students only)
JDE 1000H   Ethics in Research (Students registered in the MASc or PhD programs are required to participate in this non-credit seminar course during their first or second session of registration. This course must be completed in order to graduate.)

Graduate Faculty

Full Members
Tim Barfoot - BASc, PhD
Christopher Damaren - BASc, MASc, PhD, FCASI *(Associate Director & Graduate Coordinator)*
Gabriele D'Eleuterio - BASc, MASc, PhD
Alis Ekmekci - BS, MS, PhD
M. Reza Emami - BSc, MSc, PhD
James Gottlieb - BSc, MSc, PhD, FCASI
Peter Grant - BAS, MASc, PhD
Clinton Groth - BASc, MASc, PhD
Omer Gulder - BSc, MSc, PhD *(Associate Director)*
Anthony Haasz - BASc, MASc, PhD, FCASI
Jorn Hansen - BASc, MASc, PhD

Hugh Liu - BEng, MEng, PhD
Joaquim Martins - MEng, MSc, PhD, Canada Research
  Chair
Lloyd Reid - BASc, MASc, PhD, FCASI, J Armand
  Bombardier Chair in Aerospace Flight
Jean Sislian - MSc, CandPhysMathSci, PhD
Peter Stangeby - BSc, MSc, DipSci, DPhil
Robert Zee - BASc, MASc, PhD
David Zingg - BASc, MASc, PhD, Senior Canada
  Research Chair, FCASI *(Director)*

Members Emeriti
Jacob de Leeuw - DipEng, MS, PhD, FRSC, FCASI,
  FAPS
James DeLaurier - BS, MS, PhD
Peter Hughes - BASc, MASc, PhD, MBA, FCASI, FCAE
Philip Sullivan - BEng, MEng, DIC, PhD, FCASI
Roderick Tennyson - BASc, MASc, PhD, FCASI

Associate Members
James Davis - BASc, MASc, PhD
Jacob Kleiman - BS, MS, PhD

Anthropology   ANT

Faculty Affiliation
Arts and Science

Degree Programs Offered
Anthropology - MA, MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   • Anthropology, MA, MSc, PhD
2. Addiction Studies, see p. 406
   • Anthropology, MA, MSc, PhD
3. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   • Anthropology, MA, MSc, PhD
4. Asia-Pacific Studies, see p. 413
   • Anthropology, MA
5. Dynamics of Global Change, see p. 436
   • Anthropology, PhD
6. Environmental Studies, see p. 443
   • Anthropology, MA, MSc, PhD
7. Ethnic and Pluralism Studies, see p. 445
   • Anthropology, MA, MSc, PhD
8. Global Health, see p. 452
   • Anthropology, PhD
9. International Relations, see p. 458
   • Anthropology, MA
10. Jewish Studies, see p. 460
    • Anthropology, PhD
11. Sexual Diversity Studies, see p. 469
    • Anthropology, MA, MSc, PhD
12. South Asian Studies, see p. 471
    • Anthropology, MA, PhD
13. Women and Gender Studies, see p. 473
    • Anthropology, MA, PhD
14. Women's Health, see p. 478
    • Anthropology, MA, MSc, PhD

Overview
The Department of Anthropology offers research training and courses of instruction in five fields:
1. archaeology
2. linguistic anthropology
3. medical anthropology
4. physical/biological anthropology
5. social-cultural anthropology

The Department offers a **Master of Arts** degree program in all five fields.

The **Master of Science** degree program may normally be taken in three fields: archaeology, medical anthropology, and physical anthropology.

The **Doctor of Philosophy** is primarily a research degree. A program of study is designed for each student to ensure competence in a field of research, culminating in the writing of a thesis. Each student will normally be involved in fieldwork, in the broad meaning of the term, and in theoretical analysis.

Contact and Address
Web: www.chass.utoronto.ca/anthropology
E-mail: anthropology.graduate@utoronto.ca
Telephone: (416) 978-5416
Fax: (416) 978-3217

Department of Anthropology
Room 256, 19 Russell Street
University of Toronto
Toronto, Ontario M5S 2S2
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
• Applicants admitted under the general regulations of the School of Graduate Studies.
• B+ average, or equivalent.
• Applicants must satisfy the Department that they have the appropriate background to enter a particular program of graduate study.
• Two letters of reference.
• A brief statement of interest (not exceeding 1,000 words).

Program Requirements
• Four full-course equivalents which must include ANT 1000H and ANT 2000Y.
• Program normally extends over a 12-month period lasting from September to September. The MA program may also be taken on a part-time basis.

Master of Science

Minimum Admission Requirements
• Applicants admitted under the general regulations of the School of Graduate Studies.
• B+ average, or equivalent.
• Applicants must satisfy the Department that they have the appropriate background to enter a particular program of graduate study.
• Two letters of reference.
• A brief statement of interest (not exceeding 1,000 words).

Program Requirements
• Five full-course equivalents which must include ANT 1000H and ANT 2500Y. Of the remaining 3.5 full-course equivalents, 1.5 will normally be science courses in archaeology, medical anthropology,

physical anthropology, or related disciplines depending on the student's program.

- The MSc is a two-year program that is normally completed by the summer of the second year. The MSc program may also be taken on a part-time basis.

Doctor of Philosophy

Minimum Admission Requirements

- Applicants are admitted under the general regulations of the School of Graduate Studies.
- Admission is offered only to excellent students who, by the time of enrolment, have completed an MA degree in anthropology (or a cognate subject) or who have earned the equivalent of a four-year BA with a concentration in anthropology.
- Undergraduate students with exceptionally strong backgrounds (i.e., with a cumulative GPA of 3.85 or above) may apply for direct entry to the PhD program.
- All applicants are expected to have achieved grades averaging the equivalent of a University of Toronto A- or better in their last full year of study. Most successful applicants will have finished or be in the process of completing an MA or MSc
- Applicants must satisfy the Department that they have the appropriate background to enter a particular program of graduate study.
- Two letters of reference.
- A brief statement of interest (not exceeding 1,000 words).
- Applicants are encouraged to identify departmental members with whom they want to conduct PhD research. The Department regrets that it cannot admit students to the PhD program, regardless of their qualifications, unless a supervisor is available.

Program Requirements

Direct Entry Students
- Students admitted to the PhD program from a BA or BSc degree program are entering a five-year PhD program.
- Five full graduate courses, of which three will normally be taken in the first year. The remaining two courses can be taken in the second year, when work on the research proposal is also expected to begin.
- Attain an annual average of at least A- to continue in the PhD program in good standing.
- Submit research proposal by the end of the third session of the third year (e.g., August 31 for students who start in September).

Entry with a Master's Degree
- Students admitted to the PhD program from a MA or MSc degree program are entering a four-year PhD program.
- Minimum of three full-course equivalents.
- Attain at least an A- average in course work to continue in the PhD program in good standing.
- Submit research proposals by the end of the third session of the second year (e.g., August 31 for students who start in September).

All PhD Students
Before proceeding to full-time research, students must:
- be resident on campus for one year.
- complete a minimum of three full-course equivalents, at least 1.5 of which are normally in anthropology.
- gain experience in research methods and design; requirement can be filled by completing course work in methodology or, with the department's assent, undertaking faculty-supervised fieldwork or laboratory research.
- present and defend a thesis proposal.
- demonstrate an adequate knowledge of at least one language other than English, unless their program of study requires the intensive and time-consuming mastery of another research tool.

Courses

Not all courses are offered every year. Check with the Department for current year's offerings.

General
ANT 1000H	Anthropology: Theoretical Paradigms and Case Studies (Credit/No Credit)
ANT 1001H	Social Theory and Method in Anthropology
ANT 1002H	Evolutionary and Ecological Theory and Method in Anthropology
ANT 1096H	Quantitative Methods I
ANT 1099H	Quantitative Methods II
ANT 1155H,Y+	Research (or reading seminar)
ANT 1156H,Y+	Research (or reading seminar)
ANT 1157H,Y+	Research (or reading seminar)
ANT 1158H,Y+	Research (or reading seminar)
ANT 2000Y°	MA Research Paper
ANT 2500Y°	MSc Research Paper
JAC 1001H	Media, Mind, and Society
JTH 3000H	Coordinating Seminar in Ethnic and Pluralism Studies (for students in the Ethnic and Pluralism Studies Collaborative Program)

Archaeology
JPA 1040Y	Advanced Physics and Archaeology
ANT 4020H	Archaeology Theory and Technique
ANT 4022H	Culture Resource Management
ANT 4025H	Archaeology of Eastern North America

° Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

ANT 4026H   Arctic Archaeology
ANT 4027H,Y Archaeology of Western North America
ANT 4029H   Lithic Technology
ANT 4035H   Far Eastern Culture History
ANT 4037H,Y+   Faunal Archaeo-Osteology
ANT 4038H   Archaeology of Urban Development
ANT 4039H   Origin and Nature of Food Producing
                       Societies
ANT 4040H   Archaeology of Hunter-Gatherers
ANT 4041H   Landscape Archaeology
ANT 4050H   Zooarchaeology
ANT 4060H   Specific Problems: Old World
ANT 4065H   Specific Problems: New World
ANT 4066H   Household Archaeology
ANT 4067H   Historical, Industrial, and Ethnohistoric
                       Archaeology: the Science of Documented
                       Societies
ANT 4068H   Archaeology of Technology

Linguistic Anthropology
JAL 1155H   Language and Gender
JAL 1171Y   Dialectology
ANT 5142Y   Language in Anthropological Thought
ANT 5143Y   Areal Studies in Linguistic Anthropology:
                       Africa, East Asia, North America,
                       Oceania
ANT 5144H   Language and Social Action
ANT 5145H   Classic Texts in Cultural Studies
ANT 5146H   Colonial and Postcolonial Discourses
ANT 5162Y   Ethnography of Communication
ANT 5167H   Language, Ideology, and Political Economy
JSA 5147H   Language, Nationalism and
                       Post-Nationalism

Medical Anthropology
ANT 7001H   Medical Anthropology I
ANT 7002H   Medical Anthropology II

Physical/Biological Anthropology
ANT 3004H   Advanced Topics in Primatology
ANT 3005H   Advanced Topics in Paleoanthropology
ANT 3010H   Human Osteology: Theory and Practice
ANT 3020H   Method and Theory in Paleoanthropology
ANT 3021H   Development of Thought in Biological
                       Anthropology
ANT 3031H,Y Advanced Research Seminar I
ANT 3033H,Y Advanced Research Seminar III
ANT 3034H,Y+Advanced Research Seminar IV
ANT 3040H   Hunter-Gatherers in Evolutionary
                       Perspective
ANT 3041H   Evolutionary Perspectives on Growth and
                       Development
ANT 3042H   Advanced Topics in Primate Ecology
ANT 3043H   Comparative Methods in Biological
                       Anthropology
ANT 3439H   Advanced Seminar in Forensic
                       Anthropology

+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

ANT 3440H   Molecular Anthropology: Theory and
                       Practice

Social and Cultural
ANT 6001H   Development of Anthropological Thought I
ANT 6002H   Development of Anthropological Thought II
ANT 6003H   Critical Issues in Ethnography I
ANT 6004H   Critical Issues in Ethnography II
ANT 6010H   Conceptualizing Environments
ANT 6020H   The Political Economy of Global/Local
                       Dialectics
ANT 6021H   Intellectuals and Politics 1903-2003
ANT 6022H   Symbolic Anthropology: Structuralism,
                       Hermeneutics, and Poststructuralism
ANT 6023H   Governmentality, Development and the
                       Improvement of the World
ANT 6024H   Contemporary Trends in Anthropological
                       Theory
ANT 6025H   Anthropology and Epistemology
ANT 6026H   Anthropology of Identity and Subject
                       Formation
ANT 6027H   Anthropology of Violence
ANT 6028H   Emerging Themes in Anthropology
ANT 6031H,Y Advanced Research Seminar I
ANT 6033H,Y Advanced Research Seminar III
ANT 6034H,Y Advanced Research Seminar IV
ANT 6037H,Y Advanced Research Seminar VII
ANT 6038H,Y+Advanced Research Seminar VIII
ANT 6040H   Approaches to Fieldwork I
ANT 6041H   Approaches to Fieldwork II
ANT 6050H   Reading Course in Specific Area and
                       Theory I
ANT 6052Y   Reading Course in Specific Area and
                       Theory III
ANT 6054H   Reconfiguring Kinship (Studies):
                       Conceiving Relatedness in the Twenty-
                       first Century
EAS 1603H   Anthropology of South Korea
JAR 6053H   Aboriginal Religion in Comparative
                       Experience
JAR 6054H   The Anthropology of Religious Experience

Graduate Faculty

Full Members
Gavin Alderson-Smith - MA, PhD
Sandra Bamford - BA, MA, MA, PhD
Edward Banning - BA, MA, PhD
Joshua Barker - BA, MA, PhD
David Begun - MA, PhD
Janice Boddy - BA, MA, PhD, FRSC *(Chair)*
Michael Chazan - BA, MA, PhD
Gary Coupland - BA, MA, PhD
Gary Crawford - BSc, MA, PhD
Hilary Cunningham - BA, MA, PhD
Marcel Danesi - BA, MA, PhD, FRSC

George JS Dei, BA, MA, PHD
Martin Paul Evison - PHd
T Max Friesen - BA, MA, PhD
Gillian Gillison - BA, PhD
Monica Heller, BA, MA, PHD
Ivan Kalmar - BA, MA, PhD
Michael Lambek - BA, MA, PhD, FRSC, Canada
  Research Chair
Martha Latta - BA, MA, PhD
Shawn Lehman - BA, MA, PhD
Michael Levin - BA, MA, PhD
Tania Li - BA, PhD , CRC
Hy Van Luong - BA, MA, PhD
Bonnie McElhinny - BA, MA,PhD
Heather Miller - BA,MSc,MA,Phd *(Coordinator of
  Graduate Studies)*
Valentina Napolitano - BSc, PhD
Esteban Parra - BA,MSc,PhD
Susan Pfeiffer - BA, MA, PhD
Tracy Rogers - BA,MA,PhD
Todd Sanders - BA,MA,MSc,PhD
Shiho Satsuka - BA, MA, PhD
Lawrence Sawchuk - BA, MA, PhD
Daniel Sellen - BA, MA, PhD, CRC
Jack Sidnell - BA,MA,PhD
Krystyna Sieciechowicz - BA, MA, PhD
Becky Sigmon - BA, MS, PhD
David Smith - PhD
Je Sook Song - BA, PHD
David Turner - BA, MA, PhD
Holly Wardlow - BA, MPH,PhD
Kue Young - BSc,MD,MSc,PhD,FRCPC,LMCC
Ezra Zubrow - BA, MA, PhD

Members Emeriti
Frances Burton - BSc, MA, PhD
Peter Carstens - BA, PhD
Robert Drewitt - PhD
Maxine Kleindienst - BA, MA, PhD
Richard Lee - BA, MA, PhD, FRSC, University Professor
Jamshed D Mavalwala - BS, MS PhD
Shuichi Nagata - MA, PhD
Stuart Philpott - BA, MA, PhD
Ajit Ray - BSc, MSc, PhD
Henry Rogers - BA, MA, PhD
William Samarin - BA, PhD
Robert Shirley - BA, MA, PhD
Rosamond Vanderburgh

Associate Members
Dylan Clark - PHd
Girish Daswani - BA, BSc, MSc, PhD
Prakruti Dave - BA, MA, PhD
Jennifer Jackson
Helen Kurki - PhD
Lena Mortensen - AB, PhD
Joyce Parga - BSc, MA, PhD
Chen Shen - BA, MA, PhD
Wen Ching Sung - PhD MS BA

Architecture, Landscape, and Design

Faculty Affiliation
Architecture, Landscape, and Design

Degree Programs Offered
Architecture, MArch
Landscape Architecture, MLA
Urban Design, MUD

Collaborative Programs Offered
Degree programs that participate in:
1. Knowledge Media Design, see p. 462
   - Architecture, MArch
   - Landscape Architecture, MLA
   - Urban Design, MUD

Overview
The Faculty of Architecture, Landscape, and Design offers three graduate programs.

The **Master of Architecture** (MArch) is a professional degree program and provides a thorough base of knowledge in history, theory, technology, ecology, society, and professional practice, while developing skills in design through an intensive sequence of design studio courses. These are supported by courses in visual communication and architectural representation including computer modelling and other new media. The program aims to develop critical, creative, and independent thinking and research that responds to current design issues and societal changes. The Greater Toronto region is used as an urban laboratory for the development of new knowledge and forms of practice.

The **Master of Landscape Architecture** (MLA) is a professional program which focuses on urban landscape architecture, design, and theory within a challenging studio-based curriculum. Integrated courses in history, technology, and the environment, as well as options for free electives, provide a comprehensive professional landscape architecture education.

The **Master of Urban Design** (MUD) is a post-professional program which prepares architects and landscape architects for design-based research and professional practice at the urban and regional scales. The MUD program is committed to design as a primary medium of operation and research in a broad intellectual framework that includes geography, environmental studies, social sciences, media studies, economics, and engineering. It aims for responsible and creative design in the context of the post-metropolis, with attention to new paradigms of urbanization, global economic restructuring, and information technology. The program emphasizes a coherent intellectual approach that is committed to analysis and critique and seeks to become the central Canadian forum for advanced research, design innovation, scholarship, criticism, and debate in urban design.

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University of Toronto
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Degree Progams

Architecture

Master of Architecture

Minimum Admission Requirements

3.5-year program
- Four-year bachelor's degree (BA, BSc, BASc) with a final year grade point average of at least mid-B, and showing leadership potential in the field.
- **Required:** courses in secondary calculus, secondary physics, and university architectural history (0.5 full-course equivalent).
- **Recommended:** preparation in the visual arts, such as drawing, sculpture, graphics, photography, film, or new media, as well as computing and advanced writing skills.

Second Year Advanced Standing Option in MArch – 2.5-year program
- Four-year non-professional bachelor's degree in architectural studies, environmental design, or comparable degree focusing on the built environment.
- Admission to the advanced standing option is based on the merits of the student's overall academic background and strength of design portfolio as evaluated by the MArch admissions committee. Each MArch applicant with a suitable undergraduate degree will be evaluated for this option during the admissions process.
- **Required:** minimum previous completion of three design studio courses, two courses in visual communications or representation, two courses in architecture history and theory (one in twentieth-century), and two courses in architectural technology and ecology.

Post-Professional Advanced Standing Option in MArch – 1.5-year program
- A post-professional advanced standing option is available for students who are interested in pursuing advanced studies in architecture beyond their professional degree.

- Applicants must have completed all requirements for an accredited professional degree from a recognized university.
- Students enter the third-year of the MArch program.
- The Post-Professional Advanced Standing Option does not grant a professionally accredited degree.

General Program Requirements

- The course of study is rigorous and comprehensive, preparing graduates for the full range of professional activities in architecture. The core program is extensive, and students are required to use their electives to develop an area of special skill and knowledge through an independent study program that culminates in a design thesis.
- Students study full-time, taking all required courses in each given session. A B- grade in two design studio courses or a B- grade in any three courses normally results in a recommendation to the School of Graduate Studies to terminate the student's eligibility in the degree program.
- There is no language requirement other than proficiency in English. Writing support is integrated into the program in order to develop specialized skills in writing which are essential to effective learning and communication in the design fields.

Specific Program Requirements

3.5-year program
- Students must take a total of 17.5 full-course equivalents (FCE) as follows:
  - o 15.0 FCE in core courses
    - o 4.0 FCE design studios
    - o 2.0 FCE option design studios
    - o 0.5 FCE thesis preparation and research course
    - o 1.5 FCE design thesis
    - o 1.0 FCE visual communications courses
    - o 1.0 FCE history theory courses
    - o 0.5 FCE computer modelling course
    - o 3.5 FCE technics and planning courses
    - o 1.0 FCE professional practice course
  - o 2.5 FCE in electives of which 1.0 FCE must be in the History and Theory stream
- The program is normally completed in 7 sessions (3.5 years) of full-time study; the maximum time limit to complete degree requirements is 6 years.

Second Year Advanced Standing Option – 2.5-year program
- Students must take a total of 12.5 full-course equivalents (FCE) as follows:
  - o 10.0 FCE core courses
    - o 2.0 FCE design studios
    - o 2.0 FCE option design studios
    - o 0.5 FCE thesis preparation and research course
    - o 1.5 FCE design thesis
    - o 0.5 FCE computer modelling course

    - o 2.5 FCE technics and planning courses
    - o 1.0 FCE professional practice course
  - o 2.5 FCE elective courses of which 1.0 FCE must be in the History and Theory stream
- The program is normally expected to be completed in 5 sessions (2.5 years) of full-time study; the maximum time limit to complete degree requirements is 5 years.

Post-Professional Advanced Standing Option – 1.5-year program
- Students must take a total of 7.5 full-course equivalents (FCE) as follows:
  - o 4.5 FCE core courses
    - o 2.0 FCE option design studios
    - o 0.5 FCE proseminar course
    - o 0.5 FCE thesis preparation and research course
    - o 1.5 FCE design or research thesis
  - o 3.0 FCE elective courses
- The program is normally completed in 3 sessions (1.5 years) of full-time study; the maximum time limit to complete degree requirements is 4 years.

Courses

Core Courses

Design
ARC 1011Y   Architectural Design Studio 1: Design
ARC 1012Y   Architectural Design Studio 2: Site, Building, Tectonics
ARC 2013Y   Architectural Design Studio 3: Culture and the Metropolis
ARC 2014Y   Architectural Design Studio 4: Comprehensive Building Project
ARC 3015Y   Architectural Design Studio 5: Option Studios
ARC 3016Y   Architectural Design Studio 6: Option Studios
ARC 3017H   Thesis Research and Preparation
ARC 4018Y   Architectural Design Studio 7: Thesis

Computer Modelling
ARC 2023H   Intermediate Computer Applications in Architecture

Visual Communication
ARC 1021H   Visual Communication 1
ARC 1022H   Visual Communication 2

History and Theory
ARC 1031H   Historical Perspectives on Topics in Architecture 1
ARC 1032H   Historical Perspectives on Topics in Architecture 2

Technics and Planning
ARC 1041H   Architecture in its Technological-Ecological
            Context
ARC 1042H   Site Engineering and Ecology
ARC 2043H   Building Science, Materials and
            Construction 1
ARC 2044H   Structures 1
ARC 2045H   Building Science, Materials and
            Construction 2
ARC 2046H   Structures 2
ARC 2047H   Environmental Systems

Proseminar
ALA 3031H   Proseminar

Professional Practice
ARC 3052Y   Professional Practice

Elective Courses

Not all elective courses are offered every year. Please check the timetable available from the program office in August.

Design
ARC 1013H   Graphic Design
ARC 1014H   Furniture Design
ARC 1015H   Set Design for Television
ARC 1016H   Selected Topics in Industrial Design
ARC 2015H   Global Architecture: Urban Analysis and
            Documentation

Computer Modelling
ARC 3024H   Advanced Computer Applications in
            Architecture

History and Theory
ARC 1033H   Architecture, Media and Communications
ARC 1034H   Architecture, Philosophy, Art
ARC 1035H   Toronto Architecture and Urban Form
ARC 1036H   Architectural Criticism
ARC 1037H   Topics in Architecture and Cultural
            Difference
ARC 1038H   Urban Design History and Theory
ARC 1039H   Housing Design: Theory and Practice
ARC 2031H   (Re)Constructing Domesticity: Ideas and
            Techniques of Construction in Mid-
            Century North American Houses
ARC 2032H   Architecture after 1945
ARC 2034H   Architectural Heritage Conservation
ARC 2039H   Architecture Theory
ARC 3031H   Landscape Infrastructure
ARC 3032H   Mies van der Rohe
ARC 3033H   Selected Topics in Architectural History and
            Theory
ARC 3034H   Selected Architects
ARC 3035H   Selected Topics in Urban Design
ARC 3036H   Current Art in Its Urban Context
ARC 3038H   Global Architecture: History and Theory
ARC 3039H   Independent Study and Research in
            Architecture

Technics and Planning
ARC 3041H   Selected Topics in Architecture,
            Technology, Ecology
ARC 3042H   Sustainable Architecture

Professional Practice
ARC 4053H   Topics in Professional Practice

Landscape Architecture

Master of Landscape Architecture

Minimum Admission Requirements

3-year program
- Four-year bachelor's degree (BA, BSc, BASc, BES, BFA, BCom) with a minimum average of mid-B and demonstrated leadership potential in the field. Preference is given to applicants who have completed a balanced undergraduate education that includes study in the arts, sciences, and humanities.
- **Recommended:**
  - undergraduate courses in biology/ecology, geography, English, and history.
  - preparation in the visual arts, such as drawing, sculpture, graphics, photography, film, or new media, as well as in computing and advanced writing.

Second Year Advanced Standing Option in MLA – 2-year program
- Four-year or five-year bachelor's degree in architecture, architectural studies, environmental design, or comparable degree focusing on the design of the built environment.
- Admission is based on the merits of the applicant's overall academic background and strength of design portfolio as evaluated by the MLA admissions committee. Each applicant with a suitable undergraduate degree will be evaluated for this option during the admissions process.
- **Required:** minimum previous completion of three design studio courses, two courses in visual communications or representation, two courses in architectural history and theory (one in twentieth-century), and two courses in architectural technology and/or ecology.

Post-Professional Advanced Standing Option in MLA – 1-year program
- A post-professional advanced standing option is available for students who are interested in pursuing advanced study beyond their professional degree.
- Applicants must have completed all requirements for an accredited professional degree from a recognized university.
- Students enter the third-year of the MLA program
- The Post-Professional Advanced Standing Option does not grant a professionally accredited degree.

General Program Requirements

- Students study full-time, taking all required courses in each given session. A B- grade in two design studio courses or a B- grade in any three courses normally results in a recommendation to the School of Graduate Studies to terminate the student's candidacy for the degree program.
- There is no language requirement other than proficiency in English. Writing support is integrated into the program in order to develop specialized skills in writing which are essential to effective learning and communication in the design fields.

Specific Program Requirements

3-year program
- Students must take a total of 15.5 full-course equivalents (FCE) as follows:
  - 14.0 FCE in core courses
    - 4.0 FCE design studios
    - 1.0 FCE option design studio
    - 0.5 FCE thesis preparation and research course
    - 1.5 FCE design thesis
    - 0.5 FCE environment field courses
    - 1.5 FCE history theory courses
    - 1.5 FCE visual communication courses
    - 0.5 FCE computation course
    - 1.5 FCE technology courses
    - 1.0 FCE environment courses
    - 0.5 FCE professional practice course
  - 1.5 FCE in electives of which it is recommended that 1.0 FCE be taken in other academic divisions of the University.
- The program normally is completed in 6 sessions (3 years) of full-time study; the maximum time limit to complete degree requirements is 6 years.

2-year program - Second Year Advanced Standing Option in MLA
- Students must take a total of 10.5 full-course equivalents (FCE) as follows:
  - 10.5 FCE in core courses
    - 2.0 FCE design studios
    - 1.0 FCE option design studio
    - 0.5 FCE thesis preparation and research course
    - 1.5 FCE design thesis
    - 0.5 FCE environment field courses
    - 1.5 FCE history theory courses
    - 0.5 FCE visual communication courses
    - 0.5 FCE computation course
    - 1.0 FCE technology courses
    - 1.0 FCE environment courses
    - 0.5 FCE professional practice course
- The program normally is completed in 4 sessions (2 years) of full-time study; the maximum time limit to complete degree requirements is 5 years.

1-year program - Post-Professional Advanced Standing Option in MLA
- Students must take a total of 5.0 full-course equivalents (FCE) as follows:
  - 5.0 FCE in core courses
    - 1.0 FCE option design studio
    - 0.5 FCE proseminar course
    - 0.5 FCE thesis preparation and research course
    - 1.5 FCE design thesis
    - 0.5 FCE computation course
    - 0.5 FCE technology course
    - 0.5 FCE professional practice course
- The program normally is completed in 2 sessions (1 year) of full-time study; the maximum time limit to complete degree requirements is 4 years.

Courses

Core Courses

Design
LAN 1011Y   Design Studio 1
LAN 1012Y   Design Studio 2
LAN 2013Y   Design Studio 3
LAN 2014Y   Design Studio 4
LAN 3015H   Thesis Research and Preparation
LAN 3016Y   Design Studio Options
LAN 3017Y   Design Studio Thesis

Computation
LAN 3025H   Advanced Computation in Landscape Architecture

Visual Communication
LAN 1021H   Visual Communication 1
LAN 1022H   Visual Communication 2
LAN 2023H   Intermediate Digital Visual Communications in Landscape

History and Theory
LAN 1031H   History Theory Criticism 1
LAN 1032H   History Theory Criticism 2
LAN 2018H   Contemporary Issues in Urban Landscape Design

Technology
LAN 1045H   Site Engineering and Ecology
LAN 2042H   Urban Site Technologies 1
LAN 3045H   Urban Site Technologies 2

Environment
LAN 1041H   Urban Plant Ecosystems 1 (field course)
LAN 1043H   Urban Plant Ecosystems 2 (field course)
LAN 2043H   Integrated Ecological Studies
LAN 2044H   Urban Environmental Systems

Proseminar
ALA 3031H   Proseminar

Professional Practice
LAN 3051H   Professional Practice

Elective Courses

Not all elective courses are offered every year. Please check the timetable available from the program office in August.

Design
LAN 1033H   Urban Landscape Architecture and Community
LAN 1034H   Landscape and Art
LAN 1035H   Urban Open Space Morphologies and Typologies
LAN 2033H   Landscape and Urban Form
LAN 2035H   Landscape Design Research Methods

Computation
LAN 2034H   Landscape Architecture and Digital Communications

History and Theory
LAN 1036H   The Historic Basis for the Contemporary Use of Plants in Landscape Design
LAN 2036H   Topics in Landscape History and Theory
LAN 2038H   Landscape Conservation and Restoration
LAN 2039H   Independent Study in Landscape Architecture
LAN 3031H   Mass-Urbanization in the Twenty-First Century
LAN 3033H   The Landscape Garden in History, Literature and Art
LAN 3034H   Life Among the Ruins: Post-Crisis Scenarios

Environment
LAN 2037H   Selected Topics in Landscape Architecture, Technology and Ecology

Urban Design

Master of Urban Design

Minimum Admission Requirements

2-year program
- Professional degree in architecture (BArch or MArch) or landscape architecture (BLA, MLA). Applicants with a degree in urban planning (MCP, MUP, or MScPl) may be considered for admission if their studies included a design specialization or if they have professional design experience.
- All applicants must submit a portfolio of design work for review. Applicants with a planning background may also satisfy the design requirement by taking a preliminary make-up year in design in the Faculty of Architecture, Landscape, and Design.

General Program Requirements

- *Students study full-time, taking all required courses in each given session. A B- grade in two design studio courses or a B- grade in any three courses will normally result in a recommendation to the School of Graduate Studies to terminate the student's candidacy for the degree program.*
- There is no language requirement other than proficiency in English. Writing support is integrated into the program in order to develop specialized skills in writing which are essential to effective learning and communication in the design fields.

Specific Program Requirements
- Students must take a total of 10.0 full-course equivalents (FCE) as follows:
  o 7.0 FCE in core courses
     o 1.0 FCE design studio
     o 2.0 FCE option design studio
     o 0.5 FCE thesis preparation and research course
     o 1.5 FCE design thesis
     o 0.5 FCE history, theory, criticism course
     o 1.5 FCE other courses
  o 3.0 FCE in electives of which 1.0 FCE must be selected from offerings in the History, Theory, and Criticism category.
- The program normally is completed in 4 sessions (2 years) of full-time study; the maximum time limit to complete degree requirements is 5 years.

Courses

Core Courses

Design
URD 1011Y   Urban Design Studio
URD 1012Y   Urban Design Studio Options
URD 2012Y   Independent Studio in Urban Design
             (may be undertaken in lieu of an option studio)
URD 2013Y   Urban Design Studio Options
URD 2015Y   Urban Design Studio Thesis

History, Theory, Criticism
URD 1031H   Urban History, Theory, Criticism

Other
URD 1021H   Urban Design Computation
URD 1044H   Urban Design and Development
URD 2014H   Thesis Research and Preparation
URD 2041H   Planning and Real Estate Development

Elective Courses

Not all elective courses are offered every year. Please check the timetable available from the program office in August.

History, Theory, Criticism
URD 1032H   Urban Design in the History of the Post-
                 Industrial World
URD 1033H   Urban Design Culture and Media
URD 1034H   Toronto – Urban Design and Urban Form
URD 1035H   Selected Topics in Urban Design
URD 1036H   Case Studies in Urban Design
PLA 1650H   Urban Design: History, Theory, Criticism

Other
URD 1022H   Topics in Computer-Aided Urban Design
URD 1041H   Urban Infrastructure in Developing
                 Countries
URD 1042H   Urban Design and Environmental Systems
URD 1043H   Independent Study in Urban Design

Graduate Faculty

Full Members
George Baird - BArch, AM (Hon), OAA, FRAIC *(Dean)*
Rodolphe El-Khoury - BFA, BArch, MScAS, MArch, PhD
Larry Richards - BArch, MArch

Members Emeriti
Blanche van Ginkel - BArch, MCP

Associate Members
Pierre Belanger - BLA, MLA
Tom Bessai - BArch, MArch, BA
Adrian Blackwell - BES, BArch, MUD
David Bowick - BEng
David Carter - MA, MArch
Aziza Chaouni - BSCCE, MARCH
Rebecca Comay - BA, MA, PhD
Robert Cordner - BArch
John Danahy - BLA, CUrbDes, MScUrb&DesPl
Edward Fife - BLA, MLA
Steven Fong - BArch, MArch
Margaret Graham - BES, BARCH, MDesign Studies
Paul Hess - BA, MUP, PhD
Jane Hutton - BSc, MLA
Dieter Janssen - BArch(Hons), MArch
Andrew Jones - BArch, MA(RCA)
Ted Kesik - BASc, MASc, PhD, PEng
Robert Levit - BA, MArch
David Lieberman - BFA (Cal Arts), AA Dipl (London)
An Te Liu - BA, MArch
Mary Lou Lobsinger - BA, BES, BArch, MDes, PhD
Christos Marcopoulos - BArch
Carol Leila Moukheiber - BArch, BArts
Diarmuid Nash - MArch, BArch
Alissa North - BLA, MLA
Peter North - BLA, MLA
Andrew Payne - BA, MA, PhD
Pina Petricone - BArch, MArch
James Roche - BFA, MLA
Barry Sampson - BArch
Elise Shelley - MLA, MArch, BS Arch,
Brigitte Shim - BES, BArch

John Shnier - BES, BArch
Liza Stiff - BFA Hons, MArch
Kevin Sugden - BSc, BES, BArch
Charles Waldheim - BDes (Hons), MArch
Mason White - BArch, MArch
Shane Robert Williamson - BSc (Arch), MArch
 (Coordinator of Graduate Studies)
Robert Wright - BScRec, MLA
Peter Zimmerman - BES, BA

Art

Faculty Affiliation
Arts and Science

Degree Programs Offered
History of Art – MA, PhD
Visual Studies – MVS

Collaborative Programs Offered
Degree programs that participate in:
1. Book History and Print Culture, see p. 424
   - History of Art, MA, PhD
   - Visual Studies, MVS
2. Jewish Studies, see p. 460
   - History of Art, PhD
3. Knowledge Media Design, see p. 462
   - Visual Studies, MVS
4. Sexual Diversity Studies, see p. 469
   - History of Art, MA, PhD
   - Visual Studies, MVS

Overview
The **Master of Arts** program is a course-based and research-intensive degree designed to prepare history of art students for curatorial work, art consultation, heritage programs, cultural journalism, secondary school teaching, and doctoral research.

The **Doctor of Philosophy** program is designed to prepare history of art students for college and university teaching, museum curatorships, and other research positions.

The **Master of Visual Studies** is a two-year, full-time professional program with two fields: Studio (which prepares students to further their visual art practice) and Curatorial Studies (which prepares students for a contemporary curatorial practice in the visual arts).

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Canada

Degree Programs

History of Art

Master of Arts

Minimum Admission Requirements
- Strong overall grade average in history of art and closely related subjects, with at least B+ average in recent senior art history courses. Outstanding applicants with other backgrounds may be considered.

Program Requirements
- 3.0 graduate full-course equivalents (FCE); course work must be chosen from at least three of four areas: Ancient, Medieval, Renaissance/Baroque, Modern/Contemporary. No more than 2.0 FCE may be taken in any one of these areas. The equivalent of 1.0 FCE may be taken in another graduate department (e.g., Medieval Studies, Near and Middle Eastern Civilizations), subject to the approval of the Department of Art and the other department concerned.
- Reading knowledge of French, German, or Italian; tested in the first session.
- Orientation to Art Historical Research Methods in first year.
- Program normally completed in one year.

Doctor of Philosophy

Minimum Admission Requirements
- Minimum A- average in MA
- Direct-entry from BA with exceptionally strong academic record; minimum grade average of A- in art history and humanities courses in last two years.
- Reading knowledge of French, German, or Italian; tested in the first session.
- One or more additional language(s) may be required; students unable to meet language requirements for particular courses may be refused admission to courses; enrolment in all courses is limited and subject to instructor's approval.
- Students without a MA in Art from U of T may be required to complete at least 1.0 additional full-course equivalent (FCE).
- Acceptance limited to students who propose theses corresponding to research expertise of faculty. See faculty research profiles at www.art.utoronto.ca/people/art-history/graduate-faculty/index_html
- Orientation to Art Historical Research Methods in first year.

Program Requirements
- **Students with MA** take at least 2.0 full-course equivalent (FCE) graduate courses. MA and PhD courses combined should be in three of the following four areas: Ancient, Medieval, Renaissance/Baroque, Modern/Contemporary. Courses crossing boundaries will count as one area only.
- **Students with four-year BA** must take a minimum of 4.5 FCE in art history and maintain an average grade of at least an A-
- Departmental methodology course; with departmental approval, credit may be given for a course taken previously at U of T or elsewhere
- Comprehensive examinations, the first focusing on one of the four areas, the second on the dissertation field, and the third (oral) discussing the first two.
- Following successful completion of comprehensive examinations, students must formally establish their PhD Advisory Committee and develop a detailed proposal for their research
- Pass examinations in two languages (German, French, or Italian) if not already done so in the MA. Students focusing on Ancient, Medieval, and Renaissance/Baroque will normally be expected to pass the examination in German as one of their two languages. Additional languages may be required depending on research needs of student's dissertation topic.

Courses
Not all courses are offered each year. Check departmental Web site for course availability.

Methods
FAH 1001H   Methods of Art History

Ancient
FAH 2006H   Art and Archaeology of the Prehistoric Aegean
FAH 2007H   Archaeology of Homer
FAH 2009H   Art and Archaeology of Prehistoric Cyprus
FAH 2012H   The Appliance of Science: Art, Archaeology, and Science
FAH 2014H   Greeks and the East
FAH 2015H   The Arts of Fifth-Century Athens
FAH 2016H   First Civilizations: East Mediterranean Prehistory
FAH 2019H   Greek Sculpture
FAH 2020H   Attic Vase Painting
FAH 2030H   Rome's Monumental Topography
FAH 2032H   History and Myth
FAH 2033H   Triumphal Forms
FAH 2034H   Topics in Roman Imperial Art
FAH 2035H   Hellenistic Naturalism and Its Roman Legacy
FAH 2039H   The Roman Reception of Greek Art: Image Transfer and Cultural Translation
FAH 2040H   Monument and Epitaph
FAH 2050H   Roman Portraiture
FAH 2055H   The Art of Late Antiquity

Medieval
FAH 1120H   Problems in Patronage
FAH 1121H   Twelfth-Century Renaissance?
FAH 1122H   Crusaders in the East: Art and Life
FAH 1123H   The Art of the Medieval Book
FAH 1124H   Byzantine Church Decoration
FAH 1125H   Problems in Medieval Pilgrimage
FAH 1126H   Exceptional Cities of the Middle Ages
FAH 1127H   Early Medieval Art
FAH 1128H   Byzantine Art and the West
FAH 1130Y   The Classical Tradition in Western Medieval Art
FAH 1131H   Profane Medieval Art
FAH 1134H   Communal Painting and Propaganda in Italy During the Thirteenth and Fourteenth Centuries
FAH 1135H   Naples in the Later Middle Ages
FAH 1141H   Words and Images in Medieval Art
FAH 1171H   Beginning of Modernism: From Images to Pictures
FAH 1172H   Medieval Visualizations of "Reality": Life, War, and Death
FAH 1200H   Crusader Art
FAH 1228H   Representation, Information, and Interpretation of Medieval Pictures

Renaissance and Baroque
FAH 1209H   Art and Anachronism in the Renaissance
FAH 1211H   The Altarpiece in Renaissance Italy
FAH 1212H   The Institution of the Work of Art
FAH 1213H   Art Historiography in Italy, 1550-1750
FAH 1215H   History of Bad Art from Gothic to Rococo
FAH 1218H   Michelangelo
FAH 1219H   Renaissance Art Discovers the Icon
FAH 1226H   Architecture and Alchemy Before Modernism
FAH 1241H   The Artist's Body
FAH 1240H   Art Biography
FAH 1243H   The Economic Lives of Renaissance and Baroque Artists
FAH 1245H   Pieter Bruegel and Netherlandish Sixteenth-Century Painting
FAH 1246H   Renaissance Gothic
FAH 1249H   Margaret of Austria and the Renaissance in the Netherlands
FAH 1250H   Renaissance Sculpture and Architecture in the Netherlands
FAH 1255H   Caravaggio
FAH 1280H   Art and Reform in Early Sixteenth-Century Italy
FAH 1285H   The Art and Architecture of the Counter Reformation
FAH 1288H   Gianlorenzo Bernini
FAH 1290H   The Jesuit Baroque
FAH 1291H   Architecture, Language, and Literature
FAH 1292H   Devotional Spaces in Early Modern Europe
FAH 1293H   Architecture of the English Renaissance and Baroque

Modern/Contemporary
FAH 1300H French Architectural Theory, 1700-1900
FAH 1305H Administrations, Collectors, and Dealers in France, 1648-1824
FAH 1310H History Painting in France, 1648-1824
FAH 1311H Prints and the Ancien Régime
FAH 1320H Orientalism in French Nineteenth-Century Painting
FAH 1410H Artwriting, Past and Present
FAH 1420H Theories of the Sublime in Art
FAH 1455H The Paris Salon, 1784-1900
FAH 1465H Orientalism
FAH 1468H The Enemies of Impressionism
FAH 1472H Photography in South Asia
FAH 1474H Avant-Garde, Neo-Avant-Garde
FAH 1475H Picasso
FAH 1476H Surrealism and Post-World War II Art in Europe, the United States, and Canada
FAH 1477H Psychoanalysis and the Visual
FAH 1478H Art and Animation
FAH 1480H Art Before and After Modernity
FAH 1490H Art and Intersubjectivity
FAH 1492H Retreating the Aesthetic
FAH 1493H Queer Sexuality, Visuality & Theory
FAH 1494H The Archive: Logics, Limits, Remains
FAH 1510H Contemporary Theories of Photography
FAH 1515H Photography and Community
FAH 1520H Photography and Modernism
FAH 1751H Architectural Literature in the Nineteenth and Twentieth Centuries
FAH 1752H The Circulation of Architectural Knowledge
FAH 1800H James Wilson Morrice
FAH 1801H Portraiture in Canada, 1760-1860: Painting into Photography
FAH 1850H Cornelius Krieghoff: Images of Canada
FAH 1870H Recent Canadian Art in International Perspective
FAH 1901H Tom Thomson
FAH 1910H Contemporary Art of South Asia and Its Diaspora
FAH 1920H Primitivism to Globalism: Theories of Otherness in Modern and Contemporary Arts
FAH 1921H GeoAesthetics: Nature, Landscape and the Earth in Recent Art and Theory
FAH 1922H Realms of Exile
FAH 1923H Modernist Exiles in Postcolonial Perspective
FAH 1924H Icon, Artwork, Fetish
FAH 1925H Spectatorship and Narrative: The Politics of Exhibiting
FAH 1930H Issues in the History of Contemporary Art after 1960
FAH 1931H Contemporary Art: Theory and Criticism
FAH 1952H From Steppe to City: Art of the Mongols in China
FAH 1953H Chinoiserie: China and Her Arts in the European Imagination
FAH 1954H Mimesis, Perspective, Vanguardism, Text, and Other Strategies of Seeing Through Chinese Painting

FAH 1955H Decoding Chinese Painting
FAH 1970H The Art of Confrontation: Chinese Visual Culture in the 20th and 21st Centuries

Exhibitions, Collections, and Museums
FAH 3004H Special Studies in Collections
FAH 3010H,Y Art and the Museum

Reading Courses
FAH 3000H,Y Special Studies in History of Art (Only one full-course equivalent with this prefix is permitted in any one degree program.)
FAH 3011H Readings in Ancient Art (Credit/No Credit)
FAH 3012H Readings in Medieval Art (Credit/No Credit)
FAH 3013H Readings in Renaissance and Baroque Art (Credit/No Credit)
FAH 3014H Readings in Modern and Contemporary Art (Credit/No Credit)

Research Paper
FAH 4000Y Research Paper

Joint Courses with Other Departments
JAI 1000H Joint Ancient Interconnections: The Eastern Mediterranean During the Middle and Late Bronze Age Period (Credit/No Credit)

Undergraduate/Graduate Courses
Periodically, the Department may offer fourth-year undergraduate courses that have been recognized for graduate credit. Please visit the departmental Web Site and discuss with the Graduate Coordinator.

Relevant Courses in Other Departments
EAS 1229H Topics in Chinese Aesthetics
EAS 1339H Topics in Chinese Art Theories
MSL 2050H Artists in the Museum
NMC 2500Y Introduction to Islamic Art and Architecture
NMC 2520H Western Medieval Islamic Architecture
NMC 2521H The Taj Mahal and Its Origins: Medieval Islamic Architecture in Iran, Central Asia, and India
NMC 2526H Islamic Painting
NMC 2527H Islamic Decorative Arts

Visual Studies

Master of Visual Studies: Studio
Master of Visual Studies: Curatorial Studies

Minimum Admission Requirements
- Four-year U of T bachelor's degree (BA, BSc) with significant course work in humanities and cultural theory, or an equivalent degree from another recognized university, or a four-year BFA degree from a recognized university.
- Overall average of at least a B+.

- Exceptional portfolio (comprising artworks or curatorial projects and/or critical writing) from an undergraduate program or a substantial exhibition record that accompanies their portfolio.
- Good command of English. Facility in English language must be demonstrated by all applicants educated outside Canada whose primary language is not English and who graduated from a university where the language of instruction and examination was not English.

Program Requirements
- Full-time program normally extends over two years and begins in September.
- MVS: Studio 4.5 full-course equivalents (FCE) in MVS and 1.5 FCE in outside electives.
- MVS: Curatorial Studies 3.5 FCE in MVS and 2.5 FCE in outside electives
- Student supervised by an Advisory Panel.
- MVS Proseminar, a non-credit course that normally meets biweekly.

MVS Studio Courses

Required 4.5 full-course equivalents
VIS 1001H   Interdisciplinary Studio Practicum/
                    Critiques I
VIS 1003H   Interdisciplinary Studio Practicum/
                    Critiques II
VIS 1004H   Internship
VIS 1010H   Contemporary Art Since 1960
VIS 1020H   Contemporary Art: Theory and Criticism
VIS 2001H   Studio Practicum/Critiques III
VIS 2002H   MVS Contemporary Art Issues
VIS 2003Y   MVS Project

MVS Curatorial Studies Courses

Required 3.5 full-course equivalents
VIS 1101H   Paradigmatic Exhibitions: History, Theory,
                    Criticism
VIS 1010H   Contemporary Art Since 1960
VIS 1020H   Contemporary Art: Theory and Criticism
VIS 1102H   Curatorial Studies Collaborative Project
VIS 1004H   Internship
VIS 2101Y   MVS Curatorial Studies Exhibition Project

Graduate Faculty

Full Members
Christy Anderson
Jill Caskey - AB, MA, MPh, PhD *(Coordinator of Graduate Studies & Associate Chair)*
Mark Cheetham - BA, MA, PhD
Adam Cohen - BA, MA, PhD
Bjorn Ewald
Elizabeth Harney - AB, MA, PhD
George Hawken
Kajri Jain
Louis Kaplan - BA, MA, PhD
Christina Katsougiannopoulou
Ethan Matt Kavaler - BA, MA, PhD
Elizabeth Legge - BA, MA, PhD *(Chair)*
Evonne Levy - MFA, PhD
Sue Lloyd
Tanya Mars
John Massey
Edward Pien
Jennifer Purtle
Dennis Reid - BA, MA
John Ricco - BA, MA, PhD
Linda Safran
Susan Schelle
Philip Sohm - BA, MA, PhD
Lisa Steele *(Graduate Program Director, MVS)*
Alison Syme - PHd
Joanne Tod
Kim Tomczak
Shirley Wiitasalo
Jens Wollesen - PhD, Dr phil habil

Members Emeriti
Luba Eleen
Douglas Richardson - BA, MA, PhD
Giuseppe Scavizzi - PhD
Joseph Shaw - BA, MAT, PhD, DHumLett
Maria Shaw - BA, MA, PhD
Frederick Winter

Associate Members
L Jane Abray - BA, MA, MPh, PhD
Kenneth Bartlett - BA, MA, PhD
Deepali Dewan
Barbara Fischer
David Hlynsky - BFA
Will Kwan - BA, MFA

Astronomy and Astrophysics   AST

Faculty Affiliation
Arts and Science

Degree Programs Offered
Astronomy and Astrophysics - MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Astrophysics, see p. 415
   - Astronomy and Astrophysics , MSc

Overview
The Department of Astronomy and Astrophysics is actively engaged in a wide range of observational and theoretical research on solar system dynamics, stars, stellar systems, the interstellar medium, the Galaxy, galaxies, quasars, clusters of galaxies, cosmology, and problems in general relativity. The Department has close ties with the Canadian Institute for Theoretical Astrophysics (CITA), located in the same building. This association enables our students to consult with leading theorists associated with CITA.

The David Dunlap Observatory (DDO) houses a 1.88-m telescope, the largest in Canada, which is equipped with efficient CCD spectroscopic instruments. Faculty and students enjoy access to the Dupont 2.5-m telescope at Las Campanas under an instrumentation development collaboration with the Carnegie Observatories. We have an active experimental program using telescopes on long-duration stratospheric balloons, telescopes for cosmological and Galactic research.

We also use the major optical, radio, and satellite observing facilities of the world. Of particular importance are the national facilities: the Canada-France-Hawaii optical telescope, the James Clerk Maxwell radio telescope, and the Gemini telescopes located at the world's finest observing sites.

There are approximately 100 faculty, post-doctoral fellows, graduate students, and staff in the Department of Astronomy and Astrophysics and in CITA. Students benefit from direct interactions with the broad range of external speakers invited to weekly seminar programs and colloquia.

Contact and Address
Web: www.astro.utoronto.ca
E-mail: grad.sec@astro.utoronto.ca
Telephone: (416) 978-2016
Fax: (416) 971-2026

Department of Astronomy and Astrophysics
50 St. George Street
University of Toronto
Toronto, Ontario M5S 3H4
Canada

Degree Programs

Degree of Master of Science

Minimum Admission Requirements
- Students are accepted under the general regulations of the School of Graduate Studies. Applicants educated outside Canada should pay particular attention to the English language competency requirements.
- Because many universities do not offer extensive undergraduate training in astronomy and astrophysics, preparation in physics and mathematics is an acceptable background.
- Students are strongly advised to take the verbal, quantitative, and advanced physics tests of the Graduate Record Examination administered by the Educational Testing Service, Princeton

Program Requirements
- 2.0 required full-course equivalents (FCE): AST 1501Y and AST 1500Y, with different supervisors. An oral exam by committee is held for each.
- Minimum of 1.0 FCE (two half-courses) from the AST preparatory, Elective, or Specialized Courses, subject to the approval of the instructor, the student's MSc program committee, and the Department.
- More courses may be taken for credit or audited as appropriate.

Doctor of Philosophy

Minimum Admission Requirements
- Students are accepted under the general regulations of the School of Graduate Studies. Applicants educated outside Canada should pay particular attention to the English language competency requirements.
- Because many universities do not offer extensive undergraduate training in astronomy and astrophysics, preparation in physics and mathematics is an acceptable background.
- Students are strongly advised to take the verbal, quantitative, and advanced physics tests of the Graduate Record Examination administered by the Educational Testing Service, Princeton

Program Requirements
- Normally, the degree program is completed in five years (15 sessions). Students are normally expected to be on campus full time for the duration of the program.
- Students with a MSc degree in astronomy and astrophysics from the University of Toronto, or a MSc degree in another appropriate discipline or from elsewhere deemed equivalent by the Department, may apply for admission to the four-year PhD program. Requirements for the four-year PhD program are identical to those for the five-year program, except for the courses. There is no minimum course require-

ment in the four-year program except for courses deemed necessary by the student's PhD committee.
- 2.0 full-course equivalents (FCE): AST 1501Y and AST 1500Y, with different supervisors. An oral exam by committee is held for each.
- 400*Y (in sequence of the last digit: 2, 3, etc.)
- Written PhD thesis proposal, defended in an oral examination conducted by a panel of faculty members. The intention of this "qualifying examination" is to assess the student's ability and readiness to carry forward and successfully complete independent PhD-level research. This assessment is based on the student's graduate record to date, including graduate lecture courses and research performed, together with the presentation and defense of the proposed PhD thesis.
- A minimum of 2.0 FCE, of which at least 1.0 FCE is selected from the AST Elective or Specialized Courses, subject to the approval of the instructor, the student's PhD program committee, and the Department. More courses may be taken for credit or audited as appropriate.
- A thesis embodying the results of original research which must be submitted for appraisal in accordance with the regulations of the School of Graduate Studies.

Courses

Preparatory Courses
AST 1410H   Stars
AST 1420H   Galactic Structure and Dynamics
AST 1430H   Cosmology
AST 1440H   Radiation Processes and Gas Dynamics

Research Courses
AST 1500Y+ Directed Research
AST 1501Y   Introduction to Research
AST 400*Y+ Research (*Students register each year, beginning in the second year, in sequence of the last digit: 2, 3, etc.)

Elective Courses
AST 2010H   Physics of Stellar Atmospheres
AST 2020H   Physics of Stellar Interiors
AST 2030H   Interstellar Medium and Star Formation
AST 2040H   Extragalactic Astronomy
AST 2050H   Observational Techniques
AST 2060H   General Relativity I: Theory
AST 2070H   General Relativity II: Applications and Cosmology

Specialized Courses
AST 3010H   Advanced Topics in Stellar and Galactic Astronomy I
AST 3011H   Advanced Topics in Stellar and Galactic Astronomy II

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

AST 3020H   Advanced Topics in Interstellar Matter and Star Formation I
AST 3021H   Advanced Topics in Interstellar Matter and Star Formation II
AST 3030H   Advanced Topics in Extragalactic Astronomy and Cosmology I
AST 3031H   Advanced Topics in Extragalactic Astronomy and Cosmology II
AST 3050H   Theoretical Cosmology
AST 3100H   Lecture Series in Specialized Topics (mini courses)

Supplementary Research for PhD Students
AST 3500H   Non-Thesis Research Project in Astronomy/Astrophysics

Graduate Faculty

Full Members
Roberto Abraham - BSc, DPhil
Pawel Artymowicz - MSc, PhD
Charles Bolton - BS, MS, PhD
J Richard Bond - BSc, MS, PhD, FRS, FRSC, OC, Fellow CIAR, Fellow APS, University Professor
Raymond Carlberg - BSc, MS, PhD, Fellow CIFAR
William Clarke - BA, MA, PhD
Charles Dyer - BSc, MSc, PhD
Ray Jayawardhana - BSc, PhD, Canada Research Chair
Lev Kofman - MSc, PhD, Fellow CIAR
John Lester - BA, MS, PhD
Julian Lowman - BSc, MSc, PhD
Peter Martin - BSc, MSc, PhD, FRSC *(Chair)*
Christopher Matzner - AB, MA, PhD
Stefan Mochnacki - BSc, MSc, PhD
Dae-Sik Moon - BSc, MSc, PhD
Norman Murray - BSc, PhD, Canada Research Chair
C. Barth Netterfield - BSc, PhD, Fellow CIFAR
Ue-Li Pen - BSc, MSc, PhD
John Percy - BSc, MA, PhD
Slavek Rucinski - BSc, PhD
Gopalan Srinivasan - BSc, MSc, PhD
Sabine Stanley - BSc Hon, PhD
Christopher Thompson - BS, PhD
Marten van Kerkwijk - MA, PhD
Yanqin Wu - PhD
Howard Yee - BASc, PhD, Canada Research Chair *(Associate Chair, Graduate)*

Members Emeriti
Christine Clement - BSc, MA, PhD
Maurice Clement - BSc, MSc, PhD
John Fernie - BSc, MSc, PhD, FRSC
Robert Garrison - BA, PhD
Ernest Seaquist - BASc, MA, PhD

Associate Members
John Dubinski - BSc, MSc, PhD

Biochemistry   BCH

Faculty Affiliation
Medicine

Degree Programs Offered
Biochemistry - MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomedical Engineering, see p. 418
   - Biochemistry, MSc, PhD
2. Biomolecular Structure, see p. 423
   - Biochemistry, PhD
3. Developmental Biology, see p. 433
   - Biochemsitry, PhD
4. Genome Biology and Bioinformatics, see p. 448
   - Biochemistry, PhD
5. Neuroscience, see p. 466
   - Biochemistry, MSc, PhD

Overview
Biochemistry is the study of the molecular events underlying biological processes. Consequently it makes fundamental contributions to all disciplines concerned with living systems.

The Department offers modern facilities for research leading to the MSc and PhD degrees in a wide variety of areas including the relationship between structure and biological function in proteins, nucleic acids, and lipids as well as complex multi-component systems such as membranes and subcellular organelles.

Contact and Address
Web: biochemistry.utoronto.ca
E-mail: biochemistry@utoronto.ca
Telephone: (416) 978-2702
Fax: (416) 946-8228

Department of Biochemistry
Room 5205, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Normally, minimum B+ average in last two years of study in Honours/Specialist BSc program in Biochemistry/Molecular Biology. Students with strong academic credentials in Honours/Specialist programs in disciplines related to Biochemistry/Molecular Biology also considered.
- Applicant arranges for personal reference forms from three individuals familiar with academic performance.
- Applicants who obtained a degree outside Canada are generally required to have an MSc degree in biochemistry or in a closely related subject area and must arrange for general and biochemistry GRE examination results to be sent to the Department.
- Applicants from outside Canada whose primary language is not English and who graduated from a university where the language of instruction was not English must provide TOEFL (Test of English as a Foreign Language) and TWE (Essay Writing) scores.
  - o Paper-based TOEFL: minimum 580 score and 5 on the TWE.
  - o Computer-based TOEFL: minimum 237 score and 5 on the essay rating component.
  - o Internet-based TOEFL: minimum 93/120 score and 22/30 on the writing and speaking sections.
  - o In the absence of TOEFL results, an IELTS score of at least 7 is also acceptable.

Program Requirements
- Complete any courses that were a condition of acceptance
- Complete one session of BCH 2021H *Selected Topics in Biochemistry*
- Participate in BCH 2020Y[o] *Master's Seminar Course in Biochemistry*.
- Thesis and successful completion of an oral examination on his or her research and related aspects of biochemistry.
- Normally, MSc students are expected to participate as full-time students and to maintain full-time status in their laboratories until thesis completion and final defence.

Doctor of Philosophy

Minimum Admission Requirements
- Applicant arranges for personal reference forms from three individuals familiar with academic performance.
- Applicants who obtained a degree outside Canada are generally required to have an MSc degree in biochemistry or in a closely related subject area and

[o] Courses which may continue over a program. The course is graded when completed.

must arrange for general and biochemistry GRE examination results to be sent to the Department.
- Applicants from outside Canada whose primary language is not English and who graduated from a university where the language of instruction was not English must provide TOEFL (Test of English as a Foreign Language) and TWE (Essay Writing) scores.
  - Paper-based TOEFL: minimum 580 score and 5 on the TWE.
  - Computer-based TOEFL: minimum 237 score and 5 on the essay rating component.
  - Internet-based TOEFL: minimum 93/120 score and 22/30 on the writing and speaking sections.
  - In the absence of TOEFL results, a MELAB score of at least 92 is also acceptable.
- Students accepted into the PhD program through one of three routes:
  1. via reclassification from the MSc program;
  2. on completion of an MSc degree in biochemistry or a cognate discipline;
  3. directly from a BSc if, in the opinion of the Biochemistry Graduate Committee, the student has an outstanding academic record.
- The latter two categories require the student to successfully complete a qualifying examination within the first 18 months.

Program Requirements
- Complete any courses that were a condition of acceptance.
- Complete 1.5 internal or external (from cognate departments) graduate-level courses, including at least one session of BCH 2021H *Selected Topics in Biochemistry*,
- Participate in BCH 2022Y° *Doctoral Seminar Course in Biochemistry*.
- Submit a thesis and defend it at a School of Graduate Studies oral examination.
- Normally, PhD students are expected to participate as full-time students and to maintain full-time status in their laboratories until thesis completion and final defence.

Courses

For course details and availability, consult the Department's Web site.

BCH 1371H   Laboratory Course in Biochemistry (BCH 371)*

* Arts and Science undergraduate course
° Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered

BCH 1422H   Membrane Proteins: Structure and Function—Lectures (BCH 422H)*
BCH 1426H   Regulation of Signalling Pathways—Lectures (BCH 426H)*
BCH 1440H   Protein Biosynthesis—Lectures (BCH 440H)*
BCH 1441H   Bioinformatics (BCH 441H)*
BCH 1471Y   Advanced Biochemistry—Laboratory (BCH 471Y*—prerequisite is BCH 371* or equivalent)
BCH 2020Y°   Master's Seminar Course in Biochemistry (Credit/No Credit)
BCH 2021H   Selected Topics in Biochemistry: Advanced lectures to supplement the above lower-numbered courses in Biochemistry
  Fall 2008: Regulation of Cellular Processes by Post-translational Modification
  Spring 2009: Recent Advances in Biomolecular Imaging
  Fall 2009: Molecular Machines, Biosensors and Nanotechnology
  Spring 2010: Protein Interactions: From Principles of Recognition to Drug Design
BCH 2022Y°   Doctoral Seminar Course in Biochemistry (Credit/No Credit)
JBB 1425H   Structural Biology: Principles and Practice—Lectures (BCH 425H)*
JBB 2025H   Protein Crystallography—Lectures
JBB 2026H   Protein Structure, Folding and Design
JBI 1428H   Molecular Immunology—Lectures (JBI 428H)*
JBL 1507H   Biochemistry of Inherited Disease
JNP 1017H+   Molecular and Biochemical Basis of Toxicology
JNP 1018H+   Current Topics in Molecular and Biochemical Toxicology
JNR 1444Y   Fundamentals of Neuroscience: Cellular and Molecular—Lectures (PSL 444Y)*
JTB 2010H   Proteomics and Functional Genomics
JTB 2020H   Applied Bioinformatics

Graduate Faculty

Full Members
Khosrow Adeli - BSc, MSc, PhD
Liliana Attisano - BSc, PhD, Canada Research Chair
Robert Baker - BSc, PhD
David Bazett-Jones - BSc, MSc, PhD
Christine Bear - BSc, MSc, PhD
Grant Brown - BSc, PhD
John Callahan - BSc, MSc, PhD
Avijit Chakrabartty - BSc, MSc, PhD
Hue Sun Chan - BSc, MA, PhD, Canada Research Chair
David Clarke - PhD
Alan Richard Davidson - BSc, PhD
Charles Deber - BSc, PhD
Julie Forman-Kay - BSc, PhD
John Glover - BSc, MSc, PhD

Sergio Grinstein - BBcBio, DSc, FRSC, Pitblado Chair in
 Cell Biology
Walid Houry - BSc, MSc, PhD
Lynne Howell - BSc, PhD
C James Ingles - BSc, PhD
David Isenman - BSc, PhD
Annelise Jorgensen - MSc, PhD
Lewis Kay - BSc, PhD, Canada Research Chair
Frederick Keeley - BSc, PhD
Amira Klip - MSc, PhD, FRSC
Peter Lewis - BSc, PhD
Clifford Lingwood - BSc, PhD
Gergely Lukacs - MD, PhD
David Maclennan - BSc, MSc, PhD, FRSC, FRS,
 University Professor
Morris Manolson - BS, PhD
Angus McQuibban - BSc, MSc, PhD
Laurence Moran - BSc, PhD
Emil Pai - DrRerNat, Canada Research Chair
John Parkinson - PhD, BSc
Regis Pomes - BEng, PhD, Canada Research Chair
Gil Prive - BSc, PhD
David Pulleyblank - BSc, PhD
Margaret Rand - BSc, PhD
Reinhart Reithmeier - BSc, PhD *(Chair)*
James Rini - BSc, PhD *(Coordinator of Graduate
 Studies)*
Brian Robinson - BSc, PhD, Canada Research Chair
Daniela Rotin - BSc, MSc, PhD
John Rubinstein - BSc, PhD
John L Rubinstein
Jacqueline Segall - BSc, PhD
Simon J Sharpe - BSc, PhD
Chi-Hung Siu - PhD
Craig Smibert - BSc, PhD
Igor Stagljar - BSc, PhD
Boris Steipe - MD, PhD
William Trimble - BSc, PhD, Canada Research Chair
Allen Volchuk - BSc, PhD, Canada Research Chair
David Williams - BSc, MSc, PhD
Shoshana Wodak - PhD
Christopher Yip - BASc, MSc, PhD, PEng, Canada
 Research Chair

Members Emeriti
Rashid Anwar - BSc, MSc, PhD
Anders Bennick - MSc, DDS, PhD, DipPerio
James Gurd - BA, PhD
Byron Lane - BA PhD
Alexander Marks - MD, PhD
Mario Moscarello - BA, MD, PhD
Robert Murray - MD, BSc, MSc, PhD
Marian Packham - PhD, University Professor
Robert Painter - BSc, PhD
Bibudhendra Sarkar - BPharm, MPharm, PhD
Harry Schachter - BA, MD, PhD, FRSC
George Williams - BSc, Dr Science

Biomedical Engineering BME

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Biomedical Engineering - MASc, PhD
Clinical Biomedical Engineering – MHSc

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
    • Biomedical Engineering, MASc, PhD
2. Cardiovascular Sciences, see p. 426
    • Biomedical Engineering, MASc, PhD
3. Genome Biology and Bioinformatics, see p. 448
    • Biomedical Engineering, PhD
4. Health Care, Technology and Place, see p. 454
    • Biomedical Engineering, PhD
5. Neuroscience, see p. 466
    • Biomedical Engineering, MASc, PhD

Overview
The Institute of Biomaterials and Biomedical Engineering offers facilities for research in biomedical engineering and for three educational programs leading to master's and doctoral degrees. Students may be registered in the Biomedical Engineering Program or in the Clinical Biomedical Engineering Program through the Institute. Students interested in the Collaborative Program in Biomedical Engineering may register through one of the collaborating graduate units.

Biomedical engineering is a multidisciplinary field that integrates engineering and biology/medicine. It uses methods, principles, and tools of engineering, physical sciences, and mathematics to solve problems in the medical and life sciences for the study of living systems; the enhancement and replacement of those systems; the design and construction of systems to measure basic physiological parameters; the development of instruments, materials, and techniques for biological and medical practice; and the development of artificial organs and other medical devices. By its nature, the majority of the Institute's work is interdisciplinary.

Research themes include diagnostic and therapeutic engineering, technology for health, and cellular and molecular bioengineering. Specific interests include neural and sensory systems engineering, molecular imaging, nanotechnology and microtechnology, biomaterials, rehabilitation engineering, cellular and tissue engineering, regenerative medicine proteomics and bioinformatics.

Contact and Address
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Institute of Biomaterials and Biomedical Engineering
Room 407, Rosebrugh Building
164 College Street
University of Toronto
Toronto, Ontario M5S 3G9
Canada

Degree Programs

Biomedical Engineering

Master of Applied Science

Minimum Admission Requirements
- Graduate in dentistry, engineering, medicine, or one of the physical or biological sciences

Program Requirements
- Program normally comprises at least 2.0 full-course equivalents (FCE), including BME 1450H and an appropriate life science or engineering course. Engineering and physical science students take a life sciences course, such as JPB 1022H (or an equivalent); while life science students take a physical sciences course, such as JPB 1055H (or an equivalent).
- Students participate in two seminar courses: one of BME 1010H or BME 1011H Graduate Seminar series, and JDE 1000H Ethics in Research.
- Successful completion of a thesis in the biomedical engineering field.
- Students normally complete all degree requirements within 18-24 months.

Doctor of Philosophy

Minimum Admission Requirements
- Graduate in dentistry, engineering, medicine, or one of the physical or biological sciences with an appropriate master's degree.
- Direct admission may be considered in exceptional cases.

Program Requirements
- Normally at least 1.0 full-course equivalent (FCE) and successful completion of a thesis, representing an original investigation in biomedical engineering.
- Within 12 months of registration, students must pass a qualifying examination covering the broad

field of biomedical engineering appropriate to their background.

- Students will continue to meet with their supervisory committee at least once every 12 months until recommendation for the Departmental Oral Examination is made. On the recommendation of the supervisory committee and special approval from their department Graduate Chair or Coordinator, candidates have the opportunity to waive the Departmental Oral Examination and proceed directly to the University of Toronto Final Oral Examination.
- Engineering and physical science students are required to take a life sciences course, such as JPB 1022H (or an equivalent); while life science students are required to take a physical sciences course, such as JPB 1055H (or an equivalent).
- Students pursue a thesis topic relevant to Biomedical Engineering and are expected to take BME 1450H Bioengineering Science.
- Students participate in two seminar courses: one of BME 1010H or BME 1011H Graduate Seminar series, and JDE 1000H Ethics in Research.

Clinical Biomedical Engineering

Master of Health Science

Minimum Admission Requirements
- Selected students who hold the degree of Bachelor of Applied Science of this University or an equivalent degree in engineering.

Program Requirements
- Normally 4.0 full-course equivalents (FCE), including 1.0 FCE which involves periods of internships in health care facilities, the medical device industry, or health care consulting firms. All students are required to take a life sciences course, such as JPB 1022H (or an equivalent).
- Students participate in two seminar courses: one of BME 1010H or BME 1011H Graduate Seminar series, and JDE 1000H Ethics in Research.
- A thesis research project.
- All degree requirements must be completed within three years.

Courses

Not all courses are offered every year. Students should contact the Institute office for information about course availability. Outlines of these and other closely related courses may be obtained from the Institute office.

BME 1010H   Graduate Seminar
BME 1011H   Graduate Seminar
BME 1405H   Clinical Engineering Instrumentation I
BME 1430H   Mathematical Theory of Tracer Kinetics
BME 1436H   Clinical Engineering Surgery

BME 1439H   Clinical Engineering Instrumentation II
BME 1445H   Special Topics in Clinical Engineering
BME 1446H   Transduction of Physiological Events
BME 1450H   Bioengineering Science
BME 1452H   Signal Processing for Bioengineering
BME 1453H   Cell and Tissue Engineering
BME 1454H   Regenerative Medicine: Fundamentals and Applications
BME 1456H   Changing Health Care Technologies, People, and Places
BME 1457H   Biomedical Nanotechnology
BME 1458H   Pattern Discovery Methods for Biomedical Engineering
BME 1459H   Protein Engineering
BME 4444Y   Practice in Clinical Engineering
JCB 1349H   Molecular Assemblies: Structure/Function/Properties
JEB 1365H   Ultrasound: Theory and Applications in Biology and Medicine
JEB 1375H   Practical Optimization
JEB 1433H   Medical Imaging
JEB 1444H   Neural Engineering
JEB 1447H   Sensory Communications
JEB 1451H   Neural Bioelectricity
JPB 1022H   Human Physiology as Related to Biomedical Engineering
JPB 1055H   Bioengineering for Life Scientists
JTC 1331H   Biomaterials Science
MBP 1007H   Fundamentals in Molecular and Cell Biology I
MBP 1008H   Fundamentals in Molecular and Cell Biology II
MBP 1022H   Advanced Cell Biology for Physical Scientists
PSL 1052H   Fundamentals of Ion Channel Function
ZOO 1002H   Advanced Research and Reading Course
HAD 5010H   Canada's Health System and Health Policy: Part I

Graduate Faculty

Full Members
Susan Adamson - BSc, MSc, PhD
Cristina Amon - BSc, MS, ScD
Jane Aubin - BSc, PhD
Julie Audet - MASc, PhD
Berj Bardakjian - BSc, BEd, MASc, PhD, PEng
Earl Bogoch - BA, MSc, MD, PhD
Christopher Caldarone
Warren Chan - BSc, PhD
Tom Chau - BASc, MASc, PhD, PEng
Yu-Ling Cheng - SB, SM, PhD
David Courtman - BSc, MSc, PhD
John Davies - BSc, PhD, BDS, DSc
Anthony Easty - BSc, PhD, PEng, CCE
Moshe Eizenman - BASc, MASc, PhD
C Ross Ethier - BSc, MMath, SM, PhD, PEng
Geoffrey Fernie - BSc, PhD, PEng, CCE
Richard Frecker - BSc, MD, PhD, LMCC

Allan Gross - PhD, MD
Marc Grynpas - MSc, PhD
Robert Harrison - BSc, PhD, DSc
K. Wayne Johnston - MD, FRCS(C), FRCP(C)
Michael Joy - BSc, MASc, PhD, PEng
Rita Kandel - MD, FRCP(C)
Shafique Keshavjee - MSc, MD, FRCS(C)
Antoine Khoury - MB, BCh
Ofer Levi - PhD, MSc, BSc
Morris Milner - BSc, PhD
Kenneth Norwich - BSc, MSc, MD, PhD
Milos Popovic - MSc, MASc, PhD
Kenneth Pritzker - BSc, MD, FRCP(C)
Milica Radisic - PhD, BEng
Denise Reid - BSc(OT), MEd, PhD
Jonathan Rocheleau
Paul Santerre - BSc, MScEng, PhD
Michael Sefton - BASc, ScD, FCIC, PEng, University
  Professor
Molly Shoichet - BSc, MSc, PhD, Canada Research
  Chair
Melvin Silverman - BSc, MDCH, FRCP(C)
Frances Skinner - BMath, MASc, PhD
Arthur Slutsky - BASc, MASc, MD, PhD
William Stanford - PhD, BA *(Associate Chair &
  Coordinator of Graduate Studies)*
Bradley Strauss - MD
Steven Thorpe - BASc, MASc, PhD
Kien (Kevin) Truong - BASc, PhD
Paul Wang - BSc, PhD
Christopher Yip - BASc, MSc, PhD, PEng, Canada
  Research Chair
Peter Zandstra - BEng, PhD, PEng, Canada Research
  Chair

Members Emeriti
Richard Cobbold - BSc, MSc, PhD, FRSC
Alf Dolan - BSc, MSc
Hans Kunov - MSc, PhD, PEng
Robert Pilliar - BASc, PhD, PEng
Philip Watson - DDS, MScD

Associate Members
Cynthia Gemmell - PhD, MD
David Howarth - PhD
Howard Michaels - BASc, MSc, PhD
Rana Sodhi - BSc, MSc, PhD
David Wells
James Winslow - PhD
Kimberly Ann Woodhouse - BEng, PhD, PEng

Cell and Systems Biology   CSB

Faculty Affiliation
Arts and Science

Degree Programs Offered
Cell and Systems Biology – MSc, PhD

Collaborative Programs Offered
Cell and Systems Biology degree programs that participate in the following collaborative programs:
1. Developmental Biology, see p. 433
    - Cell and Systems Biology, PhD
2. Genome Biology and Bioinformatics, see p. 448
    - Cell and Systems Biology, PhD
3. Neuroscience, see p. 466
    - Cell and Systems Biology, MSc, PhD

Overview
Cell and Systems Biology (CSB) offers a master's program leading to the degree of **Master of Science** and a doctoral program leading to the degree of **Doctor of Philosophy** in the fields of Cell, Molecular, and Systems Biology. Students undertaking graduate programs in CSB pursue research related to fundamental mechanisms in the growth, development, and behaviour of organisms ranging from unicellular microbes to more complex organisms in the plant and animal kingdoms. Research projects extend from the molecular level to that of whole organisms interacting with each other and their environment.

Students enjoy state-of-the-art facilities and make use of cutting-edge approaches including functional genomics, genetics, metabolomics, proteomics, bioinformatics, computational biology, cell biology, developmental biology, molecular biology, and physiology.

Contact and Address
Web: **www.csb.utoronto.ca**
E-mail: grad.csb@utoronto.ca
Telephone: (416) 946-3433
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Department of Cell and Systems Biology
Ramsay Wright Building
Room 424, 25 Harbord Street
University of Toronto
Toronto, Ontario M5S 3G5
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- School of Graduate Studies general admission requirements.
- Minimum equivalent of a University of Toronto B+ average in the last year of an honours BSc program, plus a minimum mid-B overall average in the previous year of study.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction was not English must demonstrate facility in the English language through the successful completion of one of the following English language proficiency tests:
    o Test of English as a Foreign Language (TOEFL) with the following minimum scores:
        o paper-based TOEFL exam: 580 and 5 on the Test of Written English (TWE)
        o computer-based TOEFL exam: 237 and 5 on the essay writing component
        o internet-based TOEFL exam: 93/120 and 22/30 on the writing and speaking sections.
    o International English Language Testing System (IELTS): minimum score of 7.0.
    o The Certificate of Proficiency in English (COPE): minimum score of 4, with at least 1 in each component, and 2 in the writing component.

Program Requirements
- The MSc program is normally completed within 24 months (6 sessions).
- Complete 0.5 CSB full-course equivalent.
- Attend MSc seminar series (credit only, 24 seminars per year, plus attendance at two CSB PhD Proposal/Transfer Days per year).
- Complete thesis based on a research project.
- Give public presentation of thesis research and defend the thesis at an oral examination.

Doctor of Philosophy

Minimum Admission Requirements
- PhD degree students are generally accepted by one of three routes:
    o following completion of an appropriate University of Toronto **MSc degree**, or its equivalent from a recognized university, with a minimum A- average in all work completed in the master's program,
    o by **transferring from the MSc program**: Students may reclassify from the MSc program after 12 months of study.
    o by **direct entry**, that is, after completing an honours BSc program with an exceptional record with a minimum University of Toronto A– average or equivalent.

- Applicants whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the English language through the successful completion of one of the following English language proficiency tests:
  - Test of English as a Foreign Language (TOEFL) with the following minimum scores:
    - paper-based TOEFL exam: 580 and 5 on the Test of Written English (TWE)
    - computer-based TOEFL exam: 237 and 5 on the essay writing component
    - internet-based TOEFL exam: 93/120 and 22/30 on the writing and speaking sections.
  - International English Language Testing System (IELTS): minimum score of 7.0.
  - The Certificate of Proficiency in English (COPE): minimum score of 4, with at least 1 in each component, and 2 in the writing component.

Program Requirements
- Complete 1.0 CSB full-course equivalent (FCE)
- Attend the CSB PhD seminar series (credit only, 24 seminars per year, plus attendance at two CSB PhD Proposal/Transfer Days per year).
- Complete a thesis on a research project, give a public presentation of the thesis research, and defend the thesis at the final oral examination.
- Students who have **completed a MSc degree** are expected to complete the PhD program within 4 years.
- Students **transferring from the MSc program** are expected to complete the PhD program within 5 years from the start date of enrolment in the MSc program. All PhD students (including MSc students wishing to reclassify as PhD students) must successfully complete a PhD Proposal/Transfer Examination. Students who transfer from the CSB MSc program to the PhD program may apply course credits earned as CSB MSc students toward their PhD course requirements.
- **Direct-entry students** from a BSc program are expected to complete the PhD program within 5 years.

Courses
Detailed information on courses can be found on the Department of Cell and Systems Biology Web site.

Graduate Faculty

Full Members
Mounir AbouHaidar - BSc, PhD, Dip d E Sup, CAP
James Anderson - BA, PhD
F Michael Barrett - BSc, MSc, PhD
Thomas Berleth - PhD
Rudy Boonstra - BSc, PhD
Ian Brown - BSc, PhD, Canada Research Chair
Ashley Bruce - BA, PhD
Leslie Buck - BSc, PhD
Malcolm Campbell - BSc, MSc, PhD *(Associate Chair, Graduate Studies)*
Belinda Chang - BA, PhD, Canada Research Chair
Dinesh Christendat - BSc, PhD
John Coleman - BSc, PhD
Asher Cutter - PhD, Canada Research Chair
Darrell Desveaux - BSc, MSc, PhD
Elizabeth Edwards - BEng, MEng, PhD, PEng
George Espie - PhD
James Fullard - BSc, MSc, PhD
Roberta Fulthorpe - BSc, MSc, PhD
Dorothea Godt - MSc, PhD
Daphne Goring - BSc, MSc, PhD, Canada Research Chair *(Chair)*
David Guttman - BS, PhD, Canada Research Chair
Tony Harris - BSc, PhD, Canada Research Chair
Rene Harrison - BSc, MSc, PhD
Clare Hasenkampf - BSc, MSC, PhD
Paul Horgen - BA, MS, PhD
Linda Kohn - BS, PhD
Herbert Kronzucker - BSc, PhD, Canada Research Chair
Angela Lange - BSc, PhD
Ellen Larsen - BSc, MSc, PhD
Joel Levine - BA, PhD, Canada Research Chair
David Lovejoy - BSc, PhD
Nathan Richard Lovejoy - BSc, MSc, PhD
Andrew Mason - BSc, MSc, PhD
Emma Master - BSc, PhD
Peter McCourt - PhD, NSERC Performance Plants Chair in Plant Genetics, Canada Research Chair
Jean-Marc Moncalvo - BSc, MSc, PhD
Joanne Nash - BSc, MSc, PhD
Danton O'Day - BSc, MSc, PhD
Ian Orchard - BSc, PhD, DSc
John Peever - BSc, MSc, PhD
Nicholas Provart - BSc, MSc, PhD
Stephen Reid - BA, PhD
Charles Riggs - BSc, PhD
Maurice Ringuette - BSc, PhD
Patricia Romans - BSc, MSc, PhD
J.J. Berry Smith - BA, MA, PhD
Marla Sokolowski - BSc, PhD, FRSC, Canada Research Chair
Richard Stephenson - BSc, PhD
Bryan Stewart - BSc, MSc, PhD, Canada Research Chair
John Stinchcombe - BA, PhD
Ulrich Tepass - MSc, PhD, CIHR Investigator
Stephen Tobe - BSc, MSc, PhD, FRSC
Vince Tropepe - BSc, PhD
Greg Vanlerberghe - BSc, MSc, PhD

Susannah Varmuza - BSc, MSc, PhD
J. Timothy Westwood - BSc, MSc, PhD
Rudolf Winklbauer - DipBiol, PhD
Melanie Woodin - BSc, MSc, PhD
John Yeomans - BA, PhD
Keiko Yoshioka - BA, MS, PhD

Members Emeriti
Sherwin Desser - BSc, MSc, PhD
Nicholas Mrosovsky - BA, PhD
John Youson - BA, MSc, PhD

Associate Members
Michelle Marie Aarts - BSc, MSc, PhD, Canada Research
 Chair
Sonia Gazzarrini - BSc, MSc, PhD
Alan Moses - BSc, MSC, PhD
Leigh Revers - PhD
Mauricio Terebiznik - BSc, PhD

Chemical Engineering and Applied Chemistry   CHE

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Chemical Engineering and Applied Chemistry, MASc, MEng, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomedical Engineering, see p. 418
   - Chemical Engineering and Applied Chemistry, MASc, PhD
2. Environmental Engineering, see p. 441
   - Chemical Engineering and Applied Chemistry, MASc, MEng, PhD
3. Environmental Studies, see p. 443
   - Chemical Engineering and Applied Chemistry, MASc, MEng, PhD
4. Genome Biology and Bioinformatics, see p. 448
   - Chemical Engineering and Applied Chemistry, PhD

Overview
The Department of Chemical Engineering and Applied Chemistry offers graduate research in pure science, engineering fundamentals, and engineering applications. Graduate programs lead to the degrees of **Master of Applied Science** (MASc), **Master of Engineering** (MEng), and **Doctor of Philosophy** (PhD). The MEng program differs from the MASc and PhD programs in that it is oriented to learning through prescribed courses rather than through research.

The Department attracts a dynamic professorial staff with outstanding international reputations. Many graduate students work closely with industrial partners during their studies. Research is funded by the government and industry, often by means of a consortium of companies. The experience of dealing with real world problems prepares graduates for successful professional careers.

Research and teaching are the foundations of the Department. Research is clustered into eight major categories:
1. Biomolecular and Biomedical Engineering
2. Bioprocess Engineering
3. Chemical and Materials Process Engineering (pending approval)
4. Engineering Informatics
5. Environmental Science and Engineering
6. Pulp and Paper
7. Surface and Interface Engineering
8. Sustainable Energy

A more complete and up-to-date description of graduate research programs and enrolment procedures appears on www.chem-eng.utoronto.ca.

Contact and Address
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Department of Chemical Engineering and Applied Chemistry
Room 212, Wallberg Building
200 College Street
University of Toronto
Toronto, Ontario M5S 3E5
Canada

Degree Programs

Master of Applied Science

Minimum Admission Requirements
- Four-year undergraduate degree in engineering or physical/chemical/biological sciences from a recognized university.
- A minimum grade equivalent to a University of Toronto B+ (78%) average in each of the final two years of study.
- A faculty member who is willing to supervise the student.

Program Requirements
- Thesis on a research topic.
- At least three graduate courses, one of which normally must be selected from Category A (see courses below), and at least one of which must be selected in an area outside the student's field of research specialization. Furthermore, only one 500-level course may be taken for credit towards the degree program. Students are also required to complete CHE 2222H, CHE 3000Y, and JDE 1000H.
- Each candidate should discuss possible research projects with several members of the Department before selecting a research area and a supervisor.
- The program requires a minimum full-time residence of two sessions (8 months).
- The degree program is typically completed in 1.5 years, but must be completed within three calendar years.

Master of Engineering

Minimum Admission Requirements
- Four-year undergraduate degree in engineering or its equivalent from a recognized university, with a minimum B+ average in the final two years.

Program Requirements
- The program normally requires completion of a total of 5.0 full-course equivalents (FCE) or 3.5 FCE plus a 1.5 FCE project supervised by a faculty member. The project must be defended at an oral examination.
- There is no minimum period of residency. The MEng program can be completed either through full-time or part-time studies. The full-time program is designed to be completed within 12 months, including the summer session. The part-time program is intended primarily for engineers in full-time professional practice; the degree must be completed within six calendar years.

Doctor of Philosophy

Minimum Admission Requirements
- A faculty member who is willing to supervise the student.
- Applicants may enter the program via one of three routes:
    1. following **completion of the MASc program** with a minimum B+ average and exceptional all-round scientific and intellectual ability as evidenced from theoretical or experimental research, academic standing, initiative, and publication record
    2. **transferring from the MASc program** after one year. Such students must first complete 1.5 full-course equivalents (FCE) and earn an A- average as well as successfully complete a "bypass" examination.
    3. **direct entry** after completing a bachelor's degree may also be considered in certain cases.
- International applicants with a master's degree in their country of residence may be asked to register in the MASc program and follow entry route 2.

Program Requirements
- Thesis on a research topic.
- **Students with completed MASc degree:** at least 2.0 full-course equivalents (FCE).
- **Transfer students:** 3.0 FCE for students without a master's degree 2.0 FCE for students with a completed master's degree. Transfer students do not have to take a separate PhD qualifying examination.
- **Direct-entry students:** at least 3.0 FCE.
- Courses must be selected from the calendar and approved by the student's supervisor and the Graduate Coordinator. At least one of these courses must be taken in a minor area of study. It is recommended that one of these courses should be selected from Category A courses. Normally, PhD students are not allowed to take a 500-level course for credit towards the degree program. Students are also required to complete CHE 3000Y and, if not already completed, CHE 2222H and JDE 1000H.
- Within 9 to 12 months of starting the PhD program, students must pass a qualifying examination. Students normally remain in residence (full time, on campus) until the departmental recommendation for the Final Oral Examination is made, unless special permission to do so has otherwise been granted by the Departmental Graduate Studies Committee.

Courses
A course schedule is available on the departmental Web site at the beginning of each session listing the time and room location for each course. Not all courses are given every year.

Students in the MASc and PhD programs are required to take CHE 3000Y *Seminars in Chemical Engineering and Applied Chemistry* in each session of full-time registration. All students wishing to undertake research and teaching in the Department of Chemical Engineering and Applied Chemistry must successfully complete a two-day intensive occupational health and safety training workshop, CHE 2222H *Safety Workshop*, which normally takes place during the week immediately preceding the commencement of graduate courses in the fall. In each subsequent year of registration, students must take the WHMIS refresher workshop. Students registered in a graduate degree program involving research are required to participate in the non-credit seminar course JDE 1000H *Ethics in Research* during their first or second session of registration.

Category A
CHE 1107H Applied Mathematics
CHE 1140H Topics in Process Identification and Control
CHE 1141H Advanced Chemical Reaction Engineering
CHE 1142H Applied Chemical Thermodynamics
CHE 1143H Transport Phenomena
CHE 1144H Separation Processes
CHE 1147H Data Mining in Engineering
CHE 1149H Electrolyte Thermodynamics
JTC 1135H Applied Surface Chemistry
CHE 1180H Advanced Topics in Chemical Engineering
CHE 1310H Chemical Properties of Polymers
JCI 1503H Advanced Topics in Computing and Information Systems
CHE 2504H Industrial Pollution Prevention

Category B
CHE 1118H Industrial Catalysis
CHE 1134H Advances in Bioengineering
CHE 1213H Corrosion
CHE 1314H The Structure and Properties of Fibrous Materials
JTC 1020H Ceramics
JTC 1331H Biomaterials Science
JCB 1349H Molecular Assemblies: Structure/Function/Properties

CHE 1400H   Environmental Nuclear Science
CHE 1533H   Nuclear Chemical Engineering
CHE 1541H   Two-Phase Flow and Heat Transfer
JCC 1313H   Environmental Microbiology
JCI 1321H   Wood Engineering
JNC 2503H   Environmental Pathways

Engineering Management Courses
APS 501H   Leadership and Leading in Groups and Organizations
APS 1001H   Project Management
APS 1002H   Financial Engineering
APS 1003H   Professional Education and Instruction
APS 1004H   Human Resource Management - An Engineering Perspective
APS 1005H   Operations Research for Engineering Management
APS 1088H   Entrepreneurship and Business for Engineers
APS 1201H   Topics in Engineering and Public Policy

500-level (undergraduate/graduate) Courses
CHE 507H   Process Modelling and Simulation
CHE 553H   Electrochemistry
CHE 564H   Pulp and Paper Processes
CHE 565H   Aqueous Process Engineering
CHE 568H   Nuclear Engineering
CHE 575H   Mechanical Properties of Bio-Composites and Biomaterials

Seminar Courses
CHE 1211H   Pulp and Paper Seminars (Credit/No Credit)
CHE 2011H   Graduate Student Seminars (Credit/No Credit)
CHE 3000Y   Seminars in Chemical Engineering and Applied Chemistry (Credit/No Credit)

In addition to the above courses, students may elect to take courses in other engineering or science departments where such courses are deemed relevant to the area of study.

Graduate Faculty

Full Members
Edgar Joel Acosta - BS, MS, PhD
D Grant Allen - BASc, MASc, PhD, PEng
Julie Audet - MASc, PhD
Timothy Bender - BSc, PhD, MCIC, MACS
Warren Chan - BSc, PhD
Yu-Ling Cheng - SB, SM, PhD
William Cluett - BSc, PhD, FCIC, PEng
Paul Cooper - BScF, MSc, BEd, PhD, Value-Added Wood and Composite Products Chair
Donald Cormack - BASc, MASc, PhD, FCIC, PEng
Thomas Coyle - BSc, BA, ScD
John Davies - BSc, PhD, BDS, DSc
Miriam Diamond - MSc, PhD

Levente Diosady - BASc, MASc, PhD, FCIC, PEng
Elizabeth Edwards - BEng, MEng, PhD, PEng
Gregory Evans - BASc, MASc, PhD, PEng
Ramin Farnood - BASc, MASc, PhD
Roberta Fulthorpe - BSc, MSc, PhD
Marc Grynpas - MSc, PhD
Charles Jia - BEng, MEng, PhD, PEng
Masahiro Kawaji - BASc, MSc, PhD, PEng *(Acting Chair, July 1 to December 31, 2008)*
Donald Kirk - BASc, MASc, PhD, PEng
Mark Kortschot - BASc, MASc, PhD, PEng
Eugenia Kumacheva - BS, MSc, PhD
Yuri Lawryshyn - BASc, MASc, PhD, PEng
Radhakrishnan Mahadevan - BTech, PhD
Emma Master - BSc, PhD
Charles Mims - BS, PhD
Roger Charles Newman - BA, PhD, DSc
Vladimiros Papangelakis - DiplEng, MEng, PhD
Milica Radisic - PhD, BEng
Douglas Reeve - BSc, MASc, PhD, PEng, FCIC, FTAPPI, FIAWS, DTech
Mohini Sain - BSc, BASc, MTech, PhD, PEng
Paul Santerre - BSc, MScEng, PhD
Bradley Saville - BSc, PhD, PEng
Michael Sefton - BASc, ScD, FCIC, PEng, University Professor
Molly Shoichet - BSc, MSc, PhD, Canada Research Chair
William Stanford - PhD, BA
Murray Thomson - BEng, MSc, PhD, PEng
Steven Thorpe - BASc, MASc, PhD
Honghi Tran - BSc, MEng, PhD, FTappi, Frank Dottori Chair in Pulp and Paper Engineering
Torstein Utigard - BSc, MASc, PhD, PEng
Frank Wania - Dipl-Geoök, MPhil, PhD
Ning Yan - BASc, PhD, PENG
Christopher Yip - BASc, MSc, PhD, PEng, Canada Research Chair
Peter Zandstra - BEng, PhD, PEng, Canada Research Chair

Members Emeriti
Stephen Balke - BEng, PhD, PEng
David Boocock - BSc, PhD, ARSC, DIC, FCIC
Charles Chaffey - BSc, PhD, PEng, CChem
Michael Charles - BSc, MSc, PhD, FCIC, FCAE, PEng
Frank Foulkes - BASc, MASc, PhD, PEng
David James - BSc, MA, MS, PhD, PEng
Robert Jervis - BA, MA, PhD, FRSC, FCIC, FCNS, FCSCA, FIAFS, PEng
Rein Luus - BASc, MASc, AM, PhD, FCIC, PEng
Donald Mackay - BSc, ARCST, PhD, FCIC, PEng
Joseph Paradi - BASc, MASc, PhD, FCAE, PEng
Mary Phillips - BASc, MA, PhD, FCIC, PEng
James Smith - BASc, MASc, PhD, DIC, FCIC, CIH, PEng
Olev Trass - BSE, ScD, FCIC, PEng

Associate Members
Harry Beller - BA, MS, PhD,
Terry Bidleman - BSc, PhD
Jeffrey Brook - BSc, MS, PhD

Sunling Gong - BASc, MASc (Chinese Acad of Sci),
 MASc, PhD
Howard Goodfellow - BASc, MASc, PhD, PEng
Thomas Michael Grace - BASc, MASc, PhD
Andrew Kevin Jones - BASc, MASc, PhD
Ted Kotschorek
David Kuhn - BSc, MSc, PhD, PEng
Steven Liss - BSc (Hon), MSc, PhD
Bruce Lyne - BSc, PhD, MBA
David Major - BSc, MSc, PhD
Ted Mao - BASc, MASc, PhD, PEng
Bruce Mckague - BSc, PhD
Sean O'Dea - BA
Matadial Ojha - BSc, MSc, PhD
Olatokunboh Oshinowo - BASc, MASc, PhD, PEng
Syed Rizvi - BS, MS, MEng, PhD
Saed Sayad - MD, PhD
William Smith - BASc, MASc, MSc, PhD, PEng
Rana Sodhi - BSc, MSc, PhD
Trevor Stuthridge - BSc, MSc, DPhil
Paul Szabo - BEng, MEng, PEng, FCAE
Peter Tremaine - BSc, PhD, FCIC
Stephen Woo - BEng, MASc, PhD
Kimberly Ann Woodhouse - BEng, PhD, PEng

Chemistry   CHM

Faculty Affiliation
Arts and Science

Degree Programs
Chemistry, MSc, PhD

Overview
Modern facilities are available for research leading to the **Master of Science** and **Doctor of Philosophy** degrees. The areas of interest cover a wide variety of topics in analytical, biological, environmental, inorganic, organic, materials, polymers, physical, and theoretical chemistry and their related interdisciplinary areas.

Collaborative Programs
Degree programs that participate in:
1. Biomolecular Structure, see p. 423
   - Chemistry, PhD
2. Environmental Studies, see p. 443
   - Chemistry, MSc, PhD

Contact and Address
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Department of Chemistry
Room 153, Lash Miller Building
80 St. George Street
University of Toronto
Toronto, Ontario M5S 3H6
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with an average of at least B+.

Program Requirements
- Submission of a thesis, the successful completion of 1.0 graduate full-course equivalent (FCE), and participation in a seminar program.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto master's degree, or its equivalent from a recognized university, with a minimum B+ average.
- An exceptional student with an appropriate BSc degree with A- or better in courses relevant to the discipline may be admitted directly to the PhD program. Alternatively, transfer to the PhD program may be considered after a one-year MSc residency period.

Program Requirements
- The main requirement for the PhD program is the execution of an original investigation that is presented in a thesis. Each program requires successful completion of an oral examination in the area of the major field, as well as participation in a seminar program.
- Students select one of the following as a major field:
  o Analytical Chemistry
  o Environmental Chemistry
  o Inorganic Chemistry
  o Organic Chemistry
  o Experimental Physical Chemistry
  o Theoretical Physical Chemistry
  o Polymer and Materials Chemistry

Combinations within these subdisciplines, or with other disciplines, are permitted under the category of an interdisciplinary program. With the exception of Theoretical Physical Chemistry, each program requires a minimum of 2.0 full-course equivalents (FCE) from approved graduate courses offered in the School of Graduate Studies. Up to 1.0 FCE taken for credit in the master's program may be used to partially fulfil the PhD requirements. For details about the specific requirements for the major fields, visit the Web site www.chem.utoronto.ca

Courses
Not all courses are offered every year. Please consult the Department each session as to course availability.

Analytical Chemistry
CHM 1102H   Bionsensors and Chemical Sensors
CHM 1103H   Advanced Topics in Analytical Chemistry
CHM 1104H   Separation Science
CHM 1105H   Separations, Chromatography, and
          Microfluidics
CHM 1106H   Instrumentation for Chemists
CHM 1150H   Advances in Electroanalytical Chemistry
          and Electrochemical Sensors
CHM 1152H   Chemical Sensors
CHM 1157H   Applications of Chemometrics
CHM 1190Y   Analytical Chemistry Seminar (Credit/No
          Credit)
CHM 2014H   Research in Analytical Chemistry
BME 1452H   Signal Processing for Bioengineering
CHE 1144H   Separation Processes
ENV 1410H   Analytical Environmental Chemistry
PHY 1406H   Microprocessor Interfacing Techniques

Environmental Chemistry
CHM 1401H   Transport and Fate of Chemical Species in the Environment **(core course)**
CHM 1404H   Molecular Analysis of Natural Systems
CHM 1415H   Atmospheric Chemistry
CHM 1420H   Environmental Chemistry of Soil
CHM 1425H   Modelling the Fate of Organic Chemicals in The Environment
CHM 1430H   Advanced Topics in Atmospheric Chemistry
CHM 1550H   Topics in Environmental Chemistry
CHM 1590Y   Environmental Chemistry Seminar (Credit/No Credit)
CHM 2534H   Research in Environmental Chemistry
ENV 1410H   Analytical Environmental Chemistry

Inorganic Chemistry
CHM 1204H   Organometallic Chemistry
CHM 1205H   Inorganic Reaction Mechanisms
CHM 1206H   Solid State Chemistry: Structure-Property Relations
CHM 1209H   Structural Methods in Inorganic Chemistry
CHM 1258H   Reactions of Coordinated Ligands
CHM 1261H   Topics in Inorganic Chemistry I **(core course)**
CHM 1263H   Bio-inorganic Chemistry
CHM 1268H   X-Ray Crystallography
CHM 1269H   Nanochemistry: A Chemistry Approach to Nanomaterials
CHM 1270H   Frontiers in Inorganic Chemistry **(core course)**
CHM 1290Y   Inorganic Chemistry Seminar (Credit/No Credit)
CHM 2034H   Research in Inorganic Chemistry

Organic Chemistry
CHM 1003H   Physical Organic Chemistry II
CHM 1004H   Synthetic Organic Chemistry
CHM 1005H   Applications of Spectroscopy in Organic Structure Determination
CHM 1006H   Bioorganic Chemistry
CHM 1008H   Biological Chemistry
CHM 1040H   Modern Organic Synthesis
CHM 1045H   Modern Physical Organic Chemistry
CHM 1054H   Topics in Bioorganic Chemistry
CHM 1055Y   Organic Chemistry Proposal Writing
CHM 1060H   Advanced Topics in Synthetic Organic Chemistry
CHM 1068H   Topics in Biological and Medicinal Chemistry
CHM 1090Y   Organic Chemistry Seminar (Credit/No Credit)
CHM 2044H   Research in Organic Chemistry
JRX 1124H   Structured-Based Drug Design

Physical and Theoretical Chemistry
CHM 1441H   Mathematical Methods
CHM 1442H   Current Directions in Experimental Physical Chemistry
CHM 1443H   Intermediate Quantum Mechanics
CHM 1444H   Statistical Mechanics of Condensed Phases

CHM 1445H   Coherent Control of Molecular Processes
CHM 1446H   Quantum Computation and Information Theory
CHM 1447H   Biophysical Chemistry
CHM 1448H   Modelling of Biochemical Systems
CHM 1455H   NMR Spectroscopy I: Introduction to Theory and Application
CHM 1456H   NMR Spectroscopy II: Advanced Theory and Application
CHM 1458H   Topics in Reaction Kinetics I
CHM 1464H   Topics in Statistical Mechanics
CHM 1476H   Modern Topics in Statistical Mechanics
CHM 1478H   Quantum Mechanics for Physical Chemists **(core course)**
CHM 1479H   Thermodynamics **(core course)**
CHM 1480H   Basic Statistical Mechanics **(core course)**
CHM 1481H   Reaction Kinetics and Dynamics **(core course)**
CHM 1483H   Group Theory and Quantum Mechanics
CHM 1485H   Molecular Dynamics and Chemical Dynamics in Liquids
CHM 1486H   Modern Molecular Spectroscopy
CHM 1487H   Modern Topics in Colloid Chemistry
CHM 1488H   Advanced Experimental Methods in Physical Sciences
CHM 1490Y   Physical Chemistry Seminar (Credit/No Credit)
CHM 2024H   Research in Physical Chemistry

Polymer and Materials Chemistry
CHM 1301H   Organic and Inorganic Polymer Synthesis **(core course)**
CHM 1302H   Physical Chemistry of Polymers **(core course)**
CHM 1310H   Polymer Chemistry
CHM 1390Y   Polymer and Materials Chemistry Seminar (Credit/No Credit)
CHM 2304H   Research in Polymer and Materials Chemistry
CHM1303H   Solids as Advanced Polymer Materials

All graduate courses for degree credit must be approved by the Department. Subject to departmental permission, degree students in Chemistry may take a limited number of graduate courses based on fourth-year Faculty of Arts and Science courses in Chemistry or a cognate discipline. Approvals of such fourth-year courses will be considered on an individual basis. Third-year Arts and Science courses, or their essential equivalents, will not receive degree credit.

Graduate Faculty

Full Members
Jonathan Abbatt - BSc, AM, PhD
Christine Allen - BSc; PhD
Robert Alexander Batey - BA, PhD
Timothy Bender - BSc, PhD, MCIC, MACS
Paul Brumer - BSc, PhD, FRSC, University Professor,
  Roel Buck Chair in Chemical Physics
Jik Chin - BSc, PhD
Al-Amin Dhirani - BSc, MSc, PhD
D. James Donaldson - BSc, PhD
Ulrich Fekl - MSc,Phd
Simon John Fraser - BA, PhD
Michael Georges - BSc, Phd
M Cynthia Goh - BSc, PhD
Raymond Kapral - BSc, PhD, FRSC
Lewis Kay - BSc, PhD, Canada Research Chair
Ronald Kluger - AB, AM, PhD, FRSC
Ulrich Krull - BSc, MSc, PhD, AstraZeneca Professor of
  Biotechnology
Eugenia Kumacheva - BS, MSc, PhD
Mark Lautens - BSc, PhD, AstraZeneca Professor of
  Organic Synthesis
Scott Mabury - BS, PhD *(Chair)*
Peter Macdonald - BSc, MSc, PhD
David McMillen - BSc,MSc,Phd
Michael Menzinger - Dipl-Ing, MSc, PhD
R J Dwayne Miller - BSc, PhD, FRSC, Canada Research
  Chair
Charles Mims - BS, PhD
Robert Morris - BSc, PhD *(Associate Chair, Graduate
  Studies)*
Jennifer Murphy - BSc, PhD
Geoffrey Ozin - BSc, DPhil, FRSC, University Professor,
  Canada Research Chair
John Polanyi - BSc, MSc, PhD, DSc, FRS, FRSC,
  University Professor
John Powell - BSc, PhD
Scott Prosser - BSc, MSc, PhD
Jeremy Schofield - BA, PhD
Greg Scholes - BSc, PhD
Dvira Segal
Barbara Sherwood Lollar - BA, PhD
Jumi Shin - BA, PhD
Molly Shoichet - BSc, MSc, PhD, Canada Research
  Chair
Andre Simpson - BSc, PhD
Myrna Simpson - BSc, PhD
Datong Song
Douglas Stephan
Michael Thompson - BSc, PhD, DSc, FRSC, FCIC
Thomas Tidwell - BS, AM, PhD
Gilbert Walker
Frank Wania - Dipl-Geoök, MPhil, PhD
Stuart Whittington - BA, PhD
Mitchell Winnik - BA, PhD, FRSC, University Professor
G Andrew Woolley - BSc, PhD
Andrei Yudin - BS, PhD
Deborah Zamble - BSc, PhD

Members Emeriti
Malcolm Bersohn - BS, MA, PhD
Adrian Brook - BA, PhD, FRSC, University Professor
  Emeritus
Imre Csizmadia - MSc, PhD
Alexander Harrison
J Bryan Jones
Alexander Kresge - BA, PhD, FRSC
Robert McClelland - BSc, PhD, FRSC
Stewart McLean - BSc, PhD
Anthony Poe - BA, BSc, MA, PhD, DIC, ScD
W John Reynolds - BSc, PhD
John Philip Valleau - BA, MA, PhD

Associate Members
Terry Bidleman - BSc, PhD
Vy Dong
Patrick Gunning
Rebecca Jockusch
Voula Kanelis
Derek Muir - BSc, MSc, PhD
Mark Nitz
Mark Taylor
Aaron Wheeler

Cinema Studies CIN

Faculty Affiliation
Arts and Science

Degree Programs Offered
Cinema Studies - MA

Overview
The Cinema Studies Institute offers a program leading to the **Master of Arts** degree in Cinema Studies. Our faculty have expertise in several areas, including film history, film theory, and film and culture.

Contact and Address
Web: www.utoronto.ca/cinema
E-mail: gradcinema.studies@utoronto.ca
Telephone: (416) 946-5138
Fax: (416) 946-0168

Cinema Studies Institute
University of Toronto
Innis College
2 Sussex Avenue
Toronto, Ontario M5S 1J5
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Successful completion of an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university.
- Minimum B+ standing, demonstrated by an average grade in the final year, or over senior courses.
- Successful completion of a minimum of 6.0 full-course equivalents (FCE) in cinema studies, or comparable program preparation.
- A letter of intent addressing the academic goals an applicant wishes to pursue in the program, three letters of recommendation, transcripts from all post-secondary institutions, and an academic writing sample of no more than 3,000 words.

Program Requirements
- The MA is a course-work only program and therefore does not require a thesis.
- 4.0 FCEs over the course of an academic year, normally extending from September until August. Of the 4.0 FCEs:
  - o 1.5 FCEs will be mandatory, core courses under the CIN rubric.
  - o 1.0 FCE will be devoted to either the writing of a major research paper or pursuing an internship.
  - o 1.5 FCEs may be completed in the following way: 0.5 to 1.0 may be chosen from rotating special topics courses, also under the CIN rubric (but possibly cross-listed with another department, depending on the instructor's departmental home); the remaining 0.5 to 1.0 may be chosen from film-based courses offered by other units (non-CIN designator) but approved as relevant to the Cinema Studies master's program curriculum.
- All students complete CIN 1000H, CIN 1001H, and CIN 1002H.
- Additional requirements for students choosing the **major research paper option**:
  - o CIN 1006Y
  - o 0.5 to 1.0 FCE derived from CIN 1003H, CIN 1539H, CIN 6155H, CIN 6156H, CIN 6803H
  - o 0.5 to 1.0 FCE derived from approved graduate-level courses offered outside CIN.
- Additional requirements for students choosing the **internship option**:
  - o CIN 1007Y
  - o 0.5 to 1.0 FCE derived from CIN 1003H, CIN 1539H, CIN 6155H, CIN 6156H, CIN 6803H
  - o 0.5 to 1.0 FCE derived from approved graduate-level courses offered outside CIN.

Courses
Not all courses are offered every year. The Department should be consulted each session as to course offerings.

Core Courses
CIN 1000H   Historiography of the Cinema
CIN 1001H   Theories of the Cinema
CIN 1002H   Cinema and Culture

Plus one of:
CIN 1006Y   Major Research Paper in Cinema Studies
CIN 1007Y   Internship in Cinema Studies

Elective Courses
CIN 1003H   Women's Cinema and Women's Film
              Festivals
CIN 1539H   Film Comedy and Popular Culture
CIN 6155H   Actuality, Documentary, Reality
CIN 6156H   Dark Passages: Film and the Geometry of
              Racial Imagination
CIN 6803H   Intertextuality in Feminist Cinema: The
              Counter-Cinematic Impulse

Graduate Faculty

Full Members
Kay Armatage - BA, MA, PhD
Angelica Fenner - BA, MA, PhD
Charles Keil - BA, MA, PhD *(Chair)*
Robert King - BA, MA, PhD

Associate Members
Corinn Columpar - BA, PhD
Nicholas Sammond - BA, MA, PhD
Bart Testa - BA, MA *(Coordinator of Graduate Studies)*

Civil Engineering   CIV

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Civil Engineering - MASc, MEng, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Environmental Engineering, see p. 441
   - Civil Engineering, MEng, MASc, PhD

Overview
The Department of Civil Engineering offers graduate programs leading to the Master of Applied Science, the Master of Engineering, and the Doctor of Philosophy. Qualified students are accepted for advanced studies in one of the following fields: building engineering, environmental engineering, structural engineering, transportation engineering, and engineering geoscience.

Students registered in a graduate degree program involving research are required to participate in the non-credit seminar course JDE1000H Ethics in Research during their first or second session of registration.

Contact and Address

Admission
Web: www.civil.engineering.utoronto.ca
E-mail: graduateadmissions@civ.utoronto.ca
Telephone: (416) 978-5905
Fax: (416) 978-6813

Program
Web: www.civil.engineering.utoronto.ca
E-mail: graduateprograms@civ.utoronto.ca
Telephone: (416) 978-5904
Fax: (416) 978-6813

Department of Civil Engineering
Galbraith Building
35 St. George Street
University of Toronto
Toronto, Ontario M5S 1A4
Canada

Degree Programs

Master of Applied Science

Minimum Admission Requirements
- Students are accepted under the general regulations.
- Minimum mid-B average in each of the final two years of bachelor's degree program.
- Students who do not possess an undergraduate degree in civil engineering, may be required to take more than the usual number of courses.

Program Requirements
- Each student, in consultation with a staff member at the beginning of the program, will establish the distribution of time between course work and thesis or design project.
- Normally a minimum of five half-courses and a thesis. Some sections may require six half-courses and a thesis. Please consult the supervisor and/or refer to the departmental graduate student handbook for further details.

Master of Engineering

Minimum Admission Requirements
- Students are accepted under the general regulations.
- Minimum mid-B average in each of the final two years of study in a bachelor's degree program.
- Students who do not possess an undergraduate degree in civil engineering, may be required to take more than the usual number of courses.

Program Requirements
- Each student, in consultation with a staff member at the beginning of the program, will establish the distribution of time between course work and thesis or design project.
- Normally ten courses for the course work only program. Up to two courses may be replaced by a research/design project.
- There is no formal residence requirement for MEng students; therefore, the program may be completed through part-time studies.

Doctor of Philosophy

Minimum Admission Requirements
- Minimum A- average in bachelor's and master's degree programs.
- Satisfy the Department of the ability to undertake advanced research.
- Students are accepted under the general regulations, except for the following departmental regulations which supercede the general regulations.
- Admission directly from a bachelor's degree is not normally permitted.

- If a student transfers from a master's degree program to a PhD program, courses taken during the master's program may be applied to the PhD program.

Program Requirements
- A major and 2 minor fields of study, normally consisting of a minimum of 4.5 full-course equivalents (FCE) in total beyond the bachelor's degree. More FCE may be required depending on the student's background preparation.
- PhD students with a MASc degree (or equivalent in the same field) must take 2.0 FCE beyond the MASc degree.
- Students enrolled in the MASc degree program who transfer to the PhD program without submitting a MASc thesis must complete a total of 4.5 FCE beyond the bachelor's degree program.
- Students with a MEng degree may use up to 3.0 FCE from the MEng program towards the PhD requirement of 4.5 FCE.
- Comprehensive examination after completing most of the course work and preferably within one year after first enrolment in the PhD program.
- Students normally spend at least two academic years of their program on campus on a full-time basis.

Courses

Not all courses are given every year. Some courses may require a prerequisite. Please consult the Department.

General Interest
CIV 1099H   Special Studies in Civil Engineering
CIV 1307H   Evaluating the Sustainability of Engineering Activities
CIV 1310H   Infrastructure Economics
CIV 1337H   Simulation in Civil Engineering
CIV 1504H   Applied Probability and Statistics for Civil Engineering
CIV 1539H   Evaluation of Civil Engineering Systems
CIV 1600H   Readings in Technology and Modern Society I
CIV 1601H   Readings in Technology and Modern Society II

Building Engineering
CIV 514H   Concrete Technology
CIV 575H   Building Science
CIV 1250H   Instrumentation Techniques in Concrete Technology
CIV 1252H   Repair and Maintenance of Concrete Structures
CIV 1277H   Construction Estimating and Finance
CIV 1278H   Pre-Project Planning and Constructability Analysis
CIV 1279H   Construction Contract Documents
CIV 1280H   Building Envelope Design
CIV 1281H   Management of Building Projects
CIV 1282H   Case Studies in Building Science

CIV 1283H   Civil Informatics
CIV 1299H   Special Studies in Civil Engineering

Environmental Engineering
CIV 540H   Treatment Processes
CIV 549H   Groundwater Flow and Contamination
CIV 550H   Water Resources Engineering
CIV 1303H   Water Resources Systems Modelling
CIV 1305H   Water Resources Systems Analysis
CIV 1308H   Physical/Chemical Treatment Processes
CIV 1309H   Biological Treatment Processes
CIV 1319H   Chemistry and Analysis of Water and Wastes
CIV 1335H   Advanced Hydrogeology
CIV 1399H   Special Studies in Civil Engineering

Geoscience
CIV 523H   Geotechnical Design
CIV 529H   Rock Engineering
CIV 1404H   Material Fracture Dynamics: Experimental Methods
CIV1410H   Satellite Positioning and Remote Sensing
CIV 1419H   Rock Dynamics
CIV 1420H   Soil Properties and Behaviour
CIV1421H   Continuum Mechanics of Fluids and Solids
CIV 1446H   Slopes and Earthworks
CIV 1499H   Special Studies in Civil Engineering

Structural Engineering
CIV 510H   Solid Mechanics II
CIV 513H   Collaborative Engineering and Architectural Design Studio
CIV 517H   Prestressed Concrete Structures
CIV 518H   Behaviour and Design of Steel Structures
CIV 519H   Structural Analysis II
CIV 1163H   Mechanics of Reinforced Concrete
CIV 1164H   Bridge Engineering
CIV 1169H   Advanced Topics in Building Design
CIV 1167H   Structural Dynamics and Earthquake Engineering
CIV 1174H   Finite Element Methods in Structural Mechanics
CIV 1175H   Design of Tubular Steel Structures
CIV 1199H   Special Studies in Civil Engineering
CIV 1361H   Reinforced and Prestressed Concrete Structures

Transportation Engineering and Planning
CIV 531H   Transport III—Planning
CIV 533H   Transport Operations
CIV 1505H   Transportation Research Seminar
CIV1506H   Freight Transportation and ITS Applications
CIV 1507H   Public Transport
CIV 1508H   Airport Planning and Engineering
CIV 1535H   Transportation and Development
CIV 1532H   Fundamentals of IT's and Traffic Management
CIV 1538H   Transportation Demand Analysis
CIV 1540H   Urban Transportation Networks
CIV 1599H   Special Studies in Civil Engineering

Graduate Faculty

Full Members
Baher Abdulhai - BSc, MSc, PhD
Barry Adams - BSc, MS, PhD, FCSCE, PEng
Robert Andrews - BASc, MASc, PhD, PEng
William Bawden - BASc, MSc, PhD, PEng
Evan Bentz - BASc, PhD
Philip Byer - SB, SM, PhD, PEng
Constantin Christopoulos - BIng, MASc, PhD, PEng
Michael Collins - BE, PhD, FACI, FCSCE, PEng,
  University Professor, Bahen/Tanenbaum Professor
Adrian Crawford - BE, MASc, PhD
John Curran - BASc, MEng, PhD, PEng, Robert M Smith
  Chair in Geotechnical Mine Design and Analysis
Tamer El-Diraby - BSc, MSc, PhD
Georgia Fotopoulos - BSc, MSc, PhD, PEng
Douglas Paul Gauvreau - BSc, MSE, Dr.sctechn, PEng
Murray Grabinsky - BASc, MASc, PhD, PEng
Giovanni Grasselli - MASc, PhD
Ronald Hofmann - BEng, MSc, PhD, PEng
R Douglas Hooton - BASc, MASc, PhD, FACI, FASCE,
  PEng
Bryan Karney - BASc, MEng, PhD, PEng
Christopher Kennedy - BEng, DiplEcon, DIC, MASc,
  MBA, PhD, PEng
Heather MacLean - BASc, MBA, MSc, PhD, PEng
Brenda McCabe - BASc, PhD, FCSCE, PEng *(Chair)*
Eric Miller - BASc, MASc, PhD, Bahen/Tanenbaum
  Professor
Jeffrey Packer - BE, MSc, PhD, DSc, FICE, FASCE,
  CEng, PEng *(Coordinator of Graduate Studies)*
Daman Panesar - BEng,MESc, PhD, PEng
Kim Pressnail - BASc, MASc, PhD, LLB
Matthew Roorda - BEng, MSc, PhD, PEng
Amer Shalaby - BSc, MASc, PhD, PEng
Shamim Sheikh - BSc, MASc, PhD, PEng
Brent Sleep - BASc, MASc, PhD, PEng
Willem Vanderburg - BASc, MASc, PhD, PEng
Frank Vecchio - BASc, MEng, PhD, PEng
Kaiwen Xia - BASc, MASc, PhD
R. Paul Young - BSc, MSc, Post-grad Cert Ed, PhD,
  CGeol, CEng, Keck Chair of Engineering Seismology
  and Rock

Members Emeriti
Peter Birkemoe - BSCE, MSCE, PhD, PEng
Jerzy Ganczarczyk - MSc, DSc, PEng
Ezra Hauer - BSc, MSc, PhD, PEng
Vanolin Hurdle - BS, MEng, PhD, PEng
Theodore Kenney - BEng, DIC, MSc, PhD, PEng
Bibhuti Mohanty - BSc, MTech, MA, PhD , PEng
Kenneth Selby - BASc, MBA, PhD, PEng
Richard Soberman - BSc, SM, PhD, PEng
Gerald Steuart - BSc, MSc, PhD, PEng
John Timusk - BASc, MASc, PhD, PEng
George Will - BASc, MASc

Associate Members
David Bagley - BS, MS, PhD, PEng
Baidar Bakht - BSc, MSc, DSc, PEng
Murtaza Haider - PhD
Satish Joshi - PhD
David Keith - BSc, PhD
Steven Liss - BSc (Hon), MSc, PhD

Classics   CLA

Faculty Affiliation
Arts and Science

Degree Programs Offered
Classics – MA, PhD
Greek or Latin - MA

Collaborative Programs Offered
Degree programs that participate in:
1. Ancient and Medieval Philosophy, see p. 411
   - Classics, PhD
2. Ancient Greek and Roman History, see p. 412
   - Classics, PhD
3. Editing Medieval Texts, see p. 437
   - Classics, PhD
4. Women and Gender Studies, see p. 473
   - Classics, MA, PhD

Overview
The Department of Classics provides advanced training leading to the **Master of Arts** and **Doctor of Philosophy** degrees in a wide range of fields: Ancient Greek Language and Literature, Latin Language and Literature, Ancient History, Ancient and Medieval Philosophy (in collaboration with the Department of Philosophy), and Ancient Science.

The Ancient Greek and Roman History Joint Collaborative Program (see separate entry in this calendar) provides for interdisciplinary study with faculty from the Graduate Program in History at York University.

Information about admission, application procedures and funding is available from the Department.

Contact and Address
Web: www.chass.utoronto.ca/classics/
E-mail: grad.classics@utoronto.ca
Telephone: (416) 978-5513
Fax: (416) 978-7307

Department of Classics
125 Queen's Park Crescent
University of Toronto
Toronto, Ontario M5S 2C7
Canada

Degree Programs

Classics

Master of Arts

Minimum Admission Requirements
- Successful completion of an undergraduate program in Classics with B+ average in final year and the equivalent of at least three and preferably four full years of training in each of Latin and Greek.
- Admitted to a one-year or two-year program, depending on student's level of preparation.
- Students who are otherwise qualified but possessing less training in the languages should consult with the Department about further preparation.

Program Requirements
- Satisfactory completion of the required courses (at least GRK 1000H, GRK 2000H, GRK 2100H and LAT 1000H, LAT 2000H, LAT 2100H).
- Satisfactory completion of the MA examination cycle with at least a B- grade on each component.
- Submission of an acceptable special essay with a grade of at least B.

Two-year Master of Arts
- Year 1 - GRK 1000H and LAT 1000H (intensive advanced language skills) and a selection of other courses approved by the Department. Students may be exempted from either 1000H course if they have satisfactorily completed comparable work in their undergraduate program. A standing of at least B+ must be earned in each undergraduate course. Students who do not complete these courses with appropriate standing may be required to withdraw from the MA program or to retake the courses.
- Year 2 - Classics of Greek Literature (GRK 2000H, GRK 2100H) and Classics of Latin Literature (LAT 2000H, LAT 2100H).
- Each student is assigned to a faculty advisor for CLA 2000H, the MA special essay, and works independently on the preparation of a research paper (about 8000 words in length). The special essay is assessed by a committee of two faculty members, including the advisor.

One-year Master of Arts
- Four half-courses: Classics of Greek Literature (GRK 2000H, GRK 2100H) and Classics of Latin Literature (LAT 2000H, LAT 2100H).
- Students may be required to take GRK 1000H and/or LAT 1000H to help them prepare for the MA examinations.
- Each student is assigned to a faculty advisor for CLA 2000H, the MA special essay, and works independently on the preparation of a research paper (about 8000 words in length). The special essay is assessed by a committee of two faculty members, including the advisor.

- Completion of the MA examinations with at least B- in each component:
    o Sight translation examination in Greek (not required for the MA in Latin).
    o Sight translation examination in Latin (not required for the MA in Greek).
    o Reading list examination in Greek Prose.
    o Reading list examination in Greek Verse.
    o Reading list examination in Latin Prose.
    o Reading list examination in Latin Verse.

Greek or Latin

Master of Arts

Students should be aware that the MA in Greek or Latin alone is not normally adequate preparation for doctoral study in Classics.

Minimum Admission Requirements

- Successful completion of an undergraduate program in Classics with B+ average in final year and the equivalent of at least three and preferably four full years of training in each of Latin and Greek.
- Admitted to one-year or two-year program, depending on student's level of preparation.
- Students who are otherwise qualified but possessing less training in the languages should consult with the Department about further preparation.

Program Requirements

- MA students in Greek or Latin must satisfy all the normal requirements for the MA in Classics, but are only required to pass one of the MA sight translation examinations in the minor language.

Doctor of Philosophy

Minimum Admission Requirements

- **Standard conditions** - successful completion of either a strong undergraduate program in Classics (with at least an A- average in the final year) or a strong MA program in Classics (at least a B+ average with at least one A-), with the equivalent of at least four years of training in each of Latin and Greek and a broad preparation in the reading of ancient texts in the original languages.
- **Advanced standing** - applicants may be admitted with advanced standing if they have completed the revised MA program at the University of Toronto (having graduated in the year 2000 or later) with grades of at least B+ in all components and a grade of at least A- on the special essay. Applicants must have reading knowledge of one of the modern languages required for the PhD.

Program Requirements

- Students admitted under **standard conditions** described above must:
- satisfactorily complete required courses (GRK 1000H, GRK 2000H, GRK 2100H and LAT 1000H, LAT 2000H, LAT 2100H). In exceptional circumstances and at the Department's discretion, students who require additional preparation for the reading lists may be required to take a selection of courses approved by the Department during their first year before beginning to prepare for the qualifying examinations.
- Pass all components of the MA examination cycle with grades of at least B+.
- Earn a grade of at least A- on the special essay.
- The examination cycle and the special essay are referred to as the qualifying examinations and qualifying essay. Doctoral students who complete the qualifying examinations and essay at a lower standard which nevertheless satisfies the MA requirement will be granted the MA but may be required to withdraw from the doctoral program or to retake examinations.

- Students admitted with **advanced standing** are exempt from the qualifying examinations and qualifying essay.
- Demonstrate adequate reading knowledge of two languages of research, other than English, one of which will normally be German. By the end of year one, students are expected to have passed one modern language examination. By the end of year two, students should have completed the other modern language examination.
- In the second year (first year for students admitted with advanced standing) students take CLA 3000H Research Techniques in Classics and at least three of the required total of five research seminars.
- **Minor field (CLA 3500H°).** The minor field is established at the end of second year (first year for students admitted with advanced standing) and must be clearly distinct from the major field. The field is prepared under the supervision of two faculty advisors. The examination on the field is conducted by a committee composed of the two faculty advisors and the graduate coordinator.
- **Major field (CLA 4000Y°).** The major field defines a broad area within which the dissertation topic falls. It is normally established by the third year of the program (second year for students admitted with advanced standing) and is directed by the supervisory committee. Preparation for the examination includes the completion of a satisfactory research essay. The field is examined by means of two written examinations, one of which must involve translation from the list of primary sources, and an oral examination covering the research essay and the examination papers.
- By the end of the third year (second year for students admitted with advanced standing) students should have completed their minor field examination and the rest of their required research seminars.

- The major field examination should be completed by the middle of fourth year (third year for students admitted with advanced standing).
- The dissertation should be completed by the end of the fifth year (fourth year for students admitted with advanced standing).

Courses

GRK 1000H   Advanced Studies in Greek Language (Credit/No Credit)
GRK 2000H   Classics of Greek Verse (Credit/No Credit)
GRK 2100H   Classics of Greek Prose (Credit/No Credit)
GRK 2500Y°   Greek Verse Exam
GRK 2501Y°   Greek Prose Exam
GRK 2505Y°   Greek Sight Exam
LAT 1000H   Advanced Studies in Latin Language (Credit/No Credit)
LAT 2000H   Classics of Latin Verse (Credit/No Credit)
LAT 2100H   Classics of Latin Prose (Credit/No Credit)
LAT 2500Y°   Latin Verse Exam
LAT 2501Y°   Latin Prose Exam
LAT 2505Y°   Latin Sight Exam
CLA 2000H°   MA Special Essay
CLA 3000H   Research Techniques in Classics
CLA 3020H   Research Methods in Ancient History
CLA 3200Y   Work in Progress in Ancient History
CLA 3500H°   Minor Field
CLA 4000Y°   Major Field

Research Seminars

The following courses are open to students in other departments with the permission of the instructor and the Department. See the departmental brochure or Web site for language requirements. Not all courses are offered every year. See the departmental brochure or Web site for offerings in the current year.

CLA 5000H   Early Greek Epic
CLA 5001H   Early Greek Poetry
CLA 5002H   Studies in Greek Drama I
CLA 5003H   Studies in Greek Drama II
CLA 5004H   Studies in Greek Poetry
CLA 5007H   Criticism of Latin Poetry
CLA 5008H   Roman Comedy
CLA 5009H   Literature of the Roman Republic
CLA 5010H   Virgil
CLA 5011H   Satire and Satirical Writing
CLA 5012H   Studies in Ancient Philosophy I
CLA 5013H   Studies in Ancient Science
CLA 5014H   The Ancient Novel
CLA 5015H   Latin Poetry of the Empire
CLA 5016H   Topics in Greek and Hellenistic History
CLA 5017H   Latin Legal Texts and the History of Late Roman Institutions
CLA 5018H   Topics in Roman History
CLA 5019H   Topics in Later Roman History
CLA 5020H   Studies in Ancient Philosophy II

° Courses which may continue over a program. The course is graded when completed.

CLA 5021H   Topics in the Study of Greek and Hellenistic Literature and Culture
CLA 5022H   Topics in the Study of Greek and Hellenistic Society
CLA 5023H   Topics in the Study of Roman Literature and Culture
CLA 5024H   Topics in the Study of Roman Society
CLA 5025H   Topics in Greek and Hellenistic History II
CLA 5026H   Topics in Graeco-Roman Historiography I
CLA 5027H   Topics in Graeco-Roman Historiography II
CLA 5028H   Topics in Graeco-Roman History I
CLA 5029H   Topics in Graeco-Roman History II
JMT 1000H   Andronicus of Rhodes and the Early Peripatos
JMT 1001H   Topics in Ancient Philosophical Commentators
JMT 1002H   Augustine: *Soliloquia*

Directed Reading

CLA 1300Y   Studies in Classical Antiquity
CLA 1301H   Studies in Classical Antiquity
CLA 1302Y   Studies in Classical Antiquity
CLA 1303H   Studies in Classical Antiquity
CLA 1306H   Studies in Greek Literature I
CLA 1307H   Studies in Greek Literature II
CLA 1308H   Studies in Latin Literature I
CLA 1309H   Studies in Latin Literature II

Graduate Faculty

Full Members

Rachel Barney - BA, PhD, Canada Research Chair
Christer Bruun - BA, MA, PhD *(Coordinator of Graduate Studies)*
Jonathan Burgess - BA, MA, PhD
Michael Dewar - BA, MA, DPhil
Erik Gunderson - BA, MA, PhD
Brad Inwood - BA, MA, PhD, FRSC, Canada Research Chair
Alexander Jones - BA, PhD, FRSC
Alison Keith - BA, PhD *(Chair)*
John Magee - BA, MA, PhD
Hugh Mason - BA, AM, PhD
Catherine Rubincam - BA, PhD
Victoria Wohl - BA, MA, PhD

Members Emeriti

Timothy Barnes - BA, MA, DPhil, FRSC
Roger Beck - BA, MA, PhD
John Grant - BA, MA, PhD
Marjorie Irwin - BA, MA, PhD
Christopher McDonough - BA, MA, PhD
John Rist - BA, MA, FRSC
Emmet Robbins - BA, MA, PhD
John Traill - BA, MA, PhD
Malcolm Wallace - BA, MA, PhD

Associate Members
Benjamin Akrigg - BA, PhD
Andreas Bendlin - PHd
Michel Cottier - BA, PhD
Jonathan Edmondson - PhD
Regina Hoschele - MA, PhD
Thomas Lytle - BA, PhD
Martin Revermann - PHD

Comparative Literature   COL

Faculty Affiliation
Arts and Science

Degree Programs
Comparative Literature – MA, PhD

Overview
Applicants interested in graduate study at the Centre for Comparative Literature at the University of Toronto should consult the Centre's Web site www.chass.utoronto.ca/complit. It provides updated information about requirements, graduate programs, course offerings, and academic profiles of graduate faculty.

The Centre offers **Master of Arts** and **Doctor of Philosophy** degree programs to students qualified to pursue literary studies involving several languages. If the language and other requirements of the Centre are satisfied, students may pursue theoretical issues that cross traditional disciplines.

Admissions are selective; therefore, applicants with the minimum qualifications cannot be guaranteed admission.

Applicants, including those from the University of Toronto, must arrange for recommendations from two referees; must submit a statement of purpose not exceeding 500 words; and must submit a sample of written work, preferably a short essay on a literary topic. Admission to all programs for higher degrees will be based upon the applicant's undergraduate and graduate records and upon the evidence of the references and statement. The deadline for receiving applications to both the MA and PhD programs is February 1.

All incoming students will meet with the Graduate Coordinator to discuss their program and to decide on their course of study before beginning classes.

Collaborative Programs
Degree programs that participate in:
1. Book History and Print Culture , see p. 424
   - Comparative Literature, MA, PhD
2. Women and Gender Studies, see p. 473
   - Comparative Literature, MA., PhD

Contact and Address
Web: www.chass.utoronto.ca/complit
E-mail: complit@chass.utoronto.ca
Telephone: (416) 813-4041
Fax: (416) 813-4040

Centre for Comparative Literature
Isabel Bader Theatre
Third Floor
93 Charles Street West
Toronto, Ontario M5S 1K9
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- General regulations of the School of Graduate Studies provided that applicants also satisfy the Centre for Comparative Literature's requirements stated below. In all cases, programs of study must be approved by the Centre.
- Four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes courses in literature and languages with an average grade of at least B+ in the applicant's overall program.
- Demonstrated experience in the study of two literatures at the undergraduate level and an ability to work at the graduate level in at least one language other than English.
- Students may be admitted to either a one-year or a two-year degree depending upon their academic background. Those who have sufficient training in at least two literatures in the original languages may be admitted to a one-year program.
- All applicants must register as full-time students.

Program Requirements
- Students admitted to the **one-year program** must complete at least 4 full-course equivalents (FCE) including at least 2.5 FCE in COL courses, one of which must be COL 1000H.
- Students admitted to the **two-year program** must complete at least 6.0 FCE including at least 3.5 FCE in COL courses, one of which must be COL 1000H.
- Students may pursue independent research for credit equivalent to 0.5 FCE at the MA level, under the direction of an advisor approved by the Centre.
- A plan of study defined by each MA student through consultation with the graduate coordinator in light of the student's particular areas of interest and background. This plan of study is subject to the approval of the Centre for Comparative Literature. In addition to the numerous courses in literary theory, methodology, and interdisciplinary topics offered by the Centre, courses may also be selected from departments of language and literature, as well as from other units in the humanities.
- Average of at least B+ in course work.
- MA students who intend to pursue doctoral studies are strongly advised to make appropriate plans for the acquisition of graduate level competence in a second language and literature other than English. An adequate reading knowledge of this second language must be demonstrated before the MA is received.

Doctor of Philosophy

Minimum Admission Requirements
- General regulations of the School of Graduate Studies provided that applicants also satisfy the Centre for Comparative Literature's requirements stated below. In all cases, programs of study must be approved by the Centre.
- University of Toronto master's degree, or its equivalent from a recognized university, with an average grade of at least A-. Normally, the master's degree will be in Comparative Literature; however, students with a master's degree in a humanities discipline involving literary studies, especially specific language and literature programs, will also be considered. Demonstrated ability to do advanced research in two languages and literatures other than English.
- Submit preliminary statement of purpose.

Program Requirements
- A student with an **MA in Comparative Literature**, or its equivalent, must take at least 5.0 full-course equivalents (FCE), of which 3.0 FCE must be COL courses. A student who has an **MA in a humanities discipline** involving literary studies, especially specific language and literature programs, may be required to take up to 8.0 FCE, of which at least 4.0 FCE must be COL courses. The actual number of courses required for the PhD will be established at the time of admission through consultation with the Director/Coordinator of Graduate Studies.
- Students define the scope and approach of their plan of study in consultation with the Graduate Coordinator and other faculty. During the first two years of the program, students complete course work, language requirements, and prepare for the field examination. Course work must be completed within the first two years of the PhD program. Students constitute a field examination/supervisory committee and submit a dissertation proposal no later than the end of the second year of PhD study. The field examination is taken no later than the end of the first session of the third year.
- Students must demonstrate an ability to work at the graduate level in two languages and literatures other than English. An adequate reading knowledge of a third language other than English must be demonstrated before taking the field examination. Certification of graduate level competence and reading knowledge is given to all students who qualify. All students are expected to achieve a thorough command of at least two literatures and must do work at the graduate level in another literature. This means that students must include courses in three literatures in their program or show evidence of extensive independent research under the supervision of members of the graduate faculty. Students who intend to specialize in comparative French-Canadian and English-Canadian literature may fulfil their other literature requirements through graduate-level work in continental French and British literature.

- Students may pursue independent research for credit equivalent to 0.5 FCE at the PhD level, under the direction of an advisor approved by the Centre.
- All PhD students are required to enrol in COL 4000Y, a credit/non-credit course, in addition to the agreed upon number of FCEs in their individual program. Normally students enrol in COL 4000Y after completing their course work. The course has no specific content, but it recognizes the work done in preparation for the field examination.
- Prepare and defend a dissertation which must be an original and significant contribution to the existing body of knowledge.
- Students' progress will be assessed at least once a year by the Centre's Graduate Academic Committee and/or their respective supervisory committees.
- The student must be geographically available, visit the campus regularly, and must register as a full-time student. In addition, a full-time student is not permitted to be absent from the University for an extended period or to participate in a program offered by another university without the explicit written permission of the Centre for Comparative Literature. Ideally, the PhD program in Comparative Literature should be completed in four years.

Courses
Students should consult the Comparative Literature handbook as well as the handbooks of other departments for courses that may be taken for credit. Information about course availability is also contained in the handbooks.

Core Program
COL 1000H   Faculty Seminar: Theories of Literature and Criticism
COL 1255H   Aspects of Structuralism
COL 1900H   Reading and Research for the MA
COL 1910H   Reading and Research for the PhD
COL 3380Y   Globalization and Culture
COL 4000Y° Practicum on Research and Bibliography in Comparative Literature (Credit/No Credit)
COL 5012Y   Readings in Czech and Russian Literary Theory
COL 5021H   The Body in Medieval Literature
COL 5032H   Feminist Approaches to Medieval Literature
COL 5025Y   Feminism and Postmodernism: Theory and Practice
COL 5050Y   Social Constructions and Artistic Images of Women in Modern Chinese Literature, Drama and the Movies
COL 5064H   Medieval Literary Theory
COL 5067Y   Ruins
COL 5070H   Neo-primitivism in Contemporary Discourses
COL 5071H   Psychoanalysis, "Race," and Culture

° Courses which may continue over a program. The course is graded when completed.

COL 5072H   Affinities: Readings of Realism and
               Radicalism
COL 5073H   Chinese Literature in the Modern World
COL 5074H   Art and Politics: Bertolt Brecht, Robert
               Lepage, Robert Wilson
COL 5075H   Theorizing Literary History: the Example of
               the "Renaissance"
JIC 5000H   Narrativity and Intertextuality in Italian
               Fiction: "Boccaccio-Eco"
JLE 5075H   Orientalism and Opera: Interdisciplinary
               Approaches

Graduate Faculty

Full Members
Veronika Ambros - BA, MA, PhD
Antje Budde
Eric Cazdyn - BA, MA, PhD
J Edward Chamberlin - BA, PhD, FRSC, University
 Professor
Rebecca Comay - BA, MA, PhD
Uzoma Esonwanne - BA, MA, PhD
John Fleming - BA, MA, PhD
Barbara Havercroft - BA, MA, PhD *(Coordinator of*
 Graduate Studies)
Linda Hutcheon - BA, MA, PhD, University Professor,
 FRSC
Eva-Lynn Jagoe - MA, PhD
Pia Kleber - BA, MA, PhD
Ann Komaromi - BA, MA, PhD
Thomas Lahusen - BA, MA, PhD
Roland Le Huenen - L es L, DenPh, ChPA, FRSC
 (Director)
Julie LeBlanc - MA, PhD
Victor Li - BA, MA, PhD
Yue Meng
Jill Ross - BA, MA, PhD
Stephen Rupp - BA, MA, MPhil, PhD
John Zilcosky - PhD

Members Emeriti
George Bisztray - PhD
Natalie Davis - BA, MA, PhD, FAmAcAs, CFBrAc
Lubomir Dolezel - BA, MA, PhD, FRSC
Eva Kushner - MA, PhD, FRSC
Peter Nesselroth - MA, PhD, ChPA
Anthony Percival - BA, MA, PhD
Brian Stock - AB, PhD
Mario Valdes - BA, MA, PhD, FRSC, Miembro
 Correspondiente de la Academia Mexicana

Associate Members
Suzanne Akbari - BA, MA, MPhil, PhD
Christopher Barnes - BA, MA, PhD
Josiah Blackmore - BA, MA, PhD
Russell Brown - BA, MA, PhD
Rocco Capozzi - BA, MA, PhD
Caryl Clark - BMus, MA, PhD
Angela Cozea - BA, MA, PhD

Willi Goetschel - LicPhil, PhD
Sebastian Guenther - MA, PhD
Marsha Hewitt - BA, MA, MA, PhD
Brad Inwood - BA, MA, PhD, FRSC, Canada Research
 Chair
Heather Jackson - BA, MA, PhD
Alison Keith - BA, PhD
James Kippen - BA, PhD
Elizabeth Mm Legge - BA, MA, PhD
Garry Leonard - BA, MA, PhD
Frederick Marker - AB, DFA
Hugh Mason - BA, AM, PhD
Jill Matus - BA, MA, PhD
Andreas Motsch - MA, PhD
John Noyes - BA, MA, PhD
Janet Paterson - MA, PhD, FRSC
Julian Patrick - BA, MA, PhD
Paul Perron - BA, D de L'U, ChPA, OPA, FRSC
Domenico Pietropaolo - BSc, MA, PhD
Olga Pugliese - BA, MA, PhD
Atsuko Sakaki - MA, PhD
Rosa Sarabia - BA, MA, PhD
Luca Somigli - DLett, PhD
Ricardo Sternberg - BA, MA, PhD
David Thomson
Tamara Trojanowska - BA, MA, PhD
Ming Xie - PhD

Computer Science   CSC

Faculty Affiliation
Arts and Science

Degree Programs Offered
Computer Science – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Genome Biology and Bioinformatics, see p. 448
   - Computer Science, PhD
2. Knowledge Media Design, see p. 462
   - Computer Science, MSc, PhD

Overview
The Department of Computer Science offers a graduate program leading to two degrees: **Master of Science** and **Doctor of Philosophy**. The graduate program consists of courses and research. Research is conducted under the supervision of a faculty member.

Graduate faculty in the Department of Computer Science are interested in a wide range of subjects related to computing, including programming languages and methodology, software engineering, operating systems, compilers, distributed computation, networks, numerical analysis and scientific computing, financial computation, data structures, algorithm design and analysis, computational complexity, cryptography, combinatorics, graph theory, artificial intelligence, neural networks, knowledge representation, computational linguistics, computer vision, robotics, database systems, graphics, animation, interactive computing, and human-computer interaction.

For further details, consult the Graduate Student Handbook prepared by the department, also available at www.cs.utoronto.ca/DCS/Grad/index.html.

Contact and Address
Web: www.cs.utoronto.ca
Email: gradprograms@cs.toronto.edu
Telephone: (416) 978-8762
Fax: (416) 978-1931

Department of Computer Science
Graduate Office
Room 3304, Sandford Fleming Building
10 King's College Road
University of Toronto
Toronto, Ontario M5S 3G4
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Successful completion of an undergraduate degree equivalent to a four-year program at the University of Toronto with a standing equivalent to at least B+. Preference given to applicants who have studied computer science or a closely related discipline.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction is not English must achieve a TOEFL score of at least 580 on the paper-based test and 4 on the TWE; 237 on the computer-based test and 4 on the essay rating component; 93/120 on the internet-based test and 22/30 on the writing and speaking sections.

Program Requirements
- 1.5 to 2.5 graduate full-course equivalents (FCE) in computer science. The courses must satisfy a breadth requirement to ensure a broad and well-balanced knowledge of computer science. The number of FCE required will be determined in consultation with the supervisor and the graduate coordinator.
- A major research paper demonstrating the student's ability to do independent work in organizing existing concepts and in suggesting and developing new approaches to solving problems in a research area. The standard for this paper is that it could reasonably be submitted for peer-reviewed publication.
- This degree is offered on either a full-time or part-time basis.

Doctor of Philosophy

Minimum Admission Requirements
- Successful completion of a master's degree with a standing equivalent to at least B+. In exceptional circumstances, applicants may be admitted to this program directly from a bachelor's degree with at least A- standing. Preference is given to applicants who have studied computer science or a closely related discipline.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction is not English must achieve a TOEFL score of at least 580 on the paper-based test and 4 on the TWE; 237 on the computer-based test and 4 on the essay rating component; 93/120 on the internet-based test and 22/30 on the writing and speaking sections.

Program Requirements
- Students entering the PhD program with a computer science master's degree will require 1.5 to 3.0 full-course equivalents (FCE) and a thesis. Other students will require 3.0 to 4.5 FCE and a thesis. The number of courses required will be determined in consultation with the supervisor and the graduate coordinator. The courses must satisfy a breadth requirement to ensure a broad and well-balanced knowledge of computer science.
- At approximately 30 months, students will be expected to pass a qualifying examination in their area of research.
- The most important part of doctoral work is original research conducted under the direction of a faculty member. This research must constitute a significant and original contribution to computer science. The results must be presented in a thesis and defended at department and graduate school oral examinations.

Courses

Programming Languages and Methodology
CSC 2104H   Formal Methods of Program Design
CSC 2106H   Requirements Engineering
CSC 2107H   Compilers and Interpreters
CSC 2108H   Automated Verification
CSC 2122H   Language and Compiler Design
CSC 2123H   Managing the Software Organization
CSC 2124H   Topics in Programming Languages
CSC 2125H   Topics in Software Engineering
CSC 2130H   Empirical Research Methods in Software Engineering

Computer Systems: Hardware and Software
CSC 2204H   Operating Systems
CSC 2205H   Performance in Distributed Operating Systems
CSC 2206H   Computer Systems Modelling
CSC 2207H   Topics in Computer Organization
CSC 2208H   Advanced Operating Systems
CSC 2209H   Computer Networks
CSC 2221H   Introduction to Distributed Computing
CSC 2225H   Structure and Correctness in Operating Systems
CSC 2227H   Topics in the Design and Implementation of Operating Systems
CSC 2228H   Topics in Mobile and Pervasive Computing
CSC 2229H   Topics in Multiple Access Communications Networks
CSC 2231H   Topics in Computer Systems

Numerical Analysis and Scientific Computation
CSC 2302H   Initial Value Problems for Ordinary Differential Equations
CSC 2305H   Numerical Methods for Optimization Problems
CSC 2306H   High Performance Scientific Computing
CSC 2307H   Numerical Software

CSC 2308H   Numerical Methods for Nonlinear Equations
CSC 2310H   Computational Methods for Partial Differential Equations
CSC 2312H   The Design and Assessment of Numerical Algorithms
CSC 2321H   Matrix Calculations
CSC 2322H   Boundary Problems for Ordinary Differential Equations
CSC 2324H   Advanced Methods for Partial Differential Equations
CSC 2326H   Topics in Numerical Analysis

Computational Complexity
CSC 2401H   Introduction to Computational Complexity
CSC 2404H   Computability and Logic
CSC 2405H   Automata Theory
CSC 2411H   Linear Programming and Combinatorial Optimization
CSC 2415H   Advanced Topics in Distributed Computing
CSC 2416H   Machine Learning Theory
CSC 2423H   Finite Model Theory and Descriptive Complexity
CSC 2426H   Topics in Cryptography
CSC 2428H   Logic and Automata
CSC 2429H   Topics in the Theory of Computation
MAT 1750H   Computational Mathematics

Applied Discrete Mathematics
CSC 2406H   Triple Systems
CSC 2410H   Algorithms in Graph Theory
CSC 2412H   Computer Algebra
CSC 2413H   Combinatorial Methods and Designs
CSC 2414H   Topics in Applied Discrete Mathematics
CSC 2418H   Computational Structural Biology
CSC 2421H   Algebraic and Combinatorial Techniques in Complexity Theory
CSC 2422H   Reasoning About Knowledge
CSC 2427H   Topics in Graph Theory

Artificial Intelligence
CSC 2501H   Computational Linguistics
CSC 2502H   Knowledge Representation and Reasoning
CSC 2503H   Foundations of Computer Vision
CSC 2506H   Probabilistic Learning and Reasoning
CSC 2511H   Natural Language Computing
CSC 2512H   Constraint Satisfaction Problems
CSC 2515H   Introduction to Machine Learning
CSC 2517H   Discrete Mathematical Models of Sentence Structure
CSC 2518H   Spoken Language Processing
CSC 2519H   Natural Language Semantics
CSC 2520H   The Computational Lexicon
CSC 2523H   Object Modelling and Recognition
CSC 2528H   Advanced Computational Linguistics
CSC 2530H   Visual Modelling
CSC 2532H   Dynamical Systems and Artificial Intelligence
CSC 2533H   Foundations of Knowledge Representation
CSC 2534H   Decision Making Under Uncertainty
CSC 2535H   Learning Algorithms for Neural Networks

CSC 2539H   Topics in Computer Vision
CSC 2540H   Special Topics in Computational Linguistics
CSC 2541H   Topics in Machine Learning
CSC 2542H   Topics in Knowledge Representation and
Reasoning
JST 4501Y   Belief Functions and the Assessment of
Uncertainty

Computer Graphics and Human-Computer Interaction
CSC 2504H   Computer Graphics
CSC 2505H   Geometric Representations for Computer
Graphics
CSC 2514H   Human-Computer Interaction
CSC 2521H   Topics in Computer Graphics
CSC 2522H   Advanced Image Synthesis
CSC 2524H   Topics in Interactive Computing
CSC 2529H   Computer Animation
CSC 2536H   Computer Supported Cooperative Work
KMD 1001H   Fundamental Concepts in Knowledge
Media Design

Information Systems
CSC 2231H   Packet Switch and Network Architectures
CSC 2417H   Algorithms for Genome Sequence Analysis
CSC 2431H   Topics in Computational Molecular Biology
CSC 2507H   Conceptual Modelling
CSC 2508H   Advanced Management Systems
CSC 2509H   Data Management Systems
CSC 2510H   Topics in Information Systems
CSC 2525H   Research Topics in Database Management
CSC 2526H   HCI: Topics in Ubiquitous Computing
CSC 2527H   The Business of Software
CSC 2531H   Advanced Topics in Data Management
Systems
CSC 2538H   Topics in Foundations of Databases
CSC 2543H   Research Topics in XML Retrieval

Special Courses
CSC 2199H   Special Reading Course in Programming
CSC 2299H   Special Reading Course in Computer
Systems
CSC 2399H   Special Reading Course in Numerical
Computation
CSC 2499H   Special Reading Course in Theoretical
Aspects of Computer Science
CSC 2599H   Special Reading Course in Computer
Applications
CSC 2600H   Topics in Computer Science
CSC 4000Y   M.Sc. Research Project in Computer
Science

Graduate Faculty

Full Members
Tarek Abdelrahman - BSc, MSc, PhD, PEng, Jeffrey Skoll
  Chair in Software Engineering
Cristiana Amza - BS, MS, PhD
Fahiem Bacchus - MSc, PhD *(Associate Chair,
  Graduate Studies)*
Ronald Baecker - BS, MSc, PhD
Ravin Balakrishnan - BSc, MSc, PhD
J. Christopher Beck - BSc, MSc, PhD
Ian Blake - BASc, MASc, PhD, PEng
Anthony Bonner - BSc, MSc, PhD
Allan Borodin - BA, PhD, FRSC
Craig Boutilier - MSc, PhD
Marsha Chechik - MSc, PhD
Mark Chignell - BSc, MSc, PhD
Christina Christara - BSc, MSc, PhD
Mariano Consens - BEng, MSc, PhD
Stephen Cook - BS, AM, PhD, FRSC, FRS, University
  Professor
Derek Corneil - BSc, MA, PhD
Eyal De Lara - BSc, MSc, PhD
Angela Demke Brown - BSc, MSc, PhD
Sven Josef Dickinson - MSc, PhD *(Acting Chair)*
Stephen Michael Easterbrook - BSc, PhD
Faith Ellen - BM, MMath, PhD
Wayne Enright - BSc, MSc, PhD
Thomas Fairgrieve - MSc, PhD
Eugene Fiume - BM, MSc, PhD
David James Fleet - BSc, MSc, PhD
Mark Fox - BSc, PhD, FAAAI, FCIAR, NSERC Industrial
  Research Chair in Enterprise Integration
Brendan Frey - BSc, MSc, PhD, Canada Research Chair
Yashar Ganjali - BSc, MSc, PhD
Ashvin Goel - BTech, BSc, PhD
G Scott Graham - BSc, MA, MSc, PhD
Vassos Hadzilacos - BSE, PhD
Eric Hehner - BSc, MSc, PhD
Aaron Hertzmann - MS, PhD
Geoffrey Hinton - BA, PhD, FRSC, FRS
Graeme Hirst - BA, BSc, MSc, PhD
Kenneth Jackson - BSc, MSc, PhD
Hans-Arno Jacobsen - Dipl, PhD, Bell University Labs
  Chair in Software Engineering
Allan Jepson - BSc, PhD
Igor Jurisica - DipIng, MSc, PhD
Nick Koudas - BSc, MSc, PhD
Kiriakos Kutulakos - BSc, MSc, PhD
Hector Levesque - BSc, MSc, PhD
Baochun Li - BE, MS, PhD, Bell University Labs Chair in
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Leonid Libkin - BSc, MSc, PhD
David Lie - BASc, MS, PhD
Jorg Liebeherr - DipInf, PhD, Nortel Networks Chair in
  Architecture and Services
Ryan Lilien - BSc, MSc, PhD
Wallace James MacLean - BASc, MASc, PhD, PEng
Avner Magen - BSc, MSc, PhD
Peter Josef Marbach - BSc, MSc, PhD
Rudolf Mathon - MSc, PhD

Sheila McIlraith - MMath, PhD
Eric Mendelsohn - BSc, MSc, PhD
Renee Miller - BS, PhD
Michael Molloy - BMath, MMath, PhD
John Mylopoulos - BSc, MSc, PhD
Radford Neal - BSc, MSc, PhD
Gerald Penn - BSc, MSc, PhD
Toniann Pitassi - MSc, PhD
Charles Rackoff - SB, SM, PhD
Sam Roweis - BSc, MSc, PhD
Stefan Saroiu - PhD
monica schraefel - MSc, PhD
Michael Shub - AB, MA, PhD,
Karan Singh - BSc, MSc, PhD
Brian Cantwell Smith - BS, MS, PhD, Canada Research
  Chair
J. Gregory Steffan - BASc, MASc, MSc, PhD, PEng
Suzanne Ava Stevenson - MSc, PhD
Michael Stumm - DipMath, PhD
Sam Toueg - BSc, MSc, PhD
David Wortman - BE, MS, PhD
Richard Zemel - MSc, PhD

Members Emeriti
Peter Boulton - BASc, MASc, PhD, PEng
Calvin Carl Gotlieb - MSc, PhD, D Math, D Eng, FRSC
James Hume - BA, MA, PhD
Alasdair Urquhart - MA, PhD
Zvonko Vranesic - BASc, MASc, PhD, PEng

Associate Members
Dhavide Aruliah - BSc, MSc, PhD
Anindo Banerjea - BTech, PhD
Helen Suzanna Becker - BSc, MSc, PhD
Angelos Bilas - Dipl CS&E, MA, PhD
Alex Borgida - MSc, PhD
Michael (Mikhail) Brudno - BA, MSc, PhD
Sheelagh Carpendale - BSc, MSc, PhD
Richard Cleve - BSc, MSc, PhD
John Danahy - BLA, CUrbDes, MScUrb&DesPl
Janice Glasgow - BSc, MMath, PhD
Michael Gruninger - BSc, MSc, PhD
Gregory Karakoulas - BSc, MSc, PhD
Anthony LaMarca - BSc, MSc, PhD
Yves Lesperance - BSc, MSc, PhD
Chia Shen - BSc, MSc, PhD
Cristian Sminchisescu - BSc, MSc, PhD
Kevin Stoodley - BSc, MSc
Richard Tefler - BSc, MSc, PhD
Khai Nhut Truong - BA, MSc, PhD
John Tsotsos - BASc, MSc, PhD
Michiel Van De Panne - BSc, MSc, PhD
Gregory Wilson – MSc, PhD,

Criminology   CRI

Faculty Affiliation
School of Graduate Studies

Degree Programs Offered
Criminology - MA, Combined JD/MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
   - Criminology, MA, PhD
2. Women and Gender Studies, see p. 473
   - Criminology, MA, PhD

Overview
The primary aim of the graduate program in Criminology is to provide graduate students with opportunities for advanced multidisciplinary study and supervised research experience concerning crime and the administration of criminal justice. It allows students to become familiar with the existing body of criminological knowledge and to develop critical and analytical skills in relation to the study of crime and the various approaches and techniques of research appropriate to the field. It is specifically designed to educate students for careers (1) in teaching or research in criminology fields and (2) in which a basic training in criminology and the ability to embark upon and critically evaluate criminological research are necessary or desirable.

Students who are enrolled in doctoral programs in other departments of the University of Toronto, and who plan to undertake graduate research on a criminological topic, may apply to be appointed as Junior Fellows at the Centre of Criminology. The overall objective of the program is to involve doctoral students who are studying in areas related to criminology and to enhance the intellectual life of the Centre. Under special circumstances, registered graduate students from other universities involved in criminological research may apply to be appointed as Visiting Junior Fellows.

Contact and Address
E-mail: crim.grad@utoronto.ca
Web: www.criminology.utoronto.ca
Telephone: (416) 978-8679
Fax: (416) 978-4195

Centre of Criminology
14 Queen's Park Crescent West
University of Toronto
Toronto, Ontario M5S 3K9
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants must have a four-year University of Toronto bachelor's degree or its equivalent from a recognized university. A four-year bachelor's degree normally consists of 20 full-course equivalents (FCE). Applicants with arts and science degrees will normally be required to have at least a B+ standing. Applicants from law schools who have already completed a JD degree or its equivalent will normally be required to have at least a B standing.
  - The MA program is designed for students familiar with the approaches and methodologies associated with the social sciences. It would be advantageous for applicants to have some background in the theories of crime and deviance and a basic knowledge of social science research methods. A student who is admitted without such background may be required to do special work before being enrolled.
- The program can be completed on a full-time or part-time basis. All students will be required to complete the program within the time limits set for the MA degree under the general regulations. Students with professional experience who meet the academic admission requirements are encouraged to join the program.
- It is essential that all incoming graduate students have a command of English. Facility in the English language must be demonstrated by all applicants educated outside Canada whose primary language is not English and who graduated from a university where the language of instruction and examination was not English. This requirement must be satisfied using a Test of English as a Foreign Language (TOEFL) with a verbal and a written component. To be considered for admission, applicants must achieve the following minimum scores:
  - Paper-based TOEFL exam: 580 and 5 on the TWE
  - Computer-based TOEFL exam: 237 and 5 on the essay rating component
  - Internet-based TOEFL exam: 93/120 and 22/30 on the writing and speaking sections.
  Official copies of these scores must be submitted to the University before a formal offer of admission can be made.

Program Requirements
- MA students can complete the program in one of two ways
  - by completing 4.0 full-course equivalents (FCE) within 9 months or
  - by completing 3.0 FCE and a research paper within 12 months

- The degree program divides into two sections: compulsory and optional courses.
    - o The compulsory section consists of a course on research methods (CRI 2010H).
    - o The optional courses allow students to engage in specialized study of different approaches to, and topics within, criminology. The optional courses offered may vary from year to year. In certain cases a student may, with the approval of the Graduate Coordinator, substitute a maximum of 1.0 FCE from another graduate unit in lieu of optional courses in Criminology.
- All students are required to participate in the Centre's non-credit Research Seminar.

Combined Juris Doctor/Master of Arts

Law students who also want to pursue graduate work in criminology may undertake the combined JD/MA in Criminology degree program.

Minimum Admission Requirements

- Applicants must gain independent admission to both programs. Applicants may be admitted before they enter the JD program or while they are in the first year.
- Applicants wishing to apply to the Combined JD/MA program in Criminology should contact the Admissions Office, Faculty of Law, University of Toronto at (416) 978-3716.

Program Requirements

- **Year 1.** Students take the full first-year law program.
- **Years 2 and 3.** Over the course of the two combined years students must:
    - o take 45 credits in the Faculty of Law;
    - o satisfy the compulsory requirements of the upper years of the JD These are a moot, an extended paper, and a perspective course;
    - o take 3.0 FCE at the Centre of Criminology of which
        - o 0.5 FCE must be the required research methods course (CRI 2010H)
        - o 1.0 FCE may be taken in the form of the Centre of Criminology's Research Paper (CRI 3360Y).
    - o Students must take a minimum of 1.0 FCE in Criminology in each of Years 2 and 3 of the program and may take a maximum of 2.0 FCE a year. The number of law school credits completed each year will be adjusted accordingly, the only requirement being that 45 are completed over the two years.
- Students must submit their programs for the approval of the Director of the Combined Program.

Doctor of Philosophy

Minimum Admission Requirements

- Applicants normally hold an MA degree in Criminology with a minimum A- standing, or its equivalent from a recognized university. Students from MA programs other than the University of Toronto's MA in Criminology may be required to take additional courses as part of their doctoral program.
- It is essential that all incoming graduate students have a command of English. Facility in the English language must be demonstrated by all applicants educated outside Canada whose primary language is not English and who graduated from a university where the language of instruction and examination was not English. This requirement must be satisfied using a Test of English as a Foreign Language (TOEFL) with a verbal and a written component. To be considered for admission, applicants must achieve the following minimum scores:
    - o Paper-based TOEFL exam: 580 and 5 on the TWE
    - o Computer-based TOEFL exam: 237 and 5 on the essay rating component
    - o Internet-based TOEFL exam: 93/120 and 22/30 on the writing and speaking sections.

Official copies of these scores must be submitted to the University before a formal offer of admission can be made.

Program Requirements

- **Residency**. PhD students are required to be on campus full-time for the period of their program. Students are expected to participate in the Centre's activities associated with the program.
- **One comprehensive exam**. This exam must take the form of a major review paper. Students are required to read widely on a particular topic and identify and evaluate major theoretical debates and methodological issues. Students should provide an original, critical analysis of the literature and discuss possibilities for future work in their topic area.
- **Course Requirements.** Students must complete a minimum of 2.0 full-course equivalents (FCE) beyond those taken at the MA level. Students must complete, at either the MA or the PhD level, the required research methods course (CRI 2010H). PhD students are also required to participate in the non-credit research seminar.
- **Language Requirements.** Students must have an adequate knowledge of a language other than English if an additional language is deemed essential for satisfactory completion of research for the thesis.
- **Thesis.** PhD students must prepare an original thesis that is a significant contribution to knowledge in criminology. The thesis is a sustained piece of research written in an integrated series of chapters. The thesis is normally supervised by a member of the graduate faculty in Criminology, with two other members of the graduate faculty serving on the thesis committee.

Courses

All courses are half-courses (0.5 FCE), with the exception of the Research Paper (1.0 FCE). Not all courses are offered every year. Consult the Centre regarding course availability.

Due to space limitations, Criminology graduate students will be given priority in graduate course enrolment; all other students must receive written permission from the instructor before enrolling in any of the Centre's graduate courses.

Required Course
CRI 2010H   Methodological Issues in Criminology

Optional Courses
CRI 1020H   Law and Society: Theoretical Perspectives
CRI 1050H   Theories of Crime and Social Order
CRI 2020H   Applied Statistics in Criminology
                (Students may take this course or IRE 1002H
                Applied Statistics in Industrial Relations,
                but not both.)
CRI 3120H   Politics and Crime
CRI 3130H   Policing
CRI 3140H   Special Topics in Criminology
CRI 3150H   Crime, Law, and the State in Early Modern
                England, 1650-1850
CRI 3160H   Historical Approaches to Crime and Justice
                in Canada
CRI 3240H   Penology
CRI 3270H   The Psychology of Criminal Behaviour:
                Theory and Practice
CRI 3310H   Special Topics in Criminology
CRI 3320H   The Criminal Process
CRI 3330H   Contemporary Issues in Safety and
                Security
CRI 3340H   Special Topics in Criminology
CRI 3350H   Directed Research in Criminology
CRI 3355H   Sentencing
CRI 3351H   Directed Research in Criminology
CRI 3356H   Youth Crime and Youth Justice
CRI 3357H   Risk, Uncertainty, and Criminal Justice
CRI 3360Y°   Research Paper

Graduate Faculty

Full Members
Anthony Doob - AB, PhD
Rosemary Gartner - BA, MS, PhD
Kelly Hannah-Moffat - BA, MA, PhD
Ron Levi - BCL, LLB, LLM, SJD

Michele Peterson-Badali - BA, MA, PhD, CPsych
James Phillips - MA, LLB, PhD
Kent Roach - BA, LLB, LLM
Peter Solomon - BA, MA, CertRussInst, PhD
Julian Tanner - BSc, PGCE, MA, PhD
Mariana Valverde - BA, MA, PhD, FRSC *(Director)*
N. Scot Wortley - BA, MA, PhD *(Coordinator of Graduate Studies)*

Members Emeriti
John Beattie - BS, MA, PhD, FRSC, University Professor Emeritus
Martin Friedland - BCom, LLB, PhD, LLD, OC, QC, FRSC, University Professor Emeritus

Associate Members
Sandra Bucerius, BA, MA
Mary Condon - BA, MA, LLM, SJD
Patricia Erickson - BA, MA, PhD
Joseph Hermer - BA, MA, DPhil
Matthew Light, BA, MA, JD, PHD
Michael Seto - BSc, MA, PhD, CPsych

° Courses which may continue over a program. The course is graded when completed.

Curriculum, Teaching, and Learning   CTL

Faculty Affiliation
Ontario Institute for Studies in Education

Degree Programs Offered
Curriculum Studies and Teacher Development - MEd, MA, PhD
Elementary and Intermediate Education - MT
Second Language Education - MEd, MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Comparative, International and Development Education, see p. 430
   - Curriculum Studies and Teacher Development, MA, MEd, PhD
   - Second Language Education, MA, MEd, PhD
2. Knowledge Media Design, see p. 462
   - Curriculum Studies and Teacher Development, MA, MEd, PhD
   - Second Language Education, MA, MEd, PhD
3. Women and Gender Studies, see p. 473
   - Curriculum Studies and Teacher Development, MA, MEd, PhD
   - Second Language Education, MA, MEd, PhD

Overview
The Department of Curriculum, Teaching, and Learning offers graduate programs in three areas of study:
1. Curriculum Studies and Teacher Development
2. Elementary and Intermediate Education
3. Second Language Education

These programs reflect a variety of scholarly interests and are closely linked with the Department's strong research base.

Contact and Address

Admission
Initial enquiries regarding admission to graduate studies in the Department of Curriculum, Teaching and Learning (CTL) should be made directly to:
The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Registrar's Office
Graduate Studies, Admissions Unit
Fourth Floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Program
Web: www.oise.utoronto.ca/depts/ctl/
E-mail: ctlinquiries@oise.utoronto.ca
Telephone: (416) 978-0040
Fax: (416) 926-4744

Department of Curriculum, Teaching and Learning
The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Eleventh Floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Curriculum Studies and Teacher Development
The Curriculum Studies and Teacher Development (CSTD) Program is a forum for systematic reflection on the substance (subject matter, courses, programs of study), purposes, and practices used for bringing about learning in educational settings. Of concern are such fundamental issues as: What should be studied? Why? By whom? In what ways? And in what settings? Reflection upon such issues involves an interplay among the major components of education: learners, subject matter, learning, teaching, and the larger social, political, and economic contexts as well as the immediate instructional situation. Curriculum Studies and Teacher Development Program course offerings and guided research opportunities reflect the diverse interests of faculty in a range of areas.

Curriculum Studies and Teacher Development Program faculty guide student work in a wide range of inquiry and data analysis methodologies, including qualitative and quantitative research, action research, naturalistic inquiry, teacher inquiry, performed and critical ethnography, and life history.

Interest areas reflect overlapping and intersecting areas of strength in the whole CSTD program, not separate sub-programs. Visit the list of CSTD research interests at www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm. Faculty and students each pursue diverse overlapping combinations of these interests. To show the general dimensions of the CSTD program, the interest descriptors are arranged in three categories: broad perspectives on education in various contexts, curriculum content and pedagogy, and intersections of curriculum with particular diverse learners.

Master of Education
The MEd degree program is designed chiefly for the professional development of those who are already engaged in a career related to education.

Minimum Admission Requirements
- Applicants are accepted under the general regulations which specify an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university. This degree must be completed with an academic standing equivalent to a University of Toronto mid-B or better in the final year.

- Ordinarily, applicants will have at least one year of relevant, successful, professional experience prior to applying.
- In the Statement of Intent, applicants should state the reasons they wish to study curriculum at the graduate level. The chief academic interests, professional concerns, and career plans related to curriculum studies and teacher development should be discussed. In order to identify their research interests in their Statement of Intent, applicants should visit the Curriculum Studies and Teacher Development Program Web page (www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm). The Admissions Committee reviews this Statement to determine the kind of focus or area of study in which an applicant is most interested and to link the applicant to appropriate faculty advisors.

Program Requirements
- 5.0 full-course equivalents (FCE), of which at least 2.5 FCE are normally CTL 1000-level courses undertaken in the Curriculum Studies and Teacher Development Program. Students are required to successfully complete CTL 1000H.
- Additional study may be required either within the degree program or prior to admission, depending on previous experience and academic qualifications.
- The MEd may be taken on a full-time or part-time basis.
- All requirements for the degree must be completed within six calendar years from first enrolment.

Master of Arts
The MA degree program is designed to provide academic study and research training related to curriculum studies. Applicants who anticipate going on to further study at the PhD level are advised to apply for enrolment in an MA rather than an MEd degree program.

Minimum Admission Requirements
- Applicants are accepted under the general regulations. Admission normally requires a four-year University of Toronto bachelor's degree, or its equivalent, with a mid-B or better in the final year, in a relevant discipline or professional program.
- Ordinarily, applicants will have at least one year of relevant, successful, professional experience prior to applying.
- Statement of Intent. Applicants should state the reasons they wish to undertake a research-oriented program of study in curriculum or teacher development. The chief academic interests and experience, professional concerns, and career plans related to an aspect of curriculum studies should be discussed. In order to identify their research interests in their Statement of Intent, applicants should visit the Curriculum Studies and Teacher Development Program Web page (www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm). The Admissions Committee reviews this Statement to determine the

kind of curriculum problem or area of study in which an applicant is most interested and to link the applicant to appropriate faculty advisors.

Program Requirements
- 4.0 full-course equivalents (FCE), of which at least 2.0 FCE are normally CTL 1000-level courses undertaken in the Curriculum Studies and Teacher Development Program.
- Additional courses may be required of some applicants, depending on previous experience and academic qualifications. Students are required to successfully complete CTL 1000H, and a course in research methods from an approved course listing. See listing of approved research methods courses at (www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm).
- Thesis.
- The MA may be taken on a full-time or part-time basis.
- All requirements for the degree must be completed within five years from first enrolment.
- **Note:** Students are responsible for meeting deadlines to complete their course requirements, thesis committee formation, and ethical review.

Doctor of Philosophy
The PhD is intended primarily as preparation for academic positions in universities; the program demands a strong commitment to curriculum research. The Curriculum Studies and Teacher Development Program offers both full-time and flexible-time PhD program options. Applicants must declare the option for which they wish to apply.

Minimum Admission Requirements

Full-time PhD
- Applicants are accepted under the SGS general regulations. A University of Toronto master's degree in education with a grade of B+ or better, or its equivalent from a recognized university, in the same area of specialization as proposed at the doctoral level is required. Further documentation may be required to establish equivalence.
- Applicants ordinarily have a minimum of two years' professional experience prior to applying.
- Applicants are required to submit, along with the application:
  o Their master's thesis or a sample of single-authored scholarly writing. For details about what constitutes an appropriate writing sample, visit (www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm).
  o A Statement of Intent describing their intellectual interests and concerns relevant to curriculum studies and teacher development, reasons for wishing to take the Program, previous qualifications and professional experiences, particular

research or professional interests, and future career goals.
- o Two letters of reference, one academic and one professional.

Flexible-time PhD
- Applicants to the flexible-time PhD option are accepted under the SGS general regulations and are subject to the same admission requirements as applicants to the full-time PhD option.
- However, in addition, applicants to the flexible-time PhD must include in their Statement of Intent the outline of a plan that demonstrates the applicant:
  - o is in a career related to the field of study;
  - o has three or more years with the same employer;
  - o has a desire to continue with current career path;
  - o has the capacity to secure blocks of time to enable concentrated study (e.g., reference to the employer's leave policy, study incentive system, etc.)

Program Requirements
- Degree requirements for the full-time and flexible-time options of the PhD are the same. Only the length of time to completion differs. Full-time PhD students must complete their degree within six years; flexible-time PhD students within eight years.
- The PhD program normally consists of 3.0 full-course equivalents (FCE), of which at least 2.0 FCE are ordinarily CTL 1000-level courses. Additional courses may be required of some students.
- Students are expected to take CTL 1000H if they did not complete it at the master's level, and one course in research methods from an approved course listing. This listing is available at the CSTD Program Web page (www.oise.utoronto.ca/depts/ctl/programs_admissions01.htm).
- Successful completion of a comprehensive examination.
  - A thesis, embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis.

Note: Students are responsible for meeting deadlines to complete their course requirements, thesis committee formation, comprehensive examination, and ethical review.

Courses

Not all courses are offered every year. Please consult the Department for course offerings.

CTL 1000H Fondements du l'etude des programmes scolaires
CTL 1000H Foundations of Curriculum Studies
CTL 1001H Values and Schooling
CTL 1002H Planification de la programmation pour un enseignement efficace
CTL 1002H Curriculum Development for Effective Teaching

CTL 1003H Language Arts in Primary Education
CTL 1005H Language, Literacy, and the School Curriculum
CTL 1007H Communities of Learning: Teachers Constructing Professional Knowledge
CTL 1008H Children's Literature as a Foundation of Literate Behaviour Across the Curriculum
CTL 1009H Theory and Practice in Elementary Literacy Instruction
CTL 1010H Children's Literature Within a Multicultural Context
CTL 1011H Anti-Discriminatory Education in School Settings
CTL 1012H Curriculum for Girls and Young Women: Historical and Contemporary Issues
CTL 1014H Evaluation of Curriculum and Instruction
CTL 1016H Cooperative Learning Research and Practice
CTL 1018H Introduction to Qualitative Inquiry in Curriculum, Teaching, and Learning
CTL 1019H Authentic Assessment
CTL 1020H Teaching High Ability Students
CTL 1023H Technology and Education: Critical Perspectives on Theory and Practice
CTL 1024H Poststructuralism and Education
CTL 1026H Improving Teaching
CTL 1027H Facilitating Reflective Professional Development
CTL 1028H Constructive Feedback in Teaching
CTL 1029H From Student to Teacher: Professional Induction
CTL 1031H Language, Culture, and Identity: Using the Literary Text in Teacher Development
CTL 1032H Knowing and Teaching
CTL 1033H Multicultural Perspectives in Teacher Development: Reflective Practicum
CTL 1036H Thoughtful Teaching and Practitioner Inquiry
CTL 1037H Teacher Development: Comparative and Cross-Cultural Perspectives
CTL 1038H Change and Curriculum Implementation
CTL 1039H Teaching Writing in the Classroom
CTL 1040H Fundamentals of Program Planning and Evaluation
CTL 1041H Research Methods In Education
CTL 1042H Instrument Development in Education
CTL 1043H Research Issues in Alternative Assessments
CTL 1045H Survey Research
CTL 1046H Training Evaluation
CTL 1047H Course-Self-Assessment
CTL 1060H Education and Social Development
CTL 1104H Play, Drama, and Arts Education
CTL 1105H Research and Inquiry in Arts Education
CTL 1106H Spirituality in Education
CTL 1110H The Holistic Curriculum
CTL 1115H Teacher Education and the Construction of Professional Knowledge: Holistic Perspectives
CTL 1116H Holistic Education Approaches in Elementary School Mathematics
CTL 1117H Liberatory Practices in Drama and Education

CTL 1119H Gaining Confidence in Mathematics: A Holistic Approach to Rebuilding Math Knowledge and Overcoming Anxiety
CTL 1200H Science in the School Curriculum
CTL 1202H Mathematics in the School Curriculum: Elementary
CTL 1206H Teaching and Learning Science
CTL 1207H Teaching and Learning about Science: Issues and Strategies in Science, Technology, Society, and Environment (STSE) Education
CTL 1208H Curriculum Issues in Science and Technology: An Historical Perspective
CTL 1209H Current Issues in Science and Technology Education
CTL 1211H Action Research in Science, Mathematics, and Technology Education
CTL 1212H Curriculum Making in Science: Some Considerations in the History, Philosophy and Sociology of Science
CTL 1214H Equity Issues in Science Education
CTL 1215H Teaching and Learning About Science and Technology: Beyond Schools
CTL 1216H Teacher Leadership in Curriculum, Teaching and Technology Education
CTL 1217H Integrating Science, Mathematics and Technology Curricula
CTL 1304H Cultural Studies and Education
CTL 1306H La recherche qualitative en éducation: bases théoriques et pratiques
CTL 1306H Qualitative Research Methods in Education: Concepts and Methods
CTL 1307H Identité collective et éducation minoritaire de langue française
CTL 1307H Identity Construction and Education of Minorities
CTL 1309H Les stéréotypes sexuels dans les programmes scolaires
CTL 1312H Democratic Citizenship Education
CTL 1313H Gender Equity in the Classroom
CTL 1316H Global Education: Theory and Practice
CTL 1318H Teaching Conflict and Conflict Resolution
CTL 1400H Classroom Adaptations and Instructional Strategies
CTL 1402H Adaptive Instruction in Inclusive Classrooms
CTL 1403H Special Education and Social Representation of Difference
CTL 1602H Introduction to Computers in Education
CTL 1603H Introduction to Knowledge Building
CTL 1604H Video/Multimedia Design
CTL 1606H Computers in the Curriculum
CTL 1608H Constructive Learning and Design of Online Environment
CTL 1609H Educational Applications of Computer-Mediated Communication
CTL 1611H Computer-Mediated Distance Education
CTL 1612H The Virtual Library (Non-Credit)
CTL 1797H Practicum in Curriculum: Master's Level
CTL 1798H Individual Reading and Research in Curriculum: Master's Level
CTL 1799H Special Topics in Curriculum: Master's Level

Teaching in Elementary and Intermediate Education

Master of Teaching

The Master of Teaching (MT) degree program in Elementary and Intermediate Education is a two-year full-time program of study leading to a Master of Teaching degree. Upon successful completion of this program, students will be recommended to the Ontario College of Teachers for an Ontario Teacher certificate of Qualification which qualifies them to teach in either the primary and junior divisions or the junior and intermediate divisions of Ontario schools. The Master of Teaching program offers students a unique opportunity for teacher qualification with advanced theoretical knowledge and research skills. The program provides students with a strong conceptual grounding in human development, ethics, law, diversity, educational technology, curriculum, teaching, and learning. The high level of academic rigour in conjunction with increased practicum and internship opportunities serve to enhance and extend the theoretical and practical experiences of students preparing to teach.

Program objectives are achieved through a combination of course work, teaching and research seminars, internships and practica, along with independent and collaborative research and major research papers.

Minimum Admission Requirements

- Applicants are admitted under the general regulations of the School of Graduate Studies. Applicants must have the equivalent of a University of Toronto four-year bachelor's degree with a mid-B or better in the final year.
- In their Statement of Intent, applicants should describe three significant teaching and/or teaching-related experiences that they have had, especially with groups of children. With reference to these experiences, applicants should identify insights gained about teaching and learning, and explain how, based on these insights, they might contribute to the education of students in today's schools.
- Final selection will be based on an interview by a panel of faculty, teachers, and students. Given program limitations, not all eligible applicants are guaranteed admission.
- Because applicants are applying to a teacher education program, the following items must be submitted with the application:
  - a photocopy of a Canadian birth certificate, or in the case of a person who was not born in Canada, documents showing the basis upon which the applicant is present in Canada, including date and place of birth
  - a photocopy of a certificate of change of name where applicable
- A police record check is required for certification by the Ontario College of Teachers and is required in both the first and second year of the program.

Program Requirements
- The two-year MT degree requires 8.0 full-course equivalents (FCE), i.e., 16 half-courses (14 core and 2 elective half-courses), including practica.
- Students must successfully complete a comprehensive examination at the end of the program in order to graduate and receive the MT degree and a recommendation to the Ontario College of Teachers for an Ontario Teachers' Certificate of Qualification.
- Normally, advanced standing is not granted in this program.
- The two-year program is undertaken on a full-time basis. Registration in the second year is contingent upon successful completion of all first-year work.

Courses

Core Courses - Year 1
CTL 7000H Curriculum and Teaching in Literacy
CTL 7002H Curriculum and Teaching in Mathematics
CTL 7003H Curriculum and Teaching in Social Studies and Science
CTL 7004Y Practicum in the Schools
CTL 7006H Reflective Teaching and Inquiry into Research in Education
CTL 7007H Authentic Assessment

Core Courses - Year 2
CTL 7001H Educational Professionalism, Ethics and the Law
CTL 7005Y Practicum Internship
CTL 7008H introduction to Special Education and Adaptive Instruction
CTL 7009H Anti-Discriminatory Education
CTL 7010H Issues in Numeracy and Literacy
CTL 7011H Child and Adolescent Development

Elective Courses
Two elective courses are selected from course offerings in the Department of Curriculum Teaching and Learning. Choice of electives is contingent upon the approval of the student's faculty advisor.

Second Language Education
Studies in Second Language Education (SLE) focus on curriculum, instruction, learning, and policies for education in second, foreign, and minority languages, particularly in reference to English and French in Canada but also other languages and settings, including studies of language learning, methodology and organization of classroom instruction, language education policies and planning, and student and program evaluation as well as issues related to bilingualism, multilingualism, cultural diversity, and literacy.

Master of Education

Minimum Admission Requirements
- Applicants are accepted under the general regulations which specify an appropriate four-year University of Toronto bachelor's degree with a mid-B or better in the final year, or its equivalent from a recognized university.
- Ordinarily, applicants should have teacher certification and at least one year of relevant successful professional experience prior to applying.
- All applicants are required to submit a resume and a Statement of Intent describing their reasons for wishing to take the program, previous qualifications and professional experiences, particular research or professional interests, and future goals.

Program Requirements
- The MEd program consists of 5.0 full-course equivalents (FCE). A minimum of 2.5 FCE CTL 3000-level courses must be taken within the SLE program. Of these, 1.0 FCE are required ME courses and must be selected from the following list:
  o CTL3000H Foundations of Bilingual and Multicultural Education
  o CTL3002H Second Language Teaching Methodologies
  o CTL3003H Planning and Organizing the Second Language Curriculum
  o CTL3010H Second Language Learning
- The MEd program of study may be taken on a full or part-time basis. All requirements for the degree must be completed within six calendar years from first enrolment.

Master of Arts

Minimum Admission Requirements
- Applicants are accepted under the general regulations. Admission requires a four-year University of Toronto bachelor's degree with a mid-B or better in the final year, or its equivalent, in a relevant discipline or professional program.
- Ordinarily, applicants should have teacher certification and at least one year of relevant successful professional experience prior to applying.
- Enrolment in the MA (rather than MEd) program is advisable for applicants expecting to pursue a doctorate in the future.
- All applicants are required to submit a resume and a Statement of Intent describing their reasons for wishing to take the program, previous qualifications and professional experiences, particular research or professional interests, and future career goals.

Program Requirements
- The MA program may be undertaken on a full-time or part-time basis.
- The program requires 8.0 full-course equivalents (FCE) plus a thesis.
- Students must take a minimum of 2.0 FCE CTL 3000-level courses within the SLE program. Courses must include CTL 3001H. Part-time students are expected to be available to take CTL 3001H during day-time hours (usually Friday afternoons).
- Students must also take a course in research methods relevant to the topic of the thesis. Any of the following courses can fulfil this requirement: CTL 1018H, CTL 1030H, CTL 1041H, CTL 1306H, CTL 1810H, CTL 1842H, CTL 3019H, CTL 3800H, CTL 3803H, CTL 3807H, AEC 1400H, HDP 1287H, HDP1288H or SES 1905H. Students wishing to propose an alternative course to fulfil one of the SLE course requirements will be required to obtain the approval of both the SLE graduate program coordinator and either their faculty advisor or their thesis supervisor.
- Students are responsible for meeting deadlines to complete their course requirements, thesis committee formation, and ethical review.
- Additional courses may be required of some applicants. All requirements for the degree must be completed within five calendar years from first enrolment.

Doctor of Philosophy
Individuals pursuing the PhD typically aspire to be university professors in this field. The SLE program offers both full-time and flexible-time PhD options. Applicants must declare their preferred option when applying.

Minimum Admission Requirements

Full-time PhD
- Applicants are accepted under the SGS general regulations. A University of Toronto master's degree with a grade of B+ or better, or its equivalent from a recognized university is required.
- Admission is contingent upon satisfactory completion of a master's thesis, or the equivalent in the form of a scholarly piece of writing.
- Ordinarily, applicants will have a minimum of two years relevant professional experience prior to applying.
- All applicants are required to submit a resume and a Statement of Intent describing their reasons for wishing to take the Program, previous qualifications and professional experiences, particular research or professional interests, and future career goals.

Flexible-time PhD
- Applicants to the flexible-time PhD option are accepted under the SGS general regulations and are subject to the same admission requirements as applicants to the full-time PhD option.

- In addition, applicants to the flexible PhD must include in their Statement of Intent the outline of a plan that demonstrates the applicant:
  o is in a career related to the field of study;
  o has three or more years with the same employer;
  o has a need and desire to continue with current career path;
  o has the capacity to secure blocks of time to enable concentrated study (e.g., reference to the employer's leave policy, study incentive system, etc.).

Program Requirements
- Degree requirements for the full-time and the flexible-time PhD programs are the same.
- The PhD requires 3.0 to 4.0 full-course equivalents (FCE) depending on previous experience and academic qualifications.
- Students must take a minimum of 2.0 FCE CTL 3000-level courses within the SLE Program including CTL 3801H Research Colloquium in Second Language Education, Doctoral Level (unless they have previously taken CTL 3001H Research Colloquium in Second Language Education, Master's Level), as well as a research methods course relevant to the topic of the thesis. Any of the following courses can fulfil this requirement: CTL1018H, CTL1030H, CTL 1041H, CTL 1306H, CTL 1810H, CTL 1842H, CTL 3019H, CTL 3800H, CTL 3803H, CTL 3807H, AEC 1400H, HDP 1287H, HDP 1288H, SES 1905H.
- Comprehensive examinations.
- A thesis embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis.
- A student wishing to propose an alternative course to fulfil one of the SLE course requirements will be required to obtain the approval of the SLE Program coordinator and either her or his faculty advisor or thesis supervisor.
- **Full-time PhD** students must complete their degree within six years. A minimum of two consecutive years of full-time study are required at the beginning of the program, during which time students usually complete course requirements, pass the comprehensive examination, prepare a thesis proposal, and form a thesis committee.
- **Flexible-time PhD** students must complete their degree within eight years. Students may apply for part-time status after four years of full-time registration.

Courses
Not all courses are offered every year. Please consult the Department for course offerings.

Master's Level
JHC 1251H Reading in a Second Language
JTE 1952H Language Culture and Education/M. Heller
CTL 3000H Foundations of Bilingual and Multicultural Education

CTL 3001H Research Colloquium in Second Language Education: Master's Level
CTL3002H Second Language Teaching Methodologies
CTL 3002Y Methodology and Organization of Second-Language Teaching
CTL3003H Planning and Organizing the Second Language Curriculum
CTL 3004H Language Awareness and its Role in Teacher Development
CTL 3005H Current Issues in English as a Second Language
CTL 3007H Discourse Analysis
CTL 3007H Séminaire sur le langage et la communication
CTL 3008H Critical Pedagogy, Language, and Cultural Diversity
CTL 3010H Second-Language Learning
CTL 3011H Bilingual Education and Bilingualism
CTL 3011H Bilinguisme et éducation ou membre de la faculté à déterminer
CTL 3012H Communicative Competence
CTL 3013H Second Language Assessment
CTL 3015H Seminar in Second-Language Literacy Education
CTL 3018H Language Planning and Policy
CTL 3018H Politique et aménagement linguistique
CTL 3019H Research Themes in Canadian French as a Second Language Education
CTL 3020H Writing in a Second Language
CTL 3021H Pedagogical Grammar of French
CTL 3023H Sociolinguistique du français canadien
CTL 3024H Second Language Teacher Education
CTL 3797H Practicum Second Language Education: Master's Level
CTL 3798H Individual Reading and Research in Second Language Education: Master's Level
CTL 3799H Special Topics Second Language Education: Master's Level

Doctoral Level
CTL 3800H Second Language Classroom Research
CTL 3801H Research Colloquium in Second Language Education: Doctoral Level
CTL 3803H Ethnographic Research in the Language Disciplines
CTL 3805H Aspects of Second-Language Acquisition
CTL 3806H Sociocultural Theory and Second Language Learning
CTL 3807H Processing Second Language Data
CTL 3808H The Role of Instruction in Second Language Learning
CTL 3809H Research Seminar in Sociocultural Theory and Second Language Learning
CTL 3997H Practicum Second Language: Doctoral Level
CTL 3998H Individual Reading and Research in Second Language: Doctoral Level
CTL 3999H Special Topics in Second Language Program: Doctoral Level

Graduate Faculty

Full Members
Mary Beattie - BA, MA, MEd, EdD
Lawrence Bencze - BSc, BEd, MSc, PhD
Barrie Bennett - BPE, MEd, PhD
Kathy Bickmore - BA, MA, PhD
M. Clare Brett - BA, MA, PhD
Linda Cameron - BA, MEd, EdD
Elizabeth Campbell - BA, BEd, MEd, PhD *(Associate Chair, Graduate Studies)*
Rina Cohen - MSc, PhD
Carola Conle - BA, MA, PhD
Karyn Cooper - BA, MA, PhD
Alister Cumming - BA, MA, PhD
James Cummins - BA, PhD
Marcel Danesi - BA, MA, PhD, FRSC
Lynn Davie - Professor Emeritus
Colin Diamond - BA, PhD
Lorna Earl - PhD
Joseph Farrell - BSc, PhD
Grace Feuerverger - BA, MA, PhD
Antoinette Gagne - BEd, MEd, PhD
Kathleen Marie Gallagher - BA, BEd, MEd, PhD
Diane Gerin-Lajoie - BSC, MA, PhD
Tara Goldstein - BA, PhD *(Chair)*
James Hewitt - BM, BEd, MEd, PhD
Derek Hodson - BSc, MEd, PhD
Julie Kerekes
Brent Kilbourn - BS, MA, PhD
Mary Kooy - BA, MA, PhD
Clare Kosnik - BA, BEd, MEd, PhD
Normand Labrie - BA, MA, PhD
Tony Lam - BA, PhD
Douglas McDougall - BEd, BM, MEd, EdD
John Miller - BA, MAT, PhD
Martina Nieswandt - BA, MA, PhD
Erminia Pedretti - BSc, BEd, MEd, PhD
N Carol Rolheiser - BEd, MEd, PhD
John Ross - BA, MA, PhD
Marlene Scardamalia - BA, MS, PhD
Linda Siegel - BA, MS, PhD
Roger Simon - BS, PhD
James Slotta
Elizabeth Smyth - BA, BEd, MA, EdD
Nina Spada - BA, MA, PhD
Shelley Stagg Peterson - BA, BEd, MEd, PhD
Heather Sykes - BSc, PGCE, MEd, PhD
Dennis Thiessen - BA, MEd, DPhil
Peter Trifonas - BA, BEd, MA, PhD
Merlin Wahlstrom - BEd, MEd, PhD
John Wallace
Dale Willows - BA, MA, PhD, CPsych
David Wilson - Professor Emeritus
Richard Wolfe - BA

Members Emeriti
Johan Aitken - PhD
Patrick Allen - BA, MA, PhD
Clive Beck - Professor Emeritus
Deanne Bogdan - BA, MA, PhD
David Booth - BA, MEd
Stacy (Jr.) Churchill - PhD
Michael Connelly - BEd, BSc, MSc, PhD
Vivian Darroch-Lozowski - Professor Emeritus
Normand Frenette - BA, MA, MEd, PhD
Gila Hanna - BA, MA, MEd, PhD
Birgit Harley - BA, MA, PhD, CCDF
Anne Jordan - BA, MA, PhD
Brendan Kelly - BSc, MSc, PhD, EdD
Sharon Lapkin - BA, MA, PhD
Robert Logan - BSc, PhD
Philip Nagy - BSc, MEd, PhD
Shizuhiko Nishisato - BA, MA, PhD
Ronald Silvers
Merrill Swain - BA, PhD
Ross Traub - PhD

Associate Members
Guy Allen - BA, MA, PhD
Eucline Alleyne
Lee Bartel - BA, BMus, MEd, PhD
Judith Bernhard - BA, MEd, PhD
Maria Jose Botelho
Kathy Broad
Barbara Burnaby - PhD
Niall Byrne - Dr.
Rex Collins - BA, MEd, PhD
Bernadette Dean
Tracey Derwing - BA, MSc, PhD
Jackie Eldridge
Mark Evans
Sandra Folk
Robert Fox - BS, MS, EdD
Monika Kin Gagnon - BA, MA, PhD
Ruben Gaztambide-Fernandez
Wanja Gitari
Ming Fang He - BA, MA, MEd, PhD
Rena Helms-Park - BA, MA, PhD, TESL
Daphne Heywood
Ian Hundey - BA, MA
John Hurst - PhD
Eunice Jang
Mayumi (Yuki) Johnson - BA, MA, PhD
Ron Lancaster
Alex Lawson - PhD MeD BA Bed
Xin Li - BA, MA, PhD
Richard Maclure - PhD, MA, PGC Ed
Cathy Marks-Krpan
Vandra Lea Masemann
Lance McCready
David Montemurro
Louise Nasmith - BA,MED
Marla Nayer
Sarfaroz Niyozov
Aneta Pavlenko - PhD, MA, BA
Randall Penfield - PhD, MA, BSc

Margaret Procter
Katherine Rehner - PhD
Miriam Frances Rossi
Nick Scarfo
Wayne Seller - BA, MEd
Lesley Shore - BA, DiP ED, MED, EbD
Jeffrey Steele - BA, MA, PhD
Leslie Stewart Rose
Suzanne Stiegelbauer - BS, AM, MA, PhD
Albert Taylor
Sharon Todd
Miles Turnbull - BA, MA, PhD
Ema Ushioda - BA, MPh, PhD
Earl Woodruff - BSc, BEd, MA, PhD

Dentistry   DEN

Faculty Affiliation
Dentistry

Degree Programs Offered
Dentistry – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Dentistry, MSc, PhD
2. Cardiovascular Science, see p. 426
   - Dentistry, MSc, PhD
3. Biomedical Engineering, see p. 418
   - Dentistry, MSc, PhD
4. Neuroscience, see p. 466
   - Dentistry, MSc, PhD
5. Women's Health, see p. 478
   - Dentistry, MSc, PhD

Overview
The Faculty of Dentistry offers a graduate program leading to either a **Master of Science** or **Doctor of Philosophy** degree. This graduate program appeals to:
1. applicants who have a degree in dentistry and who are pursuing research training and advanced clinical education leading to qualification in one of ten dental specialty disciplines; and
2. applicants, both dentists and non-dentists, who are pursuing graduate research training without advanced clinical education.

Consequently, both the Master of Science and the Doctor of Philosophy degrees have a common core of course work and consist of three options, with each having varying additional research and training requirements.

Contact and Address
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E-mail: lori.mockler@dentistry.utoronto.ca
Telephone: (416) 979-4901, ext. 1-4482
Fax: (416) 979-4944

Graduate Department of Dentistry
124 Edward Street
University of Toronto
Toronto, Ontario M5G 1G6
Canada

Degree Programs

Master of Science

1. **Thesis Option**

Minimum Admission Requirements
- Four-year Bachelor of Science degree, Doctor of Dental Surgery, or an equivalent degree, with at least mid-B standing in the final year from a recognized university in a discipline appropriate to the field of dentistry.

Program Requirements
- Ordinarily one year of full-time registration; however, it is the Department's expectation that students will normally remain in full-time attendance on campus to enable full participation in departmental activities for two years.
- Year 1 - development of a research project and proposal, and course work. Course work will normally include, as a minimum, fulfillment of the requirements for the course DEN 1001Y° *Master's Seminars in Oral Health Sciences* and successful completion of an additional 0.5 full-course equivalent (FCE). Exemptions may be granted for previously completed course work at the bachelor's level.
- Year 2 – research, thesis completion, and defence.

2. **Specialist Dental Training - Thesis Option**
The Department offers a Master of Science degree for dental graduates seeking advanced training in a clinical specialty as well as training in research.

Minimum Admission Requirements
- Doctor of Dental Surgery or an equivalent degree, with at least a mid-B standing in the final year from a recognized university.

Program Requirements
- Two to four years of full-time registration, depending upon the clinical specialty.
- Completion of an original research project culminating in the oral defence of a written thesis.
- Completion of clinical and didactic course work requirements as necessary to meet Canadian Dental Association accreditation requirements for the chosen clinical specialty.
- Course DEN 1001Y° *Master's Seminars in Oral Health Sciences* for a minimum of one year.
- Upon completion of all program requirements, students are eligible for the MSc degree and for Specialty, Fellowship, or Board Certification in the chosen dental specialty. For further information, consult the Faculty of Dentistry Calendar or Web site.

° Courses which may continue over a program. The course is graded when completed.

3. Specialist Dental Training - Course Work Only Option

The Department offers a Master of Science degree for dental graduates seeking advanced training in a clinical specialty in which additional course work is undertaken as an alternative to a thesis. The availability of this option will vary by specialty.

Minimum Admission Requirements
- Doctor of Dental Surgery, or an equivalent degree, with at least a mid-B standing in the final year from a recognized university.

Program Requirements
- Two to four years of full-time registration, depending upon the clinical specialty.
- Completion of all clinical and didactic course work requirements as necessary to meet Canadian Dental Association accreditation requirements in the chosen dental specialty.
- Course DEN 1001Yº *Master's Seminars in Oral Health Sciences* for a minimum of one year.
- 1.5 full-course equivalents (FCE) in clinical, epide-miological, or basic science research methodology appropriate for clinical or public health practice, and a research practicum and successful completion of an oral examination of the research practicum.
- Upon completion of all program requirements, students are eligible for the graduate degree and for Specialty, Fellowship, or Board Certification in the chosen dental specialty. For further information, consult the Faculty of Dentistry Calendar or Web site.

Program Transfer - MSc to PhD

MSc students pursuing either of options 1 or 2, who are demonstrating excellent progress in all facets of their program, may apply to transfer from the MSc to the PhD program. Transfer time varies for students in the specialty training thesis option. The transfer examination will take place up to 18, and in exceptional circumstances, 24 months after entry into the MSc program for registrants in the MSc Thesis Option. Regulations governing such transfers are available from the Graduate Department of Dentistry.

Students registered in the specialty training course-work only option will not be permitted to transfer to the PhD degree, but may apply to the PhD program following completion of the MSc degree.

Doctor of Philosophy

1. Full-Time Research Option

Minimum Admission Requirements
- Students are normally admitted to a four-year PhD program with an appropriate master's degree, or equivalent, with at least an A standing from a recognized university in a discipline appropriate to the intended field of doctoral study. However, under exceptional circumstances, the Department may admit a highly qualified student with an appropriate four-year Bachelor of Science degree in a discipline appropriate to the field of dentistry or a Doctor of Dental Surgery degree with at least an A standing from a recognized university.

Program Requirements
- Students undertake customized programs, approved by an advisory committee and the Graduate Chair of Dentistry, comprising advanced study and original research culminating in the defence of a thesis.
- Minimum course requirements - completion of the course DEN 1100Yº *Doctoral Seminars in Oral Health Sciences*, plus an additional 1.0 full course equivalent (FCE).
- Exemptions may be granted for MSc course work from closely related disciplines. This includes students transferring from MSc to PhD programs. Programs of study for BSc students will normally include additional course work requirements.
- Although the minimum residency requirement is one year, it is the Department's expectation that students will normally remain on campus for four years.
- After 12 months and within 24 months of starting a PhD program, students must pass a qualifying oral examination to demonstrate an adequate capacity for oral health sciences research through previous work and will be examined on their thesis proposal and their breadth of knowledge relative to the research project.
- Participate in all graduate research activities of the advisor's research group.
- Present at meetings and publish original research findings in timely fashion.
- Participate as members of departmental and student committees as applicable.
- Consult with the Graduate Chair of Dentistry who will appoint a committee to plan and arrange their course work and research programs. The committee and the Graduate Chair must approve the entire course of study. The student's supervisor will chair the committee. The committee will closely monitor the student's ability to sustain satisfactory performance and will report annually to the Graduate Chair for approval and continuance of candidacy.

2. Full-Time Program Combined with Dental Specialty Training Option

The Department offers a Doctor of Philosophy degree for exceptional dental graduates seeking to combine a PhD degree with advanced training in a clinical specialty. Applicants intending to train as clinician/scientists, aspiring to teaching and research careers in the dental field, are considered on an individual basis.

Minimum Admission Requirements

- Doctor of Dental Surgery degree with at least an A standing from a recognized university. Evidence of research experience or research potential is normally required.

Program Requirements

- Completion of an original research project culminating in the oral defence of a thesis.
- Completion of the course DEN 1100Y° *Doctoral Seminars in Oral Health Sciences*, plus an additional 1.0 full-course equivalent (FCE), together with, for the chosen clinical specialty, completion of clinical and didactic course work requirements.
- Consult with the Graduate Chair of Dentistry who will appoint a committee to plan and arrange their course and research programs. The committee and the Graduate Chair must approve the entire course of study. The student's supervisor will chair the committee. The committee will closely monitor the student's ability to sustain satisfactory performance and will report semi-annually to the Graduate Chair of Dentistry for approval and continuance of candidacy.
- After 12 months and within 24 months of starting the PhD program, students must pass a qualifying oral examination to demonstrate an adequate capacity for oral health sciences research through previous work and will be examined on their thesis proposal and their breadth of knowledge relative to the research project.
- Participate in all graduate research activities of the advisor's research group.
- Present at meetings and publish original research findings in timely fashion.
- Participate as members of departmental and student committees as applicable.
- The addition of the clinical and didactic courses for a clinical specialty will normally increase the amount of time for the PhD degree by two years, depending upon the particular clinical specialty undertaken. Program completion will be contingent upon completion of all requirements for the research and specialty training components of the program.
- Upon completion, students are eligible for the graduate degree and for Specialty, Fellowship, or Board Certification in one of the dental specialties. For further information, please consult the Faculty of Dentistry Calendar or Web site.

° Courses which may continue over a program. The course is graded when completed.

3. Flexible-Time Option

The Department offers a flexible-time PhD program for selected students whose career goal is a full-time academic position in a clinical discipline. Students concurrently establish their teaching and academic credentials. The major goal upon program completion is to enable students to compete for university tenure-stream professorial positions in their clinical science discipline.

The program is dedicated to research experience and, therefore, does not involve clinical training other than clinical research methodology. It entails completion of the research and course work requirements for the PhD degree half time, while teaching in a clinical discipline half time.

Minimum Admission Requirements

- School of Graduate Studies and Graduate Department of Dentistry admission requirements for entry to the PhD program.
- A professional degree equivalent to the University of Toronto DDS. and a graduate degree equivalent to the University of Toronto MSc. Preference given to:
  - o applicants who have completed specialty education equivalent to the standard required for licensure as a specialist by the Royal College of Dental Surgeons of Ontario and
  - o applicants who hold a university appointment in Canada at an academic standard equivalent to the University of Toronto Lecturer.

Program Requirements

- Appropriate research supervision and advisory committee membership, customized plan of study, and timetable for the completion of the degree requirements, as approved by the Graduate Chair of Dentistry, will be in place at program commencement. The Graduate Chair monitors progress by review of completed advisory committee reports based on annual meetings of the student with the supervisory committee.
- Although the minimum residency requirement for the PhD is one year, the anticipated completion date for the flexible-time PhD program will be within five to six years from the registration date. The maximum time for completion will normally be eight years.
- Students are required to conduct research leading to completion and defence of a thesis and complete minimum course work requirements, which include DEN 1100Y° *Doctoral Seminars in Oral Health Sciences*, plus an additional 1.0 full-course equivalent (FCE).
- Students must pass a qualifying oral examination 12 to 24 months after commencement to demonstrate an adequate capacity for oral health sciences research at the doctoral level.
- Participate in all graduate research activities of the advisor's research group.
- Present at meetings and publish original research findings in timely fashion.
- Participate as members of departmental and student committees as applicable.

Courses

Not all courses are offered every year. The Department should be consulted each session as to course offerings.

DEN 1001Y° and DEN 1100Y°, designed to enhance critical analysis and presentation skills, involve seminars on faculty and student research, research ethics, critiques on student presentations, and participation in Research Day. These seminars are required as part of the program for all MSc and PhD students.

DEN 1001Y° Master's Seminars in Oral Health Sciences (Credit/No Credit)
DEN 1002H   Oral Pathology
DEN 1003H   Preventive Dentistry
DEN 1006Y   Seminars in Dental Public Health
DEN 1007H   Oral Radiology
DEN 1011Y° Advanced Seminars in Oral Pathology
DEN 1012Y° Oral Medicine
DEN 1013Y° Oral Surgical Pathology
DEN 1016H   Occlusion: Function and Dysfunction
DEN 1017H   Temporomandibular Disorders
DEN 1022H   Investigating Pathogenic Biofilms
DEN 1024H   Experimental Methods in Caries Research
DEN 1030H   Critical Appraisal and Evidence-Based Care
DEN 1040Y   Dental Clinical Epidemiology and Biostatistics
DEN 1051Y   Oral Epidemiology
DEN 1060H   Oral Physiology: Sensory and Neuromuscular Function
DEN 1070H   Advances in Dental Materials Science
DEN 1080Y   Biology of Connective Tissues
DEN 1081H   Bone Interfacing Implants
DEN 1082H   Biomaterials for Implant Treatment in Dentistry
DEN 1097Y   Advanced Oral Radiology
DEN 1098H   Reading Course in Oral Biology
DEN 1100Y° Doctoral Seminars in Oral Health Sciences (Credit/No Credit)

Graduate Faculty

Full Members
Anne Agur - BSc,MSc,PhD
Jane Aubin - BSc, PhD
Debora E Barnett Foster - BSc, MSc, PhD
Tim Bressmann - MA, MSc,PhD
Michael Casas - DDS, DipPaedo, MSc
Robert Casper - MD, FRCSC
Cameron Clokie - DDS, DipOral&MaxillofacialSurg, PhD, DipABOMS
Dennis Cvitkovitch - BSc, MSc, PhD, Canada Research Chair *(Coordinator of Graduate Studies)*
John Davies - BSc, PhD, BDS, DSc
Douglas Deporter - DDS, PhD, DipPerio

° Courses which may continue over a program. The course is graded when completed.

Jonathan Dostrovsky - BSc, MSc, PhD
Richard Ellen - DDS, CertPerio, CertOralMed&Microbio
Omar El-Mowafy - DDS, PhD, FADM
Edward Fillery - BSc, PhD
Shimon Friedman - DMD
Michael Glogauer - DDS, Cert Perio, PhD
Siew-Ging Gong - BDS, CertOrtho, MA, PhD
Marc Grynpas - MSc, PhD
James Hu - BSc, MA, PhD
Asbjorn Jokstad - DDS, MSc,PhD
David Kenny - BSc, DDS, DipPaedo, PhD
Ernest Lam - BSc, DMD, MSc, CertOMRad, PhD
Herenia Lawrence - DDS, CertifRestorDentistry, CertifPlanningSystems&ServDentCare, MSc, PhD
James Leake - MSc, DDS, DDPH, FRCD(C)
Hardy Limeback - BSc, DDS, PhD
David Locker - BDS, PhD *(Associate Dean)*
Morris Manolson - BS, PhD
Christopher McCulloch - BSc, DDS, PhD, FRCD(C)
David Mock - DDS, PhD, FRCD(C)
George Sandor - DDS, MD, PhD
Paul Santerre - BSc, MScEng, PhD
Ze'ev Seltzer - DMD, Canada Research Chair
Barry Sessle - BDS, BSc, MSD, PhD, FRSC, Canada Research Chair
Arun Seth - BSc, MSc, PhD
Philip Sherman - MD, FRCP(C), Canada Research Chair
Craig Simmons - BSc, MSc, PhD, PEng, Canada Research Chair
Howard Tenenbaum - DDS, DipPerio, PhD, FRCD(C)
Xian-Min Yu - MD, MSc, DScH
Ron Zohar - DMD, PhD, FRCD(C)

Members Emeriti
Anders Bennick - MSc, DDS, PhD, DipPerio
Ralph Burgess - BSc, MSc, DDS
Johannes Heersche - BSc, PhD
John Mayhall - BA, MA, DDS, PhD
Robert Pilliar - BASc, PhD, PEng
Robert Bruce Ross - DDS, MScD, DIPORH, FRCD(C)
Philip Watson - DDS, MScD
Donald Woodside - BSc, DDS, MScD, PhD, FADM
George Zarb - BCHD, MSc, DDS, MSc, FRCD(C)

Associate Members
James Anderson - BSc, DDS, MScD
Paul Andrews - BSc, DDS, Dip Paedo, MSc, FRCDC
Gerald Baker - DDS, MS, FRCD(C), FICD
Edward Barrett - BSc,DDS,DipPaedo, MSc
Issac Barzilay - DDS, CertProstho, MS
Bettina Basrani - DDS, DipEndo, PhD
Grace Bradley - MSc, DDS, FRCD
Lori Burrows - BSc, PhD
Sela Cheifetz - PhD
Thuan Dao - MSc, DMD, DipProstho, PhD
I. John Daskalogiannakis - DDS, Cert Ortho, MSc
Laura Dempster - BSc, MSc, PhD
Randa Diwan - BDS, PhD
Wafa El-Badrawy - DDS, MSc
Aaron Fenton - MS, DDS, DipProstho, FRCD(C)

Yoav Finer - DMD, MSc, PhD, MSc (Prostho)
Bernhard Ganss - BSc, MSC, PhD
Michael Goldberg - BSc, MSc, DDS, Dip Perio
Daniel Haas - BSc, BScD, DDS, PhD, FADSA, FRCD(C)
Howard Holmes - DDS, Dip OMS
Peter Judd - BSc, DDS, DipPaedo, MSc
Gajanan Kulkarni - BDS, LLB, MSc, DipPaedo, PhD
Leslie Laing Gibbard - BSc, BEd,MSc,PhD,DDS,
  MSc(Prostho),FRCD(C)
Audrey Laporte - PhD
Iona Leong - BSc, BDS, DipOP&M, MSc
Celine Levesque - BSc, MSc, PhD
Patricia Main - BDS, DDS, DDPH, MSc, FRCD(C)
Dorothy McComb - BDS, MScD, FRCD(C)
Richard McComb - BDS, MSc, FRCD(C), DipABOP
Angelos Metaxas - DDS, DipOrtho, MSc, DDent
Sean Peel - BSc, PhD
Michael Pharoah - BSc, DDS, MSc, DipOralRad,
  FRCD(C)
Brett Saltzman - BA, DDS, MSc (Paedo)
Michael Sigal - DDS, MSc, DipPaedo, FRCD(C)
Eli Sone - PhD, MS, BSc
Sanjay Suri - BDS,MDS,M Orth,RCS
Susan Sutherland - BScN, DDS, MSc
Reena Talwar - BSc, DDS, PhD, Certif OMS
Laura Tam - DDS, MSc
Keith Titley - BDS, LDS, RCS, DipPaedo, FRCD(C),
  MScD
Bryan Tompson - DDS, DipPaedodont, DipOrthodont
Robert Wood - DDS, MSc, DipOralRad, PhD, FRCD(C)

Doctor of Medicine/Doctor of Philosophy (Combined Program)

Faculty Affiliation
Medicine

Degree Programs Offered
Medicine – Combined MD/PhD

Overview
The MD/PhD program is offered jointly by the Faculty of Medicine and the School of Graduate Studies. Selected and highly qualified students have the opportunity to combine their medical school experience with intensive scientific training in a chosen field. Students in this program are eligible for financial support.

Students carry out research under the supervision of a faculty member at the University and should consult the appropriate department or institute regarding specific research programs.

Contact and Address
Web: www.utoronto.ca/mdphd
E-mail: mdphd.program@utoronto.ca
Telephone: (416) 978-8885
Fax: (416) 971-2132

MD/PhD Program
Medical Sciences Building
Room 7205
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Combined Doctor of Medicine/Doctor of Philosophy

Minimum Admission Requirements
- Applicants must be accepted by the Faculty of Medicine and meet the requirements of the School of Graduate Studies and the department in which they intend to carry out their graduate studies.
- Master's students or first-year medical students are eligible to apply.

Program Requirements
- Applicants may pursue the dual degrees via an **integrated** or a **sequential** route.
- **Integrated**. Students with a four-year bachelor's degree enter the MD/PhD program and, within a period not exceeding six years, complete the requirements of the first two years of the MD program and all requirements of the PhD program. During this time a predetermined program of integration is pursued which provides time allocation for both medical school and graduate study. On completion of the PhD degree, students return full time to the medical program.
- **Sequential**. Students with a four-year bachelor's degree enter the medical program on a full-time basis. After 18 months of medical school, they proceed to full-time graduate work until completion of the PhD degree. Students then return to medical school to complete the last 2.5 years.

Drama   DRA

Faculty Affiliation
School of Graduate Studies

Degree Programs Offered
Drama – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Sexual Diversity Studies, see p. 469
   - Drama, MA, PhD
2. Women's and Gender Studies, see p. 473
   - Drama, MA, PhD

Overview
The Centre for the Study of Drama offers graduate programs leading to the **Master of Arts** and **Doctor of Philosophy** degrees. The Centre's own core courses focus on the program fields of theatre history, dramatic theory, and dramaturgy. Within the parameters of these fields, the Centre supports research in such areas as performance analysis and reception; Canadian, American, feminist and post-colonial theatre; Elizabethan and Restoration staging; historiography and performance; acting and modern staging theories and practices; and play development. Through affiliations with other graduate units, students may also take courses in drama and theatre from the departments of Classics; Comparative Literature; Curriculum, Teaching and Learning; English; French; German; Italian; Slavic; and Spanish. Access to courses from other departments relevant to a student's particular research - e.g., in history, music, or anthropology - also may be arranged.

Graduate students build on the kind of foundation that would normally be laid in four years of undergraduate study with a concentration in dramatic literature. Theatre is an integral part of graduate work in the Centre and it takes place, for the most part, in the context of workshops, student productions, and co-productions at the Robert Gill and Studio theatres.

Application details are available on the Centre's Web site and at http://apply.sgs.utoronto.ca.

Contact and Address
Web: www.graddrama.utoronto.ca
E-mail:
General: graduate.drama@utoronto.ca
Coordinator of Graduate Studies:
gradcoord.graddrama@utoronto.ca
Telephone: (416) 978-7980
Fax: (416) 971-1378

Centre for Study of Drama
Koffler Student Services Centre
214 College Street
University of Toronto
Toronto, Ontario M5T 2Z9
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants for admission to the Centre are considered under the general regulations. Admissions are selective; possession of minimum qualifications does not guarantee acceptance.
- Four-year University of Toronto BA with at least a B+ standing with a significant concentration in drama, or its equivalent from a recognized university.

Program Requirements
- At least 3.5 full-course equivalents (FCE), as approved by the Centre, including DRA 1003Y: Introduction to Theatre, Drama, and Performance Studies.
- At least one academic year or twelve months in full-time study, or the equivalent in part-time work.
- Satisfy the Centre's requirements of practical work in the theatre by completing DRA 5000Y.
- The Centre may prescribe certain courses in the individual programs of MA students.
- Normally the program requires one year of full-time study or the part-time equivalent. In some cases, students may be admitted to a two-year MA program, with additional course requirements.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants for admission to the Centre are considered under the general regulations. Admissions are selective; possession of minimum qualifications does not guarantee acceptance.
- Applicants may be accepted into the PhD program via one of two routes:
   o With a **Master of Arts** degree: University of Toronto MA in the Centre for the Study of Drama, or the equivalent from a recognized university, with at least an A- average standing. Applicants who have taken the MA through the Centre must be recommended for further study by the instructors whose courses they have taken. Applicants holding the MA of this University in a subject other than drama, or its equivalent from another university, will be considered for admission to the PhD program in the light of their previous work and its relation to the Centre's requirements; additional course work may be required.

o   With a **Bachelor of Arts** degree: Exceptional students may be admitted directly to the PhD program from the BA with a minimum A- overall average.
- Applicants must arrange to send two supporting letters of recommendation to the Graduate Coordinator of the Centre. Admission will be conditional upon satisfactory recommendation.
- Applications must be accompanied by a statement of research intent and curriculum vitae.

Program Requirements
- Students entering with a **MA**:
  o   complete 4.0 full-course equivalents (FCE) with an average standing of at least A-. The courses must include the dramaturgical requirement, DRA 1011H *Traditions of Performance Theory*, DRA 1012H *20th-Century Theatre and Performance* , and DRA 6000Y *Research Seminar*;
  o   demonstrate reading knowledge of a language other than English by passing an approved language examination not later than the end of the second year of study. Students may also be asked to qualify in other program-related languages;
  o   satisfy the Centre's requirement of further practical work in the theatre by completing DRA 5001Y;
  o   pass comprehensive examinations;
  o   present a thesis on an approved topic embodying the results of original investigation which shall be judged to constitute a significant contribution to the knowledge of the field;
  o   pass an oral examination on the subject of the thesis.
- Students entering with a **BA**:
  o   Complete 4.0 full-course equivalents (FCE) in addition to the PhD requirements listed above and satisfy the Centre's practical requirements for the theatre as determined on admission.
  o   Must maintain an A- average in their first 4.0 FCE in order to continue in the program.
  o   With approval, students may elect to transfer to the MA after the first year of study. Work completed in the PhD program will be credited towards the MA
- Although the program has been designed for completion in four years, some students may require a longer period to complete all of the requirements.

Courses

Registrants are advised to confirm course offerings by consulting the Centre's Web site, normally updated with timetable by mid-summer, at which time additional courses may be listed.

Core Program
DRA 1002H History of the Theatre II: Modernity and Modernism in North American Theatre
DRA 1003Y Introduction to Theatre, Drama and Performance Studies
DRA 1011H Traditions of Performance Theory
DRA 1012H 20th-Century Theatre and Performance
DRA 1051H Postcolonial Drama
DRA 1055H Performance Research: Sexual Performance (Studies in S/M)
DRA 1099H Dramaturgy of Sound in Drama, Film, Performance Art and Music
DRA 2011H Theatrical Performance and Reception
DRA 3019H Shakespeare in Modern Production
DRA 3021H Elizabethan Performance: History and Practice
DRA 3211H The Performing Body
DRA 4057H Women Script History
DRA 4090Y Directed Reading/Theatre Research
DRA 4091H Directed Reading/Theatre Research
DRA 5000Y Theatre Practice I
DRA 5001Y Theatre Practice II (Credit/No Credit)
DRA 6000Y Research Seminar (Credit/No Credit)

Cross-Listed Courses

The Graduate Centre for Study of Drama also cross-lists courses in drama, theatre, and performance offered by other graduate units of the University. These typically are:
Classics
Comparative Literature
Curriculum, Teaching and Learning
English
French
German
Italian
Slavic
Spanish

A listing of courses, available during the academic year, appear on the Centre's Web site which is updated in mid-summer. Students requesting courses from the above cross-listed units may be subjected to quotas and/or wait lists. Language and literature departments do not always provide courses in English translation. Confirm all course information - including date, time, location - with the appropriate unit.

Graduate Faculty

Full Members
Alan Ackerman - BA, MA, PhD
Veronika Ambros - BA, MA, PhD
Kay Armatage - BA, MA, PhD
John Astington - BA, MA, PhD
Salvatore Bancheri, BA, MA, PHD
Bruce Barton - PhD
Elspeth Brown, MA, PHD
Antje Budde
George Elliott Clarke - BA, MA, PhD
Michael Cobb, BA, MA, AM, PHD
Nancy Copeland - BA, MA, PhD
Brian Corman - AB, AM, PhD
Derrick De Kerckhove - BA, MA, PhD, Dip 3eme Cycle,
  FRSC
Konrad Eisenbichler - BA, MA, PhD
Kathleen Marie Gallagher - BA, BEd, MEd, PhD
Colin Hill, PHD
Linda Hutcheon - BA, MA, PhD, University Professor,
  FRSC
Stephen Johnson - BA, MA, PhD *(Director)*
Daniel Justice, BA, MA, PHD
Charles Keil - BA, MA, PhD
David Klausner - AB, PhD
Pia Kleber - BA, MA, PhD
Anne Lancashire - BA, AM, PhD
D Ian Lancashire - BA, MA, PhD
Jill Levenson - BA, MA, PhD, FRSC
Michael Lettieri, BA, MA, PHD
Andrea Most, BA, MA, PHD
Mary Ann Parker - BA, MM, PhD, ARCT
Domenico Pietropaolo - BSc, MA, PhD
Ato Quayson - PhD, BA
Martin Revermann - PHD
Stephen Rupp - BA, MA, MPhil, PhD
Paula Sperdakos - BA, MA, PhD *(Coordinator of
  Graduate Studies)*
Neil Ten Kortenaar, PHD
H. Leslie Thomson - BA, MA, PhD
Tamara Trojanowska - BA, MA, PhD

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Michael Sidnell - BA, MA, PhD

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Colin Hill, PHD
Andrew Houston
Leslie Katz - BA, PhD
Robert King
Richard Knowles - MA, PhD
Jeremy Lopez - PhD, MA, BA
Sarah MacLean - BA, MA, PHD
Selma Odom - PhD

Damiano Pietropaolo
Marjut Ruti - BA,MA,PHD
Nicholas Sammond - BA, MA, PHD
Holger Schott Syme - PHD, BA, AM
Bart Testa - BA, MA
Mary Jane Warner

East Asian Studies   EAS

Faculty Affiliation
Arts and Science

Degree Programs Offered
East Asian Studies – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Asia-Pacific Studies, see p. 413
   - East Asian Studies, MA

Overview
The Department of East Asian Studies offers programs in two fields: Classical East Asian and Modern East Asian.

Contact and Address
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Telephone: (416) 416-978-7260
Fax: (416) 978-5711

Department of East Asian Studies
Robarts Library
14-087, 130 St. George Street
University of Toronto
Toronto, Ontario M5S 3H1
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Accepted under the general regulations of the School of Graduate Studies and the regulations of the department.
- Successful completion of a four-year University of Toronto BA degree, or its equivalent from a recognized university, in a Specialist or Major East Asian Studies program, with at least B+ standing in the final year.
- Statement of approximately 500 words (two pages) setting out the student's main fields of interest and proposed course of study.
- Two letters of recommendation from scholars who have knowledge of previous academic work.
- Programs are based on the study of original texts. This presupposes a knowledge of the relevant languages.
- A sample of the applicant's writing in English.
- Non-native speakers of English are required to take the TOEFL (Test of English as a Foreign Language).

Applicants taking the paper-based TOEFL exam must achieve a minimum score of 600 and 5 on the TWE. Applicants taking the computer-based TOEFL exam must achieve a minimum score of 250 and 5 on the essay rating component. Applicants taking the internet-based TOEFL exam must achieve a minimum score of 100/120 and 22/30 on the writing and speaking sections. Comparable scores on similar tests are also acceptable.
- Application deadline is December 1 for admission in the following September.

Program Requirements
- One year of full-time graduate study.
- Program may be completed either through non-language course work or through a combination of non-language courses and a thesis; normally 4.0 full-course equivalents (FCE) are required for students not writing a thesis, and 2.0 FCE for students writing a thesis.
- Courses selected in consultation with the Coordinator of Graduate Studies.

Doctor of Philosophy

Minimum Admission Requirements
- Accepted under the general regulations of the School of Graduate Studies and the regulations of the department.
- Normally the completion of the MA program in the Department of East Asian Studies, or its equivalent from a recognized university, with an average grade of at least A-. Departmental assessment may also permit registration directly from a B.A. degree in the most exceptional cases where, for instance, there is a very high grade-point average or a well-documented demonstration of capacity for original research.
- Statement of approximately 500 words (two pages) setting out the student's main fields of interest and proposed course of study.
- Three letters of recommendation from scholars who have knowledge of previous academic work.
- Programs are based on the study of original texts. This presupposes knowledge of the relevant languages.
- A sample of the applicant's writing in English.
- Non-native speakers of English are required to take the TOEFL (Test of English as a Foreign Language). Applicants taking the paper-based TOEFL exam must achieve a minimum score of 600 and 5 on the TWE. Applicants taking the computer-based TOEFL exam must achieve a minimum score of 250 and 5 on the essay rating component. Applicants taking the internet-based TOEFL exam must achieve a minimum score of 100/120 and 22/30 on the writing and speaking sections. Comparable scores on similar tests are also acceptable.
- Application deadline is December 1 for admission in the following September.

Program Requirements
- 4.0 non-language full-course equivalents (FCE), selected in consultation with the Coordinator of Graduate Studies. 2.0 FCE must be completed in the first year of the program, with an average grade of at least A-. The remaining courses must be completed by the end of the second year of the program, maintaining an average of at least A-.
- Students are permitted to take some of their courses in other departments.
- A comprehensive qualifying examination is normally undertaken within three months of completion of course work and must be taken by June 15 of the third year of study.
- Demonstrated appropriate level of proficiency in two languages, other than English, relevant to their areas of study before undertaking qualifying examinations, the level of proficiency as well as the two languages to be determined by the department.
- After completing the comprehensive examination, students are required to produce a doctoral dissertation with the guidance of a supervisory committee. This process begins with the production of a dissertation prospectus to be approved by the committee. The completed dissertation must be defended at an oral examination.

Courses
The following courses may be offered by the department. Not all courses are offered every year. Please consult the department's Web site for a current course listing.

Cultural Studies
EAS 1118H   Translation and Modernity
EAS 1207H   Welfare Society and Democratization in Korea
EAS 1424H   Multitude, Labour Power, Population
EAS 1506H   Aspects of Classical and Medieval Indian Culture through Sanskrit Texts
EAS 1507H   Ethnography of Multiculturalism: liberalism, civil society, identity politics
EAS 1510Y   Critical Studies of "Civil Society": Centred on the Twentieth-Century History of Japan and Korea
EAS 1603H   Anthropology of South Korea
EAS 1703H   Ethnography of Neoliberalism with a Focus on East Asia
COL 3380H   Globalization and Culture
COL 5040H   Marx, Deleuze and Empire

History
EAS 1140Y   From Republic to People's Republic: The Chinese Revolution from 1895 to the Present
EAS 1338H   Architecture in Pre-Modern China
EAS 1411H   Art and Archaeology of Early China
EAS 1412H   Special Topics in Archaeology of Ancient China
EAS 1143Y   Civilization in Medieval China

EAS 1173H,Y Modern Korean History Seminar
EAS 1174H,Y Rethinking Empire in East Asia
EAS 1314H   Capitalism and Colonialism
EAS 1425H   Critique of Everyday Life and Capitalism
EAS 1427H   On Contingency and Capitalism
EAS 1428Y   Foucault & Marx
EAS 1675Y   Topics in Chinese Social and Intellectual History 1500-1950
EAS 2008H   Japan's Imperial System
EAS 2020H   Beyond Orientalism

Language
EAS 1040Y   Elementary Vietnamese
EAS 1101Y   Introduction to Classical Chinese
EAS 1115Y   Reading Japanese for Graduate Purposes (Credit/No Credit)
EAS 1301Y   Modern Standard Japanese I (Credit/No Credit)
EAS 1302Y   Modern Standard Japanese II (Credit/No Credit)
EAS 1303Y   Modern Standard Japanese III (Credit/No Credit)
EAS 1304Y   Modern Standard Japanese IVa (Credit/No Credit)
EAS 1305H   Modern Standard Japanese IVb (Credit/No Credit)
EAS 1312Y   Introduction to Manchu
EAS 1321H   Japanese I for Students with Prior Background (Credit/No Credit)
EAS 1379H   The History, Structure and Politics of the Hindi Language
EAS 1500Y   The Structure of the Classical Sanskrit Language (formerly EAS 2004Y Introduction to Sanskrit)
EAS 1501H,Y Intermediate Sanskrit Texts (formerly EAS 1105Y)
EAS 1621Y   Modern Standard Korean I (Credit/No Credit)
EAS 1622Y   Modern Standard Korean II (Credit/No Credit)
EAS 1623Y   Modern Standard Korean III (Credit/No Credit)
EAS 1624Y   Modern Standard Korean IV (Credit/No Credit)
EAS 1801Y   Modern Standard Chinese I (Credit/No Credit)
EAS 1802Y   Modern Standard Chinese II (Credit/No Credit)
EAS 1803Y   Modern Standard Chinese III (Credit/No Credit)
EAS 1804Y   Modern Standard Chinese IV (Credit/No Credit)
EAS 2001Y   Introduction to Classical Japanese
EAS 2002Y   Intermediate Classical Chinese
EAS 2003Y   Advanced Sanskrit Texts I (formerly EAS 1106Y)
EAS 2006Y   Advanced Sanskrit Texts II (formerly EAS 2005Y)
EAS 2007H   Advanced Sanskrit Texts I

Linguistics and Pedagogy
EAS 1349Y   Pedagogical Grammar of Japanese
EAS 1352H   Introduction to Japanese Linguistics:
　　　　　　　Syntax and Semantics
EAS 1353H   Theory and Practice of Japanese
　　　　　　　Language Instruction
EAS 1452H   Japanese Linguistics I

Literature
EAS 1137H,YChinese Poetics
EAS 1151H   Chinese Poetry I
EAS 1152H   Chinese Poetry II
EAS 1322Y   The Kambun Tradition
EAS 1344Y   Classical Japanese Poetry
EAS 1345H   Readings in Japanese Literary Criticism
EAS 1408H   Identity and Diaspora in Modern Taiwanese
　　　　　　　Literature
EAS 1444H   The City, Body, and Text in Modern
　　　　　　　Japanese Literature
EAS 1502H   Sanskrit Narrative Literature
EAS 1503H   Sanskrit Epic Literature
EAS 1505H   Buddhist Narrative Literature in Buddhist
　　　　　　　Hybrid Sanskrit
JLA 1456H   Japan As Seen By ?: Reference,
　　　　　　　Apparatus, Operation

Philosophy and Religion
EAS 1228H   Topics in Chinese Ethical Theories
EAS 1226H   Topics in Modern Chinese Philosophy
EAS1227H   Topics in Chinese Religions
EAS 1469H   Chinese Mahayana Buddhism
EAS 1601Y   Seminar in East Asian Buddhism
EAS 1602Y   Topics in Korean Thought
PHL 2015H   Confucianism
PHL 2016H   Taoism: Philosophy and Religion
PHL 2017H   Buddhism in China
RLG 3423H   Religion in the Japanese Tradition
RLG 3713Y   Hinduism and Politics

Politics
POL 2416Y   Politics and Society in Contemporary China

Research Seminars
EAS 1100H,YSpecial Topics in Chinese Studies
EAS 1116H,YSpecial Topics in Chinese Culture
EAS 1150H,YReading and Major Research Paper
EAS 1160H,YBasic Topics in Chinese Culture
EAS 1163H,YSpecial Topics in Korean Studies
EAS 1300H,YSpecial Topics in Japanese Studies
EAS 1313Y   Japanese Source Materials and Reference
　　　　　　　Works
EAS 1320Y   Special Topics in Japanese Culture
EAS 1323Y   Readings in Japanese Documentary
　　　　　　　Source Materials
EAS 1999Y   East Asian Studies Bibliography,
　　　　　　　Reference, and Research Methodology

Visual and Performing Arts
EAS 1229H   Topics in Chinese Aesthetics
EAS 1328H,Y Chinese Sculpture
EAS 1339H   Topics in Chinese Art Theories
EAS 2003H   Chinese Drama: Its History and Art

Graduate Faculty

Full Members
Eric Cazdyn - BA, MA, PhD
Carol Chin - BA, MA, PhD
Gary Crawford - BSc, MA, PhD
Richard Wl Guisso - BA, DPhil
Ping-Chun Hsiung - BA, MA, MA, PhD
Mayumi (Yuki) Johnson - BA,MA,PHD
Ken Kawashima - BA,MA,PHD
Tong Lam - BsC, MA, PhD
Johanna Ch'ien-mei Liu - BA, MA, PHD
Hy Van Luong - BA, MA, PhD
Yue Meng
Andrew Plaks
Jennifer Purtle
Klaas Ruitenbeek
Atsuko Sakaki - MA, PhD
Stella Sandahl - MA, DES, PhD
Graham Sanders - BA, PhD *(Coordinator of Graduate Studies)*
Andre Schmid - BA, MA, PhD
Chen Shen - BA, MA, PhD
Vincent Tsing-song Shen - BA, MA, PhD, Lee Chair *(Chair)*
Je Sook Song - BA, PHD
Nhung Tran - BA, MA, PhD

Members Emeriti
Sonja Arntzen - BA, MA, PhD
Milena Dolezelova - MA, PhD
Michael Donnelly - BS, Institute Certificate, MA, PhD
Victor Falkenheim - BA, MA, PhD
Frank Hoff
Anthony Liman
Richard Lynn - BA, MA, PhD
Kazuko Nakajima - BA, MA, MPh
Wayne Schlepp
Reiko Tsukimura
Shuzo Uyenaka - BA, MA, PhD
David Waterhouse - BA, MA, LRAM, FRSC

Associate Members
Juhn Ahn - BA, MA, PhD
Ito Peng - BA, BSW, MA, PhD
Janet Poole
Joseph Wong - BA, MA, PhD, Canada Research Chair

Ecology and Evolutionary Biology   EEB

Faculty Affiliation
Arts and Science

Degree Programs Offered
Ecology and Evolutionary Biology – MSc, PhD

Collaborative Programs Offered
The Department is renegotiating arrangements with the following degree programs. Please consult the Department of Ecology and Evolutionary Biology for current information.
1. Environmental Studies, see p. 443
   - Ecology and Evolutionary Biology, MSc, PhD
2. Genome Biology and Bioinformatics, see p. 448
   - Ecology and Evolutionary Biology, PhD
3. Toxicology, Biomedical, see p. 421
   - Ecology and Evolutionary Biology, MSc, PhD

Overview
Ecology and Evolutionary Biology students may study in three major fields – Ecology, Evolution, and Integrative Biology. Within these fields, professors' research interests include anatomy/physiology, behaviour, behaviour genetics, bioinformatics, community/population/ecosystem/landscape/evolutionary ecology, conservation biology, developmental biology, genetics/genomics, microbiology, molecular evolution, plant biology, taxonomy/systematics and theoretical biology. Professors who supervise graduate students are located on all three campuses of the University (St. George, Mississauga, Scarborough) as well as at the Royal Ontario Museum.

Contact and Address
Web: www.eeb.utoronto.ca
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Telephone: (416) 978-7172
Fax: (416) 978-5878

Department of Ecology and Evolutionary Biology
Earth Sciences Centre
Room 3055L, 25 Willcocks Street
University of Toronto
Toronto, Ontario M5S 3B2
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Applicants are accepted under the general regulations of the School of Graduate Studies.
- Four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with an average grade equivalent to a University of Toronto B+ or better in the last year of the bachelor's degree and a minimum B average in the previous year.
- Students will not be admitted until they have made arrangements to secure a research supervisor by contacting professors in the Department.

Program Requirements
- The MSc program is normally completed in 16 months.
- Students must complete a 0.5 graduate full-course equivalent (FCE) chosen from courses offered; the Faculty Research Course is recommended.
- A thesis is completed under the direction of the student's supervisor, assisted by an advisory committee, and defended at a departmental oral examination.

Doctor of Philosophy

Minimum Admission Requirements
- Students will not be admitted until they have made arrangements to secure a research supervisor by contacting professors in the Department.
- PhD students are generally accepted by one of three routes:
   o following completion of an appropriate University of Toronto MSc degree, or its equivalent from a recognized university, with a minimum A- average in all work completed in the master's program and a minimum B+ average in the last year of the bachelor's program
   o by transferring from the MSc program, conditional upon evidence of research excellence as judged by the thesis supervisory committee
   o by direct entry, that is, completing a BSc with a minimum B+ average in the final year of the bachelor's degree and B in the previous year, A- or better in courses in ecology and evolutionary biology, and proven research accomplishments

Program Requirements
- The PhD program is normally completed in four years. Exceptional students admitted to the PhD program without an MSc degree will be admitted into a five-year program and will be required to complete course work equivalent to the master's program in addition to the PhD course requirements.

- Students must complete 1.5 graduate FCE chosen from courses offered (2.0 graduate FCE for students entering without an MSc degree). Students transferring into the PhD program from the MSc may apply 0.5 graduate FCE towards the PhD course requirement.
- All students are examined 18 months into the program on both their mastery of concepts in ecology and evolutionary biology and a submitted research proposal.
- Students must deliver two public seminars in the Department based on their thesis research.
- Students must submit a thesis and defend it at a Final Oral Examination conducted by the School of Graduate Studies.

Courses

Not all courses are offered every year. Please refer to the Ecology and Evolutionary Biology Web site for a current list of course offerings.

Courses Offered at the Graduate Level Only

EEB 1002H   Advanced Research and Reading Course (This course may be taken only once for credit, and is only available to students who were admitted to the old Zoology, Plant and Microbial Biology, or Botany programs)
EEB 1100H   Faculty Research Course
EEB 1210H   Advanced Statistics
EEB 1230H   Multivariate Statistics
EEB 1250H   Spatial Statistics
EEB 1310H   Philosophy and Methods
EEB 1320H   Ecology
EEB 1350H   Evolution
EEB 1360H   Behaviour
EEB 1420H   Special Topics in Ecology
EEB 1440H   Special Topics in Evolution
EEB 1470H   Special Topics in Integrative Biology

Graduate Courses with Significant Undergraduate Content

These courses will normally constitute only a minor component of the required credits

EEB 1004Y   Vertebrate Paleontology
EEB 1328H   Physiological Ecology
EEB 1330H   Systematic Botany
EEB 1337H   Families of Vascular Plants
EEB 1340H   Comparative Plant Morphology
EEB 1341H   Plant Anatomy
EEB 1459H   Introduction to Theoretical Population Genetics
EEB 1460H   Molecular Evolution
EEB 1462H   Phylogenetic Systematics
EEB 1468H   Limnology

Graduate Faculty

Full Members
Peter Abrams - BS, PhD
Aneil Agrawal - BSc,PhD,Canada Research Chair
James Anderson - BA, PhD
Maydianne Andrade - BSc, MSc, PhD
George Arhonditsis - BSc, MSc, PhD
Allan Baker - BSc, MSc, PhD
Robert Baker - BSc, MSc, PhD
Spencer Barrett - BSc, PhD, Canada Research Chair
Rudy Boonstra - BSc, PhD
Daniel Brooks - BS, MS, PhD
Leslie Buck - BSc, PhD
Malcolm Campbell - BSc, MSc, PhD
Terence Carleton - BSc, MSc, PhD
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Belinda Chang - BA, PhD, Canada Research Chair
Nicholas Collins - BA, PhD
Douglas Currie - BSc, PhD
Asher Cutter - PhD, Canada Research Chair
Helene Cyr - BSc, MSc, PhD
D Christopher Darling - BSc, MSc, PhD
Timothy Dickinson - BSc, MSc, PhD
James Eckenwalder - BA, PhD
Mark Engstrom - BS, MS, PhD
Marie-Josee Fortin - BSc, MSc, PhD
James Fullard - BSc, MSc, PhD
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Darryl Gwynne - BSc, PhD
David Irwin - BSc, PhD
Donald Jackson - BSc, MSc, PhD
Linda Kohn - BS, PhD
Peter Kotanen - PhD
Herbert Kronzucker - BSc, PhD, Canada Research Chair
Joel Levine - BA,PhD,Canada Research Chair
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Deborah McLennan - BSc, MSc, PhD
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Robert Reisz - BSc, MSc, PhD
James Rising - BA, PhD
F. Helen Rodd - BSc, MSc, PhD
Locke Rowe - BSc, MSc, PhD, Canada Research Chair
Rowan Sage - BA, MS, PhD
Tammy Sage - BA, MS, PhD
Steven Short - PhD
Sandy Smith - BSc, MSc, PhD
Marla Sokolowski - BSc, PhD, FRSC, Canada Research Chair
W Gary Sprules - BSc, MA, PhD *(Associate Chair, Graduate Studies)*
Sasa Stefanovic - PhD
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Sean Thomas - BA, PhD, Canada Research Chair

James Thomson - AB, MS, PhD *(Acting Chair)*
Helene Wagner - PhD
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D Dudley Williams - BSc, DipEd, MSc, PhD, DSc
Richard Winterbottom - PhD
Ann Zimmerman - BA, PhD

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Nicholas Mandrak - PhD
Charles Minns - BSc, PhD
Alan Moses - BSc,MSC,PhD
Mark Ridgway - BSc, MSc, PhD
Brian Shuter - BSc, MSc, PhD
Keith Somers - BSc, MSc, PhD
Denis Walsh - BSc, PhD, BA, MPhil, PhD, Canada
 Research Chair
Carin Wittnich - MSc, DVM

Economics ECO

Faculty Affiliation
Arts and Science

Degree Programs Offered
Economics – MA, Combined JD/MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Asia-Pacific Studies, see p. 413
   - Economics, MA
2. Environmental Studies, see p. 443
   - Economics, MA
3. International Relations, see p. 458
   - Economics, MA
4. Management and Economics, see p. 464
   - Economics, PhD

Overview
The Department of Economics offers degree programs leading to the **Master of Arts**, **Combined Juris Doctor/Master of Arts**, and **Doctor of Philosophy**. Graduate program details appear on the department's Web site . For information on the program in Financial Economics consult the separate entry in this calendar.

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Department of Economics
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Toronto, Ontario M5S 3G3
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Four-year or honours degree (or equivalent) with at least a mid-B (75%) standing in the final year of the program.
- Successful completion of full-year courses in calculus, and in intermediate microeconomics, macroeconomics, and statistics.
- Meeting these minimum requirements does not imply automatic acceptance into the program.

Program Requirements
- Successful completion of the math stat review.
- For the MA regular stream, 4.0 full-course equivalents (FCE) including the core courses micro, macro and econometrics.
- For the MA doctoral stream (for students pursuing a PhD), 4.0 FCE including the core courses micro, macro and econometrics, and completion of at least one of the following PhD sequences; microeconomics (ECO 2020H and ECO 2030H), macroeconomics (ECO 2021H and ECO2031H), or econometrics (ECO 2400H and ECO 2401H) and the associated tutorials.
- Program is normally completed in two sessions.

Doctor of Philosophy

Minimum Admission Requirements
- Minimum B+ standing in a MA program in economics. Since admission is competitive, accepted applicants will normally have achieved a standing considerably higher than the minimum B+.

Program Requirements
- The PhD is a full-time program. Applicants must be registered as full-time students for a minimum period of three years.
- Students must maintain a minimum average of B+ throughout their course work.
- Year 1 - normally two half-courses in microeconomics (ECO 2020H and ECO 2030H), macroeconomics (ECO 2021H and ECO 2031H), and econometrics (ECO 2400H and ECO 2401H).
- Year 2 - students choose two field areas, taking the equivalent of three half-year courses in each.
- Second-year and third-year students must also participate in the full-year graduate research seminar (ECO 4060Y°).
- Suitable graduate level courses taken by a student in the MA program in the Department of Economics may fulfil some of the course requirements of the PhD program.
- Demonstration of competence in the core of the discipline and in two of its special fields.
- A thesis based on original research.
- Successful completion of comprehensive examinations in micro, macro, and the major field by the end of the second year of study.
- An original paper must be written in the second year and presented in the relevant workshop in the fall of the third year.
- By the spring of the third year, students must submit a proposal to a formal dissertation committee.

° Courses which may continue over a program. The course is graded when completed.

Combined Juris Doctor/Master of Arts

The JD/MA in Economics permits the completion of both degrees in three years rather than the four years it would take to acquire them independently.

Minimum Admission Requirements
- Applicants must gain independent admission to the JD program and the MA program in Economics before they may be considered for admission to the Combined JD/MA program.

Program Requirements
- Successful completion of the math stat review.
- 6 half-courses in economics including the core courses, and 45 credits in law to satisfy the require-ments as established for each degree program.

Combined Juris Doctor/Doctor of Philosophy

The Combined JD/PhD program is designed to at-tract highly qualified students who can benefit from the interaction between law and economics. This program allows students to complete the requirements of the JD degree and to reach all but the dissertation stage of the PhD at the end of four years.

Minimum Admission Requirements
- Applicants must gain independent admission to the JD program and the PhD program in Economics before they may be considered for admission to the Combined JD/PhD program.

Program Requirements
- Year 1 - students are admitted to the Faculty of Law and receive a deferred acceptance to the PhD program.
- Years 2 and 3 - students are registered in the Department of Economics and complete the require-ments of the first two years of the PhD program.
- Year 4 - students complete their JD requirements and thereafter are registered full-time in the PhD program in the Department of Economics.

Courses

Not all courses are offered every year. Please refer to the department's Web site for a current list.

Preliminary Courses
ECO 1010H   Mathematics and Statistics Review for MA Students (Credit/No Credit)
ECO 1011H   Mathematics for PhD Students (Credit/No Credit)

Core Courses in Economic Theory
ECO 2020H   Microeconomic Theory I
ECO 2021H   Macroeconomic Theory I
ECO 2030H   Microeconomic Theory II

ECO 2031H   Macroeconomic Theory II
ECO 2050H   Applied Microeconomics
ECO 2051H   Applied Macroeconomics
ECO 2060H   Economic Theory—Micro (for MA students only)
ECO 2061H   Economic Theory—Macro (for MA students only)

Advanced Microeconomic Theory and Mathematical Economics
ECO 2070H   Workshop in Economic Theory (jointly with Institute for Policy Analysis) (Credit/No Credit)
ECO 2100H   Mathematical Economics I
ECO 2101H   Mathematical Economics II
ECO 2102H   Topics in Microeconomic Theory

History of Economic Thought
ECO 2004H   The History of Economic Thought
ECO 2005H   Workshop in the History of Economic Thought (Credit/No Credit)
ECO 2006H   Topics in the History of Economic Thought

Economic History
ECO 2234H   Topics in North American Economic History
ECO 2250H   Workshop in Economic History (Credit/No Credit)

International Economics
ECO 2300H   International Trade Theory
ECO 2301H   International Monetary Theory
ECO 2302H   International Economics: Theory and Institutions
ECO 2303H   International Macroeconomics
ECO 2304H   Workshop in International Economics (jointly with Institute for Policy Analysis) (Credit/No Credit)
ECO 2305H   Topics in International Finance
ECO 2310H   Topics in International Trade

Econometrics
ECO 2400H   Econometrics I
ECO 2401H   Econometrics II
ECO 2402H   Advanced Econometrics
ECO 2403H   Topics in Econometrics
ECO 2404H   Empirical Applications of Economic Theory
ECO 2406H   Workshop in Econometrics (Credit/No Credit)
ECO 2408H   Econometrics (for MA students only)
ECO 2410H   Applied Econometrics
ECO 2411H   Financial Econometrics

Macroeconomics and Monetary Economics
ECO 2103H   Topics in Macroeconomic Theory
ECO 2500H   Monetary Theory I
ECO 2501H   Monetary Theory II
ECO 2502H   Advanced Monetary Theory
ECO 2503H   Financial Economics I
ECO 2504H   Financial Economics II
ECO 2505H   Macroeconometric Models and Forecasting

ECO 2506H   Economics of Financial Risk Management
ECO 2507H   International Financial Markets
ECO 2550H   Workshop in Monetary and Macro
                   Economics (jointly with Institute for Policy
                   Analysis) (Credit/No Credit)

Public Economics
ECO 2600H   Public Economics I
ECO 2601H   Public Economics II
ECO 2606H   Topics in Public Economics
ECO 2607H   Workshop in Public Economics (jointly with
                   Institute for Policy Analysis) (Credit/No
                   Credit)
ECO 2610H   Health Economics
ECO 2611H   Empirical Welfare Analysis

Economic Development
ECO 2700H   Economic Development
ECO 2701H   Development Economics I
ECO 2703H   Development Economics II
ECO 2704H   Topics in Growth and Development
ECO 2738H   Economic Development of China
ECO 2770H   Workshop in Economic Development
                   (Credit/No Credit)
JPE 2408Y   The Political Economy of Development

Labour Economics
ECO 2800H   Labour Economics I
ECO 2801H   Labour Economics II
ECO 2802H   Economics Inside Organizations
ECO 2806H   Workshop in Labour Economics (jointly
                   with Institute for Policy Analysis and
                   Centre for Industrial Relations) (Credit/No
                   Credit)
ECO 2807H   Economics and Demographics

Industrial Organization
ECO 2900H   Industrial Organization and Public Policy I
ECO 2901H   Industrial Organization and Public Policy II
ECO 2909H   Workshop in Industrial Organization
                   (jointly with Institute for Policy Analysis)
                   (Credit/No Credit)

Law and Economics
ECO 3501H   Economic Analysis of Law
ECO 3504H   International Trade Regulation (also LAW
                   285)

Other Courses
ECO 2908H   Environmental and Resource Economics
ECO 3500H   Economics of Organizations and Contracts
ECO 4050H   Reading Course in an approved special
                   field[#]

°Courses which may continue over a program. The course is graded
   when completed.
[#]The department is normally prepared to supervise reading courses
   in a variety of fields. Reading courses are available only to students
   who have the requisite preparation and only at the discretion of
   faculty members.

ECO 4051H   Reading Course in an approved special
                   field[#]
ECO 4060Y° Graduate Research Seminar (Credit/No
                   Credit)

Graduate Faculty

Full Members
Victor Aguirregabiria - BA, MSc, PhD
Varouj Aivazian - BS, MA, PhD
Michelle Alexopoulos - BSc, MA, PhD
Gordon Anderson - BA, MSc, PhD
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  Bank of Commerce (CIBC) Chair in Youth Employment
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Joanne Roberts - BA, MA, PhD
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  Professor
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Johannes Van Biesebroeck - MA, PhD

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Xiaodong Zhu - BSc, MSc, PhD

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Scott Eddie - BS, PhD
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Abraham Rotstein - BA, PhD
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Xianwen Shi - BS, MA, MPh, PhD
Colin Stewart - BS, MSc, MA, MPh, PhD

Electrical and Computer Engineering   ECE

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Electrical and Computer Engineering – MASc, MEng, PhD
Telecommunications - MEngTel

Collaborative Programs Offered
Degree programs that participate in:
1.   Biomedical Engineering, see p. 418
    • Electrical and Computer Engineering, MASc, PhD

Overview
The Edward S. Rogers Sr. Department of Electrical and Computer Engineering offers graduate courses and research opportunities in four programs of study. The Master of Applied Science and Doctor of Philosophy are research-based degree programs and require the completion of a thesis. The Master of Engineering and Master of Engineering in Telecommunications are course-based degree programs. Both the MEng and MEngTel programs may be taken on a full-time or part-time basis.

The **Master of Applied Science** program provides students with an opportunity to pursue advanced studies in the particular field of major interest and an opportunity to engage in research. The program requires full-time study for a minimum of one year, course work, and a thesis on a research project.

The **Master of Engineering** program is designed to provide professional training beyond the undergraduate level and to accelerate careers with specialized engineering expertise needed in business, government, and industry. The degree requirements, consisting of courses and an optional MEng project, are structured to be completed in one year by a full-time student.

The **Master of Engineering in Telecommunications** program is not accepting applications for the academic year 2008/2009.

The **Doctor of Philosophy** program is designed for those exceptional individuals who intend to pursue a career in fundamental or applied research. The program requires course work and the successful completion of a research thesis.

The Department offers research in the following areas:
1.   Biomedical Engineering
2.   Communications
3.   Computer Engineering
4.   Electromagnetics
5.   Electronics
6.   Energy Systems
7.   Photonics
8.   Systems Control

Details available on the Department's Web site at www.ece.utoronto.ca/research.htm

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University of Toronto
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Toronto, Ontario M5S 3G4
Canada

Degree Programs

Electrical and Computer Engineering

Master of Applied Science

Minimum Admission Requirements
•   Four-year University of Toronto bachelor's degree in Electrical and Computer Engineering or its equivalent from a recognized university.
•   High academic standing equivalent to a mid-B or better, normally demonstrated by an average grade in the final year or over senior level courses.

Program Requirements
•   Normally 2.5 graduate full-course equivalents (FCE) or 5.0 half-courses. Students whose undergraduate preparation does not include the study of subjects deemed to be necessary for research in the chosen field will be required to complete additional courses.
•   Thesis. This thesis shall demonstrate the student's ability to do independent work in relating, organizing, and extending existing techniques where required, and in suggesting and developing new approaches to problems in an area of applied science and engineering.
•   During the first year of registration, students are required to attend the ECE Colloquium and complete JDE 1000H *Ethics in Research*.

Master of Engineering

Minimum Admission Requirements
•   Four-year University of Toronto bachelor's degree in Electrical and Computer Engineering or its equivalent from a recognized university.
•   High academic standing equivalent to a mid-B or better, normally demonstrated by an average grade in the final year or over senior level courses.

Program Requirements
- Normally comprise 4.5 graduate full-course equiva-lents (FCE) or 9.0 half-courses for applicants with adequate undergraduate preparation. At least 2.5 graduate FCE or 5.0 half-courses must be drawn from graduate courses offered by the Department of Electrical and Computer Engineering.
- All students must enrol in a field of study.
- Students may choose to complete an engineering project with an equivalent value of 1.5 FCE. Students choosing the project option will be required to complete a total of 3.0 FCE in addition to the project. In order to pursue the project option, the student must secure a professor who will act as the supervisor throughout the project.
- The MEng degree program may be taken on a full-time or part-time basis.

Doctor of Philosophy

Minimum Admission Requirements
- University of Toronto master's degree (with thesis) in Electrical and Computer Engineering or its equivalent from a recognized university.
- An average grade equivalent to a University of Toronto B+ or better in a previous master's degree program.
- The Department must be satisfied of the student's ability to do advanced research before admission is granted.

Program Requirements
- Each student will be required to pass courses of study to satisfy the requirements of the general regulations and the specific requirements of the Department.
- Normally 2.5 full-course equivalents (FCE) or 5.0 half-courses not previously used for other degree credit.
- Thesis.
- Some outstanding students may be permitted to transfer directly from the MASc program to the PhD program without completing the MASc degree. Such students will be required to complete 5.0 FCE.
- During the first year of PhD registration, each student must pass a qualifying oral examination in the area of research.
- The program has been designed to enable students who have already completed a master's degree to complete all requirements within four years. More details are available in the Electrical and Computer Engineering Web site.
- During the first year of registration, students are required to attend the ECE Colloquium.
- During the first year of registration, students are required to complete JDE 1000H *Ethics in Research*, if they have not already done so in a previous University of Toronto master's program.

Telecommunications

Master of Engineering in Telecommunications

The **Master of Engineering in Telecommunications** program is not accepting applications for the academic year 2008/2009.

Courses
The following groups of courses in the more distinct fields of graduate study in Electrical and Computer Engineering are presented for student guidance in select-ing courses. Suitable courses offered by other depart-ments may be selected subject to the approval of the Department of Electrical and Computer Engineering.

Students registered in a graduate degree program which involves research are required to complete the seminar course JDE 1000H *Ethics in Research* during their first year of registration.

The Department should be consulted each session as to course offerings.

Energy Systems
ECE 533H   Power Electronics
ECE 1041H   Numerical Solution of Field Problems
ECE 1042H   High-Voltage Engineering
ECE 1049H   Special Topics in Power Devices and Systems
ECE 1055H   Dynamics of HVdc/ac Transmission Systems
ECE 1057H   Static Power Converters I—Principles of Operation and Applications
ECE 1058H   Static Power Converters II—Dynamics and Control
ECE 1059H   Special Topics in Power Systems
ECE 1063H   Application of Power Devices
ECE 1065H   Custom Power Controllers
ECE 1066H   Design of High-Frequency Switch-Mode Power Supplies (SMPS)
ECE 1067H   Switch-Mode Power Supplies (SMPS)
ECE 1068H   EMC in Power Engineering
ECE 1072H   AC Drive System Dynamics
ECE 1081H   Application of the Finite Element Method to Field Problems
ECE 1082H   Mathematics for Advanced Electromagnetics
ECE 1083H   Harmonic Balance and the Finite Element Method
ECE 1089H   Special Topics in Electromagne-tics

Electromagnetics
ECE 524H   Microwave Circuits
ECE 1228H   Electromagnetic Theory
ECE 1229H   Advanced Antenna Theory
ECE 1236H   Microwave and Millimetre-wave Techniques
ECE 1243H   Topics in Electromagnetic Waves
ECE 1247H   Nonlinear Optics
ECE 1251H   Matter Wave Interaction

ECE 1252H   Introduction to Computational
                      Electrodynamics
ECE 1253H   Active Microwave Circuits

Electronics
ECE 512H   Analog Filters
ECE 530H   Analog Electronics
ECE 534H   Integrated Circuit Engineering
ECE 1333H   Selected Topics in Semiconductor Physics
ECE 1334H   Selected Topics in Solid State Electronics/
                      VLSI Technology
ECE 1336H   Semiconductor Physics
ECE 1352H   Analog Circuit Design I
ECE 1360H   Selected Topics in Instrumentation
ECE 1362H   Filter Theory and Design
ECE 1364H   Selected Topics in Solid State Circuit
                      Design
ECE 1365H   High Frequency Integrated Circuits
JEB 1365H   Ultrasound: Theory and Applications in
                      Biology and Medicine
ECE 1371H   Advanced Topics in Analog Circuits
ECE 1373H   VLSI Systems Design
ECE 1379H   Introduction to Compound Semiconductor
                      Devices
ECE 1384H   Digital Circuit Design
ECE 1385H   Selected Topics in VLSI Systems
ECE 1387H   CAD for Digital Circuit Synthesis and
                      Layout
ECE 1388H   VLSI Design Methodology
ECE 1390H   Selected Topics in Circuits and Systems
ECE 1391H   Advanced Microelectronic Devices
ECE 1392H   Integrated Circuits for Digital
                      Communications
ECE 1393H   Semiconductor Devices

Biomedical Engineering
JEB 1365H   Ultrasound Theory and Applications in
                      Biology and Medicine
JEB 1375H   Practical Optimization
JEB 1433H   Medical Imaging
JEB 1444H   Neural Engineering
JEB 1447H   Sensory Communications
JEB 1451H   Cellular Bioelectricity
BME 1452H   Signal Processing for Bioengineering

Photonics
ECE 525H   Lasers and Detectors
ECE 527H   Passive Photonic Devices
ECE 1435H   Applied Optics
ECE 1448H   Quantum Mechanics for Engineers
ECE 1449H   Photonics I (Exclusion: students who have taken
                      ECE 527H cannot take ECE 1449H)
ECE 1450H   Photonics II
ECE 1460H   Special Topics in Photonics
ECE 1461H   Advanced Laser Processing
ECE 1467H   Integrated Optical Circuit Design
ECE 1468H   Electronic and Optical Properties of
                      Quantum Dots
ECE 1469H   Amorphous Semiconductors:
                      Fundamentals and Applications

ECE 1470H   Nanocomposite Materials for
                      Luminescence, Detection, Modulation,
                      and Switching
ECE 1471H   Erbium-doped Fiber Amplifiers: Design and
                      Characterizations
ECE 1472H   Photonic Fabrication and Packaging
ECE 1473H   Micro and Nano Fabrication Technologies
                      for Compound Semiconductors
ECE 1474H   Fibre Lasers and Amplifiers

Communications
ECE 1500H   Stochastic Processes
ECE 1501H   Error Control Codes
ECE 1502H   Information Theory
ECE 1505H   Convex Optimization
ECE 1506H   Communications and Signal Processing—
                      Seminar I
ECE 1507H   Communications and Signal Processing—
                      Seminar II
ECE 1508H   Special Topics in Communications
ECE 1511H   Signal Processing
ECE 1512H   Digital Image Processing and Applications
ECE 1514H   Spectral Analysis and Array Processing
ECE 1515H   Smart Antennas
ECE 1516H   Visual Data Engineering
ECE 1520H   Data Communications I
ECE 1521H   Statistical Communication Theory
ECE 1522H   Data Communications II
ECE 1523H   Coded Modulation
ECE 1528H   Special Topics in Data Communications
ECE 1529H   Adaptive Systems for Signal Processing
                      and Communications
ECE 1530H   Multi-User Detection
ECE 1531H   Quantum Information Theory
ECE 1540H   Digital Telephony
ECE 1541H   Communication Networks I
ECE 1542H   Communication Networks II
ECE 1543H   Mobile Communications Systems
ECE 1544H   Optical Communication Networks
ECE 1545H   Bridges and Routers
ECE 1546H   Broadband Integrated Networks
ECE 1547H   Content-Based and Network Security
ECE 1548H   Advanced Network Architectures

Systems Control
ECE 557H   Systems Control
ECE 1617H   Large Scale System Theory and Control I
ECE 1635H   Special Topics in Control I
ECE 1636H   Control of Discrete-Event Systems I
ECE 1637H   Control of Discrete-Event Systems II
ECE 1639H   Analysis and Control of Stochastic
                      Systems I
ECE 1640H   Analysis and Control of Stochastic
                      Systems II
ECE 1641H   Multivariable Control Design
ECE 1643H   Special Topics in Control II
ECE 1644H   Large Scale System Theory and Control II
ECE 1646H   Digital Control
ECE 1647H   Introduction to Nonlinear Control Systems
ECE 1648H   Nonlinear Control Systems

ECE 1649H   Adaptive Control
ECE 1651H   Adaptive Signal Processing and Control
ECE 1652H   Stochastic Processes with Applications
ECE 1653H   Hybrid Systems and Control Applications
ECE 1654H   Optical Networks: A Systems Control
                    Perspective

Computer Engineering
ECE 516H   Personal Cybernetics and Intelligent
                    Imaging Systems
ECE 532H   Digital Hardware
ECE 540H   Optimizing Compilers
ECE 1718H   Special Topics in Computer Hardware
                    Design
ECE 1724H   Special Topics in Software Engineering
ECE 1746H   Distributed Systems
ECE 1747H   Parallel Programming
ECE 1752H   Real Time Systems and Software
ECE 1754H   Compilation Techniques for Parallel
                    Processors
ECE 1755H   Parallel Computer Architecture and
                    Programming
ECE 1756H   Digital Hardware Design Using
                    Programmable Logic Devices
ECE 1759H   Advances in Operating Systems
ECE 1761H   Advanced Topics in Digital Hardware
ECE 1762H   Algorithms and Data Structures
ECE 1765H   File Structures and Storage Systems
ECE 1767H   Design for Test and Testability
ECE 1768H   Reliability of Integrated Circuits
ECE 1769H   Behavioural Synthesis of Digital Integrated
                    Circuits
ECE 1770H   Trends in Middleware Systems—Selected
                    Topics and Concepts
ECE 1771H   Quality of Service
ECE 1772H   Motion Analysis in Computer Vision
ECE 1773H   Advanced Computer Architecture
ECE 1774H   Sensory Cybernetics
ECE 1775H   Microphone Arrays: Theory and
                    Applications
ECE 1776H   Computer Security, Cryptography and
                    Privacy
ECE 1777H   Computer Methods for Circuit Simulation

Master of Engineering in Telecommunications
ECE 1800Y   Networking Project
ECE 1801H   Telecommunications Networks
ECE 1802H   Computer Networks
ECE 1803H   Internetworking and WWW Infrastructure
ECE 1804H   Design of Network-Based Services

Graduate Faculty

Full Members
Parham Aarabi - BASc, MASc, PhD, Canada Research Chair
Tarek Abdelrahman - BSc, MSc, PhD, PEng, Jeffrey Skoll Chair in Software Engineering *(Coordinator of Graduate Studies)*
Raviraj Adve - BTech, PhD, PEng
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Stephen Brown - BSc, MASc, PhD
Anthony Chan Carusone - BASc, PhD, PEng
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Edward Sargent - BScEng, PhD, PEng, Canada Re-
  search Chair
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Ali Sheikholeslami - BSc, MASc, PhD, PEng
Elvino Sousa - BASc, MASc, PhD, PEng, Jeffrey Skoll
  Chair in Computer Networks and Innovations
J. Gregory Steffan - BASc, MASc, MSc, PhD, PEng
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Jianwen Zhu - BS, MS, PhD

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Wasyl Janischewskyj - BASc, MASc, FIEEE, PEng
Hans Kunov - MSc, PhD, PEng
Douglas Lavers - BSc, MASc, PhD, FIEEE, PEng, Eu-
  gene Polistuk Chair in Electromagnetic Design
E Stewart Lee - BEng, MEng, PhD, PEng
Subbarayan Pasupathy - BE, MTech, MPhil, PhD, FIEEE,
  PEng
Velimir Ristic - DipIng, Magister, MSc, PhD
Andre Salama - BASc, MASc, PhD, FRSC, FCAE,
  FIEEE, PEng, Univ Professor, Ham NSERC/Nortel
  Industrial Research
Adam Semlyen - DiplEng, PhD, FIEEE
Gordon Slemon - BASc, MASc, PhD, DSc, FIEE, FIEEE,
  FEIC, FCAE, PEng
Kenneth Smith - BASc, MASc, PhD, FIEEE, PEng
Peter Smith - BSc, MSc, PhD, FOSA, FIEEE
Anastasios Venetsanopoulos - DipEng, MS, MPhil, PhD,
  FEIC, FCAE, FIEEE, PEng
Zvonko Vranesic - BASc, MASc, PhD, PEng
Walter Wonham - BEng, PhD, FIEEE, FRSC, PEng,
  University Professor
Stefan Zukotynski - Magister, PhD, PEng

Associate Members
Atef Morched - BSc, PhD, DSc
Khoman Phang - BASc, MASc, PhD

English   ENG

Faculty Affiliation
Arts and Science

Degree Programs Offered
English – MA, Combined JD/MA, PhD
Creative Writing – MA

Collaborative Programs Offered
Degree programs that participate in:

Overview
One of the strongest and most diversified graduate English programs in North America, the University of Toronto's Graduate English Department presents a wide array of approaches to the study of literature that includes both rigorous historical scholarship and the innovations of new theoretical, cultural, and interdisciplinary methods. This rich variety is exemplified in the more than 40 graduate seminars offered every year and in the interdisciplinary conjunctions with other departments and collaborative programs. The MA and PhD programs offer a broad background in British, Canadian, Aboriginal, American, and Postcolonial literatures, a sophisticated command of current theoretical approaches, and exceptional support for significant research projects.

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Department of English
Jackman Humanities Building
6th Floor, 170 St. George Street
University of Toronto
Toronto, Ontario M5R 2M9
Canada

Degree Programs

English

Master of Arts

Minimum Admission Requirements
- B+ average or better and evidence of first-class work in English. The department favours a broad training in the major genres and all periods of English literary history.
- Recommendations from two referees.
- A statement of purpose.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English are required to write the Test of English as a Foreign Language (TOEFL). Minimum scores required on:
  - paper-based test: 600 and 5 on the TWE
  - internet-based test: 100/120 with at least 22/30 on the writing and speaking sections
- Admissions are selective; possession of minimum qualifications does not guarantee admission.

Program Requirements
- Program is usually completed in twelve months by students who are graduates of a four-year program in English or English and another subject at this University, or a similar program elsewhere.
- Students may elect to take the degree by course work only or, with permission of the Director, by course work and thesis. In either case, students must attain a B standing in each graduate course.
- **MA by course work –** this is the preferred option for most students, and especially for those going on to the PhD. Students are required to complete ENG 6954H *Bibliography* and 3.5 approved, full graduate courses or the equivalent in English.
- **MA by thesis -** The thesis option requires ENG 6954H *Bibliography*, two full graduate courses in English, or the equivalent, and a thesis of approximately 30,000 words on a topic approved by the department.

Combined Juris Doctor/Master of Arts
The Combined Juris Doctor/Master of Arts in Law and English is designed for students interested in studying the intersections of law and literature. The combined program permits the completion of both degrees in three years rather than the four years it would take to acquire them independently.

Applicants must apply to each program separately; they should indicate on their applications that they wish to be considered for the Combined JD/MA program. Students are registered in the Faculty of Law for all three years of the program and in the Department of English as well for the last two years. The MA in English must be completed by course work, not by thesis.

Minimum Admission Requirements
- Students are considered for the combined program after they have secured independent admission to the JD and MA programs.

Program Requirements
- Complete all requirements for the MA in English (course work) during their two years of registration in the Department of English, i.e., ENG 6954H (Bibliography), and 3.5 approved full-course equivalents (FCE) in English, including 1.0 from a set of designated "Law and Literature Program" courses.
    - Complete 44 credits at the Faculty of Law, including "Law and Literature" or a designated alternative, and satisfy all other requirements of the JD program.
    - Complete a Directed Research Project or Independent Study Course on a topic related to Law and Literature that may count toward either the Law or English requirements of the program.

Doctor of Philosophy

Minimum Admission Requirements
- General Regulations of the School of Graduate Studies.
- Admission by one of two routes:
    - a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes at least eight full-course equivalents in English with an average grade of at least an A- in the applicant's overall program or
    - a University of Toronto master's degree in English, or its equivalent from a recognized university, with an average grade of at least an A- in the applicant's overall program.
- Applicants must satisfy the department that they are capable of independent research in English at an advanced level. Applicants who have taken the Graduate Record Examination are encouraged to have a report sent to the department.
- Recommendations from two referees.
- A writing sample of not more than 5,000 words (approximately 15-20 pages).
- A statement of purpose.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English are required to write the Test of English as a Foreign Language (TOEFL). Minimum scores required on:
    - paper-based test: 600 and 5 on the TWE
    - internet-based test: 100/120 with at least 22/30 on the writing and speaking sections
- Admission to the PhD is based on the applicant's undergraduate and graduate record and upon the evidence of the references and statement.
- Admissions are selective; possession of minimum qualifications does not guarantee admission.

Program Requirements
- Students pursue a program of study and research approved by the department.
- Although it is possible for a student admitted on the basis of a master's degree, or a bachelor's degree, to complete the PhD program in English within four years, or five years, respectively, most students will require at least one additional year to complete all the requirements, including the thesis.

Courses
- The minimum course requirements for the degree are as follows.
    - **Direct admission on basis of a four-year bachelor's degree** – students must take: ENG 8000H *Introduction to Bibliography*, ENG 9500Y *Professional Development*, ENG 9900H *Professing Literature*, and six additional full-course equivalents in English, as approved by the department. In order to maintain good academic standing, and to continue in the PhD program, the student must complete each course with a grade of at least B; complete ENG 8000H *Introduction to Bibliography* and an additional three full-course equivalents in the first year of the program, with an average grade of at least an A-; and complete all remaining courses, except for ENG 9500Y *Professional Development*, by the end of the third year of the program, maintaining an average of at least an A-.
    - **Admission on basis of master's degree** – students must take ENG 8000H *Introduction to Bibliography*, unless this or an equivalent course has already been taken; ENG 9500Y *Professional Development*; ENG 9900H *Professing Literature*; and three additional full-course equivalents in English, as approved by the department. In order to maintain good academic standing, and to continue in the PhD program, the student must complete each course with a grade of at least a B; and all course work by the end of the second year of the program, maintaining an average of at least an A-.
- Every student must take at least two full-course equivalents outside the field of specialization. The student is encouraged to combine these courses in a minor field. (Graduate courses taken as part of the master's program and in fulfillment of the English language requirement may be counted in this connection, but not ENG 6954H *Bibliography* nor courses in the 9000 series.)
- Course selection must meet the approval of the department.

English Language Requirement
- Demonstrated knowledge of the history and development of the English language, especially of its early period.
- Any student who has not completed ENG 240Y, or an equivalent full-year undergraduate course in Old English, with at least a B standing, is required either

to take one of the following courses in the English language: ENG 1001H *Old English I*, ENG 6361H *History and Structure of the English Language I*, ENG 6362H *History and Structure of the English Language II*, or ENG 6365H *Diasporic Englishes*. The requirement can also be satisfied by taking a special examination in Old English.

Language Requirement
- Demonstrated reading knowledge of French by May 31 of the third year of registration, in the case of a student admitted on the basis of a master's degree; otherwise, by May 31 of the fourth year of registration.
- With the permission of the department, another language (other than English) may be substituted for French provided that this other language is required by the student's research area.
- The supervisory committee may require the student to qualify in other program-related languages as well.

General and Special Field Examinations
- Students are required to pass two separate examinations: the General Examination and the Special Field Examination. Details about each examination appear on the Department's Web site.
- The **General Examination** is designed to give students a broad historical knowledge of the development of English Literature and of the terms, genres, and ideas that define the discipline. The exam consists of two three-hour written papers covering the whole range of English Literatures divided at 1700 C.
- The **Special Field Examination** is designed to give students a broad survey of a genre or a comprehensive survey of the literature of a particular period that reflects the immediate literary context of the thesis topic, but is not the preliminary bibliography for the thesis. The exam consists of a three-hour written examination followed by a two-hour oral examination approximately two weeks later. Both components are based on a reading list related to the candidate's approved thesis area.
- The student must have completed all requirements for the degree, exclusive of thesis research, by the end of the third year (fourth year for students admitted directly from a bachelor's degree) in order to remain in good standing in the program.

Thesis
- A candidate is required to submit a thesis on an approved subject embodying the results of original investigation which constitute a significant contribution to the knowledge of the field, and to pass an oral examination on the subject of the thesis. The normal length of a PhD thesis is approximately 75,000 words. The maximum length accepted by the department is 100,000 words. For details, consult the Department's Web site.

Creative Writing

Master of Arts

Minimum Admission Requirements
- Recommendations from two referees.
- A statement of purpose.
- A portfolio consisting of 20-25 pages of prose (drama, fiction, or creative non-fiction), and/or poetry. Details appear on the Department's Web site.
- Admissions are selective; possession of minimum qualifications does not guarantee admission.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English are required to write the Test of English as a Foreign Language (TOEFL). Minimum scores required on:
  o paper-based test: 600 and 5 on the TWE
  o internet-based test: 100/120 with at least 22/30 on the writing and speaking sections

Program Requirements
- Program is usually completed in 20 months by students who are graduates of a four-year major program in English.
- Overall average of B+ or better and evidence of first-class work in English.
- Completion of two full-course equivalents in English, ENG 8000H *Introduction to Bibliography*, ENG 6950Y *Creative Writing*, and a supervised Writing Project (the equivalent of a thesis). All students must complete *Creative Writing* in the first year of their program.
- Upon completion of course work, students undertake a book-length Writing Project in a genre of choice - poetry, drama, fiction, or creative non-fiction. Each student is assigned a faculty member or adjunct faculty member with whom to consult on a regular basis about the Project. All advisors are published writers.

Courses
The following list of courses is subject to revision; further information, including course descriptions, may be obtained from the department before enrolment. Courses offered by the department vary considerably from year to year.

Students in English are eligible to take courses in other graduate units (e.g., Comparative Literature, Medieval Studies, Drama, Information Studies, South Asian Studies, Women's Studies).

From time to time, the department also offers programs of directed reading in special fields. These "reading courses" are normally available only to students in the PhD program. With the special approval of the Director of Graduate Studies, PhD students may substitute one such course for one (and not more than one) of the required courses.

ENG 1001H   Old English I
ENG 1002H   Old English II

ENG 1027H Constructions of the Other in Medieval Literature
ENG 1093H The Medieval Vernacular Book
ENG 1551H Chaucer: Canterbury Tales
ENG 1583H Langland: Piers Plowman
ENG 2004H Metaphysical Poetry and the Passions
ENG 2235H "1594"
ENG 2430H Early Modern Women's Writing: Voices, Texts, and Spaces
ENG 2467H Early Modern Nationalism and Milton's England
ENG 2485H London Drama, 1180-1590
ENG 2530H Shakespeare's Language
ENG 2585H Authorship and Anonymity in Early Modern Drama
ENG 2683H An Introduction to History in Shakespeare's Theatre
ENG 3217H Gulliver's Texts and Contexts
ENG 3250H Language and Culture in 18th-Century England and North America
ENG 3403H Literature of the Seven Years War
ENG 4214H Romanticism and India
ENG 4220H Austen and Scott
ENG 4605H George Eliot, Emotion, and the New Psychology
ENG 4755H Darwin and Darwinism
ENG 4880H Re-placing England: Mapping the Real in Victorian Fiction
ENG 4947H Studies in Victorian Poetry
ENG 4973H Marxism and the American Renaissance
ENG 4994H Property & Personhood in American Literature
ENG 5024H Anglo-Jewish Poetry and Fiction of the Twentieth Century
ENG 5047H Class in American Literature
ENG 5054H Tough Broads, New York Intellectuals, and American Literary Culture in the Mid-Twentieth Century
ENG 5493H The Limits of Attention: Pound/Ginsberg, Ashbery/Stein
ENG 5575H Theatrical Liberalism
ENG 5583H Human Nature and the Literary Imagination: American Literature (1865-1914)
ENG 5607H Modernism and Narrative Ethics
ENG 5748H Canadian Literature and the Past
ENG 5805H Partition and Secession: Representations in South Asian Literature
ENG 5901H New World African Literature
ENG 5996H Race in Contemporary American Literature
ENG 6038H Authors and Their Institutions
ENG 6043H Introduction to Contemporary Literary Theory
ENG 6045H "Before I was I": Psychoanalysis and the Enigma of the Child
ENG 6065H Repetition in Modern Thought and Culture
ENG 6155H Actuality, Documentary, Reality
ENG 6156H Dark Passages: Film and the Geometry of Racial Imagination
ENG 6167H The Afterlives of Authors
ENG 6365H Diasporic Englishes

ENG 6504H American Realism and Reform
ENG 6508H The Singularity of Being
ENG 6523H The Return of the Beautiful
ENG 6524H Postcolonial Literature and the World on Paper
ENG 6553H Law as Literature: Figuration and Narrative in the Rhetoric of Judicial Discourse
ENG 6633H Representing Others
ENG 6803H Intertextuality in Feminist Cinema: The Counter-Cinematic Impulse
ENG 6954H Bibliography
ENG 8000H Introduction to Bibliography (Credit/Non-Credit)
ENG 9500H Professional Development (Credit/Non-Credit)
ENG 9900H Professing Literature (Credit/No Credit)
JLE 5075H Orientalism and Opera: Interdisciplinary Approaches

Graduate Faculty

Full Members
Alan Ackerman - BA, MA, PhD
Suzanne Akbari - BA, MA, MPhil, PhD
John Astington - BA, MA, PhD
John Baird - MA, PhD
Alan Bewell - BA, MA, PhD *(Chair)*
Russell Brown - BA, MA, PhD
J Edward Chamberlin - BA, PhD, FRSC, University Professor
George Elliott Clarke - BA, MA, PhD
Michael Cobb - AM, BA, MA, PhD
Brian Corman - AB, AM, PhD
Melba Cuddy-Keane - BA, MA, PhD
A Hugo de Quehen - BA, PhD
Paul Downes - BA, PhD
Andrew Dubois - BA, PhD
Deborah Esch - MA, PhD
Uzoma Esonwanne - BA, MA, PhD
Gillian Fenwick - BA, BEd, MA, PhD
David Galbraith - BA, MA, PhD
Marlene Beth Goldman - BFA, MA, PhD
Richard Greene - BA, MA, DPhil, PhD
Elisabeth Ruth Harvey - BA, MPhil, PhD
Elizabeth Harvey - BA, MA, PhD
Antonette Healey - BA, MA, PhD
Greig Henderson - BA, MA, PhD
Linda Hutcheon - BA, MA, PhD, University Professor, FRSC
Heather Jackson - BA, MA, PhD
Audrey Jaffe - PhD, BA
Daniel Justice - BA, MA, PhD
Chelvanayakam Kanaganayakam - BA, PhD
Thomas Keymer
David Klausner - AB, PhD
Anne Lancashire - BA, AM, PhD
D Ian Lancashire - BA, MA, PhD
Richard Landon - BA, BLS, MA
Garry Leonard - BA, MA, PhD

Mark Levene - BA, MA, PhD
Jill Levenson - BA, MA, PhD, FRSC
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Victor Li - BA, MA, PhD
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Andrew Orchard - BA, MA, PhD
Julian Patrick - BA, MA, PhD
Carol Percy - BA, MA, DPhil
Ato Quayson - PhD, BA
Magdalene Redekop - BA, MA, PhD
John Reibetanz - BA, MA, PhD
William Robins - BA, MPhil, PhD *(Director, Graduate Studies)*
Sara Salih - BA, DPhil
Emmett Schmitt
Samuel Solecki - BA, MA, PhD
Paul Stevens - BA, MA, PhD, Canada Research Chair
Brian Stock - AB, PhD
Rosemary Sullivan - BA, MA, PhD, Canada Research Chair, FRSC
Neil Ten Kortenaar - MA, PhD
H. Leslie Thomson - BA, MA, PhD
David Robert Townsend - BA, MA, PhD
Karen Weisman - BA, MA, PhD
Malcolm Woodland - BA, MA, PhD

Members Emeriti
Thomas Adamowski - BA, MA, PhD
Peter Allen - BA, MA, PhD
Frederick Asals - BA, MA, PhD
Henry Auster - BA, MA, PhD
Gerald Bentley (Jr) - BA, BLitt, DPhil, DLitt, FRSC
Patricia Bruckmann - AB, MA, PhD
Elspeth Cameron - BA, MA, PhD
Douglas Chambers - MA, PhD
Eleanor Cook - MA, PhD, FRSC
Hans de Groot - MA, PhD
Eric William Domville - BA, PhD
Dennis Duffy - AB, MA, PhD
JoAnna Dutka - BA, MA, PhD, ARCT
Frederick Flahiff - BA, MA, PhD
Rene' Ic Graziani - BA, MA, PhD
William Halewood - BA, MA, PhD
Barrie Hayne - BA, AM, PhD
William Howard - BA, STB, MA, PhD
James Jackson - BA, AM, MA, PhD, FRSC, University Professor Emeritus
Alexandra Johnston - MA, PhD, LLD, DD, FRSC
Michael Kirkham - BA, MPhil
Alexander Leggatt - BA, MA, PhD
Hugh Maccallum - BA, MA, PhD
Jay Macpherson - MA, BLS, PhD

Frederick Marker - AB, DFA
Jane Millgate - BA, MA, PhD, FRSC
Michael Millgate - BA, MA, PhD, FRSC, University Professor Emeritus
Brian Parker
Arthur Rigg - BA, MA, DPhil
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Colin Visser - BA, BLitt, PhD
Germaine Warkentin - BA, MA, PhD

Associate Members
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Rachel Buurma
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Neal Dolan - BA, PhD
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Dana Seitler
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Christopher Warley
Daniel White - BA, MA, PhD
Sarah Wilson
Ming Xie - PhD
Timothy Yu

Environment   ENV

Faculty Affiliation
Arts and Science
School of Graduate Studies

Degree Programs Offered
Environmental Science – MEnvSc

Overview
The Centre for Environment (CFE) provides opportunities for an interdisciplinary approach to environmental studies at the University of Toronto. It has both teaching and research functions. Its faculty members are cross-appointed from several departments including engineering, physical sciences, health sciences, biological sciences, forestry, social sciences, and the humanities.

A 12-month professional course-work **Master of Environmental Science** (MEnvSc) degree program is offered at the University of Toronto Scarborough as a program of the Centre for Environment. All courses within the program fall within the designated major field of study: Biophysical Interactions in Terrestrial and Aquatic Systems. Although the program base is broad, a major focus for training professionals is understanding the flux of contaminants through surface and sub-surface environments and the methods/solutions needed to remediate contaminated or damaged environmental systems. The program is committed to the development of well-trained practitioners in environmental science to meet the needs primarily of industry and government. The program is designed for both newly graduated students and existing professionals in industry and government agencies. The training is also designed to allow students to pursue PhD studies in the environment.

Contact and Address

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Graduate Program Assistant
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Degree Programs

Master of Environmental Science
The MEnvSc program offers three streams:
1. Research
2. Internship
3. Part-time studies

Minimum Admission Requirements
- Students are expected to satisfy all requirements for entry into the School of Graduate Studies at the University of Toronto within a competitive selection process.
- Four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, either in science or engineering with a minimum mid-B grade average in the last two years of the undergraduate program.
- Applicants must submit a written statement explaining their objectives for entering the program and the suitability of their background. Appropriate postgraduate work experience, such as in industry, will be considered as part of the admission application.
- Those students lacking one or more essential background courses may be required to take additional courses prior to admission.

Program Requirements
- In all three streams, course work consists of 5.5 full-course equivalents (FCE).
- It is anticipated that students will complete all instructional courses in two sessions and will complete field and research-focused courses as well as the internship during the summer.

Courses
ENV 1100H   Advanced Seminar in Environmental Science
ENV 1101Y   Research Paper in Environmental Science
ENV 1102H   Analytical Chemistry for Geoscientists
ENV 1103H   Air and Water Quality Sampling and Monitoring
ENV 1104H   Methods for the Detection of Pathogens
ENV 1105H   Soil Contamination Chemistry
ENV 1106H   Geology and Geophysics of the Shallow Subsurface
ENV 1107H   Remediation Methods
ENV 1108H   Environmental Science Field Camp
ENV 1109H   Advanced Techniques in Geographic Information Systems
ENV 1110H   Sediment and Contaminant Transport in Aquatic Systems
ENV 1111H   Freshwater Ecology and Biomonitoring
ENV 1112H   Boundary Layer Climates and Contaminant Fate
ENV 1113H   Groundwater Hydrochemistry and Contaminant Transport
ENV 1114H   Directed Readings in Environmental Science I

ENV 1115H   Directed Readings in Environmental
          Science II
ENV 1116Y   Internship
ENV 1117H   Climate Change Impact Assessment
ENV 1118H   Fundamentals of Ecological Modelling
ENV 1119H   Quantitative Environmental Analysis
ENV 1120H   The Dynamics of Contaminant Dispersal in
          Fluids
ENV 1121H   Modelling the Fate of Organic Chemicals in
          the Environment
ENV 1122H   Global Environmental Security and
          Sustainable Development
ENV 1123H   Environmental Regulations
ENV 1124H   Environmental Project Management
ENV 1125H   Contaminated Site Remediation

Graduate Faculty

Full Members
Jonathan Abbatt - BSc, AM, PhD
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D Grant Allen - BASc, MASc, PhD, PEng
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Spencer Barrett - BSc, PhD, Canada Research Chair
Terence Blake - BScF, STB, MF, PhD, DipFor
Alana Boland - BA, MAIS, PhD
Brian Branfireun - HBA, MSc, PhD
Michael Bunce - BA, PhD
Philip Byer - SB, SM, PhD, PEng
Catherine Chalin Clark - BSN, MA, PhD, MDiv
Jing Chen - BSc, PhD, FRSC
Donald Cole - BSc, MSc, MD
Tenley Conway - BSc, MA, PhD
Paul Cooper - BScF, MSc, BEd, PhD, Value-Added Wood
 and Composite Products Chair
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D Linn Holness - MHSc, MD

Thomas Homer-Dixon - BA, PhD
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Shashi Kant - BE, MA, PhD
Bryan Karney - BASc, MEng, PhD, PEng
Christopher Kennedy - BEng, DiplEcon, DIC, MASc,
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Scott Mabury - BS, PhD
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Jay Malcolm - BSc, MSc, PhD
David Martell - BASc, MASc, PhD
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 Professor
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D Scott Munro - BSc, MSc, PhD
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F. Helen Rodd - BSc, MSc, PhD
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Myrna Simpson - BSc, PhD
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Denis Walsh - BSc, PhD, BA, MPhil, PhD, Canada
 Research Chair
Frank Wania - Dipl-Geoök, MPhil, PhD
Mathew Wells - BSc, PhD
Peter Wells - BScPhm, PharmD
Rodney White - BA, MSc, PhD
D Dudley Williams - BSc, DipEd, MSc, PhD, DSc

Members Emeriti
Paul Aird - BScAgr, MS, PhD
Rorke Bryan - BA, PhD
Frances Burton - BSc, MA, PhD
Brian Greenwood - BSc, PhD, Hon Causa
William Michelson - AB, AM, PhD, FRSC
Henry Regier - PhD
Dibyendu Roy - BSc, MSc, DPhil, FRSC
Richard Stren - BA, MA, PhD
Edmund Sullivan - PhD
Joseph Whitney - PhD, MCIP
George Williams - BSc, Dr Science

Associate Members
Jane Ambachtsheer - BA, MA
Nathan Basiliko - PhD
Bradley Bass - BA, MSc, PhD
Kerry Bowman – BA, BSW, MSW, PhD
Quentin Chiotti – BA, MA, PhD
James Dooley - BASc, MASc, PhD
Andrew Green - BA, MA, LLB, LLM, JSD
Angelo Grima - BA, MA, PhD
H Roland Hosein - BSc, MSc, PhD
Andrew Kenney - BSc, MSc, PhD
Sonia Labatt - BA, MA, PhD
Douglas Macdonald - BA, MA, PhD
Susan McGeachie - BA; MBA
Monirul Mirza - BSE, MScEng, PhD
Paul Muldoon - BA, LLB, MA, LLM
Robert Munn - BA, MA, PhD
Barbara Murck - BA, PhD
Dennis O'Hara – BA, MDiv, PhD
Stefan Salbach - BASc, MASc, PEng
Beth Savan - BSc, PhD, MCIP
Lesbia Smith - MD
Peter Telford - BSc, PhD
Kathleen Wilson - BA, MA, PhD
Mark Winfield - BA; MA; PhD
Clare Wiseman – BS, MSc, PhD
Cindy Woodland - BSc, MSc, PhD

European, Russian, and Eurasian Studies   ERE

Faculty Affiliation
Arts and Science

Degree Programs Offered
European, Russian, and Eurasian Studies – MA,
 JD/MA

Collaborative Programs Offered
Degree programs that participate in:
1. Ethnic and Pluralism Studies, see p. 445
   - European, Russian and Eurasian Studies, MA

Overview
The **Master of Arts** programs in European, Russian and Eurasian Studies (MA ERES) are designed to provide a well-rounded education in European, Russian and Eurasian affairs for students who wish to pursue professional, non-academic careers in areas such as government and diplomacy, journalism, business, and teaching. The programs also enrich and broaden the base of knowledge of beginning graduate students considering any PhD-level study with a specialisation in the European, Russian and Eurasian area.

The Combined **Juris Doctor/Master of Arts** Program provides specialised professional training for those seeking a career in law in the changing environment of the post-communist world. Firms selling or manufacturing in the region need the services of well-informed specialists who can navigate the legal pitfalls of emergent legal systems and deal with lawyers and government officials in the area. Best equipped to meet this demand are people with dual expertise in Law and European, Russian and Eurasian Studies.

Contact and Address
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Telephone: (416) 946-8938
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Centre for European, Russian, and Eurasian Studies
Room 125N
Munk Centre for International Studies
1 Devonshire Place
University of Toronto
Toronto, Ontario M5S 3K7
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants are accepted under the general regulations of the School of Graduate Studies.
- At least some of the work in the program is based on the study of original texts and presupposes a reading knowledge of a language relevant to the program. Applicants should have a minimum of one academic year of study in a relevant language and are urged to undertake additional language training in the summer preceding entry to the program.

Program Requirements
- Minimum of two sessions of full-time graduate study.
- Students will be required to take 6.0 full-course equivalents (FCE). Of the 6.0 FCE, at least 2.0 FCE must be taken in a discipline chosen by students as their major discipline and 1.0 FCE must be ERE 2000Y, the interdisciplinary core course. It must be taken in the second year of the program. The remaining courses must be drawn from at least two disciplines other than the major discipline.

Combined Juris Doctor/Master of Arts (European, Russian, and Eurasian Studies)

Minimum Admission Requirements
- Applicants must separately apply to and be accepted by both the JD program and the MA (European, Russian, and Eurasian Studies) programs. They must satisfy the normal admission requirements for each program.
- Applicants who have completed a year in the European, Russian, and Eurasian Studies master's program or the first year of the JD can apply for admission to the combined program.

Program Requirements
- Year 1 - Students are admitted to the Faculty of Law and receive deferred admission to the MA program in European, Russian, and Eurasian Studies. The first year of study will consist of requirements for the first year of the JD.
- Years 2, 3, and 4 - Students pursue credits in Law as well as in European, Russian, and Eurasian Studies.

Courses

Not all courses are offered every year. Consult the centre and individual departments for course availability.

Required

ERE 2000Y   Research Seminar
ERE 2001H   Gateway Pro-Seminar to European, Russian, and Eurasian Studies

Optional

Anthropology

ANT 5146H   Colonial and Postcolonial Discourses
ANT 6020H   The Political Economy of Global/Local Dialectics
JSA 5147H   Language, Nationalism and Post-Nationalism

Comparative Literature

COL 5027H   Memory, Trauma, and History
COL 5031H   Russian Avantgarde Concepts in Art and Literature: Symbolism, Futurism, Constructivism, Formalism

Economics

ERE 1198H   Europe's Eastward Enlargment

Film and Music

ERE 1187H   Music in Russian Culture

Germanic Languages and Literatures

GER 1200H   Middle High German
GER 1300H   Cultural History of the German Language
GER 1470H   Goethe in Context
GER 1661H   Modernism in Context
GER 1772H   The Politics of the Non-Fiction Film
GER 1780H   Topics in German Visual Culture
GER 1830H   Topics in German Intellectual History
JGC 1750H   Modernity and Its Discontents

History

ERE 1186H   The Past As Prologue: East Central and Southeastern Europe in the Interwar Period
ERE 1190H   Peasants in Russia and East Europe
ERE 1191H   Contemporary Southeastern Europe
HIS 1279H   World War II in East Central Europe (joint graduate/undergraduate)
HIS 1280Y   History of Soviet Cinema (joint graduate/undergraduate)
HIS 1281H   Experiences of Real Socialism
HIS 1282H   Totalitarian Culture
HIS 1283H   War, Plague and Hunger in the Early Modern Baltic
HIS 1284H   The Baltic World
HIS 1285Y   The Ukrainian National Revival
HIS 1287H   Polish Jews Since the Partitions of Poland
HIS 1288H   Age of Experiments
HIS 1291H   Topics in Russian and Soviet Social History
HIS 1292H   The Russian Revolution
HIS 1293Y   Kievan Rus'

HIS 1295H   Soviet History Seminar
HIS 1297H   Problems of Political Survival in Eastern Europe Since 1848
HIS 1298H   Problems in the Social and Cultural History of Imperial Russia
HIS 1299H   Topics in Russian Intellectual History
JHP 1289Y   Twentieth-Century Ukraine
JHP 2301Y   Linguistic and Cultural Minorities in Europe

Political Science

ERE 1184H   Polls and Public Opinion in Post-Communist Countries
ERE 1188H   Public Policy in Post-Communist Eastern Europe
ERE 1192H   Majorities and Minorites in Southeastern Europe
ERE 1194H   State and Society in Post-Soviet Central Asia
ERE 2001H   Gateway Pro-Seminar to European, Russian and Eurasian Studies
JHP 1289Y   Twentieth-Century Ukraine
JHP 2301Y   Linguistic and Cultural Minorities in Europe
POL 2004Y   Marxism
POL 2304Y   Soviet and Post-Soviet Politics
POL 2308Y   Politics and Government of Eastern Europe
POL 2324H   Ethnonationalism and State-Building: The Communist and Post-Communist Experience
POL 2325Y   The Politics of Post-Communism

Slavic Languages and Literatures

For a full listing of courses, see the Slavic Languages and Literatures entry in this calendar.

Croatian and Serbian Literatures

SLA 1507H   Modern Croatian Bards
SLA 1517H   Modern Serbian Bards
SLA 1520H   Bosnia in Literature and Culture: Between Croats and Serbs
SLA 1521H   Topics in Modern Croatian Literature
SLA 1522Y   The Modern Serbian Novel
SLA 1537H   Political Drama from Dubrovnik to the Danube
SLA 1547H   South Slavic Folklore

Czech and Slovak Literatures

SLA 1600Y   Studies in Czech and Slovak Literatures
SLA 1601Y   Modern Czech Fiction
SLA 1603Y   Readings in Czech/Russian Literary Theory
SLA 1604Y   History of the Czech Literary Language
SLA 1605Y   Modern Czech Drama and Theatre
SLA 1606H   Czech Short Story

Estonian Literature

SLA 1420Y   Estonian National Identity
SLA 1421Y   Women in East European Fiction

Hungarian Literature

HUN 1440Y   The Modern Hungarian Novel
HUN 1450H   Hungarian Drama
HUN 1451H   Three Hungarian Film Directors

Polish Literature
SLA 1304H   Staging God, Man, and History: Polish
                 Drama and Theatre in Context
SLA 1305Y   Polish Fiction or A Disrupted Funeral of the
                 Novel
SLA 1306H   Polish Poetry: Shaping the National Canon
SLA 1307H   Studies in Polish Poetry: Twentieth Century
SLA 1308Y   Topics in Polish Literature
SLA 1310H   Revolutions in the Theatre: Slanislavski,
                 Meyerhold, Grotowski, and Kantor
SLA 1312Y   Modernism and Postmodernism in Polish
                 Literature in the Twentieth Century and
                 Beyond
SLA 1331H   Imagining "The Other" in Polish Literature
                 and Culture

Russian Literature
SLA 1201Y   Studies in the Russian Novel
SLA 1203Y   Studies in Russian Modernism
SLA 1204H   Contemporary Russian Literature
SLA 1205H   Literary Scandals in Twentieth-Century
                 Russia
SLA 1210H   Studies in Medieval Russian Literature
SLA 1211Y   Studies in the Russian Drama: Eighteenth
                 to Twentieth Centuries
SLA 1212H   Gogol
SLA 1215H   Studies in Russian Literature of the
                 Eighteenth Century
SLA 1225H   Russian Literature and Criticism in the
                 1860s
SLA 1230Y   Russian Emigré Literature, 1917-1945
SLA 1231H   Twentieth Century Russian Prose I:
                 Modernism, Avant-garde, Totalitarianism
SLA 1232H   Russian Symbolism
SLA 1233H   Studies in Modern Russian Poets
SLA 1234H   Dostoevsky
SLA 1235H   Pasternak
SLA 1236Y   Pushkin
SLA 1237H   Twentieth-Century Russian Prose II:
                 Internal and External Exile
SLA 1238H   Chekhov
SLA 1239H   Vladimir Nabokov's American Novels
SLA 1240H   L. Tolstoy
SLA 1243H   Leskov
SLA 1250H   Russian Journalism: 1830-1860, The
                 Formative Decades
SLA 1251H   Pushkin and His Age
SLA 1900Y   Russian Poetry (for M.A. students only)

Ukrainian Literature
SLA 1039Y   Kyiv-Kiev-Kijow: A City Through Cultures
                 and Centuries
SLA 1402Y   Studies in Ukrainian Modernism
SLA 1403Y   Studies in Contemporary Ukrainian
                 Literature
SLA 1404Y   Studies in Ukrainian Poets
SLA 1405Y   Experiments in Ukrainian Prose
SLA 1406Y   Studies in Ukrainian Literary Criticism
SLA 1407H   Aspects of Literary Translation of Ukrainian

(PR) Courses with prerequisites

SLA 1408H   Taras Shevchenko
SLA 1409H   Ukrainian Literature of the Seventeenth
                 and Eighteenth Centuries

Slavic Linguistics
SLA 1101Y   History of the Russian Language (PR)
SLA 1102Y   Advanced Russian Language Skills
SLA 1103H   Comparative South Slavic Linguistics
SLA 1104Y   Old Church Slavonic
SLA 1105Y   Structure of Russian
SLA 1106H   Proseminar in Diachronic Slavic Linguistics
SLA 1107H   Comparative West Slavic Linguistics
SLA 1108H   Slavic Dialectology
SLA 1109H   Old Church Slavonic Translation Technique
SLA 1110H   Comparative Historical Slavic Linguistics
SLA 1112H   Tense, Aspect, and Mood in Slavic
SLA 1141H   History of the Ukrainian Language
SLA 1142H   Style and Structure of Ukrainian
SLA 1150H   Russian Since the Revolution
SLA 1160H   Proseminar in Synchronic Slavic Linguistics
SLA 1161H   An Introduction to Areal Linguistics: The
                 Balkan Sprachbund

General Slavic
SLA 1036H   Metamorphosis of Modernity in Central
                 Europe
SLA 1037Y   Theatre and Cinema *in Extremis:* Staging
                 Twentieth-Century Aesthetics and Politics
SLA 1038H   Magic Prague

Reading and Research Courses
ERE 1997Y   Reading and Research III
ERE 1998H   Reading and Research I
ERE 1999H   Reading and Research II

     For further information about graduate programs and
study grants, please contact the Director.

Graduate Faculty

Full Members
Veronika Ambros - BA, MA, PhD
Robert Austin - BA, MA, PhD
Christopher Barnes - BA, MA, PhD
Michal Bodemann - MA, PhD
Ralph Bogert - BA, MA, PhD
Aurel Braun - BA, MA, PhD
Robert Brym - BA, MA, PhD
Richard Day - BA, MA, Dip REES, PhD
Martin Dimnik - BA, MA, MDiv, DPhil
E Wayne Dowler - BA, AM, PhD
Harriet Friedmann - AB, MA, PhD
Robert Johnson - BA, MA, PhD
Juri Kivimae - BA, PhD
Jeffrey Kopstein - BA, MA, PhD
Christina Kramer - BA, MA, PhD
Nikolai Krementsov - Candidate of Sciences
Thomas Lahusen - BA, MA, PhD

Leonid Livak
Paul Magocsi - AB, MA, MA, PhD, FRSC
John Noyes - BA, MA, PhD
Donna Orwin - BA, MA, PhD
Victor Ostapchuk - BA, PhD
Ronald Pruessen - BA, MA, PhD
James Retallack - BA, DPhil
Andrew Rossos - BA, MA, PhD
Joseph Schallert - BA, MA, MA, PhD
Donald Schwartz - BA, MA, PhD
Becky Sigmon - BA, MS, PhD
Samuel Solecki - BA, MA, PhD
Peter Solomon - BA, MA, CertRussInst, PhD
Susan Solomon - BA, MA, CertRussInst, PhD
Maria Subtelny - BA, PhD
Maxim Tarnawsky - BA, PhD
Lynne Viola - BA, MA, PhD
Barry Wellman - BA, MA, PhD
Rebecca Wittmann - BA,MA,PhD
Piotr Jan Wrobel - MA, PhD

Members Emeriti
George Bisztray - PhD
Harvey Dyck - BA, MA, PhD
Scott Eddie - BS, PhD
Richard Gregor - BA, MA, PhD
Franklyn Jc Griffiths - BA, MIA, PhD
Wsevolod Isajiw - BA, MA, PhD
Kenneth Lantz - BA, MA, PhD
Ralph Lindheim - BA, MA

Associate Members
Sheila Campbell - BA, MA, PhD
Randall Hansen - BA, MPhil, DPhil, Canada Research
 Chair
Jennifer Jenkins - BA, MA, PhD
Eric Jennings - BA, MA, PhD
Edith Klein - PhD
Karen Knop - BSc, LLB, LLM, SJD
Ann Komaromi - BA, MA, PhD
Taras Koznarsky - MA, PhD
Edward Schatz - PhD
Michal Schonberg - BA, MA, PhD
Alison Smith - BA, MA, PhD
Tamara Trojanowska - BA, MA, PhD
Borje Vahamaki - BA, MA, MA, PhLic, PhD, Docent
Lucan Alan Way - BA, MA, PhD

Exercise Sciences   EXS

Faculty Affiliation
Physical Education and Health

Degree Programs Offered
Exercise Sciences – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
    - Exercise Science, MSc, PhD
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
    - Exercise Science, MSc, PhD
3. Cardiovascular Sciences, see p. 426
    - Exercise Science, MSc, PhD
4. Women and Gender Studies, see p. 473
    - Exercise Science, MSc, PhD
5. Women's Health, see p. 478
    - Exercise Science, MSc, PhD

Overview
The field of exercise sciences is interdisciplinary. The Graduate Department of Exercise Sciences offers **Master of Science** and **Doctor of Philosophy** programs for students interested in research, academic, and professional careers relating to:
1. Applied/exercise/environmental physiology
2. Metabolic and endocrinological aspects of physical activity
3. Motor control and motor learning
4. Muscle physiology
5. Physical fitness
6. Psychological aspects of sport and physical activity
7. Psychophysiological aspects of exercise and stress
8. Sociocultural aspects of sport and physical activity
9. Women's health and physical activity

Contact and Address
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Graduate Department of Exercise Sciences
Faculty of Physical Education and Health
55 Harbord Street
Toronto, Ontario M5S 2W6
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- General regulations of the School of Graduate Studies.
- Applications must be received by February 1.
- Four-year degree, or its equivalent, in physical education and health or a related discipline from a recognized university.

Program Requirements
- Completion of all degree requirements within five years of first registration in the program.
- Successful completion of 2.5 full-course equivalents (FCE) as follows. All courses must be approved in advance by the student's supervisor and the Graduate Department of Exercise Sciences.
  - o 0.5 FCE in exercise sciences from the student's area of study
  - o 0.5 FCE from the Exercise Sciences offerings
  - o 0.5 FCE from another department
  - o 0.5 FCE from either Exercise Sciences or another department
  - o 0.5 FCE in an appropriate methodology
- A thesis written under the supervision of a thesis committee and its oral defence before an examination committee.
- The student's annual program plan must be approved by the supervisor and the Graduate Department of Exercise Sciences.
- The Master of Science program may be taken part-time.

Doctor of Philosophy

Minimum Admission Requirements
- General regulations of the School of Graduate Studies.
- Completion of a M.A. or M.Sc. with a thesis in a related field.
- Provide satisfactory references pertaining to academic and research abilities.
- Applications must be received by February 1.

Program Requirements

Full-time PhD
- Full-time registration (fall, spring, summer sessions) throughout the entire doctoral program.
- Completion of all degree requirements within six years from first registration in the program. Thereafter, students may apply for a maximum of two extensions.

- Successful completion of 3.0 full-course equivalents (FCE) as follows.
  - o 0.5 FCE in exercise sciences from the student's area of study
  - o 1.0 FCE from the Exercise Sciences offerings
  - o 0.5 FCE from another department
  - o 0.5 FCE from either Exercise Sciences or another department
  - o 0.5 FCE in an appropriate methodology
- All courses must be approved in advance by the student's supervisor and the Graduate Department of Exercise Sciences.
- Successful completion of a comprehensive examination.
- Writing of a thesis under the supervision of a thesis committee (supervisor plus at least three additional faculty members) and its defence before an examination committee appointed by the Graduate Department of Exercise Sciences.
- Oral defence of the thesis before an examination committee appointed by the School of Graduate Studies.
- Student's annual program plan must be approved by the supervisor and the Graduate Department of Exercise Sciences.

Flexible-time PhD
- With the approval of the Associate Dean, Graduate Education and Research, some applicants may be admitted to a flexible-time PhD program. This program will benefit mature students with career and/or familial obligations.
- Degree requirements for the flexible-time program are identical to those listed above for the full-time PhD program; however, students have up to eight years to complete the program.
- A flexible-time student is required to register full-time for the first four years of the program. Thereafter, they may register part-time.
- A plan of study and research activities will be negotiated at initial registration, to be reviewed and updated annually.

Courses
EXS 5503H   Adaptations to Habitual Activity
EXS 5507H   Desire and Bodies in Place
EXS 5508H   Cardiovascular Disease and Exercise
EXS 5509H   Applied Muscle Physiology and Biochemistry
EXS 5511H   Hormonal Aspects of Women's Health and Exercise: A Focus on Reproductive and Bone Health Issues
EXS 5513H   Current Issues in Exercise Psychology
EXS 5516H   Exercise Psychology
EXS 5517H   Public Policy and Physical Activity in Canada
EXS 5518H   Theoretical Issues in the Sociocultural Study of Physical Activity and Health
EXS 5519H   Theories of the Body and Transcendence

EXS 5520H   Positive Psychology: Psychosocial Factors in Optimal Health and Wellness
EXS 5521H   Stress and Coping
EXS 7001H   Directed Reading in Exercise Sciences
EXS 7002H   Directed Research Project in Exercise Sciences
JXP 5807H   Health Communications

Graduate Faculty

Full Members
Kenneth Allison - BSc, BPHE, MHSc, MSc, PhD
Kenneth Chapman - MSc, MD
Paul Corey - BSc, MA, PhD
Peter Donnelly - BA, MS, PhD
Guy Faulkner - BEd, MSc, PhD
Geoffrey Fernie - BSc, PhD, PEng, CCE
Jack Goodman - BPHE, MSc, PhD
Ronald Heslegrave - PhD
Ira Jacobs - DipPE, MHK, DMedSci
Gretchen Kerr - BPHE, MA, PhD
Bruce Kidd - BA, AM, MA, PhD, OC
Larry Leith - BA, MA, PhD
Helen Lenskyj - BA, MA, PhD
Marius Locke - BA, BSc, PhD
Margaret MacNeill - BPHE, MA, PhD
Lynda Mainwaring - BA, BHK, MHK, PhD, CPsych
Nancy McKee - MD, FRCS(C)
Tom Mclellan - BSc, BA, BEd, MA, PhD
Michael Plyley - BSc, PhD
Carol Rodgers - BPE, MHK, PhD
Pang Shek - BSc, MSc, PhD
Frances Silverman - BSc, MSc, PhD
Scott Thomas - BSc, MSc, PhD *(Associate Dean, Graduate Studies)*
Luc Tremblay - BSc, MSc, PhD

Members Emeriti
Robert Goode - BPhE, BA, MA, DPhil
Manny Radomski - BSc, MSc, PhD
Roy Shephard - BSc, MBBS, MD (Lond), PHD, DPE (Hon Caus), FACSM, FFISM

Associate Members
Catherine Amara
Caroline Fusco - BA, CertEd, MSc, PhD
Cathy Notarius - BPHE, MSc, PhD
Paul Oh - MSc, MD, FRCPC
Shawn Rhind - BPHE, PhD

Forestry   FOR

Faculty Affiliation
Forestry

Degree Programs Offered
Forest Conservation - MFC
Forestry - MScF, PhD

Collaborative Programs Offered
Degree programs that participate in:
1.   Environmental Studies, see p. 443
    • Forest Conservation, MFC
    • Forestry, MScF PhD

Overview
The Faculty of Forestry offers degree programs leading to the Master of Forest Conservation (MFC), Master of Science in Forestry (MScF), and the Doctor of Philosophy (PhD).

The **Master of Forest Conservation**, the Faculty's professionally-oriented master's degree, is an intensive 16-month course-based program with a strong focus on field and laboratory practical training, Canadian and foreign residential field courses, practical internships and individual and group research. It provides a strong, coherent professional education in forest conservation to students from diverse backgrounds.

The **Master of Science in Forestry** and **Doctor of Philosophy** programs are research/thesis-based degrees in areas of specialization relevant to faculty expertise and funding including, but not limited to, forest conservation biology and wildlife ecology, forest biosphere science, invasive species and threats to forest health, environmental sustainability of managed forests, fire and ecosystem management, forest conservation planning, sustainable development and economics, political ecology and governance of forests, social and cultural ecology of forest ecosystems, urban forestry and forest biomaterials science and engineering.

The Faculty considers applicants from a variety of undergraduate backgrounds including forestry; applied science and engineering; and social, physical, and biological sciences.

Contact and Address
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Graduate Department of Forestry
Earth Sciences Centre
33 Willcocks Street
University of Toronto
Toronto, Ontario M5S 3B3
Canada

Degree Programs

Forest Conservation

Master of Forest Conservation

Minimum Admission Requirements
• General regulations of the School of Graduate Studies.
• Honours or specialist bachelor's degree with a minimum of mid-B standing in each of the final two years of the bachelor's program. The MFC program is intended for students with a strong undergraduate background in ecology, environmental sciences, forestry, natural sciences, biology, physical geography, geology, agricultural science, or relevant social sciences. Students from other disciplines will be considered by the Faculty but may be advised to take some appropriate background courses prior to admission.
• Additional documentation to the department with completed application forms and transcripts, including three references, a letter of interest in the MFC program, and a resume. Full instructions and forms are available via the Faculty's Web site.

Program Requirements
• The 16-month program starts in September and requires full-time intensive involvement throughout.
• A core of 5.0 integrated full-course equivalents (FCE), 0.5 residential field camp FCE (FOR 3011H), 1.5 elective FCE, and 0.5 internship FCE (FOR 3007H) during the summer session in which students work on practical forest conservation projects, either in Canada or abroad.
• It is also possible to earn the MFC degree through part-time studies. Information on specific course requirements and program schedules is included on the Faculty's Web site.

Forestry

Master of Science in Forestry

Minimum Admission Requirements
• General regulations of the School of Graduate Studies.
• Appropriate four-year bachelor's degree from an approved university, with a standing of at least a mid-B in the final year of the bachelor's degree. A minimum of B+ is required for the collaborative program.
• Additional documentation must be submitted to the department with completed application forms and transcripts, including three references, a letter of intent, a resume, and a "writing sample". Full instructions and forms are available via the Faculty's Web site.

Program Requirements
- Program is prepared by the student in consultation with a supervisory committee and must be approved in sequence by the supervisory committee, the Graduate Committee of the Faculty of Forestry, and the School of Graduate Studies.
- Under exceptional circumstances, a part-time program may be arranged on application to and approval by the Faculty and the School of Graduate Studies.
- Minimal requirements for this degree are:
  - 12 months of residence including two academic sessions.
  - 1.5 FCE, of which at least 0.5 FCE is taken within the Faculty, plus, in the case of students with non-forestry backgrounds, one of FOR 3000H, FOR 3002H, FOR 3003H, FOR 3004H, FOR 3009H, or FOR 3010H, on the recommendation of the student's supervisory committee and approval of the Graduate Coordinator. Depending on the student's background, additional or alternative course work may be required.
  - Credit in FOR 1000H and FOR 1001H.
  - The preparation of a research thesis of acceptable quality and its oral defence.
  - All requirements for the MScF degree must be completed within five years from the date of first enrolment in the program.

Doctor of Philosophy

Minimum Admission Requirements
- Students are admitted to the four-year PhD program via one of three routes:
  - **Master's degree** - an appropriate University of Toronto master's degree with at least an A-standing, or equivalent from a recognized university, in a discipline appropriate to the intended field of doctoral study and research.
  - **Direct entry** - in exceptional circumstances, an extraordinarily strong applicant with an appropriate four-year University of Toronto bachelor's degree, or equivalent from a recognized university.
  - **Transfer from MScF to PhD** - under certain specific conditions, outstanding registered MScF students may be considered by the end of their first year in the MScF program for transfer to the PhD program.
- Applicants must submit additional documentation to the department with completed application forms and transcripts, including three references, a letter of intent, a resume, and a "writing sample". Full instructions and forms are available via the Faculty's Web site.

Program Requirements
- Minimum PhD program requirements:
  - A minimum of 2.0 FCE must be taken. Depending on the student's background and academic goals, additional or alternative course work may be required by the student's supervisory committee, including courses outside the Faculty of Forestry.
  - Credit in FOR 1000H and FOR 1001H.
  - Students approved for transfer from the MScF to the PhD are required to complete, as a minimum, the MScF course requirements (including FOR1000H and FOR 1001H, plus 1.5 FCE) plus 0.5 additional FCE.
  - For students with a non-forestry background, credit in one of FOR 3000H, FOR 3002H, FOR 3003H, FOR 3004H, FOR 3009H, or FOR 3010H, on the recommendation of the student's supervisory committee and approval of the Graduate Coordinator.
  - Successful completion of a comprehensive examination. This will ordinarily be taken early in the second year of the program.
  - Preparation and defence of a thesis that is an original and independent research work adding significantly to the existing body of knowledge.
  - A full-time commitment is expected for a minimum of the first two years in the forestry program.

Courses

The Faculty of Forestry offers the following courses. Courses in the 3000 number series are expected to be offered each year; 1000-level courses may be withdrawn in any particular year, depending on student interest/need and departmental resources. Students should consult the departmental brochure each session to confirm availability.

A maximum of one directed studies course taken with a student's supervisor can be credited toward meeting departmental degree program requirements.

FOR 1000H   Research Methods in Forestry (Credit/No Credit)
FOR 1001H° Graduate Seminar (Credit/No Credit)
FOR 1060H   Soil Fertility and Tree Nutrition
FOR 1280H   Wood Products and Processing
FOR 1282H   Wood Chemistry
FOR 1284H   Bonding and Adhesion Technology
FOR 1286H   Natural Fibre Production Technology
FOR 1288H   Wood Composites Processing
FOR 1290H   Wood and Material Science
FOR 1292H   Long Term Performance and Durability of Wood-Based Materials
FOR 1311H   Physiological Ecology of Woody Plants
FOR 1321H   Stand Structure and Dynamics

° Courses which may continue over a program. The course is graded when completed.

FOR 1331H Advanced Forest Entomology
FOR 1412H Natural Resource Management I (Directed
                      Studies Course)
FOR 1413H Natural Resource Management II (Directed
                      Studies Course)
FOR 1414H Forest Fire Management Systems
FOR 1415H Decision-Making in Forest Management
JBF 1436H Forest Landscape Ecology and Methods
JFS 1460H Community Based Natural Resource
                      Management
FOR 1470H International Trade, Environment and
                      Sustainable Development
FOR 1555H Wildlife Ecology and Conservation
FOR 1570H Ecological Principles of Agroforestry
FOR 1575H Urban Forest Conservation
FOR 1580H Ecology, Management, and Conservation
                      of Tropical Forests
FOR 1585H Urban Forest Conservation Field Camp
FOR 1610H Forest Policy Development and Issues
FOR 1900H Advanced Topics in Forestry I (Directed
                      Studies Course)
FOR 1901H Advanced Topics in Forestry II (Directed
                      Studies Course)
FOR 3000H Current Issues in Forest Conservation
FOR 3001H Biodiversity of Forest Organisms
FOR 3002H Applied Forest Ecology and Silviculture
FOR 3003H Economics of Forest Ecosystems
FOR 3004H Forest Management Decision Support
                      Systems
FOR 3005H Stresses in the Forest Environment
FOR 3006H Case Study Analysis in Forest
                      Management
FOR 3007H+ Internship in Forest Conservation (Credit/
                      No Credit)
FOR 3008H Research Paper in Forest Conservation
FOR 3009H Forest Conservation Biology
FOR 3010H Sustainable Forest Management and
                      Certification
FOR 3011H International Forest Conservation Field
                      Camp (Credit/No Credit)
FOR 3012H Analytical Methods in Forestry

Graduate Faculty

Full Members
D Grant Allen - BASc, MASc, PhD, PEng
Terence Blake - BScF, STB, MF, PhD, DipFor
Rorke Bryan - BA, PhD
Malcolm Campbell - BSc, MSc, PhD
Terence Carleton - BSc, MSc, PhD
John Caspersen - BA, PhD
Paul Cooper - BScF, MSc, BEd, PhD, Value-Added Wood
  and Composite Products Chair
Sharon Cowling - BSc, MSc, PhD
James Eckenwalder - BA, PhD

Marie-Josee Fortin - BSc, MSc, PhD
Shashi Kant - BE, MA, PhD *(Coordinator of Graduate
  Studies)*
Mark Kortschot - BASc, MASc, PhD, PEng
Jay Malcolm - BSc, MSc, PhD
David Martell - BASc, MASc, PhD
Chul Park - BS, MS, PhD, PEng, Canada Research Chair
Anthony Price - BSc, MSc, PhD
Douglas Reeve - BSc, MASc, PhD, PEng, FCIC, FTAPPI,
  FIAWS, DTech
Rowan Sage - BA, MS, PhD
Mohini Sain - BSc, BASc, MTech, PhD, PEng
C.Tattersall Smith - BA, MS, PhD *(Chair)*
Sandy Smith - BSc, MSc, PhD
Jan Spelt - BASc, MASc, ME, PhD, PEng
Sean Thomas - BA, PhD, Canada Research Chair
Victor Timmer - BScF, MScF, PhD
Ning Yan - BASc, PhD, PENG

Members Emeriti
Paul Aird - BScAgr, MS, PhD
John Balatinecz - BSF, MF, PhD
Martin Hubbes - DipIngAgr, DrAgr
Robert Jefferies - BSc, PhD
Jagdish Nautiyal - BSc, AIFC, MF, PhD
Dibyendu Roy - BSc, MSc, DPhil, FRSC

Associate Members
David Balsillie - BSc, MSc, PhD
Isabel Bellocq - LIC, PhD
Darwin Burgess
William Cole - MBBS, PhD
Stephen Colombo - BScF, MScF, PhD
Laercio Couto
Peter de Groot - BScF, PhD
Peter Duinker
Michael Dumas - BSc, MScF, PhD
Richard Fleming - BSc, PhD
Darrick V Heyd
Andrew Kenney - BSc, MSc, PhD
Susanna Laaksonen-Craig - MSc, PhD
Jagmohan Maini
Deborah McGregor - BSc, MES, PhD
Dave McLaughlin - BScF, MScF
Jose de Jesus Navar - BScF, MScF, PhD
Brian Naylor - BScF, PhD
Kristiina Oksman - MSc, PhD
Danijela Puric-Mladenovic
Justina Ray - BS, MS, PhD
Jacques Regniere - BSc PhD
Cherla Sastry
Peter C. Schleifenbaum - PhD
Heinrich Spiecker
Brian Stocks - BSc, MScF
Sen Wang
Brian Michael Wotton
S.Y. Tony Zhang
Barbara Zimmerman - BSc, MSc, PhD

+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

French Language and Literature   FRE

Faculty Affiliation
Arts and Science

Degree Programs Offered
French Language and Literature – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Book History and Print Culture, see p. 424
   - French Language and Literature , MA, PhD
2. Editing Medieval Text, see p. 437
   - French Language and Literature , PhD
3. Women and Gender Studies, see p. 473
   - French Language and Literature, MA, PhD

Overview
The **Master of Arts** program is both a self-contained program and the first stage towards doctoral studies. It has two objectives: (a) to allow the student to develop a thorough knowledge of the discipline through a program of course work in literary studies or linguistics and (b) to develop an aptitude for research. It is a twelve-month program for full-time students. The program is available on a part-time basis.

The **Doctor of Philosophy** program engages students in a program of study and research in French Literature/Linguistics approved by the Department.

At the beginning of their course of study, students meet individually with either the Associate Chair or Graduate Secretary in order to determine course selection with a view to ensuring that the student has a well-rounded program and, taken in conjunction with the undergraduate degree, has a broad knowledge of the discipline.

Contact and Address
Web: www.chass.utoronto.ca/french
E-mail: french.graduate@utoronto.ca
Telephone: (416) 926-2307
Fax: (416) 926-2328

Department of French Language and Literature
50 St. Joseph Street
University of Toronto
Toronto, Ontario M5S 1J4
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Students are accepted under the general regulations.
- B+ average standing or better, with at least B+ in French. A B+ average does not automatically lead to admission.
- Competence in French.
- Concentration in French literature and/or linguistics - a minimum of seven full courses, or equivalent, in French. A minimum of five of the seven full courses, or equivalent, should be in the proposed area of study (i.e., literature or linguistics).
- Admission to all programs for post-graduate degrees is based upon the evidence of the supporting letters and the applicant's academic record.

Program Requirements
- Prerequisite work, if necessary.
- Students in both literature and linguistics are required to complete four full-course equivalents as follows:
  - Students in **literature** take the graduate seminar in literature (FRE 1200Y) and
    - 3.0 full-course equivalents (FCE) from the regular graduate course offerings or
    - 2.5 FCE and the 0.5 FCE Research Essay FRE 5001H, a memoire of approximately 35 pages, or
    - 2.0 FCE and the 1.0 FCE Research Essay FRE 5000Y, a 65-75 page memoire.
  - Students in **linguistics** take the graduate seminars in linguistics (FRE 1103H, FRE 1104H, and FRE 1125H) and
    - 2.5 FCE from the regular graduate offerings or
    - 2.0 FCE and the 0.5 FCE Research Essay FRE 5001H, a memoire of approximately 35 pages or
    - 1.5 full-course equivalents and a full-course Research Essay FRE 5000Y, a 65-75 page memoire.
- Students must maintain a B average in order to be recommended for the degree and must obtain a minimum of mid-B in the Research essay if taken. Students must also obtain a minimum of mid-B for the graduate seminar in literature (FRE 1200Y) or the graduate seminars in linguistics (FRE 1103H, FRE 1104H, and FRE 1125H).
- Up to one full-course equivalent may be taken outside the Department.
- Normally, part-time students take the graduate seminar in literature or the graduate seminars in linguistics during the first year of their programs.

Doctor of Philosophy

Minimum Admission Requirements
- Students are accepted under the general regulations.
- Admission to the PhD program is available via one of two routes:
  - a four-year University of Toronto **bachelor's degree**, or its equivalent from a recognized university, that includes at least seven full-course equivalents in French language and literature/linguistics, with an average grade of at least an A- in the overall program. Admission is limited to exceptionally qualified applicants.
  - a University of Toronto **master's degree** in French literature or linguistics, or its equivalent from a recognized university, with an average grade of at least an A- in the applicant's overall program.
- An A- average does not automatically lead to admission.
- A formal application and a sample of written work completed as part of the applicant's bachelor's or master's program in French literature or linguistics as appropriate. This written work should be a copy of the M.A. thesis if available.
- Applicants holding a master's degree must submit a statement of purpose (maximum 500 words) which clearly outlines the area in which the applicant intends to pursue research in French literature or linguistics.
- Applicants must satisfy the Department that they are capable of independent research in French literature or linguistics at an advanced level.
- Admission to all programs for post-graduate degrees is based on the evidence of the supporting letters and the applicant's academic record.

Program Requirements
- Course work.
  - A student admitted on the basis of a **four-year bachelor's degree** must complete 4 full-course equivalents during the first year of the program and 3.5 additional full-course equivalents during the second year. With the Department's permission, the student may take up to one full-course equivalent in the first year of the program, and one full-course equivalent in the second year, outside the Department. Students in literature take FRE 1200Y and FRE 1201H as part of their program; students in linguistics take FRE 1103H, FRE 1104H, FRE 1125H, and FRE 1201H as part of their program. To remain in good academic standing and to continue in the PhD program, a student must complete 4 full-course equivalents, with an average grade of at least an A-, by the end of the first year of the program and complete the remaining 3.5 full-course equivalents, maintaining an average of at least an A-, by the end of the second year.

  - A student admitted on the basis of a **master's degree** must complete 3.5 full-course equivalents during the first year of the program. With the Department's permission, the student may take one full-course equivalent outside the Department. Students in literature take FRE 1200Y, unless this course or its equivalent has already been completed, and FRE 1201H as part of their program; students in linguistics take FRE 1103H, FRE 1104H, and FRE 1125H unless already completed, and FRE 1201H as part of their program. To remain in good academic standing and to continue in the PhD program, a student must complete 3.5 full-course equivalents, with an average grade of at least an A-, by the end of the first year of the program.
- Thesis topic. By September 15 of the second year of registration, in the case of a student admitted to the PhD program on the basis of a master's degree, otherwise by September 15 of the third year of registration, a student must register a thesis topic with the Department. The proposal must be signed by the faculty member who has agreed to direct the thesis and by the two faculty members who will serve on the student's supervisory committee.
- Language requirements. By the end of the first year of the PhD program, in the case of a student admitted on the basis of a master's degree, otherwise by the end of the second year of the PhD program, the student must demonstrate a reading knowledge of Old French or of another language (excluding French or English), as approved by the Department.
- Field examination. No later than the second session of the second year of registration in the PhD program, in the case of a student admitted on the basis of a master's degree, otherwise no later than the second session of the third year of registration, a student must pass the two parts of the field examination:
  - a written examination (to be taken by March 15) designed to test the student's knowledge of the general area in which his or her research is located, and
  - an oral examination (to be taken by April 30) based on a written thesis proposal of 15 to 20 pages, plus bibliography, designed to test the student's readiness to proceed with thesis research.
- Between the completion of the field examination components and the oral examination on the thesis, the student will meet with the supervisory committee at least once a year, and more frequently if required.
- Thesis and oral examination on the thesis.

Courses

All courses are held once a week for two hours. Courses begin in the same week as do undergraduate classes.

Linguistics Courses

FRE 1103H Séminaire de linguistique I: Phonétique et phonologie
FRE 1104H Séminaire de linguistique II: Syntaxe
FRE 1125H Séminaire de linguistique III: Morphologie et sémantique
FRE 1129H Didactique du français langue seconde : quelle(s) méthode(s) pour quel(s) apprentissage(s)
FRE 1133H L'acquisition du français langue première
FRE 1140H La syllabe : études expérimentales et théoriques

Linguistic and Literature Courses

FRE 1164H Initiation à l'ancien français
FRE 1201H Méthodes de recherche (Credit/No Credit)

Literature Courses

FRE 1200Y Séminaire de littérature
FRE 1310H Le *Roman de la rose* et l'allégorie médiévale
FRE 1612H Satire et parole libre dans la littérature des XVIe et XVIIe siècles
FRE 1711H Le libertinage, littérature, critique, philosophie (XVIIe et XVIIIe siècles)
FRE 1813H Littérature de contact et pensée anthropologique en France du XVIe au XVIIIe
FRE 1901H Le récit de voyage au XIXe siècle
FRE 1903H Émile Zola : ses éditeurs et ses traducteurs
FRE 1934H Prix, concours et académies : les mécanismes de la reconnaissance littéraire
FRE 2004H Formes et voies romanesques de l'extrême contemporain
FRE 2035H Autour de l'intime en France: les écrits contemporains des femmes
FRE 2038H L'écrivain impliqué, ou ce que peut la littérature aujourd'hui (figures du témoignage et de la responsabilité dans les récits actuels)
FRE 2039H Roman et critique sociale aux XXe et XXIe siècles
FRE 2040H Entre écrit et oral. Enjeux théoriques et identitaires dans les écritures francophones
FRE 2078H Altérité : formes et significations
FRE 2100H Du texte à l'image (photographies, adaptations cinématographiques, illustrations et peinture dans quelques textes contemporains)
FRE 2107H Le récit fantastique québécois : formes et transformations

ºCourses which may continue over a program. The course is graded when completed.

Other Courses

FRE 4000Y Reading Course
FRE 4001H Reading Course
FRE 4002H Reading Course
FRE 5000Yº Research Essay
FRE 5001Hº Research Essay

Cross-listed

Book History and Print Culture

BKS 1000Y Book History and Print Culture
BKS 2000H Advanced Seminar in Book History and Print Culture

Comparative Literature

COL 1255H Aspects of Structuralism

Medieval Studies

MST 3154H British History in French: Wace, Brut
MST 3155H Chrétien de Troyes, Perceval

Graduate Faculty

Full Members

Parth Bhatt - BA, MA, PhD *(Chair)*
Anne-Marie Brousseau - PhD
David Clandfield - BA, MA, PhD, D IIIe
Angela Cozea - BA, MA, PhD *(Associate Chair & Coordinator of Graduate Studies)*
Marcel Danesi - BA, MA, PhD, FRSC
Derrick De Kerckhove - BA, MA, PhD, Dip 3eme Cycle, FRSC
Charles Elkabas - BA, MA, PhD
Barbara Havercroft - BA, MA, PhD
Roland Le Huenen - L es L, DenPh, ChPA, FRSC
Julie LeBlanc - MA, PhD
Michel Lord - BA, MA, PhD
Philippe Martin - IRAL BR, D IIIe C, DSCA,ChPA
Diane Massam - BA, MA, PhD
Pascal Michelucci - MA, PhD *(Coordinator, Graduate Admissions & Funding)*
Andreas Motsch - MA, PhD
Juvenal Ndayiragije - BA, MA, PhD
Emmanuel Nikiema - MA, PhD
William Oliver - MA, PhD, D de L'U
Mariel O'Neill-Karch - MA
Janet Paterson - MA, PhD, FRSC
Yannick Portebois - MA, PhD, Canada Research Chair
Yves Roberge - BA, MA, PhD
Jeffrey Steele - BA, MA, PhD
Alexie Tcheuyap - L es L, MA, D IIIe C, PhD

Members Emeriti

Chantal Bertrand-Jennings - L es L, PhD
Nicole Boursier - DES, CAPES, D IIIe C
Cecile Cloutier-Wojciechowska - L es L, DES, MA, MPh, DPS, DUP

Alan Dainard - MA, PhD
Alexander Falconer - MA, D de L'U
Brian Fitch - BA, D de L'U, FRSC, University Professor
  Emeritus
Peter Fitting - MA, PhD
John Fleming - BA, MA, PhD
Catherine Grise - MA, PhD, ChPA
Lawrence Kerslake - AM, PhD
Eva Kushner - MA, PhD, FRSC
Emile Lehouck - AGR,ESS, D Phl
Pierre Leon - L es L, D de L'U, D es L D Hon Causa,
  CdrPA, FISPSc, FRSC
John Alan McClelland - MA, PhD
Brian Merrilees - MA, D de L'U,FRSC, Professor Emeritus
Peter Nesselroth - MA, PhD, ChPA
Paul Perron - BA, D de L'U, ChPA, OPA, FRSC
Jeannelle Savona - L es L, DES, CAPES, D de L'U
Ben-Zion Shek - MA, PhD, FRSC
David Smith - BA, PhD, FRSC
Robert Taylor - MA, PhD
Cameron Tolton - BA, AM, PhD
John Walker - MA, PhD
Terence Wooldridge - BA, D de L'U

Associate Members
Maroussia Ahmed - L es L, M es L, D de L'U
Julie Auger - BA, MA, PhD
Georges Berube - BA, MA, PhD
Michael Cobb - AM, BA, MA, PhD
Suzanne Crosta - BA, MA, PhD
Maria Cristina Cuervo - MA, PhD
Giuseppe Di Stefano - MA, PhD
Gillian Fenwick - BA, BEd, MA, PhD
Michael Finn - BA, MA, PhD
Jean Fisette - L es L, MA, PhD
Francis Gingras - L es L, MA, DEA, D III C
Anthony Glinoer - L es L, MA, DEA
Monica Heller - BA, MA, PhD
Gregoire Holtz - L es L, MA, DEA, D III C
Madeleine Jeay - BA, MA, PhD
Eric Jennings - BA, MA, PhD
Dorothea Kullmann - MA, PhD
Denis Liakin - BA, MA, PhD
France Martineau - BA, MA, PhD
Catherine Mavrikakis - BA, MA, PhD
Andrea Oberhuber - MA, PhD
Ana Teresa Perez-Leroux - BA, MA, PhD
Guillaume Peureux - L es L, CAPES,MA,DEA,D III C
Mihaela Pirvulescu - BA, MA, PhD
Ingo Plag - MA, PhD
Keren Rice - BA, MA, PhD, Canada Research Chair
Pascal Riendeau - BA, MA, PhD
Sylvie Rosienski-Pellerin - L es L, MA, PhD
Christine Roulston - BA, MA, PhD
Francoise Rubellin - CAPES, AGR, DIIIe C
Rosa Sarabia - BA, MA, PhD
Joseph Schallert - BA, MA, MA, PhD
Alexandre Sevigny - BA, MA, PhD
Nina Spada - BA, MA, PhD
Dorothy Speirs - BA, MA, PhD

Carlos Teixeira - BSc, MSc, PhD
Clive Thomson - BA, MA, PhD
Sergio Villani - BA, MA, PhD

Geography   GGR

Faculty Affiliation
Arts and Science

Degree Programs Offered
Geography, MA, MSc, PhD
Planning, MScPl, PhD
Urban Design Studies, MUDS

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   - Geography, MA, MSc, PhD
2. Asia-Pacific Studies, see p. 413
   - Geography, MA, MSc
3. Community Development, see p. 428
   - Community Planning, MScPl
4. Environment and Health, see p. 439
   - Geography, MA, MSc, PhD
5. Environmental Studies, see p. 443
   - Geography, MA, MSc, PhD
   - Planning, MScPl
6. Ethnic and Pluralism Studies, see p. 445
   - Geography, MA, PhD
7. International Relations, see p. 458
   Geography, MA
8. South Asian Studies, see p. 471
   - Geography, MA, PhD
9. Women and Gender Studies, see p. 473
   - Geography, MA, MSc, PhD

Overview
The Department of Geography, which includes the program in planning, offers facilities for research leading to the degrees of **Master of Arts** (MA), **Master of Science** (MSc), **Master of Science in Planning** (MScPl) and **Doctor of Philosophy** (PhD) in either geography or planning**.**

In geography, students may undertake research in the following areas: geomorphology, climatology, hydrology, biogeography, pedology, environmental assessment and sustainable natural resource management, international development, industrial innovation, urban and economic geography, cultural and historical geography, gender studies, social geography, regional analysis, the history and philosophy of geography, remote sensing, computer cartography, spatial statistics, topics in land/geographic information systems, and quantitative analysis. The territories of special concern are Canada, the United States, Latin America, the Caribbean, Northwestern and Central Europe, East Asia, South Asia, and the former Soviet Union.

Contact and Address
Web: www.geog.utoronto.ca
E-mail: geograd@geog.utoronto.ca
Telephone: (416) 978-3377
Fax: (416) 946-3886

Department of Geography
Room 5045, Sidney Smith Hall
University of Toronto
Toronto, Ontario M5S 3G3
Canada

Degree Programs

Geography

Master of Arts/Master of Science

Minimum Admission Requirements
- Appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum B+ standing in the final two years.
- Applicants are expected to have completed at least 4.0 full-course equivalents (FCE) in geography or a related field. Applicants lacking the minimum requirements should consider doing qualifying work at the undergraduate level prior to application. Such work should be undertaken in consultation with the graduate coordinator. Applicants who hold an appropriate bachelor's degree but are changing disciplines or require further preparatory work, may be required to complete an additional year of graduate-level course work.
- Students whose primary language is not English must take the Test of English as a Foreign Language (TOEFL). Minimum TOEFL scores required for admissibility:
  - Paper-based exam: 580 and 5 on the TWE
  - Computer-based exam: 237 and 5 on the essay rating component
  - Internet-based exam: 93/120 and 22/30 on each of the writing and speaking sections.

Program Requirements
- Two geography programs and various collaborative programs are available; selection is made with the approval of the department. Within most of these programs, students may receive a Master of Science degree if their research contains a substantial physical science component and if two-thirds of their course work comprises Geography courses accepted by the department as physical science courses.
- Progress into the second session is dependent on achieving an overall B average in the first session and satisfactory progress as outlined in the Graduate Geography Handbook.
- Programs are usually completed in a 12-month period.

- **Program I – Thesis:** Students undertake research leading to the preparation of a thesis, in conjunction with at least the equivalent of 1.5 graduate FCE including any required core courses.
- **Program II - Research Paper:** Students will take the equivalent of 3.0 graduate FCE and pursue a research project, normally during the summer, leading to the preparation of a research paper (GGR 1100Y).
- **Environmental Studies Research Paper (Collaborative MA/MSc Program)**
  2.5 FCE of which 1.5 FCE must be taken in the Department of Geography (including the core course), and 1.0 at the Centre for Environment (0.5 FCE must be the CFE core course). Students are also required to undergo a three-month internship and to prepare and defend a research paper (GGR 1100Y). See the Environmental Studies (Collaborative Program) entry in this calendar.
- **Environmental Studies Thesis (Collaborative MA/MSc Program)**
  2.0 FCE of which 1.0 FCE must be taken in the Department of Geography and 1.0 FCE at the Centre for Environment. Students are also required to prepare and defend a thesis.

Doctor of Philosophy

The PhD program prepares students for academic careers in teaching and research. Some may also pursue an advanced planning career in the public, non-profit or public sector, given the rising demand for people with a PhD credential outside of academia. Specializations include city-regions in global context; economic development and social planning; environment and sustainability planning; and urban development, design, and the built environment.

Minimum Admission Requirements
- Appropriate University of Toronto master's degree, or its equivalent from a recognized university, with a minimum A- standing. In exceptional cases and at the discretion of the department, admission to the PhD program may be approved for applicants with an overall A average and appropriate University of Toronto bachelor's degree, or its equivalent from a recognized university.
- Students whose primary language is not English must take the Test of English as a Foreign Language (TOEFL). Minimum TOEFL scores required for admissibility:
  o Paper-based exam: 580 and 5 on the TWE
  o Computer-based exam: 237 and 5 on the essay rating component
  o Internet-based exam: 93/120 and 22/30 on each of the writing and speaking sections.

Program Requirements
- The PhD is primarily a research degree. A program of study is designed for each student to ensure competence in a field of research and to facilitate the preparation of a dissertation.
- Students must:
  o complete a minimum of 2.0 FCE and, depending on the field of specialization, up to an additional 1.0 FCE. A minimum of 0.5 FCE must be, and a maximum of 1.5 FCE may be, taken in other departments. (In exceptional cases, at the discretion of the department, graduate courses completed at the master's level at the University of Toronto may be counted towards meeting some course requirements. However, all doctoral students must take a minimum of 2.0 FCE with the department after entering the PhD program. Students who enter the PhD program from a bachelor's degree must complete 1.5 FCE in addition to the doctoral course work requirements. Applicants who hold an appropriate master's degree but are changing disciplines or require further preparatory work, may be required to complete an additional year of graduate-level course work.)
  o submit a research statement concerning the proposed PhD topic and the scope of the PhD examination by the end of April in Year I
  o pass a PhD examination in the general field in which research is being undertaken by the end of Year I
  o upon the recommendation of their committee, be required to acquire a knowledge of a foreign language necessary for their research
  o submit a research proposal that is acceptable to their research committee by the end of the first session in Year II
- Unless otherwise specified, two years of residence are required during which the student is required to be on campus full-time and consequently in such geographical proximity as to be able to participate fully in the University activities associated with the program.
- PhD degree program requirements are fully described in the Graduate Geography Handbook and the department's Web site www.geog.utoronto.ca

Courses

The following graduate courses will be available on demand and subject to faculty resources. Not all courses are given every year, and some members of the graduate faculty are on research leave. Please consult the departmental graduate office. The 2000-level courses are normally open to PhD students only.

GGR 1100Y° Research Paper (Credit/No Credit)
GGR 1102H Contemporary Issues in Geographic
                    Thought

° Courses which may continue over a program. The course is graded
  when completed.

GGR 1110H Issues of Geographic Thought and Practice
GGR 1111H Research Practice in Geography
GGR 1149H Readings in Selected Topics
GGR 2149H Readings in Selected Topics
GGR 2150H,Y Advanced Seminar in Selected Topics

Physical Geography
GGR 1202H Sedimentation and Fluvial Geomorphology
GGR 1203H Coastal Hydrodynamics, Sediment
                Mechanics and Morphodynamics
GGR 1205H Theoretical Geomorphology
GGR 1206H Sedimentary Models
JGE 1212H Fate of Contaminants in the Environment
GGR 1214H Global Ecology and Biogeochemical
                Cycles
GGR 1302H Advanced Hydrology and Water Quality
GGR 1304H Landscape Biogeography
GGR 1305H Biogeography
GGR 1306H Measurement and Modelling of Surface
                Environments
GGR 1308H Process Hydrology
GGR 1310H Climate Modelling
GGR 1311H Atmosphere-Ocean Modelling
GGR 1314H Topics in Physical Oceanography

Environmental and Resource Geography
     Incoming students in Environmental and Resource
Geography must take GGR 1110H.

JPG 1402H Environment and Development
JPG 1403H   Political Ecology of African Environments
JPG 1404H Issues in Global Warming
JPG 1406H Energy Supply and Use
JPG 1410H   Institutional and Organizational Ecology
GGR 1412H Strategies for Sustainable Development
JGE 1413H Workshop in Environmental Impact
                Assessment
JPG 1414H   Cities as Ecosystems
JPG 1415H Environmental Justice
JPG 1416H Environmental Consequences of Land Use
                Change
JPG 1418H Rural Land Use Planning
JPG 1419H Aboriginal/Canadian Relations
                in Environmental and Resource
                Management
JGE 1420H Urban Waste Management: an International
                Perspective
JPG 1421H Health in Urban Environments
JPG 1508H Planning for the Urban Poor in Developing
                Countries

Urban and Economic Geography
     Incoming students in Urban and Economic
Geography must take GGR 1110H.

JPG 1501H   The Political Economy of Cities
GGR 1504H Health, Place and Difference
JPG 1507H Housing and Housing Policy

JPG 1509H   Feminism, Postcoloniality and Development
JPG 1510H Recent Debates on Urban Form
JPG 1512H Place, Politics and the Urban
JPG 1514H The Role of the Planner: Making a
                Difference
JPG 1554H Transportation and Urban Form
JPG 1556H Transportation Systems Analysis: An
                Exploration of Concepts, Methods,
                Applications, and Emerging Issues
JGE 1609H   Cities, Industry and the Environment
JPG 1614H Regional Development and Policy
JPG 1615H Planning and Financing the Social
                Economy
JPG 1616H The Cultural Economy
GGR 1651H Population Analysis: Research Seminar
JPG 1670H Regional Economic Analysis
GGR 1680H Geography of Tourism

Historical, Social, and Cultural Geography
     Incoming students in Cultural and Historical
Geography must take GGR 1110H.

JPG 1505H The Multicultural City: Diversity, Policy and
                Planning
JPG 1506H State/Space/Difference: Understanding the
                New Social Geography of the State
GGR 1700H Seminar in Cultural-Historical Geography
JPG 1702H Historical Urban Geography and Planning
JPG 1710H Historic Preservation Planning
JPG 1713H Place, Design, and Landscape
GGR 1714H Cultural and Critical Geographies
GGR 1801H Social Identities and Space
JPG 1804H Space, Power and Geography:
                Understanding Spatiality
JPG 1805H   Transnationalism, Diaspora and Gender
JPG 1810H Globalization and Postmodernism
JPG 1815H   Political Economy, the Body, and Health

Geographical Information Analysis
GGR 1901H Introductory Analytical Methods
GGR 1903H Multivariate Statistical Methods in
                Geography
GGR 1904H Accuracy of Spatial Databases
JPG 1906H Geographic Information Systems
GGR 1907H Advanced Geographic Information Systems
GGR 1911H Remote Sensing
GGR 1913H Digital Cartography
JPG 1914H Spatial Information Systems
GGR 1921H Land/Geographic Information Systems
GGR 1922H Topics in Geographical Information Science

Planning

Master of Science in Planning

Minimum Admission Requirements
- Appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum standing in the final year of B+ in the social or life sciences, or the humanities, or the professions. Knowledge of introductory economics and statistics, as well as word processing and spreadsheet skills, is preferred prior to entry.
- Students whose primary language is not English must take the Test of English as a Foreign Language (TOEFL). Minimum TOEFL scores required for admissibility:
  o Paper-based exam: 580 and 5 on the TWE
  o Computer-based exam: 237 and 5 on the essay rating component
  o Internet-based exam: 93/120 and 22/30 on each of the writing and speaking sections.

Program Requirements
- Students normally enrol for two years of full-time study, although part or all of the requirements of the program may be met by part-time study, with the approval of the Program Director.
- Progress into the second year of the program is normally dependent upon the achievement of an overall B average in the first year. Equivalent provisions apply to the part-time program.
- Students are required to pursue a planning internship (PLA 4444H) between the first and second year of the program. Part-time students who are currently employed in a planning environment may be exempted from this requirement; however, the Planning Director retains final discretion in the decision.
- The program consists of 8.0 FCE, taken over 2 years. This includes the required 3.5 FCE core courses. A further 4.5 FCE (exclusive of PLA 4444H) are chosen from the list of electives and from the offerings of other departments, centres, and institutes. At least 2.5 FCE of these electives must fit into an approved specialization in one of the following 5 fields: Urban Planning and Development, Environmental Planning, Social Planning and Policy, Economic Planning and Policy, Urban Design.
- The requirements for the degree must be completed within six years of first registration in the program.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto master's degree in planning or a related field, or its equivalent from a recognized university, with a minimum A- average and demonstrated competence in analytical meth-

ods or successful completion of one of two methods courses in the current master's program.
- Students whose primary language is not English must take the Test of English as a Foreign Language (TOEFL). Minimum TOEFL scores required for admissibility:
  o Paper-based exam: 580 and 5 on the TWE
  o Computer-based exam: 237 and 5 on the essay rating component
  o Internet-based exam: 93/120 and 22/30 on each of the writing and speaking sections.

Program Requirements
- Successful completion of coursework, a comprehensive examination, a thesis proposal, and a thesis.
- Students with a master's degree in planning comparable to the University of Toronto M.Sc. in Planning are required to take 3.0 full-course-equivalents (FCE) of which 1.5 FCE are core courses and 1.5 FCE are electives (at least 0.5 elective FCE must be outside the Planning program). Students who enter with a master's degree in a related field may be required to take up to an additional 1.0 FCE depending on their background and experience.
- Normally the PhD program is completed within four years.
- Visit the Planning Web site www.geog.utoronto.ca for more details.

Courses
All courses are not given every year; some faculty members may be on research leave. Please consult the departmental graduate office for details.

Core Courses for MScPl
PLA 1101H   Issues in Planning History, Thought, and Practice
PLA 1102H   Urban and Regional Dynamics
PLA 1103H   Legal Basis of Planning
PLA 1105H   Planning Decision Methods
PLA 1106H   Workshop in Planning Practice
PLA 1107Y   Current Issues Paper

Core Courses for PhD Planning
JPG 1111H Advanced Research Design
PLA 2000H Advanced Planning Theory
PLA 2001H Planning Colloquium (CR/NCR)

Elective Courses
PLA 1149H   Independent Study
PLA 1150H   Planning Field Trip Course
JPG 1402H   Environment and Development
JPG 1404H   Issues in Global Warming
JPG 1406H   Energy Supply and Use
JGE 1413H   Workshop in Environmental Impact Assessment
JPG 1414H   Cities as Ecosystems
JPG 1416H   Environmental Consequences of Land Use Change
JPG 1418H   Rural Land Use Planning

JPG 1419H   Aboriginal/Canadian Relations
     in Environmental and Resource
     Management
JGE 1420H   Urban Waste Management: an International
     Perspective
JPG 1421H   Health in Urban Environments
JPG 1501H   The Political Economy of Cities
PLA 1503H   Planning and Social Policy
JPG 1505H   The Multicultural City: Diversity, Policy and
     Planning
JPG 1506H   Urban and Regional Social Policy: An
     International Perspective
JPG 1507H   Housing and Housing Policy
JPG 1508H   Planning for the Urban Poor in Developing
     Countries
JPG 1509H   Feminism, Postcoloniality and Development
JPG 1510H   Recent Debates on Urban Form
JPG 1512H   Place, Politics and the Urban
JPG 1514H   The Role of the Planner: Making a
     Difference
PLA 1551H   Policy Analysis
PLA 1552H   City Planning and Management
PLA 1553H   Urban Transportation Policy Analysis
JPG 1554H   Transportation and Urban Form
PLA 1601H   Environmental Planning and Policy
JGE 1609H   Cities, Industry and the Environment
JPG 1614H   Regional Development and Policy
JPG 1615H   Planning the Social Economy
PLA 1650H   Urban Design: History Theory Criticism
PLA 1651H   Planning and Real Estate Development
PLA 1652H   Introductory Studio in Urban Design and
     Planning
PLA 1653Y   Advanced Studio in Urban Design and
     Planning
PLA 1654H   Urban Design Research Methods
PLA 1655H   Urban Design and Development
JPG 1670H   Regional Economic Analysis
JPG 1702H   Historical Urban Geography and Planning
JPG 1710H   Historic Preservation Planning
JPG 1713H   Place, Design, and Landscape
PLA 1751H   Public Finance for Planners
JPG 1804H   Space, Power and Geography:
     Understanding Spatiality
JPG 1810H   Globalization and Postmodernism
PLA 1904H   Law and Planning
JPG 1906H   Geographic Information Systems
JPG 1909H   Social Survey Methods
JPG 1914H   Spatial Information Systems
PLA 4444H   Internship (Credit/No Credit) (Designates the
     internship to be undertaken by master's students
     in the Planning Program. It cannot be used to fulfil
     other course requirements for the degree.)

Urban Design Studies

The MUDS is a one-year professional degree program which provides intensive, advanced education in the principles and practices of urban design. It aims to encourage an understanding of the interdependence of the economic, social, and political forces that shape the character, physical structure, and dynamic properties of cities. The MUDS program coincided with the launch of the Master of Urban Design (MUD) degree program in the Faculty of Architecture, Landscape and Design. Consult the separate calendar entry under Architecture, Landscape, and Design for more details.

Master of Urban Design Studies

Minimum Admission Requirements
- Applicants with prior degrees in a range of disciplines including planning, geography, other social sciences, the design disciplines, business administration, and law are encouraged to apply. Students are admitted via one of three routes:
  - **Master's degree** in a professional field such as planning, architecture, landscape architecture, business administration and law, an average of at least B+ in graduate studies is required.
  - **Bachelor's degree** (four or five year) **in planning, architecture, or landscape architecture**, with a strong design orientation; an average of at least B+ (or upper second class) in the final year is required.
  - **Bachelor's degree** (four or five year) **in any discipline** plus evidence of significant professional experience (normally at least five years) in an area related to Urban Design and Planning are required to have attained at least a B+ average in their final year.
- Students whose primary language is not English must take the Test of English as a Foreign Language (TOEFL). Minimum TOEFL scores required for admissibility:
  - Paper-based exam: 580 and 5 on the TWE
  - Computer-based exam: 237 and 5 on the essay rating component
  - Internet-based exam: 93/120 and 22/30 on each of the writing and speaking sections.

Program Requirements
- 4.0 full-course-equivalents (FCE). Students entering with significant prior design workshop/studio experience (as determined by the admissions committee) must complete a core program of 2.5 FCE plus a further 1.5 FCE chosen from electives given within the Program in Planning; the Faculty of Architecture, Landscape and Design; and from the offerings of other graduate units. Students without significant prior design workshop/studio experience must complete the above core program and PLA 1652H, plus a further 1.0 elective FCE.

- Degree requirements will normally be completed within one academic year and must be completed within four years of first registration in the program.
- The MUDS program may be taken on a part-time basis. The maximum time for completion of the degree requirements is four years from first registration in the program. Part-time students are expected to participate in the same class meetings as full-time students.

Courses

Core Courses

The core program is composed of five half-course equivalents (six half-course equivalents for those entering the program without significant prior design workshop/studio experience) that encompass the practical, theoretical, and methodological aspects of urban design.

Course sequence for the core program:

First Session

PLA 1650H/URD 1031H Urban Design: History Theory Criticism
or
JPG 1713H   Place, Design and Landscape

PLA 1654H   Urban Design Research Methods
PLA 1652H   Introductory Studio in Urban Design and Planning (students without significant design workshop/studio experience must take PLA 1652H)

Plus one half-course elective, or two half-course electives if the student is exempted from PLA 1652H

Second Session

PLA 1653Y   Advanced Workshop in Urban Design
PLA 1655H   Urban Design and Development
Plus one half-course elective

Electives

Elective courses may be chosen from the following:

PLA 1554H   Transportation and Urban Form
PLA 1651H   Planning and Real Estate Development
JPG 1501H   The Political Economy of Cities
JPG 1510H   Recent Debates on Urban Form
JPG 1512H   Place, Politics and the Urban
JPG 1702H   Historical Urban Geography and Planning
JPG 1710H   Historic Preservation Planning
JPG 1713H   Place, Design and Landscape
JPG 1804H   Space, Power and Geography: Understanding Spatiality
JPG 1914H   Spatial Information Systems
URD 1012H   Urban Design Studio Options
URD 1021H   Urban Design Computation
URD 1032H   Urban Design in the History of the Post-Industrial World
URD 1033H   The City and the Text

MUDS students may also select other electives, subject to the approval of the Director, Program in Planning, and the Coordinator of the MUDS program. Courses with a URD designation are offered through the Faculty of Architecture, Landscape and Design.

Graduate Faculty

Full Members
Carl Amrhein - BSc, PhD, MCIP
George Arhonditsis - BSc, MSc, PhD
Nathan Basiliko, PHD
Alana Boland - BA, MAIS, PhD
Brian Branfireun - HBA, MSc, PhD
Ronald Buliung, PHD
Michael Bunce - BA, PhD
Jing Chen - BSc, PhD, FRSC
Tenley Conway - BSc, MA, PhD
Deborah Cowen, BA, MS, PHD
Sharon Cowling - BSc, MSc, PhD
Amrita Daniere - AB, MPP, PhD, MCIP *(Graduate Chair)*
Anthony Davis - BA, MA, PhD
Joseph Desloges - BES, MSc, PhD
Pierre Desrochers - BSc, MA, PhD
Miriam Diamond - MSc, PhD
Richard DiFrancesco - MA, PhD, MCIP
James Dunn - BA, MA, PhD
Matthew Farish, BA, PHD
Sarah Finkelstein, AB, MPH, PHD
Meric Gertler - BA, MCP, PhD, FRSC, MCIP, Goldring Chair in Canadian Studies (UC), Vice-Dean Graduate Research
Emily Gilbert - BA, MA, PhD
Kanishka Goonewardena - BSc, MPl, PhD
William Gough - BSc, MSc, PhD *(Graduate Coordinator)*
Jason Hackworth - BA, MA, MEP, PhD
Leslie Harvey - BSc, MSc, PhD
Paul Hess - BA, MUP, PhD
J David Hulchanski - BA, MSc(Pl), PhD, MCIP, Chow Yei Ching Social Work Chair in Housing
Mark Hunter, BA, MSS, PHD
Thembela Kepe, MS, PHD
Deborah Leslie - BA, MA, PhD
Robert Levit - BA, MArch
Robert Lewis - BA, MA, PhD
Ken MacDonald - BA, MA, PhD
Deborah McGregor, BSC, MES, PHD
Virginia Maclaren - BA, MRP, MSc, PhD, MCIP
Minelle Mahtani - BA, PhD
Jay Malcolm - BSc, MSc, PhD
Eric Miller - BASc, MASc, PhD, Bahen/Tanenbaum Professor
John Miron - BA, MA, MSc, PhD
D Scott Munro - BSc, MSc, PhD
Anthony Price - BSc, MSc, PhD
Scott Prudham - BArtSc, MA, PhD
Katharine Rankin - BA, MRP, PhD *(Director, Program in Planning)*
Edward Relph - BA, MPh, PhD
Vincent Robinson - MS, PhD
Susan Ruddick - BES, MA, PhD, MCIP
Rachel Silvey - BA, MA, PhD

Myrna Simpson - BSc, PhD
Andre Sorensen - BA, MS, PhD
Sarah Wakefield - BA, MA, PhD
Alan Walks - BA, MA, PHD
Mathew Wells - BSc, PhD
Rodney White - BA, MSc, PhD
Kathleen Wilson - BA, MA, PhD

Members Emeriti
Larry Bourne - BA, MA, PhD, FRSC, MCIP, Hon Causa
John Britton - BA, MA, PhD
William Dean - MA, PhD
Gunter Gad - DrPhil, PhD
John Galloway - BA, MA, PhD
Brian Greenwood - BSc, PhD, Hon Causa
Reiner Jaakson - BA, MSc, PhD, MCIP
P Donald Kerr - MA, PhD
James Lemon - MS, PhD

William Michelson - AB, AM, PhD, FRSC
Shoukry Roweis - MSc, PhD
James Simmons - MA, PhD
Joseph Whitney - PhD, MCIP

Associate Members
Donald Boyes - BSc, MSc, PhD
Shauna Brail
Dave Etkin - BSc, BEd, MSc
Maryann Feldman - BA, MS, PhD
Angelo Grima - BA, MA, PhD
Sonia Labatt - BA, MA, PhD
Carl Mitchell
Barbara Murck - BA, PhD
Blake Poland - BA, MA, PhD
Beth Savan - BSc, PhD, MCIP
Harvey Shear - PhD
Robert Wright - BScRec, MLA

Geology   GLG

Faculty Affiliation
Arts and Science

Degree Programs Offered
Geology – MASc, MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Environmental Studies, see p. 443
   - Geology, MSc, PhD
2. Geology and Physics, see p. 459
   - Geology, MSc, PhD

Overview
The Department of Geology accepts students for advanced degrees – **Master of Applied Science**, **Master of Science**, and **Doctor of Philosophy** - in a broad range of topics in the Earth Sciences. Students may also undertake studies in interdisciplinary areas by arrangement with other departments such as Civil Engineering, Ecology and Evolutionary Biology, Centre for Environment, Physics, Chemistry, and Materials Science and Engineering.

In recent years, research by staff and graduate students has been carried out in all parts of North America and other parts of the world, both on land and at sea. In addition to field-based studies, the Department has a wide range of modern laboratories; advanced studies are encouraged in a broad spectrum of geological problems. Further details of research emphases, facilities, detailed degree requirements, and graduate courses are available on the departmental Web site www.geology.utoronto.ca.

Contact and Address
Web: www.geology.utoronto.ca
E-mail: grad@geology.utoronto.ca
Telephone: (416) 978-1240
Fax: (416) 978-3938

Department of Geology
Earth Sciences Centre
Room 1066, 22 Russell Street
University of Toronto
Toronto, Ontario M5S 3B1
Canada

Degree Programs

Master of Applied Science

Minimum Admission Requirements
- Students are accepted under the general regulations.
- The Department has no formal foreign language requirements. Students proceeding by thesis to any degree are expected to become familiar with the literature of their subjects, in whatever language it is written.

Program Requirements
- Normally complete the graduate seminar (GLG 1101H), one of the 6 breadth courses, and 1.0 FCE of elective courses, for a total of 2.0 FCE.
- A research thesis.
- Minimum full-time residence is one academic session.

Master of Science

Minimum Admission Requirements
- Students are accepted under the general regulations.
- The Department has no formal foreign language requirements. Students proceeding by thesis to any degree are expected to become familiar with the literature of their subjects, in whatever language it is written.

Program Requirements
- Students in the **all coursework option** are normally required to complete the graduate seminar (GLG 1101H), the all-course research project (GLG 3608H), one of the 6 breadth courses, and 3.5 FCE of elective courses for a total of 5.0 graduate full-course equivalents (FCE).
- Students in the **doctoral-stream option** are normally required to complete the graduate seminar (GLG 1101H), the research project (GLG 3603Y), research presentation (GLG 3601Y), one of the 6 breadth courses, and 1.0 FCE of elective courses, for a total of 4.0 FCE.
- To encourage breadth, the Department will permit students to substitute electives with equivalent non-geology courses.
- Students may proceed on a part-time basis.

Doctor of Philosophy

Minimum Admission Requirements
- Students are accepted under the general regulations.
- The Department has no formal foreign language requirements. Students proceeding by thesis to any degree are expected to become familiar with the literature of their subjects, in whatever language it is written.

Program Requirements
- Preparation of a research thesis constituting a significant contribution to the knowledge of the earth.
- Students normally complete the graduate seminar course, one of the 6 breadth courses and an additional half-course, for a total of 1.5 FCE. The additional half-course may be taken in departments

other than Geology with the approval of the student's advisory committee. A reduction in the number of required courses may be granted for students who have previously undertaken graduate studies in the appropriate fields. Recommendations must be made by a student's advisory committee for consideration and approval by the Department's Graduate Affairs Committee.

- Students who begin the PhD program directly from the Department's research-based MSc are required to take one of the six breadth courses and an additional half-course. In all cases, the student's supervisory committee reserves the right to assign additional courses if they feel that the student is deficient in a subject area essential to the research.
- Students are normally expected to complete the MSc degree before proceeding to the PhD, but exceptions may be made when the student has the appropriate research experience. Normal departmental rules for the completion of the PhD apply (see departmental Web site).

Courses

Check with the Department for current year's offerings.

GLG 1100Y   Seminars in Geology Y
GLG 1101H   Graduate Seminars in Geology
GLG 1423H   Mineralogy
GLG 1430H   Basin Analysis
GLG 1436H   Paleoecological Assessment of
                        Environmental Change
GLG 1440H   Petrology
GLG 1441H   Remote Sensing of Earth and the
                        Terrestrial Planets
GLG 1442H   Introductory Mineral Deposits I
GLG 1443H   Introductory Mineral Deposits II
GLG 1450H   Contaminant Fate and Transport in
                        Subsurface Environments
GLG 1465H   Geodynamics
GLG 2222H   Tectonics and Planetary Dynamics
GLG 2302H   Mineral Resources
GLG 2303H   Earth Systems Evolution
GLG 2304H   Geochemistry
GLG 2608H   Advanced Glacial Sedimentology
GLG 2704H   Isotope Geochemistry
GLG 2708H   Characterization of Geological Materials
GLG 3601Y   Research Presentation
GLG 3602H   Seminars in Geology
GLG 3603Y   Research Project
GLG 3604H   Selected Topics in Geology
GLG 3605H   Selected Topics in Geochemistry
GLG 3606H   Selected Topics Earth System Evolution
GLG 3607H   Selected Topics in Geodynamics
GLG 3608H   All-Course Research Project
JGN 2607H   Advanced Techniques in Hydrogeology

Additional related courses can be found in the Geophysics section of the Graduate Department of Physics course listings.

Graduate Faculty

Full Members
Richard Bailey - BSc, PhD *(Chair)*
Bridget Bergquist - BS, PhD
Jorg Bollmann - Dip Geol Sci Nat
James Brenan - BSc, PhD
Jean-Bernard Caron - PhD
Sharon Cowling - BSc, MSc, PhD
Alexander Cruden - BSc, PhD, McRae Quantec Chair in
  Geoscience
Donald Davis - BSc, MSc, PhD
Nicholas Eyles - BSc, MSc, PhD, PGeo
Grant Ferris - BSc, PhD
Rebecca Ghent - BA, MSc, PhD
Michael Gorton - BSc, PhD
Henry Halls - BSc, MSc, PhD
Michael Hamilton - BSc, PhD
Martin Head - BSc, PhD
Grant Henderson - BSc, MSc, PhD
Kenneth Howard - BSc, MSc, PhD, PGeo, CGeol FGS,
  PHG
Julian Lowman - BSc, MSc, PhD
Andrew Miall - BSc, PhD, DSc, Hon Causa, FRSC
James Mungall - BSc, MSc, PhD
Russell Pysklywec - BSc, PhD *(Coordinator of
  Graduate Studies)*
Daniel Schulze - BA, MSc, PhD
Barbara Sherwood Lollar - BA, PhD
Myrna Simpson - BSc, PhD
Edward Spooner - BA, PhD
Gopalan Srinivasan - BSc, MSc, PhD
Kimberly Tait - BSc, MSc, PhD
Mathew Wells - BSc, PhD
Frederick Wicks - BSc, PhD
Ulrich Wortmann - Dip Geol, Dr Rer Nat
R. Paul Young - BSc, MSc, Post-grad Cert Ed, PhD,
  CGeol, CEng, Keck Chair of Engineering Seismology
  and Rock

Members Emeriti
Gregor Anderson - BEng, MASc, PhD
Thomas Krogh - MSc, PhD
Anthony Naldrett - BA, MSc, PhD, FRSC , University
  Professor Emeritus, Emeritus Dr. Norman B Keevil Chair
  in Ore
Geoffrey Norris - BA, MA, PhD, FRSC
Pierre-Yves F Robin - BSc, MSc, PhD
John Rucklidge - BA, PhD
Walfried Schwerdtner - DrRerNat, DipGeol, BSc, PhD
Steven Scott - BSc, MSc, PhD, Hon Causa, FRSC, Dr.
  Norman B Keevil Chair in Ore Genesis
Peter Von Bitter - BA, MA, PhD
John Westgate - BSc, PhD

Associate Members
Samuel Bowring - BS, MS, PhD
David Rudkin - BSc

Germanic Languages and Literatures   GER

Faculty Affiliation
Arts and Science

Degree Programs Offered
German Literature, Culture and Theory – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Jewish Studies, see p. 460
   - Germanic Languages and Literatures, PhD
2. Women and Gender Studies, see p. 473
   - Germanic Languages and Literatures, MSc, PhD

Overview
The Department of Germanic Languages and Literatures at the University of Toronto is the oldest and largest department of German in Canada. The Department's emphasis and traditional strength is in the history of literature and in intellectual history. Further areas of interest are German and Germanic philology and linguistics, theory of literature, German cinemas, and the interdisciplinary study of German culture and society.

The Department offers a graduate program of study leading to two degrees: **Master of Arts** and **Doctor of Philosophy**. The MA degree usually takes eight months (September to April) to complete, while the PhD degree is normally completed in four to five years.

Contact and Address
Web: www.chass.utoronto.ca/german
E-mail: german@chass.utoronto.ca
Telephone: (416) 926-2321
Fax: (416) 926-2329

Department of Germanic Languages and Literatures
3rd Floor, 50 St. Joseph Street
University of Toronto
Toronto, Ontario M5S 1J4
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants are accepted under the general regulations and must satisfy the Department's program requirements stated below.
- Applicants to the one-year MA program must have completed the four-year BA of this University with major or specialist standing in German (a minimum of seven courses past O.A.C., at least four of which are at the senior level) with no less than a B+ average, or give evidence of similar qualifications.
- Applicants from other universities should arrange for three supporting letters to be sent to the Coordinator of Graduate Studies of the Department, preferably on forms available from the Department.
- Admission is based upon the applicant's academic record and upon the evidence of the supporting letters.

Program Requirements
- Complete 3.5 full-course equivalents, including COL 1000H *Faculty Seminar: Theories of Literature and Criticism*. Course selection is made in consultation with the Coordinator of Graduate Studies of the Department and must be approved by the Department.
- Pass a German language competence test.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants are accepted under the general regulations and must satisfy the Department's program requirements stated below.
- Admission to the PhD program requires either
  - a **four-year University of Toronto bachelor's degree**, or its equivalent from a recognized university, that includes at least 6.0 full-course equivalents (FCE) in German language, literature, and culture, with an average grade of at least a B+ in the applicant's overall program and of at least an A- in the applicant's German courses, or
  - a **University of Toronto master's degree in German**, or its equivalent from a recognized university, with an average grade of at least an A- in the applicant's overall program.
- Applicants must satisfy the Department that they are capable of independent research in German at an advanced level.
- Applicants from other universities should arrange for three supporting letters to be sent to the Coordinator of Graduate Studies of the Department, preferably on forms available from the Department.
- Admission is based upon the applicant's academic record and upon the evidence of the supporting letters.

Program Requirements
- Applicants admitted on the basis of a **four-year bachelor's degree** must take a minimum of 7.0 full-course equivalents (FCE) including COL 1000H with an average grade of at least an A-. The Department may recommend to the School the termination of the registration and eligibility of a student who fails to complete at least 3.5 FCE, with an average of at least an A-, during the first year of the program. The student is required to complete the remaining

courses required for the degree, with an A- average by the end of the second year.

- Applicants admitted on the basis of a **master's degree** must take a minimum of 4.0 FCE including COL 1000H with an average grade of at least an A-. The student is required to complete at least 3.5 FCE by the end of the first year of registration and any remaining courses required for the degree by the end of the second year.
- Course selection may include 1.5 FCE in a department other than Germanic Languages and Literatures.
- Course selection is made in consultation with the Coordinator of Graduate Studies of the Department and must be approved by the Department.
- Students must give evidence of reading knowledge of French, or, in exceptional circumstances, of another language approved by the Department.
- Pass a general examination in German literature.
- Pass a thesis field review.
- Make an oral presentation of their thesis.
- Submit a thesis on an approved subject and pass an oral examination on this subject.
- The Department may permit a candidate to write the doctoral thesis in German when the candidate's advisory committee so recommends and when the candidate has satisfied the School's conditions (see Degree Regulations, Doctor of Philosophy, Thesis).

Courses

Not all courses are offered every year. The Department should be consulted each session as to actual course offerings.

GER 1200H   Middle High German
GER 1300H   Cultural History of the German Language
GER 1470H   Goethe in Context
GER 1490H   Bildung und der Roman der Spätaufklärung
GER 1501H   Romanticism
GER 1510H   E.T.A. Hoffmann and the Dialectic of
                          Enlightenment
GER 1530H   Heine and Critical Theory
GER 1580H   Vienna at the Turn of the Century
GER 1615H   The Early Theatre of Bertolt Brecht
GER 1661H   Modernism in Context
GER 1690H   Theatre in the Weimar Republic
GER 1710H   Weimar Cinema
GER 1720H   Kafka with Deleuze: Toward a "Minor
                          Literature"
GER 1730H   Travel Writing
GER 1752H   Germany's Colonial Imaginary
GER 1770H   Reviewing the 50s: German Cinemas
                          under Reconstruction
GER 1771H   Topics in German Cinema Studies
GER 1772H   The Politics of the Non-Fiction Film
GER 1775H   Cinemas of Migration
GER 1780H   Topics in German Visual Culture
GER 1820H   The Learning and Teaching of German
GER 1830H   Topics in German Intellectual History
GER 1860H   Introduction to Critical Theory

GER 2000H,Y Reading Course in Approved Field
GER 3000H   Current Trends in German Literature
JGC 1660H   Modernism and the Other
JGC 1750H   Modernity and Its Discontents
MST 2010Y   Old Norse
MST 2015Y   Studies in Old Norse Texts
MST 2019H   Icelandic Family Sagas

Graduate Faculty

Full Members
Angelica Fenner - BA, MA, PhD
Willi Goetschel - LicPhil, PhD
Michael Hager - BA,MA,Phd
John Noyes - BA, MA, PhD
Stefan Soldovieri - BA, MA, PhD *(Coordinator of Graduate Studies)*
Markus Stock - MA PhD
John Zilcosky – PhD *(Chair)*

Members Emeriti
Augustinus Dierick - BA, MA, PhD
Charles Genno - PhD
Wolfgang Hempel - DPhil
Hartwig Mayer - DPhil
Christa Saas - BA, MA, PhD
Helfried Seliger - PhD
Heinz Wetzel - DPhil

Associate Members
James Retallack - BA, DPhil
Anna Shternshis - BA, MA, PhD

Health Policy, Management and Evaluation   HAD

Faculty Affiliation
Medicine

Degree Programs Offered
Health Administration – MSc, PhD
   Field: Clinical Epidemiology and Health Care Research
     – MSc, PhD
   Field: Health Services Research – MSc, PhD
   Field: Health Technology Assessment and
     Management - MSc
Health Administration – MHSc, Combined MHSc/MN,
     Combined MHSc/MSW
Health Informatics – MHI *(pending approval)*
Management of Innovation – MMI

Collaborative Programs Offered
  Degree programs that participate in:
1. Aging, Palliative and Supportive Care Across the Life
   Course, see p. 408
    • Health Administration, MHSc, MSc, PhD
2. Bioethics, see p. 416
    • Health Administration, MHSc, MSc, PhD
3. Cardiovascular Science, see p. 426
    • Health Administration, MHSc, MSc, PhD
4. Health Care, Technology and Place, see p. 454
    • Health Administration, PhD
5. Health Services and Policy Research, see p. 456
    • Health Administration, MSc, PhD
6. International Relations, see p. 458
    • Health Administration, MSc
7. Women and Gender Studies, see p. 473
    • Health Administration, MHSc, MSc, PhD
8. Women's Health, see p. 478
    • Health Administration, MSc, PhD

Overview
    The Department of Health Policy, Management and Evaluation (HPME) is training Canada's future health leaders and researchers through its outstanding **degree programs**:
1. Master of Health Informatics *(pending approval)*
2. Master of Management of Innovation
3. Master of Health Science in Health Administration
4. Master of Science in Health Administration
5. Doctor of Philosophy in Health Administration
    HPME also offers two **combined programs** which allow students to complete two degrees in less time than it would take to complete the programs separately.
1. Combined Master of Health Science/Master of
   Nursing Program in Health Administration and
   Nursing Science
2. Combined Master of Health Science/Master of Social
   Work Program in Health Administration and Social
   Work.

    Multi-disciplinary **collaborative programs** with other University of Toronto graduate departments allow further specialization.

    A complete description of all HPME programs is available on the Web site www.hpme.utoronto.ca where application forms are also available. Please note the **application deadlines**.

November 15
MSc in Health Administration – field: Clinical
  Epidemiology and Health Care Research
MSc in Health Administration – field: Health Services
  Research
PhD in Health Administration – field: Clinical
  Epidemiology and Health Care Research
PhD in Health Administration – field: Health Services
  Research

February 1
MHSc in Health Administration
MHSc in Health Administration/MSW Combined Degree
  Program
MHSc in Health Administration/MN Combined Degree
  Program
MSc in Health Administration – field: Health Technology
  Assessment and Management

March 1
MMI

Contact and Address

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  Evaluation
Faculty of Medicine
University of Toronto
Fourth Floor, 155 College Street
Toronto, Ontario M5T 3M6
Canada

Management of Innovation
Web: www.utm.utoronto.ca/management/mmi
E-mail: mmi.utm@utoronto.ca
Telephone: (905) 569-4743
Fax: (905)569-4397

Master of Management of Innovation
Kaneff Centre, Room 207
University of Toronto at Mississauga
3359 Mississauga Road North
Mississauga, Ontario L5L 1C6
Canada

Degree Programs

Health Administration

Master of Science

The Health Administration Graduate Program offers three fields leading to the Master of Science. These include: Clinical Epidemiology and Health Care Research; Health Services Research; and Health Technology Assessment and Management.

Minimum Admission Requirements

- Students normally require an overall B+ average or higher in the last two years of a four year under-graduate degree from a recognized university (for applicants to the Clinical Epidemiology and Health Care Research, a degree in a health profession (e.g. MD, BScN, BScOT, BScPT, DDM, MScN) from a recognized university with a B+ average in the final two years is required).

Program Requirements

Field - Clinical Epidemiology and Health Care Research

Two options are available:
- Thesis option comprising 3.0 full-course equivalents (FCE) and a thesis.
- Course work only option comprising 5.0 FCE including completion of at least one research practicum

Thesis MSc
- Completion of 3.0 full-course equivalents (FCE) as follows:
  o 1.5 required FCE - HAD 5301H, HAD 5307H and one of HAD 5303H, HAD 5304H, HAD 5306H or HAD 5309H
  o 1.5 optional FCE
- A thesis written under the supervision of a thesis committee and its defence before an examination committee.
- Completion of all degree requirements within five years.

Course work-only MSc
- Completion of 5.0 FCE as follows:
  o 2.0 required FCE: HAD 5301H, HAD 5307H , HAD 6360H, and one of HAD 5303H, HAD 5304H or HAD 5309H
  o 3.0 optional FCE
- Completion of all degree requirements within five years.

Field - Health Services Research
- 3.0 full-course equivalents; of which 1.0 FCE must be research methodology courses and 1.0 FCE must be in an area of specialization.

- A thesis written under the supervision of a thesis committee and its defence before an examination committee.
- Completion of all degree requirements within five years.

Field - Health Technology Assessment and Management
- 3.0 full-course equivalents (HAD5308H, HAD5730H, HAD 5760H, HAD 5763H, HAD5727H and HAD5304H) and participate in two non-credit semi-nars. The courses in this field are offered in a modu-lar fashion in Canada and Europe.
- A thesis written under the supervision of a thesis committee and its defence before an examination committee.
- Completion of all degree requirements within five years.

MSc Courses

HAD 5011H Canada's Health Care System
HAD 5301H Introduction to Clinical Epidemiology and Health Care Research
HAD 5302H Measurement in Clinical Research
HAD 5303H Controlled Clinical Trials
HAD 5304H Clinical Decision Making and Cost Effectiveness
HAD 5305H Evidence-Based Guidelines
HAD 5306H Introduction to Health Care Research Methodology
HAD 5307H Introduction to Applied Biostatistics
HAD 5308H Evidence Synthesis: Systemic Reviews and Meta-Analysis
HAD 5309H Non-Experimental Design for the Clinical Researcher
HAD 5310H Pragmatic Issues in Conduct of Controlled Trials
HAD 5312H Decision Modelling of Clinical Policy and Economic Evaluation
HAD 5313H Advanced Design and Analysis Issues in Clinical Trials
HAD 6360H Required Research Practicum in Clinical Epidemiology (Credit/No Credit)
HAD 6361H Optional Research Practicum in Clinical Epidemiology (Credit/No Credit)
HAD 7002H Reading Course
JNH 5000H Measurement of Patients' Preferences in Health Care Decision Making
MSC1060H Biostatistics for Health Sciences

Health Administration

Doctor of Philosophy

Minimum Admission Requirements
- A master's degree (MA or MSc) requiring a thesis. For applicants interested in Clinical Epidemiology and Health Care Research a master's degree in a health profession with a B+ average or higher in the last two years of study is required.
- Satisfactory references pertaining to the applicant's academic and research abilities.
- Outstanding students with a non-thesis master's degree may be admitted to the PhD upon the recommendation of the appropriate HPME committee, if the applicant has the appropriate background preparation and research experience or publications which can be considered equivalent to a master's thesis. Students with a non-thesis master's degree and little or no research experience may be admitted to the MSc program and may petition to transfer into the PhD program within 24 months of first registration. Transfer is contingent upon successful completion of master's course work and preparation and defence of a PhD thesis proposal.
- Some applicants may be admitted to a flexible-time PhD option with the approval of the graduate chair. The flexible-time PhD option benefits mature students with career and/or familial obligations.

Program Requirements

Full Time
- Completion of a comprehensive course in the area of specialization.
- Completion of 5.0 full- course equivalents (FCE) from those listed below. Students enrolled in the **Clinical Epidemiology and Health Care Research Field** must select: 2.0 FCE compulsory courses and 2.0 recommended FCE from the Clinical Epidemiology and Health Care Research Courses listed below.
- Writing of a PhD thesis under the supervision of an approved thesis committee,
- Oral defence of the thesis before an examination committee,
- Full time registration (fall, spring, summer sessions) for the first four years of the doctoral program.
- Completion of all degree requirements within six years from first registration in the program.

Flexible Time Option
- Completion of a comprehensive course in the area of specialization.
- Completion of 10 half-courses.
- Writing of a PhD thesis under the supervision of an approved thesis committee,
- Oral defence of the thesis before an examination committee,

- Full time registration (fall, spring, summer sessions) for the first four years of the doctoral program; thereafter, students may register part time.
- Completion of all degree requirements within eight years from first registration in the program.

Courses

Field – Clinical Epidemiology and Health Care Research

Compulsory courses
HAD 5301H   Introduction to Clinical Epidemiology and Health Care Research
HAD 5307H   Introduction to Applied Biostatistics
HAD 5311H° Comprehensive/Synthesis (one year)
MSC1060H   Biostatistics for Health Sciences

Recommended courses (one course from each of the four groups)

Group 1
HAD 5302H Measurement in Clinical Research

Group 2
HAD 5303H   Controlled Clinical Trials
HAD 5310H   Pragmatic Issues in Conduct of Controlled Trials

Group 3
HAD 5304H   Clinical Decision Making and Cost Effectiveness
HAD 5730H   Economic Evaluation Methods for Health Service Research
HAD 5760H   Advanced Health Economics and Policy Analysis
JNH 5000H   Measurement of Patients' Preferences in Health Care Decision Making

Group 4
HAD 5306H   Introduction to Health Care Research Methodology
HAD 5309H   Non-Experimental Design for the Clinical Researcher

Elective Courses
HAD 5011H   Canada's Health Care System (Doctoral Stream)
HAD 5302H   Measurement in Clinical Research
HAD 5303H   Controlled Clinical Trials
HAD 5304H   Clinical Decision Making and Cost Effectiveness
HAD 5305H   Evidence-Based Guidelines
HAD 5306H   Introduction to Health Care Research Methodology
HAD 5308H   Systematic Review of Randomized Controlled Trials

° Courses which may continue over a program. The course is graded when completed.

HAD 5309H   Non-Experimental Design for the Clinical Researcher
HAD 5310H   Pragmatic Issues in Conduct of Controlled Trials
HAD 5312H   Decision Modelling of Clinical Policy and Economic Evaluation
HAD 5313H   Advanced Design and Analysis Issues in Clinical Trials
HAD 6360H   Required Research Practicum in Clinical Epidemiology (Credit/No Credit)
HAD 6361H   Optional Research Practicum in Clinical Epidemiology (Credit/No Credit)
HAD 7002H   Applied Bayesian Methods
JNH 5000H   Measurement of Patients' Preferences in Health Care Decision Making

Field – Health Services Research
HAD 5011H   Canada's Health Care System (Doctoral Stream)
HAD 5726H   Design and Evaluation in eHealth Innovation and Information
HAD 5727H   Knowledge Transfer and Exchange
HAD 5728H   Performance Measurement in Health Care: Theory and Application
HAD 5729H   Theoretical, Conceptual and Methodological Issues in Knowledge Translation
HAD 5730H   Economic Evaluation Methods for Health Service Research
HAD 5734H   Organizational Learning and Knowledge Transfer
HAD 5760H   Advanced Health Economics and Policy Analysis
HAD 5763H   Health Care Performance Measurement
HAD 5768H   International Perspectives on Health Services Management
HAD 5771H   Resource Allocation Ethics
HAD 5772H   Intermediate Statistics for Health Services Researchers
HAD 5773H   Introduction to Theories of Organizational Behaviour and Applications to the Health Care Sector
HAD 6760Y   Introduction to Health Services Research Theory and Methods
HAD 6761H   Health Services Outcomes and Evaluation Comprehensive Course
HAD 6762H   Health Services Organization and Management Comprehensive Course
HAD 6763H   Health Policy Comprehensive Course
HAD 6764H   eHealth Innovation and Health Information Management Comprehensive Course
JNH 5001H   Health Care Settings, Site and Human Well Being
JNH 5003H   Home and Community Care Knowledge Translation
HAD 7001H   Reading Course

Cross-listed Courses
These courses are limited to certain program students in Health Policy, Management and Evaluation. Please check the Web site www.hpme.utoronto.ca.

BME 1456H   Changing Health Care Technologies, People, and Places
HSR 1000H   Health Services Research Practicum
HSR 1001H   Introduction to Qualitative Methods for Health Services and Policy Research
HSR 1002H   Health Services and Policy Research Summer Institute
JCV 3060H   Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction
JCV 3061H   Advanced Topics in Cardiovascular Sciences—Hormones
JCV 3062H   Advanced Topics in Cardiovascular Sciences—Heart Function
JCV 3063H   Advanced Topics in Cardiovascular Sciences—Vascular
JHM 1000H   Issue Analysis in Interdisciplinary, International Health Research
LAW 465H   Conflicts of Interest in Medicine: Evidence, Public Policy, and the Law
LAW 404H   Health System Law and Policy

Health Administration

Master of Health Science
The Master of Health Science program is geared to health managers and professionals who wish to acquire a graduate education in health administration. The program's modular format allows learners to complete a degree without interrupting their careers.

Minimum Admission Requirements
- Normally a B+ average or higher in each of the last two years of an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university. Applicants are strongly advised to have some prior preparation in quantitative courses such as statistics, accounting, and economics.
- Full time relevant work experience.

Program Requirements
- Completion of 10 full-course equivalents (FCE) of which 8.5 FCE are required subjects and which includes a minimum of 1.0 full-course equivalent in a field placement.
- Degree requirements are normally completed within two years.

Courses

Required Courses

All courses are offered in modular format unless marked otherwise.

HAD 5010H   Canada's Health System and Health Policy: Part I
HAD 5020H   Canada's Health System and Health Policy: Part II
HAD 5711H   Theory and Practice of Strategic Planning and Management in Health Services Organization
HAD 5713H   Introduction to Health Information Systems
HAD 5721H   Strategic Management of Quality and Organizational Behaviour in Health Services Organizations
HAD 5723H   Health Services Accounting
HAD 5724H   Quantitative Methods for Health Services Management and Policy
HAD 5725H   Health Economics
HAD 5731H   Advanced Cases in Health Management
HAD 5733H   Health Services Finance
HAD 5741H   Health Law
HAD 5761H   Decision Support Systems in Health Care
HAD 5767H   Health Services Marketing
HAD 5769H   Human Resources Management in the Health Field
HAD 5770H   Program Planning and Evaluation
HAD 6010Y   Required MHSc Practicum (Credit/No Credit)
HAD 6011H   Optional Practicum Extension (Credit/No Credit)

Elective Courses

(non-modular electives may be taken subject to program approval)
HAD 5714H   Strategic Uses of Health Information
HAD 5765H   Case Studies in Health Policy
HAD 5774H   Comparative Health Care Systems
HAD 5775H   Competition, Cooperation and Strategy in Health Care

Combined Master of Health Science/Master of Nursing Program in Health Administration and Nursing Science

The Combined Master of Health Science/Master of Nursing Program in Health Administration and Nursing Science provides students with a strong interest in both nursing and health administration an opportunity to engage in an integrated program leading to the concurrent receipt of the MHSc and MN degrees.

Minimum Admission Requirements
- Applicants gain independent admission to the Department of Health Policy, Management and Evaluation and to the Faculty of Nursing. Meeting the minimum requirements does not guarantee admission.

- University of Toronto BSc degree in Nursing or a degree from an equivalent program in a recognized university. Minimum B+ standing over the last two years of undergraduate study. The applicant is expected to have good academic standing in non-nursing as well as nursing subjects.
- Successful completion of an introductory course in statistics prior to admission.
- At least three years of work experience in the health care field.

Program Requirements
- Year 1 - Students enrol in Nursing and complete 4.0 full-course equivalents (FCE) for the MN degree.
- Year 2 - Students enrol in HPME and complete a total of 6.5 FCE: 5.5 FCE in MHSc in Health Administration courses plus 1.0 FCE in electives that can be taken from HPME or Nursing.
- Year 3 – 1.0 FCE taken in HPME.

Combined Master of Health Science/Master of Social Work Program in Health Administration and Social Work

The Combined Master of Health Science/Master of Social Work Program in Health Administration and Social Work. allows students with a strong interest in both social work and health/social sciences management the opportunity to engage in an integrated program leading to the concurrent receipt of the MHSc and MSW degrees.

Minimum Admission Requirements
- Applicants gain independent admission to the Department of Health Policy, Management and Evaluation and to the Faculty of Social Work. Note that the deadline for receipt of applications to the MHSc program is February 1 and the deadline for the MSW program is December 1.
- A four-year University of Toronto undergraduate degree, or its equivalent, with B+ or better in each of the last two years. Some preparation in quantitative courses such as statistics, accounting, and macro-economics is preferred.
- Normally a Bachelor of Social Work degree or an appropriate four-year University of Toronto bachelor's degree, or equivalent from a recognized university, with at least a mid-B average in the final year of full-time study.
- At least three years of relevant work experience.

Program Requirements
- There are two full-time streams of study:
  o   three-year program for students admitted with a four-year undergraduate degree
  o   two-year program for students with a Bachelor in Social Work degree
- Further details available on the Web site at www.hpme.utoronto.ca/programs/mhsc-msw.htm

Health Informatics

At press time, the Master of Health Informatics program was pending final approval.

The **Master of Health Informatics** is an innovative professional, graduate-level program which provides graduates with the expertise in clinical, information and communication technologies required to lead organizational and health system change. The MHI degree program prepares health informaticians – clinically and technically savvy solution architects – to bridge the gap between clinicians and information and communication technology (ICT) specialists.

Minimum Admission Requirements

- Students are admitted under the general regulations of the School of Graduate Studies.
- Appropriate four year undergraduate degree, or its equivalent, from a recognized university, and demonstrated English language proficiency. Eligible undergraduate degrees include those in a Health Sciences or Social Sciences specialty, Regulated Health Professions in Ontario, or a computer science or information science speciality with the equivalent of a minimum mid-B average in the last academic year. Successful applicants normally have relevant professional experience as a health services professional (e.g., manager or administrator) or health sciences/clinical practitioner with demonstrated basic literacy and/or programming skills in computer applications relevant to the health sector, or a computer or information technician within a health care setting or health software vendor.

Program Requirements

- Course-work only program requires the completion of 10.0 full course equivalents (FCE). There is no thesis requirement.
- Students are required to complete a minimum of 1.5 FCE chosen from a menu of Level One half-courses representing introductory health informatics, knowledge in which they are assessed to be weakest (e.g., introductory computer sciences for health practitioners and/or introductory health/clinical systems and policy for technologists).
- All students then converge as a single cohort in a core module to complete an introductory 1.0 FCE in Health Informatics and 4.0 FCE representing key curricular domains of Health Informatics such as health and clinical systems; information processing; eHealth technologies and systems; measurement, decision analysis and evaluation; project management; knowledge management, and decision support.
- A supervised field placement or practicum (2.0 FCE)
- 1.5 elective FCE.

Management of Innovation

Master of Management of Innovation

The Master of Management of Innovation, designed for students with a background in science and technology, is an accelerated 12-month professional degree for individuals pursuing management careers in technology-focused organizations.

Minimum Admission Requirements

- SGS general regulations.
- Four-year university degree in sciences or engineering, or equivalent from a recognized university. Minimum overall grade point average of B+ or 77-79%, 3.3 on a 4.0 scale over the last two years or 10. full-course equivalents (FCE) of full-time academic study.
- Prerequisites or their equivalents are set by the MMI program.
- A resume.
- Applicants who obtained a degree outside Canada must arrange for GMAT or GRE (General) examination results to be sent to the department.
- An on-site written personal statement.
- Attend an interview conducted with at least two faculty who will evaluate problem solving capabilities and communication skills

Program Requirements

- The 12-month program consists of an intensive 8-month core academic curriculum consisting of:
  - o 4.0 required full-course equivalents (FCE)
  - o 2.0 elective FCE (1.0 FCE per session in each of the fall and winter sessions)
  - o a final capstone course (a group project equivalent to 0.5 FCE) during the final four months of the program
- All requirements must be completed within a minimum of one year of study and a maximum of five years from the date of first enrolment.

Courses

Required Core Courses

MMI 1010H   Prices and Markets
MMI 1020H   Applied Econometrics for Managers
MMI 1030H   Marketing Science
MMI 1050H   Accounting and Negotiations
MMI 1060H   Finance
MMI 1070H   Economics of Business Strategy
MMI 1080H   Management of Technology
MMI 1090H   Technology, Strategy and Policy
MMI 1100H   Capstone Course – Final Group Project

Elective Courses

Students are encouraged to select electives that allow them to focus on their individual areas of interest. For this reason the MMI Program does not impose a selection of electives. Students are free to choose from all

graduate courses across all disciplines at the University of Toronto. All selections are subject to approval in advance by the Program Director and the HPME Chair.

Graduate Faculty

Full Members
Geoff Anderson - BSc, MD, MSc, PhD
G. Ross Baker - BA, MA, PhD
Janet Barnsley - BSc, MSc, PhD
Claire Bombardier - MA, MD, FRCP(C)
Shelley Bull - BMath, MMath, PhD
David Cassidy - BSc, DC, MSc, PhD, Dr Med Sc
Angela Cheung - BA, MD, PhD, FRCP(C)
Rhonda Cockerill - BA, MA, PhD *(Coordinator of Graduate Studies)*
Marsha Cohen - BSc, MHSc, MSc, MD, FRCP(C)
Rebecca Cook - AB, MA, MPA, JD, LLM, JSD
Peter C Coyte - BA, MA, PhD
Tony Culyer, CBE, BA, HonDEcon, HonFRCP, FRSA, FMedSci
David Davis - BA, MD, FCFP, CCFP
Raisa Deber - SB, SM, PhD
Allan Detsky - BS, MD, PhD
Sandra Donnelly - BSc, MSc, MDCM, FRCP(C)
Thomas Einarson - BScPhm, MEd, MPharm, MSc, PhD
Gunther Eysenbach - MD, MPH, IP
Brian Feldman - MSc, FRCPC(R), FRCPC(P), LMCC, MD
Paul Fortin - MD, MPH, FRCP(C)
Richard Glazier - MPH, MD
Vivek Goel - MD, CM, MSc, SM, FRCP(C)
Paula Goering - RN, BSN, MSN, PhD
Brian Golden - BS, MS, PhD
Hugh Gunz - BSc, DPhil, PhD
Mary Hannah - BSc, MS, MDCM
Gillian Hawker - BSc, MD, MSc, FRCP(C)
Sheilah Hogg-Johnson - BSc, BMath, MMath, PhD
D Linn Holness - MHSc, MD
Alejandro Jadad - MD, PhD, FRCP(C)
Murray Krahn - BA, MSc, MD, FRCP(C)
Nancy Kreiger - BA, MPH, MPHIL, PhD
Andreas Laupacis - MSc, MD, FRCPC
Louise Lemieux-Charles - BScN, MScN, PhD *(Chair)*
Kevin Leonard - BComm, MBA, PhD
Hilary Llewellyn-Thomas - BScN, MScN, PhD
Alexander Logan - MD, FRCP(C)
Heather Maclean - BSc, MSc, DipNutr, EdD
John Ross Mclaughlin - MSc, PhD
Fiona Miller, BIS, MA, PhD
Ted Myers - BA, MSc, MSW, PhD
I. Gary Naglie - BSc, MDCM, FRCP(C), ABM
C. David Naylor - MD, DPhil, FRCP(C)
Linda-Lee O'Brien-Pallas - BScN, MScN, PhD, National Research Chair in Nursing Human Resources
Arne Ohlsson - MSc, MD, FRCP(C)
Donald Redelmeier - MS, MD, FRCP(C), De Souza Chair in Trauma Research
Paula Rochon - MD, MPH, FRCP(C)

Andrea Sass-Kortsak - BSc, MHSc, PhD
Therese Stukel - PhD, MAF, BSc (Hon), Math (Magna cum laudae)
Yves Talbot - MD
Ian Tannock - BA, MD, PhD, FRCP, The Daniel E Bersagel Chair in Medical Oncology
Teresa To - BSc, MS, PhD
Mihkel Tombak - BASc, MBA, AM, PhD
Jack Ven Tu - MD, PhD, Canada Research Chair
Ross Edward Upshur - MA, MD, MSc, FRCP(C)
David Urbach - MD, MSc, FRCSC
Elaine Wang - MD, MSc, FRCP(C)
Donald Wasylenki - BA, MSc, MD, FRCP(C)
Paul Williams - PhD
James Wright - MD, MPH, RB Salter Chair of Paediatric Surgical Research
Lionel Trevor Young

Members Emeriti
J Michael Bliss - BA, MA, PhD, FRSC, University Professor
Bernard Dickens - LLB, LLM, PhD, LLD, Dr. William M Scholl Professor Emeritus in Health Law and Policy
John Ef Hastings - MD, DPH, FRCP(C)
Eugene Vayda - MD, FRCP(C), FACP

Associate Members
Shabbir Alibhai, MD, MSc, FRCPC
Upton Allen - MBBS, MSc, FAAP, FRCP(C)
Carlo Ammendolia, DC, PhD
Fredrick Ashbury, PhD
Thomas Astebro - MSc, TECHLIC, PhD
Peter Austin - BSc, MSc, MSc, PhD
Lisa Barbera, BSc, MD, MPA, FRCPC
Nancy Baxter, MD, PHd, FRCSC
Ahmed Bayoumi - MSc, MD, FRCPS
Dorcas Beaton - BSc(OT), MSc, PhD
Whitney Berta - PhD
Andrea Bezjak - BMedSc, MDCM, MSc, FRCP(C)
John Bohnen - MD, FRCSC, FACS
Heather Boon - BScPhm, PhD
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Benjamin Chan, MD, MPH, MPA
Christopher Chan, MD, FRCPC
Alice Charach
Sujit Choudhry - BSc, BA, LLB, LLM
Ruth Mw Corbin - BSc, MSc, MA, PhD
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Colleen Flood - BA, LLB, LLM, SJD
Anna Gagliardi, BSc, BEd, MSc, MLS, PhD
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Paul Gamble - PhD
William Geerts - BSc, BMedSci, MD, FRCP(C), FCCP

Jennifer Gibson, PhD
Julie Gilbert, BSc, MSc, PhD
Sholom Glouberman - BA, PhD
Meredith Goldwasser, BA, ScM, ScD(PhD)
Pamela Goodwin - MSc, MD, FRCP(C), The Marvelle
  Koffler Chair in Breast Research
Denise Guerriere - PhD
Mark Guttman, MD, FRCPC
Jill Hayden, PhD
David Hodgson - MD, MPH, FRCP(C)
Andrew Howard - MD, MSc, FRCS(C)
Pam Hudak, BSc, MSc, PhD
Janet Hux - BSc, MSc, MD, FRCP
Stephen Hwang - MD, MPH, FRCP(C)
Cynthia Jackevicius - BSc, MSc
Susan Jaglal - BSc, MSc, PhD
Sarbjit Vanita Jassal - MD, MB, BCh, BAO(Dist),
  MRCP(UK), MSc
David Juurlink, MD, PhD, FRCPC
Moira Kapral - MSc, MD, FRCP(C)
Mary Kelley, BA, BSW, MSW, PhD
Erin Kennedy, MD, PhD, FRCSC
Kamran Khan, MD, MPH
Alexander Kiss, PhD
Nicol Korner-Bitensky, PhD, OT(c), erg.
Hans Kreder - MD, FRCS(C), MPH
Audrey Laporte - PhD
Elizabeth Lin - BA, MSc, PhD
Mona Loutfy, MD, FRCPC, MPH
Anu MacIntosh-Murray
Andreas Maetzel - MD, MSc, PhD
Nizar Mahomed - MD, ScD
Faith Malach, ,MHSc, MSW, RSW
Muhammad Mamdani, PHARMD, MA, MPH
Douglas Kenneth Martin - BSc, PhD
Brian McCrindle - MD, MPH, FRCP(C), FACC
Allison McGeer - BSc, MSc, MD, FRCP(C)
Leslie Mitchell - MSc
Lynn Moore, MHSc
Laurie Morrison - MD, FRCPC
Michael Murray - BA, MA, PhD
David Naimark - MD, BSc, MSc, FRCP(C)
Robert Nam, MHSc, FRCSC
Paul Nathan, MD, FRCP(C), MSc
Avery Nathens, MD, PhD, MPH, FACS
Eric Nauenberg - PhD, MMP/MH
Lawrence Nestman - BComm, CA, MHsA
Paul O'Connor - MSc, MD
Anthony Otley, MD, MSc, FRCPC
Kenneth Pace, BSc, MD, FRCSC
Valerie Palda - MD, MSc, FRCP(C)
Diane Parker, BA, PhD
Patricia Parkin - BSc, MD, FRCP(C)
Christopher Parshuram, MB, ChB, DPhil, FRACP
Lawrence Paszat - BA, MD, MS, FRCP(C)
Colin Preyra - MSc, PhD
Gaylene Pron - BSc, MSc, PhD
Michael Rachlis - MD, MSc
Darlyne Rath - BScN, MSc
Jolie Ringash - BSc, MSc, MD, FRCP(C)
Gustavo Saposnik, MSc, MD

Carol Sawka - BMSc, MD
Barbara Secker - BA, MA, PhD
Aviv Shachak, MSc, PhD
Baiju Shah, MD, PhD, FRCPC
Shirlee Sharkey, BA, BScn, MHSc, CHE
Sam Shortt, MPA, MD, PhD
Lianne Singer - MD
M Virginia Sinnott
Tina Smith - BSc, MSc
Matthew Stanbrook, MD, PhD, FRCPC
Barbara Starfield (Hottzman)
A. Hillary Steinhart - BA, MD, FRCP(C), MSc
Polly Stevens, BA, MHSc
Padmaj Subbarao, MD, MSc, FRCPC
Terrence Sullivan - BSc, MA, PhD
Gary Teare - DVM, MSc, PhD
George Tolomiczenko - MPH, PhD, CPsych
Wendy Ungar - BA, MSc, PhD
Sunita Vohra, MD, MSc
Paul Wales, MD
Sharon Walmsley - MD, FRCP(C)
Hilary Whyte - MSc, MD, FRCP, FRCP(C)
Donald Willison - BSc,, MSc, ScDesign, ScD
Garcia Wilson-Galhego, MA, PhD
Rory Windrim - MSc, MB, FRCS(C)
Wendy Wobeser - MD, FRCP(C)
Walter Wodchis, BSc, MA, MEcon, PhD
Rebecca Wong - MD
Frances Wright, MD, BSc, MEd, FRCSC
Nancy Young - BSc(PT), MSc, PhD (Adjunct)
David Zakus - BSc, MES, MSc, PhD

History   HIS

Faculty Affiliation
Arts and Science

Degree Programs Offered
History – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Asia-Pacific Studies, see p. 413
   - History, MA
2. Book History and Print Culture, see p. 424
   - History, MA, PhD
3. Editing Medieval Texts, see p. 437
   - History, PhD
4. Ethnic and Pluralism Studies, see p. 445
   - History, MA, PhD
5. International Relations, see p. 458
   - History, MA
6. Jewish Studies, see p. 460
   - History, PhD
7. Sexual Diversity Studies, see p. 469
   - History, MA, PhD
8. South Asian Studies, see p. 471
   - History, MA, PhD
9. Women and Gender Studies, see p. 473
   - History, MA, PhD

Overview
The Department of History offers a broadly diversified program of graduate studies leading to the **Master of Arts** and **Doctor of Philosophy** degrees. The Department has a special strength in gender history, medieval history, transnational history, colonialism, the Americas, Europe, and Russia. Courses are offered in the history of Canada; the United States; Medieval, Early Modern and Modern Europe and Britain; Eastern Europe; Russia; Latin America; Africa; South Asia; East Asia; Southeast Asia; International Relations; the History of Medicine and Women's History. Students may specialize in any of these areas.

The University of Toronto also offers rich resources outside the department to support the study of history. The Robarts Research Library, unrivaled in Canada and among the leading university libraries in North America, provides a foundation for a wide range of study. Specialized collections are located elsewhere in the University including in a number of centres and research institutes. The Center for Medieval Studies and the Pontifical Institute have particularly strong resources for European and British medieval history. The Munk Center for International Studies; the Institute for the History and Philosophy of Science and Technology; the Center of Criminology; the Institute for Urban and Community Studies; as well as the Center for European, Russian, and Eurasian Studies afford additional opportunities for interdepartmental work. The Department participates in a number of interdisciplinary collaborative programs.

Contact and Address
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Department of History
Room 2074, Sidney Smith Hall
University of Toronto
Toronto, Ontario M5S 3G3
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Four-year BA degree from the University of Toronto or a similar program elsewhere with at least a B+ standing.
- Successful completion of at least 6.0 full-course equivalents (FCE) in history. Applicants without adequate history training may be required to complete an appropriate number of undergraduate history courses before being considered for admission. In rare cases, an applicant may be admitted to the MA program but will be required to do one or two courses in addition to the MA program requirements.
- In addition to the School of Graduate Studies online application form, applicants must submit an information form, three letters of recommendation, a 500-word specific research proposal outlining a precise field and area of historical investigation, and a writing sample of no more than 3,000 words.
- Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English must demonstrate facility in the English language through the successful completion of the Test of English as a Foreign Language (TOEFL) with scores of at least:
  - Paper-based TOEFL exam: 600 with 5 on the Test of Written English
  - Computer-based TOEFL exam: 250 with 5 on the essay rating component
  - Internet-based TOEFL exam: 100/120 with 22/30 on the writing and speaking sections.

Program Requirements
- Students usually complete the MA by course work and the HIS 2000Y paper. Some students may elect to complete the MA by course work and thesis.
- After consulting with the graduate coordinator, all MA students are required to take either HIS 1997H or HIS 1201H.

- Students must achieve at least an overall B average in their courses to maintain standing.
- Students must also pass the required reading examination in a language other than English.
- The MA may be undertaken on a part-time basis; however, program requirements must be completed within a maximum of five years.

Course Work and Paper
- 4.5 full-course equivalents (FCE) (of which 0.5 must be either HIS 1997H or HIS 1201H) and the MA essay. Normally, up to 1.0 FCE may be taken outside the Department of History with the approval of the Coordinator of Graduate Studies.
- Full-time MA students are expected to complete all degree requirements within 12 months of entering the program.

Course Work and Thesis
- 2.0 FCE (of which 0.5 must be either HIS 1997H or HIS 1201H) and present an MA thesis.
- The thesis MA might take longer than the course MA. The thesis must be presented within five years of entering the program.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants may enter the PhD program via one of two routes:
  - Normally, with an **MA degree in history** or its equivalent with an A- average or better.
  - Exceptional students may be admitted by **direct entry** to the PhD program from the BA with an A- average or better,
- Applicants must satisfy the Department of their ability to do independent research at an advanced level.
- In addition to the School of Graduate Studies online application form, applicants must submit an information form, three letters of recommendation, a 500-word specific research proposal outlining a precise field and area of historical investigation, and a writing sample of no more than 6,000 words.
- Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English must demonstrate facility in the English language through the successful completion of the Test of English as a Foreign Language (TOEFL) with scores of at least:
  - Paper-based TOEFL exam: 600 with 5 on the Test of Written English
  - Computer-based TOEFL exam: 250 with 5 on the essay rating component
  - Internet-based TOEFL exam: 100/120 with 22/30 on the writing and speaking sections.

Program Requirements
- **Course work.**
  - With **MA degree in history**: 2.0 full-course equivalents (FCE) with a B+ average throughout course work.
  - By **direct entry**: 4.0 FCE, one of which should be HIS 1997H. Students must maintain an A- average in their first 2.0 FCE in order to continue in the program.
- **Residence requirement**. PhD students are required to be in residence until they have passed their field examinations but no longer than a period of two years. Students must be in such geographical proximity as to be able to visit the campus regularly and participate fully in the University's activities associated with the program.
- **Comprehensive examinations** in three approved fields of history. At the beginning of their programs, students consult with the Coordinator of Graduate Studies to determine their fields. Three fields are required: a major and two minors. The major should coincide with the subject area that the student has chosen for the thesis, and the two minors should be in different areas. The comprehensive field examinations consist of a written examination in each field and a common oral examination covering all three fields.
- **Language requirements** vary with the student's major area of study. If not already so qualified, a student must qualify in one language other than English and may be asked to qualify in other program-related languages.
- **Thesis**. When all of the above requirements are completed, the candidate will proceed to write the PhD thesis and defend it at a final oral examination.
- **Time to Completion**. Although it is possible to complete these requirements within four years, in most cases it will take longer. The thesis must be presented within six years of first enrolment in the PhD program.

Courses

Not all courses are offered every year. Please consult the Department's list of current course offerings.

HIS 1004H	History and Biopolitics
HIS 1006H	Historiography "From Below": Comparative and Critical Perspectives
HIS 1009H	Colonial Governmentality: Governing Economy and Culture
HIS 1010H	History by Numbers: The Uses and Misuses of Quantitative Evidence in History
HIS 1015H	Colonial Encounters and Postcolonial Theory
HIS 1016H	Readings in the History of Gender and Sexuality
HIS 1020H	Cultural Theory/Cultural History

HIS 1026H   Modernity and Its Others: History and Postcolonial (joint graduate/undergraduate)
HIS 1030H   Oral History: Theory, Methods, Practice
HIS 1035H   Historiography and Film Studies (joint graduate/undergraduate)
HIS 1036H   Early Cinema
HIS 1101H   Race and Gender in the Northern Colonies of North America
HIS 1104H   Natives and Empires: Colonial History of the Americas, 1492-1800
HIS 1105H   Colonial North America, 1600-1783
HIS 1106H   Topics in Canadian Social History
HIS 1107H   Religion, Culture and Society in Canada (joint graduate/undergraduate)
HIS 1109H   Readings in Canadian History
HIS 1111H   Topics in North American Environmental History (joint graduate/undergraduate)
HIS 1112H   Canada in Comparative Contexts, Gender, Labour, Migration
HIS 1113H   Politics and Society in North American History
HIS 1114H   Indigenous Histories in North America
HIS 1142Y   Canadian Foreign Relations, 1940-2003 (joint graduate/undergraduate)
HIS 1164H   Irish Migration to Canada: Sources and Methods
HIS 1201H   The Materials of Medieval History (Credit/No Credit)
HIS 1207H   Pastoralia: The Medieval History of Pastoral Care
HIS 1208H   Writings of Robert Grosseteste
HIS 1209H   The Anglo-Saxons
HIS 1210H   Gregory of Tours and the Sixth Century
HIS 1213H   Medieval Institutes of Perfection (joint graduate/undergraduate)
HIS 1214H   The Merovingians
HIS 1215H   Social Change in Medieval England, 1154-1279
HIS 1218H   The Mediaeval Church (joint graduate/undergraduate)
HIS 1220H   Mediaeval Canon Law (joint graduate/undergraduate)
HIS 1221H   Topics in Early Modern European Social History
HIS 1222H   Ritual in Renaissance and Early Modern Europe
HIS 1223H   Humanism and the Renaissance
HIS 1230H   The Sexes in the Western World, 1450-1650
HIS 1231H   Topics in French History
HIS 1232H   European Colonialism, 1870-1970: A Comparative History
HIS 1233H   Colonial Urbanism in the Mediterranean World, 1800-1950
HIS 1234H   Readings in Early Modern French History
HIS 1235H   History in/of the Mediterranean: From Braudel to Post-Colonialism
HIS 1245H   Gender, Men and Women in Europe 1500-1900

HIS 1265H   Atrocities and Memory in Postwar Europe and North America
HIS 1267H   Nationalism
HIS 1268H   The Holocaust and World War II
HIS 1269H   The Social History of Medicine in the Nineteenth and Twentieth Centuries (joint graduate/undergraduate)
HIS 1270H   History of Psychiatry and Psychiatric Illness (joint graduate/undergraduate)
HIS 1271H   Modern Political Trials
HIS 1272H   Topics in Twentieth-Century European History
HIS 1275H   Imperial Germany, 1871-1918
HIS 1276H   The Third Reich and the Holocaust
HIS 1277H   Topics in Jewish History
HIS 1278H   Topics in Twentieth-Century German History
HIS 1279H   World War II in East Central Europe (joint graduate/undergraduate)
HIS 1280Y   History and Soviet Cinema (joint graduate/undergraduate)
HIS 1281H   History of Real Socialism
HIS 1282H   Totalitarian Culture
HIS 1283H   Crusades, Conversion and Colonization in the Medieval Baltic (joint graduate/undergraduate)
HIS 1284H   The Baltic World
HIS 1285Y   The Ukrainian National Revival (joint graduate/undergraduate)
HIS 1286H   Categories of Imperial Russian Social History
HIS 1287H   Polish Jews Since the Partitions of Poland (joint graduate/undergraduate)
HIS 1288H   The Age of Experiments (joint graduate/undergraduate)
HIS 1289H   The Cold War Through Its Archives
HIS 1290H   Topics in Imperial Russian History
HIS 1291H   Topics in Russian and Soviet Social History (joint graduate/undergraduate)
HIS 1292H   The Russian Revolution (joint graduate/undergraduate)
HIS 1293Y   Kievan Rus' (joint graduate/undergraduate)
HIS 1294H   In the Soviet Archives: Text and History (joint graduate/undergraduate)
HIS 1295H   Soviet History Seminar
HIS 1296H   Stalinism and After: Beyond Cold War History
HIS 1297H   Problems of National Survival in Eastern Europe Since 1848 (joint graduate/undergraduate)
HIS 1299H   Topics in Russian Intellectual History
HIS 1411H   Theory and Practice in Early Modern British History
HIS 1425H   British Social Realism and Cinema
HIS 1435H   Studies in Victorian Society
HIS 1440H   Irish Nationalism in Canada and the United States (joint graduate/undergraduate)
HIS 1519H   Thinking of Diversity: Historical Perspectives on American and Canadian Pluralisms

HIS 1522H   Topics in Twentieth-Century U.S. History:
                    Transnational Commodity Culture
HIS 1524H   Topics in the History of Black America
HIS 1530H   Readings in Twentieth Century American
                    Foreign Policy
HIS 1531H   American Political History Since 1877
HIS 1532H   American Foreign Policy in the Cold War
HIS 1533H   Gender and International Relations (joint
                    graduate/undergraduate)
HIS 1535H   Readings in International Relations History
HIS 1538H   Research in U.S. History
HIS 1539H   Film Comedy and Popular Culture
HIS 1540H   Cultures of American Capitalism
HIS 1543H   Topics in Material Culture
HIS 1545H   Race, Segregation and Protest: South
                    Africa and the United States
HIS 1550H   Atlantic Labour Migrations
HIS 1555H   Gender and Slavery in the Atlantic World,
                    Seventeenth to Nineteenth Century
HIS 1630H   Appeasement
HIS 1632H   International Relations Field Seminar
HIS 1637H   Culture and the Cold War (joint
                    graduate/undergraduate)
HIS 1663H   Gender in East and Southeast Asia
HIS 1664H   Religion and Society in Southeast Asia
HIS 1665H   Gender and History in Colonial South Asia
HIS 1667H   Transnational Gender Histories
HIS 1677H   Empire and Nation in Modern East Asia
HIS 1678H   War and Memory in Twentieth-Century
                    East Asia
HIS 1701H   Religion, Society and Empire in the
                    Colonial Spanish Americas, 1492-1800
HIS 1704H   Latin America in the Age of Independence
HIS 1705H   Africa: Writing, Colonialism and Memory
HIS 1706H   Decolonizing Research Methodologies
HIS 1707H   Topics in African History
HIS 1708H   Labour in the Age of Imperialism
HIS 1709H   Conversion and Christianities in the
                    Early Modern Spanish World(joint
                    graduate/undergraduate)
HIS 1710H   Comparative Slavery in the Caribbean and
                    Latin America
HIS 1784H   The Islamic Revolution
HIS 1997H   The Practice of History (Credit/No Credit)
HIS 1998H,Y Reading Course
HIS 1999H,Y Reading Course
HIS 2000Y°   Directed Research
JBP 2230H   Topics in International Politics
JHP 1289Y   Twentieth Century Ukraine
                    (joint graduate/undergraduate)
JHP 1631H   Intelligence and International Relations
JHP 2231H   The History and Philosophy of International
                    Relations Thought
JHP 2301Y   Linguistic and Cultural Minorities in Europe
                    (joint graduate/undergraduate)

° Courses which may continue over a program. The course is graded
   when completed.

Courses in Other Departments Taught by History Faculty

COL 5027H   Memory, Trauma, and History
COL 5044H   A Journey from Petersburg to Los Angeles
MST 1110H   Diplomatics and Diplomatic Editing
MST 1120H   Literacy in Early Medieval Europe
MST 3201H   Medieval Social History
MST 3205H   Violence in Medieval Society (joint
                    graduate/undergraduate)
MST 3225Y   Jews and Christians in Medieval
                    and Renaissance Europe
                    (joint graduate/undergraduate)
MST 3242H   The Carolingians and the Birth of Europe
MST 3243H   Dark Age Italy
MST 3262H   Monastic Identities
MST 3265H   Hagiographies

Other Departments

Students may take courses from other depart-
ments for graduate history credit with permission of the
Graduate Coordinator. Interested students should con-
sult the appropriate calendar entries and departmental
Web sites for current course offerings.

Graduate Faculty

Full Members
L Jane Abray - BA, MA, MPh, PhD
Sidney Aster - BA, MA, PhD
Robert Austin - BA, MA, PhD
Kenneth Bartlett - BA, MA, PhD
Daniel Eric Bender - MA, PhD, Canada Research Chair
Doris Bergen - BA, MA, PhD
Ritu Birla - BA, MA, MPhil, PhD
Peter Blanchard - BA, PhD
Heidi Bohaker - BA, MA, PhD
Robert Bothwell - BA, AM, PhD, FRSC
Elspeth Brown - BA, MPhil, MA, PhD
Carol Chin - BA, MA, PhD
Isabelle Cochelin - BSc, BA, MA, DEA, PhD
Paul Cohen - BA, MA, PhD
E Wayne Dowler - BA, AM, PhD
Modris Eksteins - BA, BPhil, DPhil
Nicholas Everett - BA, PhD
Michael Gervers - AB, MA, PhD
Joseph Goering - BA, MAR, MA, MSL, PhD
Allan Greer - BA, MA, PhD
Bert Hall - BA, PhD
Eric Halpern - BA, MA, PhD
Sean Hawkins - BA, MA, PhD, FCCS
Adrienne Hood - BA, MA, PhD
Franca Iacovetta - BA, MA, PhD
John Ingham - BA, MA, PhD
Jennifer Jenkins - BA, MA, PhD
Eric Jennings - BA, MA, PhD
Robert Johnson - BA, MA, PhD
Malavika Kasturi - BA,MPHIL,MA,PHD
Ken Kawashima - BA,MA,PHD
Russell Kazal - BA, MA, PhD

Charles Keil - BA, MA, PhD
Bruce Kidd - BA, AM, MA, PhD, OC
Robert King
Juri Kivimae - BA, PhD
Thomas Lahusen - BA, MA, PhD
Tong Lam - BsC, MA, PhD
Janis Langins - BEng, MA, MEng, PhD
Lori Loeb - BA, MMSt, PhD
Laurel MacDowell - BA, MSc, PhD
Margaret MacMillan - BA, BPhil DPhil
Paul Magocsi - AB, MA, MA, PhD, FRSC
Michael Marrus - BA, MA, PhD, FRHistS, FRSC,
  Chancellor Rose and Ray Wolfe Professor of Holocaust
  Studies
Mark McGowan - BA, MA, PhD
Mark Meyerson - BA, MA, PhD
Kenneth Mills - BA, MA, DPhil
Cecilia Louise Morgan - BA, MA, PhD
Jennifer Mori - BA, DPhil
Michelle Murphy - BA, PhD
Alexander Murray - BA, PhD
Nakanyike Musisi - PhD
Melanie Newton - BA, MA, DPhil
Janet Noel - BA,MA,PhD
Steven Penfold - BA, MA, PhD
Derek Penslar - BA, MA, PhD
James Phillips - MA, LLB, PhD
Ronald Pruessen - BA, MA, PhD
Ian Radforth - BA, MA, PhD
James Retallack - BA, DPhil
Stephen Rockel - BA, MA, PhD
Jill Ross - BA, MA, PhD
Andrew Rossos - BA, MA, PhD
Natalie Rothman - MA, PhD
Paul Rutherford - BA, MA, PhD
Andre Schmid - BA, MA, PhD
Edward Shorter - BA, MA, PhD, FRSC
Giulio Silano - BA, BEd, LLB, MA, PhD
Alison Smith - BA, MA, PhD
Denis Smyth - BA, PhD, FRHistS
Ashwini Tambe - BA, MS, PhD
Mohamad Tavakoli-Targhi - BA, MA, PhD
Nicholas Terpstra - BA, MA, PhD
Barbara Todd - BA, MA, PhD
Nhung Tran - BA, MA, PhD
Harold Troper - BA, MA, PhD
Lynne Viola - BA, MA, PhD
Wesley Wark - BA, MA, PhD
Michael Wayne - BA, PhD
Derek Williams - BA,MA,PhD
David Wilson - BA, MA, PhD, FRHS
Rebecca Wittmann - BA,MA,PhD
Piotr Jan Wrobel - MA, PhD

Members Emeriti
Robert Accinelli - BA, MA, PhD
John Beattie - BS, MA, PhD, FRSC, University Professor
  Emeritus
Carl Berger - BA, MA, PhD, FRSC
William Berman - BA, MA, PhD

J Michael Bliss - BA, MA, PhD, FRSC, University
  Professor
Robert Craig Brown - BA, MA, PhD FRSC
John Brownlee - BA, MA, MPh
William Callahan - AB, MA, PhD
Ramsay Cook - BA, MA, PhD, OC, FRSC
Natalie Davis - BA, MA, PhD, FAmAcAs, CFBrAc
Julian Dent - BA, MA, PhD
Harvey Dyck - BA, MA, PhD
James Estes - PhD
Michael Finlayson - BA, MA, PhD
Walter Goffart - AB, AM, PhD, FMAA, FRHistS, FRSC
Paul Grendler - BA, MA, PhD
Richard Helmstadter - BA, MA, PhD
David Higgs - BA, MA, PhD
Milton Israel - BA, MA, PhD
Martin Klein - BS, MA, PhD
Jacques Kornberg - BA, PhD
Trevor Levere - BA, MA, DPhil, DLitt, FRSC
Trevor Lloyd - BA, MA, PhD
Desmond Morton - BA, MA, PhD, FRSC, OC
Wendy Nelson - BA, MA, PhD
David Raby - BA, PhD
Ian Robertson - BA, MA, PhD
Ann Robson
Sylvia Van Kirk - BA, MA, PhD
Narendra Wagle - BA, MA, PhD

Associate Members
Jens Hanssen - BA, MPhil, DPhil
Hui Kian Kwee
Shafique Virani - BA,MA,PhD
William Walker III - BA, MA, PhD
William Young - BA, MA, PhD

History and Philosophy of Science and Technology   HPS

Faculty Affiliation
Arts and Science

Degree Programs Offered
History and Philosophy of Science and Technology – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Book History and Print Culture, see p. 424
   - History and Philosophy of Science and Technology, MA, PhD

Overview
The Institute for the History and Philosophy of Science and Technology (IHPST) offers two degree programs: **Master of Arts** and **Doctor of Philosophy**. The Institute conducts research, offers advanced studies programs, and serves as a focus for University-wide interest in its field.

Courses are open to all graduate students and are suitable complements for specialists in science or the humanities. Students participate in the IHPST colloquia, which are open to the University community.

Admission is highly selective and competitive. Acceptance is based on a combination of grades, references, academic and professional accomplishments, and areas of interest. All the forms required for application, including the standard application form, can be downloaded from the Institute's Web site. The Web site also contains detailed instructions for completing applications. Applications must be accompanied by transcripts, a statement of interest, and letters of reference. A writing sample is not required, but is recommended. Application deadline is February 1. Applicants who wish to take one or more of the courses offered by the Institute as non-degree students should apply for admission as Special Students. The application procedures are the same as for those of the MA program, but the deadline for applications is May 1.

Contact and Address
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Institute for the History and Philosophy of Science and Technology
Old Victoria College
Room 316, 91 Charles Street West
University of Toronto
Toronto, Ontario M5S 1K7
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- General regulations of the School of Graduate Studies.
- Four-year University of Toronto bachelor's degree, or its equivalent from a recognized university with an average grade of at least B+ in the final two years of undergraduate work.
- Applicants whose primary language is not English and who are not graduates of a university whose language of instruction is English must submit results of the Test of English as a Foreign Language (TOEFL) and (Test of Written English (TWE) with the following minimum scores:
  - Paper-based TOEFL: 580 and 5 on the TWE
  - Computer-based TOEFL: 237 and 5 on the essay-rating component
  - Internet-based TOEFL: 93/120 and 22/30 on the writing and speaking sections

Program Requirements
- Minimum of 3.5 full-course equivalents (FCE). Among these, each student must take either:
  - 1.5 FCE History of Science Fundamentals courses (HPS 5000 series) and 1.0 FCE Philosophy of Science courses (History of Science Stream) **or**
  - 1.5 FCE Philosophy of Science courses and 1.0 FCE History of Science Fundamentals courses (HPS 5000 series) (Philosophy of Science Stream)
- The balance of the curriculum is arranged in consultation with the student's faculty instructors and the guidance of the Director of Graduate Studies. Students make choices consistent with a commitment to either a History of Science Stream or a Philosophy of Science Stream.
- Reading knowledge of at least one foreign language relevant to area of interest (normally French or German). Language instruction courses are not counted in the 3.5 FCE required for the degree.
- Full-time MA students normally complete all program requirements in the Fall and Winter sessions. Part-time students must complete all program requirements within five academic years.

Doctor of Philosophy

Minimum Admission Requirements
- General regulations of the School of Graduate Studies.
- One of:
  - a **four-year University of Toronto bachelor's degree**, or its equivalent from a recognized university, with an average grade of at least a B+ in the applicant's overall program and of at least an A- in the applicant's final two years of study, or

o   a **University of Toronto master's degree in history and philosophy of science**, or its equivalent from a recognized university, with an average grade of at least an A- in the applicant's program and with no individual grade less than B+. While the majority of accepted students exceed this standard, the very broad scope of the field and the variety of fruitful approaches to it also imply that many different backgrounds are appropriate.

Program Requirements

- Students admitted on the basis of a **four-year bachelor's degree** must complete 6.5 full-course equivalents (FCE).
- Students admitted on the basis of a **master's degree** in History and Philosophy of Science must take a minimum of 3.0 FCE. A student whose MA degree does not exhibit sufficient breadth is required to take additional courses.
- All students must include at least 0.5 FCE from each of the following three historical periods: pre-renaissance (Classical Antiquity to 1400 A.D.); Renaissance (1400 AD) to end of the eighteenth century; beginning of the nineteenth century to the present. The breadth requirement may be met with courses in either the History of Science Stream or the Philosophy of Science Stream.
- The balance of the student's curriculum is arranged in consultation with the student's faculty instructors and is subject to the overall guidance of the Director of Graduate Studies. Students make choices consistent with a commitment to either a History of Science Stream or a Philosophy of Science Stream.
- Satisfactory reading knowledge of at least two foreign languages relevant to the student's area of interest (normally French and German). Language instruction courses are not counted among the 6.5 FCE required for the PhD.
- Proposal for an extended research paper (required for HPS 2000Y). Students are responsible for ensuring that they have an appropriate supervisor. All supervision arrangements are reviewed and approved by the Director of Graduate Studies who assists in the search for a supervisor, if necessary. Proper supervision is a prerequisite for continuation in the program.
- All required courses, including HPS 2000Y, should be completed by the end of the student's second post-bachelor year. In general, all students should maintain a cumulative average of at least A- with no individual grade less than B+. In addition, all students should receive at least an A- on the HPS 2000Y research paper. Students falling below these standards may be recommended for termination from the program.
- Pass a qualifying examination in areas related to the field of expected research. Examination is conducted by the student's Supervisory Committee, normally three faculty members.

- Thesis proposal approved by the student's thesis Supervisory Committee and the Director of Graduate Studies.

Courses

Not all courses are offered every year. Consult the Institute regarding course offerings.

History and Philosophy of Science and Technology

HPS 1000Y   Individual Reading and Research
HPS 1001H   Individual Reading and Research
HPS 1002H   Individual Reading and Research
HPS 1003H   Individual Reading and Research
HPS 1005H   Historical Topics in Scientific Methodology
HPS 1006H   Historical Introduction to the Sociology of Scientific Knowledge
HPS 1015H   The Scientific Revolution: Galileo to Newton
HPS 1017H   Topics in the History of Physics in the Eighteenth and Nineteenth Centuries
HPS 1018H,Y Topics in the History of Technology
HPS 1019H   History of Systematics
HPS 1020H   History of Evolutionary Biology
HPS 1021H   The Intellectual Context of Nineteenth-Century Science
HPS 1022H   Religion and Science on Human Sexuality
HPS 1024H   History of Physiology
HPS 1025H   History of Immunology
HPS 1026H   Body, Medicine, and Society in Early Modern Europe
HPS 1027H   Chemistry from Lavoisier to Mendeleev
HPS 1029H   The Invention of Modern Biology
HPS 1030H   Newton and Mechanics
HPS 1036H   History of Engineering
HPS 1037H   Science in Canadian History
HPS 1038H   Topics in the History of Chemistry, 1600-1950
HPS 1041H   History of Medical Microbiology
HPS 1042H   The Biology of Death: Experimental Biology and Experimental Medicine, 1860-1940
HPS 1043H   Science in the Renaissance
HPS 1044H   Biology and Human Nature
HPS 1045H   Human Genetics and the Eugenics Movement
HPS 1046H   Teleology, Adaptation and Design
HPS 1050H   Topics in Ancient Greek and Scientific Revolution Mathematics
HPS 1052H   The Emergence of Modern Mathematics in the Eighteenth and Nineteenth Centuries
HPS 1060H   History of Psychology
HPS 1101H   Philosophy Applied to History of Science
HPS 1102H   Laws of Nature
HPS 1103H   Complexity, Reduction and Emergence in Contemporary Biology
HPS 1104H   Topics in the Philosophy of Science: Models, Truth, and Representation
HPS 1105H   Philosophy of Medicine

HPS 1106H History and Philosophy of the Social
              Sciences
HPS 1107H Topics in Philosophy of Science:
              Empiricism
HPS 1108H Philosophy of Physics
HPS 1109H Philosophy of Probability
HPS 1214H Studies in Ancient and Medieval Science
HPS 1215H Medieval Technology and Society
HPS 1217H Technology and War: 1090-1918
HPS 1500H+ Research Paper
HPS 2000H Research Paper
HPS 3000H Historiography of Science and Technology
HPS 5001H Fundamentals of the History of
              Mathematics
HPS 5002H Fundamentals of the History of Physics
HPS 5004H Fundamentals of the History of Chemistry
HPS 5005H Fundamentals of the History of Biology
HPS 5006H Fundamentals of the History of Medicine
HPS 5007H Fundamentals of the History of
              Technology I
HPS 5008H Fundamentals of the History of
              Technology II
HPS 5009H Fundamentals of the History of Astronomy
HPS 5010H Fundamentals of the Philosophy of
              Science
HPS 5011H Fundamentals of the History and
              Philosophy of Science and Technology
JPH 2192H Philosophy of Science
JPH 2194H Topics in History of the Philosophy of
              Science

Outside Courses of Possible Interest
    Check with individual departments for course avail-
ability during the academic year.

Book History and Print Culture
BKS 1000Y Book History and Print Culture
BKS 2000H Advanced Seminar in Book History and
              Print Culture
BKS 2001H Practicum in Book History and Print Culture

Classics
CLA 5013H Studies in Ancient Science

History
HIS 1269H The Social History of Medicine in the
              Nineteenth and Twentieth Centuries
HIS 1270H History of Psychiatry and Psychiatric
              Illness
    See Department of History entry for more course
offerings.

McLuhan Program in Culture and Technology
(C&T courses offered only if there is sufficient enrolment)
C&T 1004H Communications in History, Theory,
              Technology
C&T 1007H Perspective and Design in the Twentieth
              Century

+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

Philosophy
PHL 2040H Medieval Philosophy
PHL 2045H Late Medieval Philosophy
PHL 2051H The Rationalists
PHL 2055H The Empiricists
PHL 2057H Seminar in Seventeenth-Eighteenth
              Century Philosophy
PHL 2062H Kant's Critique of Pure Reason
PHL 2093H Fege
PHL 2095H Wittgenstein
PHL 2111H Seminar in Epistemology
PHL 2124H Seminar in Logic
PHL 2145H Bioethics
PHL 2190H Philosophy of Language
PHL 2195H Philosophy of Biology
PHL 2196H Topics in the Philosophy of Science
PHL 2199H Seminar in the Philosophy of Science

Graduate Faculty

Full Members
Brian Baigrie - BA, MA, PhD
Joseph Berkovitz - BSc, MA, PhD
James Brown - BA, MA, PhD
Anjan Chakravartty - BSc, MA, MPhil, PhD *(Coordinator
  of Graduate Studies)*
Michael Chazan - BA, MA, PhD
Lucia Dacome - PhD, MPhil, BA
Yiftach Fehige - Diploma in Theology, MA, PhD
Craig Fraser - BA, MA, PhD
Brendan Gillon - BA, MA, MA, PhD
Yves Gingras - BSc, MSc, PhD
Nicholas Griffin - BA, PhD
Bert Hall - BA, PhD
James Hull - BSC, MA, PHD
Ingrid Hehmeyer - MSc, MSc, PhD
Alexander Jones - BA, PhD, FRSC
Nikolai Krementsov - Candidate of Sciences
Janis Langins - BEng, MA, MEng, PhD
Bernard Lightman - BA, MA, PhD
Mohan Matthen - BSc, MA, PhD, Canada Research Chair
Margaret Morrison - BA, MA, PhD
Michelle Murphy - BA, PhD
Mark Rosenberg - BA, MSc, PhD
Jan Sapp - BSc, MSc, PhD
William Edward Seager - BA, MA, PhD
Edward Shorter - BA, MA, PhD, FRSC
Ingrid Stefanovic - BA, MA, PhD
Paul Thompson - BA, MA, PhD *(Director)*
Ross Edward Upshur - MA, MD, MSc, FRCP(C)
Maria Vicedo Castello - BA, MA, PhD, PhD
Faith Wallis - PhD, MLS, MA, BA
Denis Walsh - BSc, PhD, BA, MPhil, PhD, Canada
  Research Chair
David Wolfe - BA, MA, PhD
Chen-Pang Yeang - PhD, ScD, SM, BS
Suzanne Zeller - BA, MA, PhD

Members Emeriti
Edward Barbeau - BA, MA, PhD
Ronald De Sousa - BA, PhD, FRSC
Daniel Goldstick - BA, BPhil, DPhil
Trevor Levere - BA, MA, DPhil, DLitt, FRSC
Pauline Mazumdar - MSc, MD, PhD
Alasdair Urquhart - MA, PhD
Mary Winsor - AB, MPh, PhD

Associate Members
Mark Solovey - BA, MA, MA, PhD

Human Development and Applied Psychology   HDP

Faculty Affiliation
Ontario Institute for Studies in Education

Degree Programs Offered
Child Study and Education - MA
Developmental Psychology and Education - MA, MEd, PhD
School and Clinical Child Psychology - MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Developmental Science, see p. 434
   - Developmental Psychology and Education, MA, PhD
   - School and Clinical Child Psychology, MA, PhD
2. Neuroscience, see p. 466
   - Developmental Psychology and Education, MA, PhD
   - School and Clinical Child Psychology, MA, PhD

Overview
The Department of Human Development and Applied Psychology currently offers three graduate programs:
1. Child Study and Education
2. Developmental Psychology and Education
3. School and Clinical Child Psychology

Consult the OISE/UT Bulletin for further details of all graduate programs, including admission requirements, program requirements, and descriptions of programs as well as for information about financial support for students.

Students may begin the MEd program in Developmental Psychology and Education in September, January, or July, but all other programs in the Department commence in September.

Note: The department strongly discourages student requests to transfer between programs.

Contact and Address
Web: hdap.oise.utoronto.ca
Telephone: (416) 978-0917
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Department of Human Development and Applied Psychology
The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Child Study and Education
The MA in Child Study and Education program is offered at the Institute of Child Study (ICS), a centre of professional teacher training and research in childhood and education, which includes a Nursery through Grade 6 Laboratory School. Eligible graduates are recommended to the Ontario College of Teachers for an Ontario Teachers Certificate of Qualification, which qualifies the holder to teach in the primary and junior divisions of Ontario schools. Graduates are also recommended for Part 1 of the three-part qualification in Primary Education and are eligible for Part 2 of the three-part qualification in Primary Education following one year's successful teaching experience.

The philosophy of the program is based on the belief that successful teaching requires an understanding of how children's capacities, concerns, and behaviour change with age; how individual differences reflect developmental changes; and how social and physical environments influence children's development.

The program introduces students to educational and developmental theory and research relevant to educational settings, showing how this research can inform classroom practice. Students also learn how to objectively study children, using both practical assessment and formal methods of inquiry. These areas of knowledge combined with knowledge of effective teaching methods and learning environments result in educational practices that build on children's current levels of development.

Master of Arts

Minimum Admission Requirements
- Undergraduate studies equivalent to a University of Toronto four-year bachelor's degree with a mid-B or better in the final year.
- Applicants are also expected to have experience working with groups of children, preferably in responsible positions.
- Normally an interview is required prior to admission.

Program Requirements
- Two years of full-time study. 8.0 full-course equivalents (FCE), including practicum placements and an internship as follows.
- **Year 1**
  - HDP 2200Y Child Study: Observation, Evaluation, Reporting, and Research
  - HDP 2201H Childhood Education Seminar I
  - HDP2220H Teaching Practicum
  - HDP 2210Y Introduction to Curriculum I: Core Areas
  - 1.0 elective FCE (equivalent to two half-courses)
  - Four 6-week half-day placements in kindergarten/early childhood, Grade 1-3, and Grade 4-6. A fifth placement is optional for those who would like more experience.

- o Registration in Year 2 of the program is contingent on successful completion of all Year 1 work
- **Year 2**
  - o HDP 2211H Theory and Curriculum I: Language and Literacy
  - o HDP 2212H Theory and Curriculum II: Mathematics
  - o HDP 2214H Introduction to Curriculum II: Special Areas
  - o 0.5 elective FCE. During the internship session of Year 2, students are required to take HDP 2221Y Advanced Teaching Practicum, HDP 2202H Childhood Education Seminar II: Advanced Teaching, and 0.5 elective FCE
  - o 3.5 month full-time internship in an elementary classroom
- In both years, electives may be chosen from among master's level courses in the Department of Human Development and Applied Psychology and, in some cases, other departments. Elective courses that are especially recommended to students are listed in the Human Development and Applied Psychology Program Guidelines.
- Students wishing to qualify for Part 1 of the three-part qualification in Special Education complete at least one 6-week placement in a special education setting and take course HDP 2280H Introduction to Special Education and Adaptive Instruction, HDP 2292H Assessment for Instruction, or another special education course approved by their advisor.
- Students planning further graduate study in the foreseeable future are advised to undertake a Qualifying Research Paper (QRP) normally under the supervision of a qualified ICS faculty member.

Developmental Psychology and Education

The Developmental Psychology and Education program offers studies leading to the MA, MEd, and PhD degrees. Students have an opportunity to construct an overall perspective on developmental psychology and human development and their implications for practice with children in educational and other applied settings.

Students take foundation courses in human development and research methodology. Elective courses cover a range of areas including cognitive, social and emotional development; cognition and instruction (language, literacy, and mathematics); special education and adaptive instruction; developmental neuroscience; advanced research methodology and evaluation; and early childhood policy and programs, including child care. The MA and PhD programs are designed for students wishing to pursue an academic or research-based career. The MEd program is designed for the reflective teacher or other practitioner in education or related fields.

Master of Arts

Minimum Admission Requirements
- Preparation equivalent to a University of Toronto four-year bachelor's degree with A- or better. Although most applicants will have a degree in Psychology, applicants with a four-year bachelor's degree in another discipline relevant to their specific program of study are also eligible to apply for admission.
- In addition to the required letters of recommendation, applicants are requested to submit a second academic letter of recommendation.

Program Requirements
- The MA program is normally undertaken on a full-time basis and completed in one year.
- 3.0 full-course equivalents (FCE) plus a thesis. Courses should be chosen in consultation with the advisor.
  - o HDP 1209H Research Methods and Thesis Preparation in Human Development and Applied Psychology.
  - o HDP 1288H Intermediate Statistics and Research Design.
  - o HDP 2252H Individual Reading and Research in Human Development and Applied Psychology: Master's Level.
  - o Additional courses from the M.A. required courses listed in the Departmental Guidelines menu.
  - o Students who have not had a previous course in human development are required to take HDP 1201H Child and Adolescent Development or an equivalent.
  - o in addition to their 3.0 FCE. Students who have not had a previous course in statistics are required to take HDP 1287 (Introduction to Applied Statistics) or an equivalent in addition to their 3.0 FCE.

Master of Education

Minimum Admission Requirements
- Admission to the MEd program normally requires preparation equivalent to a University of Toronto four-year bachelor's degree with standing equivalent to a University of Toronto mid-B or better.
- Applicants normally possess a teaching certificate and have one year of relevant professional experience.

Program Requirements
- The MEd program may be undertaken on a full-time or part-time basis. The length of time required to complete the program will vary depending on full-time or part-time status.
- 5.0 full-course equivalents (FCE) plus a comprehensive examination

- **Year 1**
  - HDP 1200H Foundations of Human Development and Education
  - HDP 2293H Interpretation of Educational Research
- 2.0 additional FCE must be selected from the Department Electives list, available on the departmental Web site or in the Human Development and Applied Psychology Program Guidelines.
- Remaining 2.0 FCE may be taken from within or outside the department. Elective courses must be chosen in consultation with the student's faculty advisor. Students are asked to meet with their faculty advisor in the first session of their program.
- Students who have not had a previous course in human development are required to take HDP 1201H Child and Adolescent Development or an equivalent, as part of their 5.0 FCE requirement.

Doctor of Education
Pending final approval, admission to the EdD will cease and the program will close when there are no more students registered in the program.

Minimum Admission Requirements
- University of Toronto master's degree in Developmental Psychology and Education, Educational Psychology, Special Education or the equivalent. The usual admission standard is equivalency to a University of Toronto A- or better in the master's degree. Applicants with a master's degree in other specializations in Adult Education, Applied Psychology, or Curriculum are also eligible to apply for admission, but may have to complete additional courses to fulfil master's level requirements.
- Students who have not done a master's thesis will be required to submit a Qualifying Research Paper prior to final admission to the program.

Program Requirements
- While students may begin the program on a part-time basis, a minimum of one year of full-time study is required. Often students build a leave of absence or sabbatical from their outside employment into their EdD schedule; it is recommended that students use such time to complete the thesis requirement, not course work.
- 4.0 full-course equivalents (FCE), an internship, and a thesis.
  - HDP 3200H Research Proseminar in Human Development and Applied Psychology
  - 0.5 FCE in statistics and research methods from an approved menu
  - At least 1.5 additional FCE from the DPE doctoral program electives list
  - Remaining courses should be chosen in consultation with the student's faculty advisor

A listing of approved statistics and research methods courses as well as DPE doctoral program electives is available on the department's Web site at hdap.oise.utoronto.ca/pages/dpe_phd.html and in the Human Development and Applied Psychology Program Guidelines.

Doctor of Philosophy
The Developmental Psychology and Education program offers both a full-time and a flexible-time PhD program option. Applicants must declare the option for which they are interested in applying.

Minimum Admission Requirements
- normally preparation equivalent to a relevant University of Toronto four-year bachelor's degree and a master's degree in Developmental Psychology and Education, Cognitive Psychology, Applied Developmental Psychology or Child Study with standing equivalent to a University of Toronto A- or better in the master's degree. Applicants with master's degrees in other disciplines may be eligible to apply for admission, but may have to complete additional courses to fulfil master's level requirements equivalent to the Master of Arts in Developmental Psychology and Education. Students who have not completed a master's thesis will be required to submit a Qualifying Research Paper prior to final admission to the program.
- Required letters of recommendation and a second academic letter of recommendation.
- Applicants to the flexible-time PhD option are accepted under the same admission requirements as applicants to the full-time PhD option. However, in addition, applicants to the flexible-time PhD must indicate in their statement of intent that they are currently in a career related to the proposed field of study, have a desire to continue with their current career, and have the capacity to secure blocks of time to enable concentrated study (e.g., through the employer's leave policy or study incentive system).

Program Requirements
- Full-time PhD students must complete their degree within six years. Flexible-time PhD students must complete their degree within eight years. Degree requirements for both programs are the same.
- 3.0 full-course equivalents (FCE), a comprehensive examination, and a thesis. Courses should be chosen in consultation with the faculty advisor.
- **Year 1**
  - HDP 3200H Research Proseminar in Human Development and Applied Psychology
  - 0.5 FCE in statistics from an approved menu
  - 1.0 FCE from the DPE doctoral program menu
  - 1.0 elective FCE
- Students who have an insufficient background in developmental psychology are required to take HDP 1201H Child and Adolescent Development or an equivalent course in addition to their 3.0 FCE requirement. Students who have not taken the equivalent

of HDP 1288H Intermediate Statistics and Research Design are required to take that course in addition to their 3.0 FCE requirement.

School and Clinical Child Psychology

The School and Clinical Child Psychology program is an American Psychological Association (APA) accredited program. It provides theoretical, research, and professional training in preparation for psychological work with children in schools, clinics, private practice, and research settings. The program is designed to provide training in assessment, therapy, and other psychosocial and instructional interventions, professional consultation and prevention. The degrees are also intended to meet the academic requirements for registration as a psychological associate (MA) or psychologist (PhD). Opportunities are available for research and clinical work with infants, young children, adolescents, and families. The program follows the scientist-practitioner model for psychological training recommended by the APA. Emphasis on designing, conducting, and interpreting scientific research parallels emphasis on exemplary clinical practice.

Master of Arts

Minimum Admission Requirements
- normally a four-year bachelor's degree in Psychology, or its equivalent, defined as 6.0 full-course equivalents (FCE) in psychology, including 0.5 FCE in child development and 1.0 FCE in research methods/statistics (of which at least 0.5 FCE must be at the third or fourth year level) and at least 3.0 FCE at the third or fourth year levels. The usual admission standard is equivalency to a University of Toronto A- or better.
- Most applicants will have evidence of relevant professional experience and research experience.
- Applicants are requested to submit, in addition to two academic references, a letter of recommendation from an applied setting.

Program Requirements
- The program is undertaken on a full-time basis and normally takes two years to complete.
- 5.0 full-course equivalents (FCE) (including a practicum course) and a thesis.
  - HDP 1215H Psychological Assessment of School-Aged Children
  - HDP 1216H Psychoeducational Assessment
  - HDP 1218H Seminar and Practicum in Assessment
  - HDP 1219H Ethical Issues in Applied Psychology
  - HDP 1220H Introduction to School and Clinical Child Psychology
  - HDP 1236H Developmental Psychopathology
  - HDP 1285H Psychology and Education of Children with Learning Disabilities
  - HDP 1288H Intermediate Statistics and Research Design

  - 0.5 FCE in cognitive/affective bases of behaviour from an approved course listing. A listing of approved cognitive/affective bases of behaviour courses is available on the department Web site at hdap.oise.utoronto.ca/pages/sccp_ma.html, and in the Human Development and Applied Psychology Program Guidelines.
  - 0.5 elective FCE.
  - The practicum portion of HDP 1218H consists of 250 hours (one day a week from September to June) and is normally taken in a school setting.
- In addition, students will be required to take HDP 1201H Childhood and Adolescent Development and HDP 1287H Introduction to Applied Statistics, if equivalent courses have not been taken previously.
- Students must achieve a minimum of A- in at least one of HDP 1215H Psychological Assessment of School-Aged Children and HDP 1216H Psychoeducational Assessment and must pass HDP 1218H Seminar and Practicum in Assessment and Intervention with Children in order to remain in good standing and be permitted to continue in the program.
- Failure to meet these criteria will normally result in a recommendation to the School of Graduate Studies to terminate the student's registration in the program.

Doctor of Philosophy

Minimum Admission Requirements
- normally a four-year bachelor's degree in Psychology or its equivalent and an OISE/UT MA in SCCP or its equivalent. The usual admission standard is equivalency to a University of Toronto A- or better in the master's degree. A limited number of outstanding applicants holding equivalent bachelor's and master's degrees in Psychology from elsewhere may be considered. However, if the master's program was not equivalent to the OISE/UT MA in School and Clinical Child Psychology, the student will be required to take additional courses to receive equivalent training.

Program Requirements
- The program is undertaken on a full-time basis and normally takes four to five years to complete.
- 5.0 full-course equivalents FCE) (including a doctoral practicum course and an internship course), a comprehensive examination, and a doctoral dissertation.
  - HDP 3222Y Approaches to Psychotherapy Across the Lifespan
  - HDP 3241H Seminar and Practicum in Assessment and Intervention with Children (normally taken in Year 2 of the program)
  - HDP 3242Y Internship in School and Clinical Child Psychology
  - 0.5 FCE from each of the following menus: Psychosocial Interventions, Instructional Interventions, Advanced Assessment, Social Bases of Behaviour, and Biological Bases of Behaviour. A listing of courses in these menus is available on the department Web site at hdap.oise.utoronto.ca/pages/sccp_phd.html

and in the Human Development and Applied Psychology Program Guidelines.

o The practicum portion of HDP 3241H consists of 500 hours (two days a week from September to June) and is normally taken in a clinical setting.

o The internship (HDP 3242Y) consists of a 1600 hour placement, normally taken on a full-time basis over the course of a year near the end of the student's program.

- Students must have successfully completed all course work, passed the comprehensive examination, and have their dissertation completed or well underway, prior to commencing their internship.
- In addition, students will be required to take HDP 1201H Childhood and Adolescent Development, HDP 1287H Introduction to Applied Statistics, and HDP 3204H Contemporary History and Systems in Human Development and Applied Psychology, if equivalent courses have not been taken previously.
- Students must achieve a minimum of A- in at least one of HDP 1215H Psychological Assessment of School-Aged Children and HDP 1216H Psychoeducational Assessment and must pass HDP 1218H Seminar and Practicum in Assessment and HDP 3241H Seminar and Practicum in Assessment and Intervention with Children in order to remain in good standing and be permitted to continue in the program.
- Failure to meet these criteria will normally result in a recommendation to the School of Graduate Studies to terminate the student's registration in the program.

Courses

HDP 1200H Foundations of Human Development and Education
HDP 1201H Child and Adolescent Development
HDP 1209H Research Methods and Thesis Preparation in Human Development and Applied Psychology
HDP 1211H Psychological Foundations of Early Development and Education
HDP 1215H Psychological Assessment of School-Aged Children
HDP 1216H Psychoeducational Assessment
HDP 1217H Foundations of Proactive Behavioural and Cognitive-Behavioural Intervention with Children
HDP 1218H+ Seminar and Practicum in Assessment
HDP 1219H Ethical Issues in Applied Psychology
HDP 1220H Introduction to School and Clinical Child Psychology
HDP 1234H Foundations of Cognitive Science
HDP 1236H Developmental Psychopathology
HDP 1237H Development and Learning
HDP 1238H Special Topics in Human Development and Applied Psychology
HDP 1241H Outcomes of Early Education and Child Care
HDP 1256H Child Abuse: Intervention and Prevention

HDP 1259H Child and Family Relationships—Implications for Education
HDP 1260H Children, Psychology and the Law
HDP 1265H Advanced Topics in Social and Personality Development
HDP 1272H Play and Education
HDP 1279H Preventative Interventions for Children at Risk
HDP 1284H Psychology and Education of Children and Adolescents with Behaviour Disorders
HDP 1285H Psychology and Education of Children with Learning Disabilities
HDP 1287H Introduction to Applied Statistics
HDP 1288H Intermediate Statistics and Research Design
HDP 1289H Multivariate Analysis with Applications
HDP 1291H Casual Inference and Structural Equation Modelling
HDP 1292H Test Theory
HDP 1293H Applied Research Design and Data Analysis
HDP 1299H Language Acquisition and Development
HDP 2200Y Child Study: Observation, Evaluation, Reporting, and Research
HDP 2201H Childhood Education Seminar
HDP 2202H Childhood Education Seminar II: Advanced Teaching
HDP 2210Y Introduction to Curriculum I: Core Areas
HDP 2211H Theory and Curriculum I: Language and Literacy
HDP 2212H Theory and Curriculum II: Mathematics
HDP 2214H Introduction to Curriculum ll: Special Areas
HDP 2220H Teaching Practicum
HDP 2221Y Advanced Teaching Practicum
HDP 2275H Technology for Adaptive Instruction and Special Education
HDP 2280H Introduction to Special Education and Adaptive Instruction
HDP 2283H Psychology and Education of Gifted Children and Adolescents
HDP 2287H Classroom-Based Counselling Approaches
HDP 2288H Reflective Teaching and Analysis of Instruction
HDP 2292H Assessment for Instruction
HDP 2293H Interpretation of Educational Research
HDP 2296H Reading and Writing Difficulties
HDP 3200H Research Proseminar in Human Development and Applied Psychology
HDP 3201H Qualitative Research Methods in Human Development and Applied Psychology
HDP 3203H Children's Theory of Mind
HDP 3204H Contemporary History and Systems in Human Development and Applied Psychology
HDP 3205H Social and Moral Development
HDP 3209H Psychology of Language and Literacy
HDP 3221H Cross-Cultural Perspectives on Children's Problems
HDP 3222Y Approaches to Psychotherapy Across the Lifespan

HDP 3224H   Advanced Proactive Behavioural and
            Cognitive-Behavioural Interventions
HDP 3225H   Developmental Trajectories and High Risk
            Environments
HDP 3226H   Research Methods and Doctoral Thesis
            Preparation in Human Development and
            Applied Psychology
HDP 3227H   Multi-Level Modelling in Social Scientific
            and Educational Research
HDP 3229H   Cognition and Emotion in Development
HDP 3230H   Understanding Narrative
HDP 3231H   Psychodynamic Bases of Therapy
HDP 3238H   Special Topics in Human Development and
            Applied Psychology
HDP 3240H   Advanced Social and Emotional
            Assessment Techniques
HDP 3241H+ Seminar and Practicum in Assessment and
            Intervention with Children
HDP 3242Y° Internship in School and Clinical Child
            Psychology
HDP 3255H   Systemic Family Therapy
HDP 3282H   The Psychology of Critical Thinking
HDP 3286H   Developmental Neurobiology
HDP 3292H   Advanced Psychoeducational Assessment
            and Psychodiagnosis
HDP 3297H   Biological and Psychological Foundations
            of Low Incidence Disorders
HDP 5271Y   Assessment and Programming for Reading
            and Writing Difficulties
HDP 5281H   Research and Theories of Reading
            Disability
HDP 5284H   Assessment and Intervention in
            Multicultural/Bilingual Contexts
JDS 1233H   Cognitive Development and Applications
JDS 1249H   Social-emotional Development and
            Applications
JDS 3000H   Advanced Methods in Developmental
            Science
JHC 1251H   Reading in a Second Language
JPX 1001H   Parenting: Multidisciplinary Perspectives

Individual Reading and Research Courses
HDP 2295H   Individual Reading and Research in
            Adaptive Instruction and Special
            Education: Master's Level
HDP 3252H   Individual Reading and Research in Human
            Development and Applied Psychology:
            Doctoral Level

° Courses which may continue over a program. The course is graded
  when completed.
+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

Graduate Faculty

Full Members
Mary Louise Arnold - BA, MA, EdD
Janet Astington - BA, BSc, MA, PhD
Leslie Atkinson - BA, MA, PhD, CPsych
Andrew Biemiller (Jr) - Professor Emeritus
Ruth Childs - BS, MA, PhD
Nancy Cohen - BSc, MSc, PhD
Carl Corter - BA, PhD, Atkinson Charitable Foundation
  Chair in Early Child Development and Education
Alister Cumming - BA, MA, PhD
Joseph Ducharme - BA, MA, PhD
Michel Ferrari - BA, MA, PhD
Esther Geva - BA, MA, PhD, CPsych *(Chair)*
Joan Grusec - BA, PhD
Charles Helwig - BA, PhD
Thomas Humphries - BA, MA, PhD, CPsych
Jennifer Jenkins - BA, MA, PhD, CPsych
Daniel Keating - BA, MA, PhD, Atkinson Charitable
  Foundation Chair in Early Child Development and
  Education
Marc Lewis - BA, MA, PhD, CPsych
Chris Moore - BA, PhD
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Michele Peterson-Badali - BA, MA, PhD, CPsych
Joanne Rovet - BSc, PhD
Marlene Scardamalia - BA, MS, PhD
Russell James Schachar - MD, FRCP(C)
Mark Schmuckler - BA, PhD
Katreena Scott - PhD
Keith Stanovich - BA, MA, PhD
Rosemary Tannock - MCSP, BSc(PT), MA, MD, PhD
Richard Volpe - BA, MA, PhD
Judith Wiener - BA, MEd, PhD, CPsych
Dale Willows - BA, MA, PhD, CPsych
David Wolfe - BA, MA, PhD
Richard Wolfe - BA
Earl Woodruff - BSc, BEd, MA, PhD *(Associate Chair)*
Philip Zelazo - PhD
Kenneth Zucker - BA, MA, PhD, CPsych

Members Emeriti
Carl Bereiter - BA, MA, PhD, LLD
Peter Lindsay - BA, MA, PhD
Solveiga Miezitis - BA, MA, PhD, CPsych
Keith Oatley - BA, PhD
David Olson - BEd, MEd, PhD, University Professor

Associate Members
Leena Augimeri
Nicholas Bala
Ruth Beatty
Patricia Bowers
Jessica Ann Brian - BA, MA, PhD
Alisa Bridgeman (see Kenny)
Arthur Caspary - BSC, MSC, PHD
Xi Chen - BA, MA, MEd, PhD
Valerie Copping
Laurie Costaris

Michelle Eidlitz-Neufeld
Alice Eriks-Brophy - MSc, PhD
William Fagan
Olesya Falenchuk
Rena Helms-Park - BA, MA, PhD, TESL
Joanna Henderson
Guanglei Hong
Alisa Kenny - BA, MA, PhD
Patrick Lee
Nancy Link - BA, MA, PhD, CPsych
Katharina Manassis-Krumma - MD, Dip Psy
Rhonda Martinussen
Cynthia McCall
Ronald Mecier
Jamie Metsala
John Morgan
Rick Morris
Joan Moss
Michael Mueller - BA, MA, PhD
Jack Newman
James Parker
Michal Perlman - BA, MSc, PhD
Nitza Perlman - BA, MSc, PhD
Josef Perner
Adrianne Perry - BA, MA, PhD
Joan Peskin - BA, MA, PhD
Gary Redcliffe - BA, MA, PhD
Sidney Segalowitz - BA, PhD
Greg Siegle
Victoria Talwar
Anthony Toneatto - PhD
Catherine Watson - BA, MEd, PhD
Pamela Wilansky-Traynor - BSc, MA, PhD
Helen Xiaoyan Wu - BA, MA, PhD

Immunology   IMM

Faculty Affiliation
Medicine

Degree Programs Offered
Immunology – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1.   Developmental Biology, see p. 433
   • Immunology, PhD
2.   Women's Health, see p. 478
   • Immunology, MSc, PhD

Overview
The Department of Immunology provides a common forum for investigators in many areas of the University and an interdisciplinary research experience in immunology. Members and students in the department are located at the Medical Sciences Building, at the Ontario Cancer Institute, and at the Research Institutes of Mt. Sinai Hospital, Toronto General Hospital, Toronto Western Hospital, The Hospital for Sick Children, and Sunnybrook Hospital.

The department offers study programs towards the **Master of Science** and **Doctor of Philosophy** degrees in a wide range of immunological disciplines. These disciplines include molecular mechanisms of lymphocyte development and selection, T-cell and B-cell receptors, cell interactions, growth factor receptors, cytokine networks, antigen processing and presentation, signal transduction in lymphocytes, V(D)J recombination, anergy, apoptosis, transgenic and knock-out models, immuno-targeting and vaccine design, autoimmunity, AIDS, diabetes, and transplantation.

For more detailed information, see the graduate handbook available from the department or consult the Immunology home page on the Web site listed below.

Contact and Address
Web: www.immunology.utoronto.ca
E-mail: graduate.immunology@utoronto.ca
Telephone: (416) 978-6382
Fax: (416) 978-1938

Department of Immunology
Room 5271, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
•   Four-year B.Sc., or its equivalent, normally with at least a B+ average and a strong background in molecular and cellular biology. Applicants lacking adequate training in biological or natural sciences may be advised to do extra course work necessary for their research.
•   Applicants from outside North America are required to provide GRE (general) scores with their application.

Program Requirements
•   Successful completion of IMM 1016H, IMM 1019H and IMM 2021H.
•   A satisfactory thesis embodying the student's research.
•   Pass an oral examination based on research.

Doctor of Philosophy

Minimum Admission Requirements
There are three admission routes to the PhD program:
•   Applicants may be accepted for **direct entry with a B.Sc. degree**, or equivalent, with at least an A- average in their final year.
•   Applicants may be accepted first into the MSc program from a bachelor's program with at least a B+ average and, conditional on excellent performance in the first year, may **reclassify into the PhD** program.
•   Applicants already holding an **MSc** with at least a B+ average may be accepted directly into the PhD program.

Program Requirements
•   The PhD program emphasizes research. In addition, the program requirements include completion of IMM 1016H, IMM 1017H, IMM 1100H, IMM 2100H, and an additional 0.5 full-course equivalent (FCE) from either Immunology or outside the department in a subject relevant to the thesis topic.
•   Students are required to be on campus and participating full-time until the program requirements of research and course work have been completed.
•   All students are examined on a submitted research proposal and on relevant course material.
•   Candidate must submit a thesis and defend it at an oral examination conducted by the School of Graduate Studies.

Courses

Not all courses are offered every year. Please consult the department for details.

IMM 1016H   Recent Advances in Basic Immunology: Part I (Fall)

IMM 1017H+   Recent Advances in Basic Immunology: Part II (Spring)

IMM 1019Hº   Master's Seminar Course (Credit/No Credit)

IMM 1020H   Recent Advances in Clinical Immunology (Spring)

IMM 1100Hº   Doctoral Seminar Course (Credit/No Credit)

IMM 1429H   Developmental Immunology (Fall)

IMM 1430H   Advanced Immunobiology (Spring)

IMM 2021Hº   Special Topics in Immunology I (Credit/No Credit)

IMM 2100Hº   Special Topics in Immunology II (Credit/No Credit)

JBI 1428H   Molecular Immunology (Fall)

Graduate Faculty

Full Members
Michele Anderson - BSc, PhD
Brian Barber - BSc, MSc Phd
Stuart Berger - BSc, MSc, PhD *(Coordinator of Graduate Studies)*
Neil Berinstein - MD, FRCP(C)
James Booth - BSc, PhD
James Carlyle - BSc, PhD
Amos Cohen - BSc, MSc, PhD
Jayne Danska - AB, PhD
Hans Dosch - BSc, MD
Eleanor Fish - BSc, MPhil, PhD
Jennifer Gommerman - BSc, PhD
Reginald Gorczynski - BA, BSc, MD, PhD
Cynthia Guidos - BSc, PhD
Razqallah Hakem - PhD
Robert Inman - BA, MD, FRCP
Norman Iscove - MD, PhD
David Isenman - BSc, PhD
Jan Jongstra - MSc, PhD
Michael Julius - BSc, PhD
David Kelvin - MSc, PhD
Michelle Letarte - BSc, PhD
Gary Levy - BSc, MD, FRCP, FRCP(C)
Susanna Lewis - BSc, PhD
Kelly MacDonald - MD, FRCP(C)
Tak Mak - BSc, MSc, PhD, DSc, FRS, FRSC,University Professor, Canada Research Chair
Alberto Martin - BSc, MSc, PhD

º Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Pam Ohashi - BSc, PhD
Mario Ostrowski - MD, FRCP(C), specialist in infectious diseases
Christopher Paige - BSc, PhD, The Ronald N Buick Chair in Cancer Research
Josef Penninger - MD, PhD, Canada Research Chair
Philippe Poussier - MD
Michael Ratcliffe - BSc, PhD *(Chair)*
John Roder - BA, PhD, Canada Research Chair
Chaim Roifman - MD, FRCP
Robert Rottapel - BA, MA, MD
Laurence Rubin - MD, FRCP
Andre Schuh - BSc, MD, FRCP(C)
Earl Silverman - MD, FRCP
Katherine Siminovitch - MD, FRCP(C)
Florence Tsui - BSc, MSc, PhD
Tania Watts - BSc, PhD
David Williams - BSc, MSc, PhD
Joan Wither - BSc, MD, PhD, FRCP
Gillian Wu - BSc, MSc, PhD
Rae Yeung - MD, PhD, FRCP(C)
Li Zhang - MD, MSc, PhD
Juan Carlos Zuniga-Pflucker - BSc, PhD

Members Emeriti
John Hay - BSc, MSc, PhD
Robert Painter - BSc, PhD
Marc Shulman - AB, PhD

Associate Members
Jenny Jongstra-Bilen - BSc, MSc, PhD
Edward Keystone - BSc, MD, FRCP(C)
Dana Philpott - BSc, PhD
Jonathan Rast - BS, MS, PhD

Industrial Relations and Human Resources   IRE

Faculty Affiliation
School of Graduate Studies

Degree Programs Offered
Industrial Relations and Human Resources – MIRHR, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Ethnic and Pluralism Studies, see p. 445
   - Industrial Relations and Human Resources
     – MIRHR, PhD

Overview
The Master of Industrial Relations and Human Resources (MIRHR)and Doctor of Philosophy (PhD) degree programs benefit students who are interested in advanced academic study leading to career opportunities in human resources management; labour-management relations; collective bargaining and dispute resolution; organization development and change; and labour market and social policy. The MIRHR degree may be taken on a full-time or part-time basis.

The **MIRHR** is a professional degree program designed to train students in the latest innovations and best practices within industrial relations, human resources management and labour market analysis. The degree provides specialized study of the employment relationship using an interdisciplinary approach. Integral to the MIRHR degree is training in the essential analytical, research and interpersonal skills required of the effective industrial relations professional.

The **PhD** in Industrial Relations and Human Resources program is a research-oriented program of study, designed to provide students with a thorough knowledge of the field and strong research skills. Offered only on a full-time basis, students normally fulfil a two-year residency requirement that enables their full participation in the activities associated with the program.

Contact and Address
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E-mail: cir.info@chass.utoronto.ca

Centre for Industrial Relations and Human Resources
121 St. George Street
University of Toronto
Toronto, Ontario M5S 2E8
Canada

Degree Programs

Master of Industrial Relations and Human Resources

Minimum Admission Requirements
- Applicants to the **two-year MIRHR** program require an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university. A minimum grade average of B+ (77%) in each of the final two years of the degree is required.
- Applicants to the **12-month MIRHR** advanced standing option require an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university. The degree major or specialization must be in one of the following areas: employment relations; industrial relations; labour studies; or administration or commerce with a major in industrial relations or human resources. A minimum grade average of B+ (77%) in each of the final two years of the degree is required.
- Applicants whose degrees are not from Canadian universities are required to submit results from the Graduate Record Examination (GRE). The Graduate Management Admission Test (GMAT) scores will be accepted as a substitute. Although there is no minimum score requirement, performance on either the GRE or GMAT will be taken into consideration by the admissions committee. Test results more than five years old are normally not considered.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must write the Test of English as a Foreign Language (TOEFL). The following minimum scores are acceptable:
  - Paper-based TOEFL exam: 600 and 5 on the TWE
  - Computer-based TOEFL exam: 250 and 5 on the essay rating component
  - Internet-based TOEFL exam: 100/120 and 22/30 on the writing and speaking sections
- **Note:** Due to space limitations, applicants meeting the minimum admission requirements are not guaranteed admission. Applicants are evaluated on their individual merits; the Centre for Industrial Relations and Human Resources reserves the right to select qualified applicants to the program. All admission decisions are final.

Program Requirements
- Each student's program of courses must be approved by the Coordinator of Graduate Studies. If chosen courses appear to overlap to a large degree, approval may be denied.
- Students must have a mid-B average overall to be recommended for the degree.
- Failure in any course (that is, a grade of less than B-) will require a review of the student's program by the department.

Two-Year MIRHR Program
- Year 1 of the two-year program is spent acquiring a foundation in industrial relations and human resources and includes courses in economics, law, quantitative methods, organizational behaviour, and sociology. Courses marked (PR) require prerequisites; further information may be obtained from the Centre.

Year 1: Foundation Courses
Students must take 5.0 full-course equivalents (FCE), of which 4.0 FCE are required courses, as follows:
IRE 1002H Applied Statistics in Industrial Relations (Exclusion: CRI 2020H Applied Statistics in Criminology)
IRE 1010H Economic Environment of Industrial Relations and Human Resources
IRE 1126H Labour Market Policy (PR)
IRE 1362H Organizational Behaviour (Exclusion: MGT 1362H Managing People in Organizations)
IRE 1609H Strategic Human Resources Management (Exclusion: MGT 2609H Strategic Human Resources Management)
IRE 1610H Industrial Relations (Exclusion: MGT 2610H Industrial Relations)
IRE 1611H Sociology of Industrial Relations
Plus one of the following law courses:
IRE 1270H Law of Labour Relations
IRE 1338H Law in the Workplace
- o Courses are chosen from the list of elective courses below to fill the requisite 5.0 FCE in the first year of the program.
- o Students admitted into the two-year MIRHR program may elect to take IRE 4000H, a non-credit course designed to assist students to gain summer employment in a position that will provide them work experience relevant to their field of study.
- o Students in the MIRHR program are required to achieve a mid-B average in the first year of the program (or in the first 5.0 FCE) in order to continue or to pass into Year 2.

Year 2: Core Courses
Students must take 4.0 FCE to complete Year 2. This includes core courses in Industrial Relations and Human Resources (1.5 FCE):
IRE 2001H Foundations and Current Issues in Industrial Relations and Human Resources (PR)
IRE 2002Y Research Methods in Industrial Relations and Human Resources (PR)
- o Courses are chosen from the list of elective courses below to fill the requisite 4.0 FCE in the second year of the program.
- All degree requirements for students in the two-year program must be completed within six years from the date of first enrolment in the MIRHR program.

12-Month MIRHR Program with Advanced Standing Option
- Students admitted into the 12-month MIRHR advanced standing option will have completed many of the foundation courses in industrial relations and human resources.
- Students will take both foundation and core courses simultaneously in the three sessions of study (September-August). During this time, students will also take elective courses to increase their breadth of knowledge or to focus on their areas of interest. Students must take 7.0 full-course equivalents (FCE), of which 3.5 FCE are required courses, as follows:
IRE 1010H Economic Environment of Industrial Relations and Human Resources
IRE 1126H Labour Market Policy (PR)
IRE 1611H Sociology of Industrial Relations
IRE 2001H Foundations and Current Issues in Industrial Relations and Human Resources (PR)
IRE 2002Y Research Methods in Industrial Relations and Human Resources (PR)
Plus one of the following law courses:
IRE 1270H Law of Labour Relations
IRE 1338H Law in the Workplace
  - o Courses are chosen from the list of elective courses below to fill the requisite 7.0 FCE in the program.
- Students in the MIRHR program are required to achieve a mid-B average in the first two sessions of the program (or in the first 5.0 FCE) in order to continue into the third session.
- All degree requirements for students in the advanced standing option must be completed within five years from the date of first enrolment in the MIRHR program.

Doctor of Philosophy

Minimum Admission Requirements
- Students are admitted under the general regulations of the School of Graduate Studies and require a Master of Industrial Relations and Human Resources (MIRHR) degree from the University of Toronto, or its equivalent. Other students who meet the admission requirements may be required to enrol in a preparatory year consisting of courses from the MIRHR program. Students with a bachelor's degree in industrial relations and human resources, or in a related field of study, may be considered for admission to the PhD (direct entry) if they have exceptional academic standing and have demonstrated quantitative skills and research ability.
- At least a B+ standing, or equivalent, is required in the previous master's program. Academic performance in courses relevant to the applicant's area of interest, as well as performance in statistics and research methods courses are taken into consideration by the admissions committee.
- Applicants are required to submit a copy of their results from the Graduate Record Examination (GRE). The Graduate Management Admission Test (GMAT)

will be accepted as a substitute. Although there is no minimum score requirement, performance on either the GRE or GMAT will be taken into consideration by the admissions committee. Test results more than five years old are normally not considered.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must write the Test of English as a Foreign Language (TOEFL). The following minimum scores are acceptable:
  - o Paper-based TOEFL exam: 600 and 5 on the TWE
  - o Computer-based TOEFL exam: 250 and 5 on the essay rating component
  - o Internet-based TOEFL exam: 100/120 and 22/30 on both the writing and speaking sections
- Applicants may be required to appear for a personal interview and/or submit copies of recent academic work.

Program Requirements
- Requirements that are normally met in the first two years consist of a core course in Industrial Relations and Human Resources, elective courses, and courses in research methods and statistics.
- Students must take the equivalent of 4.5 full-course equivalents (FCE) as follows:
- The core requirement in Industrial Relations and Human Resources is met by completing:
  - o IRE 3004H Special Topics in Employment and Industrial Relations
- The research and statistics requirements are met by completing:
  - o IRE 3002Y Research Seminar I
  - o IRE 3003H Research Seminar II (PR)
  - o MGT 3062H Methods and Research in Organizational Behaviour and Industrial Relations
  - o 1.0 FCE in statistics, chosen, with the approval of the PhD Coordinator, from selected offerings in other departments and faculties.
- In cases where a student's prior academic background may have covered any of the courses listed above, substitutions may be permitted with the approval of the PhD Coordinator.
- 1.0 FCE is chosen from the elective courses set out below or from selected offerings in other departments and faculties.
- A comprehensive examination is normally written by January 31 of the student's second year in the program.
- Intensive work on the dissertation will also begin in the second year of the PhD program. The thesis topic and name of supervisor must be submitted no later than March 31 of the second year.
- Students who are in their third and fourth years of study must enrol in the following courses:
  - o IRE 3005H Workshop in Industrial Relations I (Credit/No Credit)

  - o IRE 3006H Workshop in Industrial Relations II (Credit/No Credit)
- Students will have achieved candidacy upon successful completion of the program requirements above at the end of the third year of study (or fourth year for direct entry PhD students).
- Proficiency in French and/or other languages will be required when the student's supervisor deems it necessary for dissertation research or when the Centre deems it necessary for the student's field.
- The program is available only on a full-time basis and normally has a two-year residency requirement during which time the student is required to participate fully in the department's activities associated with the program.
- All requirements for the degree must be completed within six years from the date of first enrolment in the PhD program.

Courses
Not all courses are offered every year. Please consult the Centre for Industrial Relations and Human Resources timetable which lists available courses in each session.

Elective Courses
The Centre offers key required and elective courses in Industrial Relations and Human Resources. Students take the balance of their courses from those available in other departments and faculties. This range of options enables students to examine the industrial relations field from the perspective of a variety of disciplines.

Due to the multidisciplinary nature of industrial relations, MIRHR students are not permitted to take more than a total of 1.5 FCE electives in any one unit outside the Centre for Industrial Relations and Human Resources without the permission of the Graduate Coordinator. Since outside units normally give preference to their own students, MIRHR students can enrol in these elective courses only when space is available.

Students must meet the standards and requirements of the other departments and faculties in those courses taken outside the Centre. Since these courses are changed from time to time, students must consult the Centre for current information.

Some courses are offered only in alternate years, and the availability of elective courses may be subject to change due to such factors as faculty research leaves and departmental resources. Some courses may be available only in the day or in the evening.

Courses marked (PR) require prerequisites; additional information may be obtained from the Centre.

Further details concerning specific courses and brief course descriptions are available on the Centre's Web site.

Industrial Relations and Human Resources
IRE 1270H   Law of Labour Relations
IRE 1338H   Law in the Workplace
IRE 1615H   Labour and Globalization (PR)

(PR) Courses with prerequisites

IRE 1620H   Labour Relations Problems in Historical Perspective
IRE 1625H   Contemporary Issues in Public Sector Labour-Management Relations (PR)
IRE 1630H   Negotiation Skills, Theory and Practice (PR)
IRE 1635H   Advanced Negotiations: Theory and Process (PR)
IRE 1640H   Contemporary Trade Unionism: Issues, Challenges, Strategy (PR)
IRE 1645H   Alternative Dispute Resolution in the Workplace: Theory and Practice (PR)
IRE 1650H   Designing Systems for Managing Workplace Conflict (PR)
IRE 1715H   Special Topics in Industrial Relations and Human Resources: Women in the Workplace
IRE 1720H   Managing Organizational Change (PR)
IRE 1725H   Cross Cultural Differences in Organizational Contexts
IRE 2021H   Accounting Information and Industrial Relations
IRE 2715H   Special Topics in Industrial Relations and Human Resources
IRE 3615H   Creating High Performance Reward Systems (PR)
IRE 3620H   Topics in Compensation (PR)
IRE 3625H   Human Resource Research and Information Systems
IRE 3630H   Diversity and Inclusiveness in the Workplace
IRE 3635H   Compensation
IRE 3640H   Recruitment and Selection (PR)
IRE 3645H   Training and Development
IRE 3650H   Human Resource Planning and Strategy

Adult Education and Counselling Psychology
AEC 1101H   Program Planning in Adult Education
AEC 1148H   An Introduction to Workplace and Organizational Democracy
AEC 1268H   Career Counselling and Development: Transition in Adulthood

Economics
ECO 2800H   Labour Economics I
ECO 2801H   Labour Economics II (PR)
ECO 2807H   Economics and Demographics (PR)

Law
IRE 1260H   Seminar on Labour Arbitration (PR) (also LAW 260H)
IRE 1373H   Labour Policy (also LAW 373H, JPJ 2042H)

Management
MGT 2129H   Forecasting Models and Econometric Methods (PR)

(PR) Courses with prerequisites

MGT 2604H   Organization Change and Development (PR)
MGT 2605H   International Organizational Behaviour (PR)
MGT 2612H   Managing Talent for Global Operations
MGT 2914Y   Not-for-Profit Consulting
MGT 2615H   Special Topics in Organizational Behaviour
MGT 2804H   Multivariate Methods for Management (PR)

Political Science
POL 2307H   The Political Economy of Technology: from the Auto-Industrial to the Information Age

Public Health Sciences
CHL 5904H   Perspectives in Occupational Health and Safety—Legal and Social Context

Social Work
SWK 4403H   Women and Social Policy in Canada

Sociology
SOC 6003H   Immigration II
SOC 6012H   Sociology of Work I
SOC 6112H   Sociology of Work II

Other Elective Courses
With the approval of the Graduate Coordinator, students may register in the following credit/no credit course:
IRE 4000H   Work Term in IR/HRM (Credit/No Credit)

Reading Courses
In certain circumstances, and with the approval of the Graduate Coordinator, students may be allowed to take a reading or research course:
IRE 1090H   A reading course or individual research in an approved field
IRE 2090H   A reading course or individual research in an approved field

Graduate Faculty

Full Members
Joel Amernic - BSc, MBA, FCA
Michele Campolieti - BSc, MA, PhD
David Foot - BA, AM, PhD
Morley Gunderson - BA, MA, PhD, Canadian Imperial Bank of Commerce (CIBC) Chair in Youth Employment *(PhD Coordinator)*
D Linn Holness - MHSc, MD
Douglas Hyatt - BA, MA, PhD
Harry Krashinsky - BA, MA, PhD
Michael Krashinsky - BS, MA, MPhil, PhD
Brian A Langille - BA, LLB, BCL
Gary Latham - BA, MS, PhD, FRSC
Carla Lipsig-Mumme - BA, MA, PhD
Laurel MacDowell - BA, MSc, PhD
Patrick Macklem - BA, LLB, LLM
Jack Quarter - BA, MA, PhD

Frank Reid - BA, MSc, PhD *(Director)*
Jeffrey Reitz - BS, PhD, FRSC, Robert F Harney
  Professor of Ethnic Immigration and Pluralism Studies
Maria Rotundo - BA, MIR, PhD
Alan Saks - BA, MASc, PhD
Anil Verma - BTech, MBA, PhD
Sandy Welsh - BA, MA, PhD
Glen Whyte - LLB, MBA, MPhil, MA, PhD
Jia Lin Xie - BA, MBA, PhD
David Zweig - BA, MASc, PhD

Associate Members
Karen Bentham - BAdmin, MIR, PhD *(Coordinator of*
  Graduate Studies)
Brian Burkett - BA, LLB
Eric Cousineau - BA, MBA
Elizabeth Ann Dhuey - BA, MEc, PhD
Blaine Donais - BA, MA, LLB, LLM
Jonathan Eaton - BA, LLB, LLM, PhD
Tony Fang - BA, MA, PhD
Garth Frazer - BMath, BEd, MA, MPhil, PhD
Rafael Gomez - BA, MA, MIR, PhD
Janet Hardy - BA, BEd, MBA
Joanna Heathcote - BA, MA, PhD
Stephen Krashinsky - BA, LLB
Alan Levy - BA, MIR, LLM
John Mastoras - BA, MIR, LLB
Edward Mock - BA, BComm, MIR, PhD
Phanikiran Radhakrishnan - BA, MA, PhD
Kerry Rittich - MusBac, LLB, SJD
Lori Riznek - BA, MA, PhD
Peter Sawchuk - BSc, BEd, MA, PhD
Chris Schenk - BA, MA, PhD
Kristyn Scott - BA, MA, PhD
Sara Slinn - BA, MIR, LLB, PhD
Indira Somwaru - BA, BEd, MBA
Raj Uttamchandani - BSc, MIR, MBA, LLB
Nan Weiner - BSB, MA, PhD

Information Studies   FIS

Faculty Affiliation
Information Studies

Degree Programs Offered
Information Studies - MISt, Combined JD/MISt, PhD
Museum Studies - MMSt

Diploma Programs Offered
Information Studies - Graduate Diploma of Advanced
 Study in Information Studies (a post-master's diploma)

Collaborative Programs Offered
   These programs provide an opportunity for MISt and
doctoral students to pursue a specialized subject interest
as part of their degree program. Degree programs that
participate in:
1.   Addiction Studies, see p. 406
       • Information Studies, MISt, PhD
2.   Aging, Palliative and Supportive Care Across the Life
     Course, see p. 408
       • Information Studies, MISt, PhD
3.   Book History and Print Culture, see p. 424
       • Information Studies, MISt, PhD
4.   Environmental Studies, see p. 443
       • Information Studies, MISt, PhD
5.   Knowledge Media Design, see p. 462
       • Information Studies, MISt, PhD
6.   Women and Gender Studies, see p. 473
       • Information Studies, MISt, PhD
7.   Women's Health, see p. 478
       • Information Studies, MISt, PhD

Overview
       The Faculty of Information Studies (FIS) combines
strengths in the stewardship and curation of cultural herit-
age (libraries, archives, and museums) with leadership
in the future of information practice as society is trans-
formed by the rise of digital technologies.
       The two-year **Master of Information Studies** pro-
gram allows students to explore the breadth of informa-
tion, and to focus on one or more areas of interest: library
and information science, archival studies, and information
systems.
       The **Combined Juris Doctor/Master of Information
Studies** program is offered jointly by the Faculty of Law
and the Faculty of Information Studies at the University
of Toronto. In four years, students receive two degrees,
information studies and law.
       The **Doctor of Philosophy** program in information
studies provides opportunities for advanced scholarly
inquiry into theoretical aspects of information and in the
empirical investigations of information in various contexts.
       The two-year **Master of Museum Studies** program
prepares students for future involvement in museums
and related cultural agencies. The program examines the

theoretical body of knowledge of museology as a neces-
sary context for professional practice.

Contact and Address
Web: www.fis.utoronto.ca
E-mail: inquire@fis.utoronto.ca
Telephone: (416) 978-3234
Fax: (416) 978-5762

Faculty of Information Studies
140 St. George Street
University of Toronto
Toronto, Ontario M5S 3G6
Canada

Degree Programs

Information Studies

Master of Information Studies

Minimum Admission Requirements
•   SGS general regulations. Application deadlines are
     available on the Faculty of Information Studies Web
     site.
•   Four-year bachelor's degree with at least a B aver-
     age (3.0 GPA) from a university recognized by the
     University of Toronto. Generally, successful applicants
     hold an academic level of B+ (3.3 GPA) or higher in
     the final year.
•   The bachelor's degree must normally contain at
     least 75% academic credits, that is, courses that are
     not professional, practical, technical, or vocational.
     Courses such as studio art, drama or music perform-
     ance, theology, education or undergraduate courses
     in library science are not normally considered to
     be sufficiently academic in content for admission
     purposes.
•   Applicants who meet current admission requirements
     and who hold a BLS degree from the University of
     Toronto, or its equivalent from an approved university,
     may be admitted to the MISt program with advanced
     standing. Such students may be required to take
     additional courses if certain requisite instruction is
     lacking.
•   Applicants who have satisfactory standing in an
     undergraduate program and who have successfully
     completed information studies graduate courses
     in programs equivalent to the University of Toronto
     MISt program may also apply for admission with
     advanced standing. Each application will be evalu-
     ated individually. At least 4.0 full-course equivalents
     (FCE) towards the MISt degree must be taken at the
     University of Toronto.
•   All incoming graduate students must have a good
     command of English. All applicants educated outside
     Canada whose primary language is not English must

demonstrate facility in the English language. This requirement is a condition of admission and must be met before an offer of admission is made. The English language requirement may be satisfied using one of the following tests:

1 Test of English as a Foreign Language (TOEFL) with the following minimum scores:
- o Paper-based TOEFL exam: 600 with 5.5 on the Test of Written English (TWE)
- o Computer-based TOEFL exam: 250 with 5.5 on the essay rating component
- o Internet-based TOEFL exam: 100/120 with 24/30 on the speaking section and 27/30 on the writing section.

2 Michigan English Language Assessment Battery (MELAB) with a minimum required score of 95.

3 International English Language Testing System (IELTS) with a minimum required score of 8.0.

4 English Language Diagnosis and Assessment (ELDA)/Certificate of Proficiency in English (COPE) with a minimum required score of 6 and at least 3 in the writing portion.

Program Requirements
- The Faculty expects students to be competent in their use of information technologies.
- 8.0 full-course equivalents (FCE) as follows.
  - **Course option:** All students must take 1.5 core FCE, 2.0 required FCE in an area of focus, and 2.0 elective FCE at the 2000-level. The remaining 2.5 FCE may be chosen at the student's discretion.
  - **Thesis option:** The thesis option allows students to gain experience in developing and executing a research project from beginning to end. Students gain familiarity with the research process and hone their research skills. Students must take 1.5 core FCE, 2.0 elective FCE at the 2000-level, and complete a thesis (equivalent to 2.0 elective FCE). Faculty approval is required. The remaining 2.5 FCE may be chosen at the student's discretion. Students must obtain at least an A- in FIS 1240H Research Methods. The thesis option is designed for students who have a clearly defined topic, can find a supervisor, and can meet tight deadlines in order to graduate within the usual time frame envisioned for the MISt.
- All requirements must be completed satisfactorily within 6 years from first enrolment in the program. Total time from original registration, including lapsed time, is counted as the time allowed to complete the degree requirements.

- **Non-Degree Programs (Special Student Status)** Special Student status is normally intended for fully qualified graduates who wish to update their knowledge. Programs for Special Students are administered under the general regulations. Details are available on the Faculty of Information Studies Web site. Courses in the PhD program are not open to Special Students.

- **Diploma Program** The Graduate Diploma of Advanced Study in Information Studies is a post-master's diploma. Applicants must have a University of Toronto MISt, MLS or MIS degree or equivalent. The Graduate Diploma requires 24 credit hours (i.e., 4.0 FCE). The graduate Diploma program, which may be taken on a full-time or part-time basis, will be tailored to the individual's needs and interests with courses selected in consultation with their advisor. Complete details are available on the FIS Web site at www.fis.utoronto.ca.

Combined Juris Doctor/Master of Information Studies

Minimum Admission Requirements
- Applicants must be admitted to both the Faculty of Law and the Faculty of Information Studies; therefore, applicants must satisfy the admission requirements of both faculties independently, and all applicants must complete the Law School Admission Test (LSAT) and all admission requirements of the Faculty of Information Studies. A separate application to each Faculty must also be submitted. Please obtain application information from each Faculty.
- Students who have completed the first year of either the Juris Doctor or the Master of Information Studies program may apply for admission to the combined JD/MISt program by meeting the normal application and admission requirements of the other Faculty and notifying their Faculty Registrar.

Program Requirements
- Students complete the program requirements of the JD and the MISt.
- At the completion of the four-year integrated program, the successful student is awarded both the Juris Doctor and the Master of Information Studies degrees, which, if taken separately, would require five years of study.

Courses
Not all courses are offered every year. Consult the Faculty of Information Studies Web site for the annual course offerings. Course descriptions and details of prerequisites, co-requisites, and permissions are posted on the Information Studies Web site. Inquiries concerning the selection of courses to be offered in any given session should be directed to the Faculty of Information Studies.

FIS 1210H   Information and Its Social Contexts
FIS 1230H   Management of Information Organizations
FIS 1240H   Research Methods
FIS 1310H   Information Resources and Services
FIS 1311H   Information Technology Applications
FIS 1320H   Introduction to Bibliographic Control
FIS 1325H   Online Information Retrieval

FIS 1330H   Archives Concepts and Issues
FIS 1331H   Archival Arrangement and Description
FIS 1332H   Archives Programs and Services
FIS 1340H   Introduction to Information Systems
FIS 1341H   Analyzing Information Systems
FIS 1342H   Designing Information Systems
FIS 1343H   Introduction to Database Management and
                    Design
FIS 2010H   Reading Course
FIS 2011H   Reading Course
FIS 2101H   Information Innovations Design Studio I
FIS 2120H   Conservation and Preservation of
                    Recorded Information
FIS 2121H   Specialized Archives
FIS 2122H   The Public Library in a Diverse Community
FIS 2124H   Surveillance and Identity
FIS 2125H   Information and Culture in a Global Context
FIS 2126H   Public Library Services to Culturally
                    Diverse Communities
FIS 2127H   Collection Development, Evaluation, and
                    Management
FIS 2128H   Serials Management
FIS 2131H   The Literature of the Humanities and Social
                    Sciences
FIS 2132H   The Literature of Science and Technology
FIS 2133H   Legal Literature and Librarianship
FIS 2134H   Business Information Resources
FIS 2135H   Health Sciences Information Resources
FIS 2136H   Government Information and Publications
FIS 2137H   International Organizations: Their
                    Documents and Publications
FIS 2139H   Young People: Collection Development
FIS 2140H   Young People: Current and Emerging
                    Information Practices
FIS 2142H   Theories of Classification and Knowledge
                    Organization
FIS 2144H   Subject Approach to Information
FIS 2145H   Creation and Organization of Bibliographic
                    Records
FIS 2149H   Administrative Decision Making in
                    Information Organizations
FIS 2150H   Advanced Management of Information
                    Organizations
FIS 2151H   Human Resources Management in
                    Libraries
FIS 2152H   Advocacy and Library Issues
FIS 2153H   Technical Services: Organization and
                    Administration
FIS 2154H   Reference Services: Organization and
                    Administration
FIS 2158H   Management of Corporate and Other
                    Special Information Centres
FIS 2159H   Analytical and Historical Bibliography I
FIS 2160H   Analytical and Historical Bibliography II
FIS 2161H   History of Books and Printing
FIS 2162H   Rare Books and Manuscripts
FIS 2163H   Research Collections in Canadiana
FIS 2165H   Social Issues in Information and
                    Communication Technologies
FIS 2166H   Telecommunications for Information
                    Systems

FIS 2167H   Community Informatics
FIS 2168H   Information Retrieval Systems
FIS 2169H   User-Centred Information Systems
                    Development
FIS 2171H   Major Subject Heading and Classification
                    Systems
FIS 2172H   Reader's Advisory: Reference Work and
                    Resources
FIS 2173H   Information Professional Practicum
FIS 2174H   History of Records and Records-Keeping
FIS 2175H   Managing Organizational Records
FIS 2176H   Information Management in
                    Organizations—Models and Platforms
FIS 2177H   Architecting Information, Systems, and
                    Organizations
FIS 2178H   Designing Electronic Descriptive Tools
FIS 2179H   Interacting with Information Systems
FIS 2180H   Archives: Access, Advocacy, and Outreach
FIS 2181H   Information Policy
FIS 2182H   Information Visualization
FIS 2183H   Knowledge Management and Systems
FIS 2184H   Appraisal for Records Retention and
                    Archives Acquisition
FIS 2185H   Database Techniques for Managing
                    Structured Documents
FIS 2186H   Metadata Schemas and Applications
FIS 2300H   Special Topics in Information Studies

Doctor of Philosophy

Minimum Admission Requirements
- Average of at least B+ in a four-year University of Toronto bachelor's degree program, or its equiva- lent, and an average of at least B+ in a University of Toronto master's degree program, or its equivalent. Equivalency is normally determined by the number of courses and/or credits taken. Applicants holding an MLS or other master's degree earned in 2 or 3 semesters, or by completing 5.0 to 7.5 full-course equivalents (FCE), will normally be required to take additional courses in the MISt program.
- The major subject for doctoral study proposed by the applicant must be supported by relevant courses taken at the master's level, including appropriate courses in research methods and statistics; an ap- plicant may be required to take make-up courses to obtain this support.
- Admission is limited to graduates of high intellectual ability who have an interest in research. Evaluation of applicants is based on academic records and three academic letters of reference. A personal interview may be requested.
- Applicants whose first language is not English should consult the English Language Facility section of the Faculty's calendar.
- Admission procedures are described in the General Regulations section of this calendar.
- Doctoral students are admitted in September. Meeting the minimum requirements of FIS and of SGS does not guarantee admission.

Program Requirements
- Since PhD students have different backgrounds and areas of interest, programs are developed on an individual basis. The focus of each program enables the student to achieve satisfactory standards of competence in major and minor areas of study in order to carry out the research and writing of the thesis. The program of study developed by the student in conjunction with the faculty advisor must be approved by the FIS Committee on Standing and by SGS.
- In Phase 1, students are required to complete:
  o a major subject, FIS 3004Y Advanced Topics in Information Studies
  o a minor subject
  o FIS 3005Y Advanced Seminar in Research Methodologies
  o a Determination of Research Readiness (written and oral)
  o a thesis
  o a final oral examination
  o Students are expected to participate in the Colloquium Series of the Faculty and in other research events.
  o Other courses appropriate for the student's research may also be required.
- In Phase 2 students focus on the choice and development of the thesis topic and research for the thesis.

Full-time PhD Program
The PhD program is designed to be completed within four years of first enrolment in the program. All requirements must be completed within six years from first enrolment. PhD students must be regularly registered in SGS during each year of the program.

Flexible-time PhD Program
The flexible-time PhD program is intended for practising professionals whose employment is related to their intended field of research interest. The flexible-time PhD differs from the full-time PhD only in design and delivery, not in requirements. Students must ensure that they have adequate time on campus to attend classes and to fulfil the academic requirements for an advanced research degree. Students must spend at least two full-time sessions on campus. Degree requirements are designed to be completed within eight years of first enrolment in the program.

Courses
FIS 3004Y+   Advanced Topics in Information Studies
FIS 3005Y   Advanced Seminar in Research
                  Methodologies

+ Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Museum Studies

Master of Museum Studies

Minimum Admission Requirements
- Four-year BA or BSc with an overall average grade of at least B+, or equivalent from a recognized university.
- Applicants must satisfy the Museum Studies program that they are capable of independent research in museum studies at an advanced level. Demonstrated previous experience in museums or related cultural organizations will also be considered. Admission to this program is competitive.
- One official transcript of the applicant's academic record from each university attended, complete to the time of application.
- A letter of intent (maximum 500 words), indicating areas of interest and experience in museum studies, heritage agencies, or comparable institutions.
- A resume.
- Three letters of reference, written on institutional or work-related letterhead. Appropriate referees include university professors (preferred), museum professionals, or others relevant to the field of museology.
- Other relevant information considered by the applicant to strengthen his or her application.
- Applicants are admitted as students for the MMSt under the General Regulations of the School of Graduate Studies.

Program Requirements
- Minimum requirement is 7.0 full-course equivalents (FCE) also known as credits, including 1.5 credits total for internal and external electives of which at least 0.5 credit must be internal (Museum Studies) elective courses.
- In order to maintain good academic standing and to continue in the MMSt program, a student must
  o maintain a B+ average overall;
  o complete at least 3.0 FCE, including MSL 1000H; MSL 1100H or MSL 1300H; MSL 1150H; MSL 1200H; and MSL1350H by the end of the program, with an average grade of at least B+;
  o complete MSL 5000Y during the first year;
  o complete MSL 3000Y during the summer session between the first and second year;
  o complete MSL 4000Y during the second year of the program.
- The study program for a full-time student begins in September and normally extends over 20 consecutive months.
- Before the end of their program, students whose primary language is English will be required to demonstrate a reading knowledge of a second language (preferably French) by means of a written exam and achieve a minimum grade of 70%.

Courses

Not all courses are offered every year. Please consult the Museum Studies Web site for course availability. The minimum requirement for the MMSt degree is 7.0 full-course equivalents (FCE), also known as credits.

MMSt Required Courses *(5.5 FCE or credits)*

MSL 1000H   Museums and Public History

MSL 1100H   Museology and Theory
or
MSL 1300H   Contemporary Theories of Art and Culture

MSL 1150H   Collection Management
MSL 1200H   Fundamentals in Museum Planning and
                        Management
MSL 1350H   Museums and their Publics
MSL 3000Y   Internship
MSL 4000Y   Exhibition Project
MSL 5000Y   Research Methods

MMSt Elective Courses *(total 1.5 FCE or credits for internal and external electives)*

Internal (Museum Studies) Elective Courses *(at least 0.5 FCE or credit)*
MSL 2000H   Curatorial Practice
MSL 2100H   Museum Environment
MSL 2200H   The History of Museums in Canada
MSL 2225H   Architecture and Museums
MSL 2250H   Topics on Museums and Society in
                        Canada
MSL 2325H   Museums and New Media Practice
MSL 2330H   Interpretation and Meaning-Making in
                        Cultural Institutions
MSL 2340H   Issues in Cultural Policy and
                        Contemporary Culture
MSL 2350H   Museum Planning and Management:
                        Projects, Fundraising and Human
                        Resources
MSL 5050H   Special Studies

External Elective Courses

Courses relevant to the Museum Studies program and student interests are available within the listings of other graduate units as found in this calendar.

McLuhan Program in Culture and Technology

The McLuhan Program in Culture and Technology does not offer a degree program. Students registered in a graduate program may take McLuhan program courses for credit with the permission of their home department.

JAC 1001H   Media, Mind, and Society I
JAC 1002H   Media, Mind, and Society II
C&T 1003H   Comparative Orality and Literacy

C&T 1004H   Communications:
                        History/Theory/Technology
C&T 1005H   Understanding McLuhan
C&T 1009H   New Media and Policy
C&T 1100H   Special Topics in Communication and
                        Culture

Students interested in pursuing studies in the impact of communication media on humans and their environment should consult the Director of the program for a list of courses available in cognate departments.

Graduate Faculty

Full Members
Clare Beghtol - BA, MLS, PhD
Nadia Caidi - BA, MA, MLS, PhD
Joan Cherry - BSc, MLS, PhD
Chun Wei Choo - BA, MA, MSc, DipBusAdmin,
  DipComputerSci, PhD
Andrew Clement - BSc, MSc, PhD
Barbara Craig - BA, MA, PhD
Marcel Danesi - BA, MA, PhD, FRSC
Derrick De Kerckhove - BA, MA, PhD, Dip 3eme Cycle,
  FRSC
Juris Dilevko - BA, MA, MA, PhD, MLIS, PhD
Wendy Duff - BA, MLS, PhD
E Patricia Fleming - BA, BLS, MLS, MA, PhD, FRSC
Francesco Guardiani - DLett, MA, PhD
Bert Hall - BA, PhD
Lynne Howarth - BA, MLS, PhD
Jens-Erik Mai - PhD *(Vice-Dean)*
David Phillips - PhD
Brian Cantwell Smith - BS, MS, PhD, Canada Research
  Chair *(Dean)*
Alan Stanbridge - BSc, MA, PhD
Lynne Teather - BA, MA, PhD
Barry Wellman - BA, MA, PhD
Eric Yu - BSc, MMath, PhD

Members Emeriti
John Fleming - BA, MA, PhD
Ursula Franklin - PhD, LLD, DSc, DDN, CC, FRSC,
  University Professor Emeritus
Nancy Williamson - BA, BLS, MLS, PhD

Associate Members
Sandra Alston
Jennifer Bayne - MLS
P Michael Bell - BA, MA
Carl Benn - BA, MDN, PhD
Joseph Cox - MLS
Shelley Falconer - BA, MMst
Loren Fantin - MLIS
Ian Gregory - RGD
Stephen Hockema - PhD
Joseph Janes - PhD
Helen Katz - MLS

David Kingsland - BA
Kelly Lyons - PhD
Susan Maltby - BA, MAC
Michael McCaffrey - MLS
Hooley McLaughlin - BA, MSc, PhD
Hannah Mestel - BA, MFA, MBA
Cheryl Meszaros - PhD
Michael Moir - MA
Chryssafi Mylopoulos - MLS
Wendy Newman, MLS
Gordon Nickerson - MLIS
Bedour Osman - PhD
John Papadopoulos - JD,MLS
Kathryn Rumbold - BAA
Steven Shubert
Barbara Soren - BPHE, BEd, MSc(T), PhD
Siobhan Stevenson - PhD
Keith Thomas
Jutta Treviranus
Margaret Ann Wilkinson - PhD

Italian Studies   ITA

Faculty Affiliation
Arts and Science

Degree Programs Offered
Italian Studies – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Book History and Print Culture, see p.
   - Italian Studies, MA, PhD
2. Editing Medieval Texts, see p.
   - Italian Studies, PhD

Overview
The **Master of Arts** program offers advanced education in all areas of Italian studies and provides training in research techniques.

The **Doctor of Philosophy** program prepares students for a career in teaching and scholarship. Graduates are expected to have acquired autonomy in conducting research, preparing scholarly publications, teaching undergraduate courses in all areas of Italian studies, and in designing and teaching graduate courses in their fields of specialization. The program is designed to provide a broad knowledge of the discipline, specialized knowledge of a single field, and training in all aspects of scholarly research in the discipline.

Contact and Address
Web: www.utoronto.ca/italian
E-mail: italian.studies@utoronto.ca
Telephone: (416) 926-2345
Fax: (416) 926-7107

Department of Italian Studies
Carr Hall, 2nd Floor
100 St. Joseph Street
Toronto, Ontario M5S 1J4
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants are accepted under the general regulations provided that they also satisfy the department's requirements stated below.
- Successful completion of 7.0 undergraduate full-course equivalents (FCE) in Italian, including the following: 3.0 FCE in Italian literature (students must have at least 0.5 FCE in each of 3 out of four different periods: medieval, Renaissance, 17th-18th centuries, modern) and an appropriate upper year 1.0 FCE in language.
- Minimum B+ standing in their University of Toronto 300- and 400-series courses (or in equivalent courses).
- Two letters of recommendation.
- A personal statement of intent.
- The department will determine whether applicants need to complete prerequisite work in order to qualify for admission. Applicants will be advised accordingly.

Program Requirements
- Successful completion of ITA 1000H *Methodologies for the Teaching and Study of Italian* and 4.0 additional graduate full-course equivalents (FCE).
- A student's program of study must be approved by the department.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants are admitted via one of two routes:
  - Successful completion of the University of Toronto **MA** or its equivalent with an overall average of at least A- in courses.
  - Exceptional students may be admitted directly to the PhD program from the **BA** with a minimum A- average. Such applicants will apply to the MA program, but indicate in a separate letter to the Graduate Coordinator that they wish to be considered for direct admission to the PhD program.
- Two letters of recommendation.
- A personal statement of intent.

Note: Applicants with a degree equivalent to a PhD in Italian Studies (e.g., an Italian dottorato di ricerca) cannot be accepted into the PhD program.

Program Requirements
- Students entering with a **MA degree** will normally complete 4.0 graduate full-course equivalents (FCE) for a total of 8.0 FCE, including those taken in the MA program. With the department's approval, students may choose one graduate course outside the department in an area cognate with the student's area of specialization. Students must also complete the 0.5 FCE ITA 1000H *Methodologies for the Teaching and Study of Italian*; must show evidence of written and oral command of Italian; and, not later than the beginning of Year 3 of PhD registration, must have demonstrated a reading knowledge of Latin and of one other language approved by the department.
- Students entering with a **BA degree** will normally complete 4.0 FCE in addition to the PhD requirements for a total of 8.0 FCE plus the required 0.5 FCE ITA 1000H.
- All students must maintain a minimum A- average in order to remain in the program.

- Upon completion of all course requirements, and not later than Year 2 of the PhD program, students will complete the series of written and oral qualifying examinations.
- Thesis and a final oral examination on the thesis.
- Permission to write the thesis in Italian (subject to final approval by the School of Graduate Studies) may be granted to students who first pass a supervised essay-type English examination to demonstrate proficiency in writing correct and idiomatic English prose.

Courses

Not all courses are offered every year. Please consult the department regarding course availability.

ITA 1000H   Methodologies for the Teaching and Study of Italian (Credit/No Credit)
ITA 1001Y   Colloquia and Professional Development (Credit/No Credit)
ITA 1025H   Old Italian
ITA 1026H   Italian Dialectology
ITA 1087Y   Italian Syntax and Stylistics
ITA 1110H   History of the Italian Language
ITA 1165H   Introduction to Italian Philology
ITA 1170H   Textual Criticism and the Editing of Early Italian Texts
ITA 1177H   The Italian Questione della Lingua
ITA 1200H   Dante
ITA 1203H   Boccaccio
ITA 1330H   Petrarch and Petrarchism
ITA 1455H   Women Writers in Italy
ITA 1520H   Renaissance Humanism
ITA 1525H   Renaissance Dialogue
ITA 1530H   Machiavelli
ITA 1535H   Topics in Italian Literature
ITA 1540H   Renaissance Italian Theatre
ITA 1545H   The Sacra Rappresentazione
ITA 1550H   Sixteenth-Century Florence
ITA 1560Y   Chivalric Literature from the Origins to Ariosto
ITA 1565H   Tasso
ITA 1591H   Baroque Poetics and Poetry
ITA 1592H   Baroque Poetry and Neobaroque Poetics
ITA 1594H   Arcadia and Eighteenth-Century Literature
ITA 1597H   The Commedia dell'Arte
ITA 1601H   Vico
ITA 1605H   Theories of the Stage and Dramatic Criticism
ITA 1610H   Seventeenth- and Eighteenth-Century Theatre
ITA 1645H   Prost-Tridentine Religious Drama
ITA 1650H   Neoclassical and Pre-Romantic Literary Culture
ITA 1661H   Topics in Nineteenth-Century Italian Literature
ITA 1662H   Topics in Italian Romanticism
ITA 1668H   Verga and Verismo
ITA 1705H   Pirandello
ITA 1710H   Aspects of Modern Italian Poetry
ITA 1720H   Italian Theatre from Verismo to Futurism

ITA 1723H   Trends in the Italian Novel 1900-1960
ITA 1728H   New Trends in the Italian Novel From 1957 to the Present
ITA 1729H   Contemporary Literary Criticism in Italy
ITA 1730Y   Aspects of Semiotic Theory and Practice in Italy
ITA 1735H   Topics in Italian Studies I
ITA 1736H   Topics in Italian Studies II
ITA 1737H   Topics
ITA 1738H   Topics in Italian Studies
ITA 1739H   Topics in Italian Studies
ITA 1740H   Contemporary Italian Women Writers
ITA 1755H   Italian Modernism
ITA 1760H   From Futurism to Novecentismo: The Rise and Fall of the Italian Avant-Garde
ITA 1810H   Studies in Italian Literature and Film
ITA 1815H   Issues in Italian Film Historiography
ITA 2010Y   Directed Research in Italian Linguistics
ITA 2011H   Directed Research in Italian Linguistics
ITA 2020H   Directed Computer Research in Italian Studies
ITA 2021H   Computer Assisted Research in Italian Language and Literature
ITA 2030H   Second Language Acquisition and Italian
ITA 2031H   Third Language Acquisition and Italian
ITA 3000H   Topics in Italian-Canadian Studies
JIC 5000H   Narrativity and Intertextuality in Italian Fiction
JMI 1951H   Italian Musical Theatre of the Baroque and Classic Periods
JRL 1100Y   Introduction to Romance Philology
MST 3162H   Boccaccio and Chaucer

Graduate Faculty

Full Members
Salvatore Bancheri - BA, MA, PhD
Rocco Capozzi - BA, MA, PhD
Konrad Eisenbichler - BA, MA, PhD
Antonio Franceschetti - LittD, PhD
Manuela Gieri - DLett, PhD
Francesco Guardiani - DLett, MA, PhD
Giuliana Katz - DLett, MA, PhD
Michael Lettieri - BA, MA, PhD
Domenico Pietropaolo - BSc, MA, PhD *(Chair)*
Olga Pugliese - BA, MA, PhD
Luca Somigli - DLett, PhD *(Coordinator of Graduate Studies)*

Associate Members
Jana Vizmuller-Zocco - BA, MA, PhD

Laboratory Medicine and Pathobiology   LMP

Faculty Affiliation
Medicine

Degree Programs Offered
Laboratory Medicine and Pathobiology – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1.   Biomedical Engineering, see p. 418
    • Laboratory Medicine and Pathobiology, MSc, PhD
2.   Cardiovascular Sciences, see p. 426
    • Laboratory Medicine and Pathobiology, MSc, PhD
3.   Developmental Biology, see p. 433
    • Laboratory Medicine and Pathobiology, PhD
4.   Genome Biology and Bioinformatics, see p. 448
    • Laboratory Medicine and Pathobiology, PhD
5.   Neuroscience, see p. 466
    • Laboratory Medicine and Pathobiology, MSc, PhD
6.   Toxicology, Biomedical, see p. 421
    • Laboratory Medicine and Pathobiology, MSc, PhD

Overview
The graduate program in Laboratory Medicine and Pathobiology provides a curriculum of courses and a broad-based multidisciplinary approach to research in mechanisms of human disease leading to **Master of Science** and **Doctor of Philosophy** degrees. The program emphasizes:
1. Bone and Matrix Pathobiology
2. Cancer
3. Vascular and Cardiovascular Pathobiology
4. Immunopathology, Lymphatics and Transplantation
5. Neuropathobiology and Endocrine Disorders
6. Microbiology and Infectious Disease

Research Foci
Antimicrobial Resistance: Surveillance and Mechanisms
Bone and Connective Tissue Diseases including Disorders of Mineral Metabolism
Cancer Pathogenesis and Prevention
Cardiovascular Disease
Cell-Matrix Interactions
Development: Cell Cycle, Differentiation, Signalling
Diabetes
Endocrine and Neuroendocrine Disorders
Hematopathology and Transfusion Medicine
Immunopathology and Transplantation
Inflammatory Disorders
Lipid Disorders
Lymphatic Pathobiology
Microbial Pathogenesis
Molecular Biomarkers
Neurodegenerative Disorders
Proteomics and Bioinformatics
Protein Structure and Function
Toxicology
Translational Research
Vascular Cell Biology
Viral Diseases
For details consult the departmental Web site www.lmp.facmed.utoronto.ca.

Contact and Address

Admission:
Web: www.lmp.facmed.utoronto.ca
Email: marika.michael@utoronto.ca
Telephone: (416) 978-2550
Fax: (416) 978-7361

Program:
Web: www.lmp.facmed.utoronto.ca
Email: yen.du@utoronto.ca
Telephone: (416) 978-2663
Fax: (416) 978-7361

Graduate Department of Laboratory Medicine and Pathobiology
100 College Street
Banting Institute
University of Toronto
Toronto, Ontario M5G 1L5
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
•   Applicants must have completed, or be about to complete, one of the following:
    o   Pathobiology Specialist Program
    o   Four-year honours BSc in Life Sciences
    o   Professional degree (e.g., M.D., D.D.S., D.V.M., or equivalent)
•   A minimum A- average over the final two years of undergraduate study.
•   Three strong letters of recommendation from faculty members familiar with the applicant's academic work.
•   Detailed curriculum vitae.
•   Statement of intent (approximately 250 words).
•   Research experience evidenced by publications, abstracts, or presentations is an asset.
•   Successful applicants are selected by the Departmental Admissions Committee on the basis of academic excellence and an interview with a member of the departmental graduate faculty.
•   Admission is finalized when a graduate faculty member agrees to supervise the student's research and guarantees a full stipend for the student.
•   Prior to the start of the third year of the PhD program, the advisory committee may recommend that a PhD

student transfer to the MSc program; the student may also request the transfer.

Program Requirements

- Students must be on campus and participating for the duration of their registration in the program.
- Students who have not previously completed LMP 1404H Molecular and Cellular Mechanisms of Disease, or an approved equivalent, will be required to take this course in the first year of their program. Students exempted from LMP 1404H will take a departmental half-course as a substitute. The student's advisory committee may recommend additional courses.
- Students must enrol and participate in a credit/no credit course, LMP 1001Y Graduate Seminars in Laboratory Medicine and Pathobiology, which must be taken throughout the program.
- Students are required to attend the departmental guest lecture series, Seminars in Molecular Pathobiology, that immediately follows the student seminar course LMP1001Y.
- Completion of a thesis under the direction of the student's supervisor, assisted by the advisory committee.
- The duration of the MSc program is usually 18 months. Within 12 to 18 months of entry, students will be advised by their committee to do one of the following:
  o write and orally defend a thesis on research completed,
  o transfer to the PhD program, or
  o withdraw from the MSc program.
- The research content of the MSc thesis is expected to generate the equivalent of one paper published in a peer-reviewed scientific journal.

Doctor of Philosophy

Minimum Admission Requirements

- Two routes of entry are available:
  o **Track A** - Direct entry is available for highly qualified BSc graduates having completed the Pathobiology Specialist Program or a four-year undergraduate program in the life sciences with a minimum A average in the third and fourth years and relevant research experience. These students are encouraged to apply directly to the PhD program.
  o **Track B** - MSc graduates and applicants with a MD, DDS, DVM (or equivalent) degree are eligible for the PhD program. An A- average or higher is required in graduate courses or in a four-year BSc program if there were no course requirements in the MSc program.
- Research experience evidenced by peer-reviewed publications, abstracts, or presentations is normally required.

- Three strong letters of recommendation from faculty members familiar with the applicant's academic work. Departmental appraisal forms must be used. Normally, one of the referees should be the applicant's research supervisor.
- A detailed curriculum vitae.
- Statement of intent (approximately 250 words).
- Applicants are selected by the Departmental Admissions Committee on the basis of academic excellence and successful performance at an interview with a member of the departmental graduate faculty. Admission to the program is finalized when a graduate faculty member agrees to supervise the student's research, and guarantees a full stipend for the student.
- Excellent students with high academic standing (normally minimum A- average on MSc courses) who have clearly demonstrated the ability to do research at the doctoral level may be considered for transfer to the PhD program. Recommendation of the advisory committee is required. Transfer to the PhD program is based on the student's performance at an assessment examination, which is held 12 to 18 months after the start of the MSc program.
- A limited number of selected students may enter the MD/PhD program subject to admission into both the departmental PhD program and the MD program.

Program Requirements

- Students must be on campus and participating for the duration of their registration in the program.
- MSc graduates normally complete their PhD programs within four years of registration in the program. Direct entry students and PhD transfer students are expected to complete their PhD programs within five years.
- Students who have not previously completed LMP 1404H Molecular and Cellular Mechanisms of Disease, or an approved equivalent, are required to take this course in the first year of their PhD program. The student's advisory committee may recommend additional courses. Students exempted from LMP 1404H take a departmental half-course as a substitute.
- All students are required to take three half-course equivalents plus an ongoing credit/no credit seminar course, LMP 1001Y. These courses must include at least one half-course in Laboratory Medicine and Pathobiology. Students having completed the undergraduate Pathobiology Specialist Program (or equivalent) are required to take two half-courses in addition to the departmental core course (LMP 1404H) and seminar course (LMP 1001Y). Course work should be completed in the first two years of the program, the continuing seminar course excepted. The latter half of the program is focused on research.
- Students who take additional graduate courses during the MSc program at the University of Toronto and who continue their graduate studies in the PhD program may receive a transfer credit for MSc courses toward doctoral course requirements. Credit

for courses from universities other than the University of Toronto must be approved by the Graduate Coordinator; certain restrictions may apply.
- Students are required to attend the departmental guest lecture series, Seminars in Molecular Pathobiology, that immediately follows the student seminar course LMP 1001Y.
- PhD students are normally expected to present at least one graduate research seminar in LMP 1001Y prior to defending their thesis.
- The PhD thesis is completed under the direction of the candidate's supervisor, assisted by the advisory committee. The candidate normally defends the thesis before a departmental committee, and subsequently before a committee approved by the School of Graduate Studies. Candidates may, with the recommendation of their advisory committee, request a waiver of the Departmental defence, subject to approval by the Graduate Coordinator.
- The PhD thesis must demonstrate a substantial contribution to laboratory medicine and pathobiology, involving a systematic investigation of disease-related hypotheses. The emphasis is on quality of the science and its presentation. The PhD thesis is normally expected to yield the equivalent of three publications in refereed scientific journals.

Courses

Not all courses are offered every year. Please check the departmental Web site, www.lmp.facmed.utoronto.ca, for course availability.

LMP 1001Y   Graduate Seminars in Laboratory Medicine and Pathobiology (Credit/No Credit) (Mandatory for all MSc and PhD students in the Department of Laboratory Medicine and Pathobiology)
LMP 1005Y   General and Special Pathology (For Oral Pathology Residents only)
LMP 1006H   Biological Electron Microscopy
LMP 1012H   Seminars on Pathology (Open to students in Biomedical Communications only)
LMP 1013H   Neoplasia
LMP 1015H   Vascular Pathobiology
LMP 1016H   The Pathology of Connective Tissue
LMP 1018H   Molecular Biology and Applications to Human Disease
LMP 1019H   Research Techniques in Molecular Biology and Pathobiology
LMP 1020H   Inflammation, Immunity, and Immunopathology
LMP 1401Y   Clinical Biochemistry (For Residents and Diploma students only)
LMP 1404H   Molecular and Cellular Mechanisms of Disease (Mandatory for all MSc and PhD students in the Department of Laboratory Medicine and Pathobiology)
LMP 1407H   Introductory Clinical Epidemiology and Applied Biostatistics
LMP 1503H   Signal Transduction Pathways in Normal and Diseased Tissues
LMP 1504H   Cell and Molecular Biology of Cardiovascular Diseases
LMP 1505H   Analytical Clinical Biochemistry
LMP 1510H   Molecular Biological Aspects of Analytical Biochemistry: Molecular Biology Techniques
LMP 1515H   Cell Death Pathways in Development, Tissue Homeostasis and Pathobiology
LMP 1520H   Translational Research in Pathobiology
LMP 2115H   Selected Topics in Medical Microbiology
RST 9999Y   Research Project

Graduate Faculty

Full Members
Mohamed Abdelhaleem - MD, PhD, FRCP(C)
Khosrow Adeli - BSc, MSc, PhD
Benjamin Alman - MD, FRCSC, Canada Research Chair
Irene Andrulis - BA, PhD
Sylvia Asa - MD, PhD, FRCP(C), FCAP
Isabelle Aubert - BSc, PhD
Andrew Baines - MD, PhD, FRCP(C)
Bharati Bapat - BSc, MSc, PhD
Dwayne Barber - BSc, PhD
Darrin Bast - BSc, PhD
Michelle Bendeck - BSc, PhD
Catherine Bergeron - MD, FRCP(C)
Joan Boggs - BA, MSc, PhD
Andrew Bognar - BSc, PhD
Donald Branch - PhD
Roderick Angus Bremner - PhD
Martha Brown - BSc, MSc, PhD
James Brunton - BSc, MD, FRCP(C)
David Cole - MD, PhD, FRCP(C)
Philip Connelly - BA, PhD
David Courtman - BSc, MSc, PhD
Ernest Cutz - MD, FRCP(C)
Myron Cybulsky - MD
Joyce De Azavedo - BSc, MSc, PhD
James Dennis - BSc, MSc, PhD, Canada Research Chair
Gregory Denomme - BSc, PhD
Sandy Der - BSc, PhD
Eleftherios Diamandis - PhD, MD, FCACB, FRCP(C)
Peter Dirks - MD, PhD
Sarma Dittakavi - BSc, MSc, PhD
Susan Done - BA, MA, PhD, MBA, FRCP(C)
Daniel Drucker - MD, FRCP, Canada Research Chair
Richard Ellen - DDS, CertPerio, CertOralMed&Microbio
Harry Elsholtz - BSc, MSc, PhD *(Coordinator of Graduate Studies)*
Steven Gallinger - MD, MSc, FRCP(C)
Stephen Girardin - PhD,CRC Chair
Avrum Gotlieb - BSc, MDCM, FRCP(C) *(Chair)*
Marc Grynpas - MSc, PhD
Neeru Gupta - MD, PhD
David Guttman - BS, PhD, Canada Research Chair
Paul Hamel - BSc, PhD
Rene Harrison - BSc, MSc, PhD
Cynthia Hawkins - BSc,PhD,MD,FRCPC

David Hedley - MBCHB, MD
Aleksander Hinek - MD, PhD, DSc
Margaret Hough - BSc, PhD
Jim Hu - BSc, PhD
Mansoor Husain - BSc, MD
David Irwin - BSc, PhD
Meredith Irwin - BSc,MD, Canada Research Chair
Tianru Jin - MD, PhD
Miles Johnston - BSc, PhD
Sadhna Joshi-Sukhwal - BSc, MSc, PhD, DSc
Serge Jothy - MD, MSc, PhD, LMCC, FRCP(C)
Kevin Kain - MD, FRCP(C), Canada Research Chair
Suzanne Kamel-Reid - BA, MA, PhD
Rita Kandel - MD, FRCP(C)
Frederick Keeley - BSc, PhD
Rama Khokha - BSc, MSc, PhD
B Lowell Langille - BSc, MSc, PhD
Herbert Lau - BSc, MA, PhD
Alan Lazarus - PhD
Gary Levy - BSc, MD, FRCP, FRCP(C)
Clifford Lingwood - BSc, PhD
Donald Low - BSc, MD
Gergely Lukacs - MD, PhD
Don Mahuran - PhD
Philip Marsden - MD, Keenan Chair in Medical Research
Tony Mazzulli - MD, FRCP(C)
Martin McGavin - BSc, PhD
Colin McKerlie - DVM, DVSc, MRCVS
Joanne McLaurin - BSc, MSc, PhD
Joe Minta - BSc, MSc, PhD
Jeremy Mogridge - BSc, PhD, Canada Resarch Chair
Sukriti Nag - MBBS, MD, MSc, PhD, FRCP(C)
Heyu Ni - MD, PhD
Michael Ohh - BSc, PhD, Canada Research Chair
Michal Opas - MSc, PhD
Mario Ostrowski - MD, FRCP(C), specialist in infectious
  diseases
Hilmi Ozcelik - PhD
Nades Palaniyar - BSc, MSc, PhD
Martin Post - PhD, DVM, Canada Research Chair
Kenneth Pritzker - BSc, MD, FRCP(C)
Gerald Prud'homme - MD
Margaret Rand - BSc, PhD
Marciano Reis - MD
Janice Robertson - BSc, PhD, Canada Research Chair
  (Molecular Mechanisms of ALS)
Norman Rosenblum - BSc, MD, FRCPS(C), Canada
  Research Chair
Dean Rowe-Magnus - BSc, MSc, PhD
Maria Rozakis-Adcock - BSc,PhD
James Rutka - MD, PhD, FRCS(C)
John Wesley Semple - PhD
Arun Seth - BSc, MSc, PhD
Patricia Shaw - MD,FRCP(C)
Pang Shek - BSc, MSc, PhD
Philip Sherman - MD, FRCP(C), Canada Research Chair
Jeremy Squire - BSc, MSc, PhD, JC Boileau Grant Chair
  in Oncologic Pathology
Rajalakshmi Srinivasan - BSc, MA, PhD
Duncan Stewart - MDCH, FRCP(C)
Bradley Strauss - MD

Michael Taylor - BSc(Hons), MD, PhD
Raymond Tellier - MD, MSc, FRCPC, CSPQ
Douglas Templeton - BSc, MD, PhD
Howard Tenenbaum - DDS, DipPerio, PhD, FRCD(C)
Paul Thorner - MD, PhD, FRCP(C)
Ming-Sound Tsao - BSc, MD, FRCP(C)
Reinhold Vieth - BSc, MSc, PhD
Chen Wang - MD, PhD, FRCPC
Michael Ward - MD, PhD, FRCP(C)
Gregory Wilson - BSc, MSc, MD, FRCP(C)
Pui-Yuen Wong - PhD, FCACB
Burton Yang - BSc, MSc, PhD
Herman Yeger - BSc, MSc, PhD
Yeni Yucel - MD, PhD, FRCP(C)
Eldad Zacksenhaus - BSc, PhD
Li Zhang - MD, MSc, PhD
Maria Zielenska - MSc, PhD

Members Emeriti
Alexander Marks - MD, PhD
Mario Moscarello - BA, MD, PhD

Associate Members
Hong Chang - Md,PhD,FRCPC
Ian Crandall - BSc,MSc,PhD
Bernard Fernandes - MB, ChB, FRCP(C)
Cyril Guyard - BSc,MSc,PhD
Annie Huang - MD,PhD,FRCPC
David Hwang - MSc,PhD,MD
Sarah Keating - MSc,MD
Valery Leytin - MSc, PhD, DSc
Ren-Ke Li - MSc, PhD
Dominic Ng - BSc, MSc, PhD, MD, FRCP(C)
Michael Pollanen - BSc, MD, PhD, MRCPath, DMJ(Path),
  FRCPC (Anatomic Pathology)
Robert Riddell - MBBS
Alexander Romaschin - PhD, FCACB
Gerold Schmitt-Ulms - BSc, MSc, Phd
Gino Somers - MBBS,PhD,FRCPA
Ingrid Tein - BSc, MD
Ikuko Eileen Teshima - BSc, MSc, PhD, FCCMG, FACMG

Law   LAW

Faculty Affiliation
Law

Degree Programs Offered
Law – LLM, MSL, SJD

Collaborative Programs Offered
Degree programs that participate in:
1. Bioethics, see p. 416
   - Law, SJD
2. Women and Gender Studies, see p. 473
   - Law, SJD

Overview
The Faculty of Law offers three graduate programs.

The **Master of Laws** (LLM) is a one-year degree program that provides students interested in continuing their study of the law beyond their first law degree with an opportunity to pursue a more profound study of specific legal issues. The LLM program can be undertaken with a strong emphasis on a thesis (with minor coursework) or with a strong emphasis on coursework (with a shorter thesis). The thesis-intensive format is for law students who have demonstrated a strong potential for advanced research and writing in a common law system. The course work-intensive format is for law students who wish to specialize in a specific area of law, particularly in one of the Law Faculty's several strengths, or who wish to develop an understanding of North American legal proc-esses and law, or who wish to explore the common law at an advanced level.

The **Master of Studies in Law** (MSL) is designed for scholars with no prior training in law who wish to acquire a knowledge of law in order to add a legal dimension to scholarship in their own discipline.

The **Doctor of Juridical Science** (SJD), a thesis degree program which normally takes three years to complete, is for outstanding law students seeking to pur-sue careers in teaching, policy, and research.

Enquiries should be directed to the Graduate Program Coordinator, Graduate Program, Faculty of Law at the address below.

Contact and Address
Web: www.law.utoronto.ca/graduate/
E-mail: law.graduate@utoronto.ca
Telephone: (416) 978-0213
Fax: (416) 978-2648

Faculty of Law
78 Queen's Park
University of Toronto
Toronto, Ontario M5S 2C5
Canada

Degree Programs

Master of Laws

Minimum Admission Requirements
- Bachelor of Laws or Juris Doctor degree from the University of Toronto or a recognized university, or possess equivalent qualifications, with demonstrated proficiency in the study of law. A minimum B+ average is required.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must write the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  o paper-based TOEFL: 600 and 5 on the TWE
  o computer-based TOEFL: 250 and 5 on the essay rating component
  o internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections.

Offers of admission conditional upon successful com-pletion of an English language test will not be offered.

Program Requirements
- A course of studies and a thesis which, combined, are valued at 24 credit hours.
- The course of studies shall involve a minimum of 8 credit hours of course work and a maximum of 20 credit hours of course work. The thesis shall involve a minimum of 4 credit hours (in which case the the-sis will generally be expected to be approximately 15,000 to 18,000 words) and a maximum of 16 credit hours (in which case the thesis will generally be ex-pected to be approximately 30,000 to 45,000 words).
- Mandatory graduate seminar, Alternative Approaches to Legal Scholarship.
- All course work and the thesis shall be graded using the SGS grading scale.
- In determining the composition of the course of studies and the weight to be given to the thesis, the Faculty will endeavour to structure a program de-signed to accommodate an individual student and the subject matter of the thesis. However, such course of studies and the weight of the thesis shall at all times be determined by the Faculty.
- The program may be completed on a full-time or part-time basis. Students must be in attendance for at least two academic sessions (eight months, September to April).

Master of Studies in Law

Minimum Admission Requirements

- At least a bachelor's degree and preferably a doctorate, from this or another recognized university, with a demonstrated high level of scholarship in a discipline related to law.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must write the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  - o paper-based TOEFL: 600 and 5 on the TWE
  - o computer-based TOEFL: 250 and 5 on the essay rating component
  - o internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections.

  Offers of admission conditional upon successful completion of an English language test will not be offered.

Program Requirements

- The student must pursue a course of studies approved by the Faculty and by the SGS Admissions and Programs Committee. The course of studies will comprise at least 28, and not more than 32, course hours and will include at least 3 of the following subjects: contracts, torts, property, criminal law, constitutional law, and civil procedure.
- The program will also include a research project of an interdisciplinary nature.
- The student must be in full-time attendance for two academic sessions (eight months).

Note: In no circumstance will courses taken in an MSL program be accredited for the JD program.

Doctor of Juridical Science

Minimum Admission Requirements

- Bachelor of Laws or Juris Doctor degree (with a minimum B+ average) from the University of Toronto or a recognized university and a Master of Laws (with a minimum B+ average) from the University of Toronto or a recognized university or possess equivalent qualifications. The Associate Dean, Graduate Studies, Law has the discretion to permit direct entry into the SJD following completion of the Bachelor of Laws or Juris Doctor degree where the Graduate Committee is satisfied that the applicant's law record demonstrates excellent potential for independent legal research and writing at an advanced level.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must write the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  - o paper-based TOEFL: 600 and 5 on the TWE
  - o computer-based TOEFL: 250 and 5 on the essay rating component
  - o internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections.

  Offers of admission conditional upon successful completion of an English language test will not be offered.

Program Requirements

SJD

- A student must remain in attendance for at least two academic sessions (eight months, September to April).
- Complete the graduate seminar, LAW 245Y Alternative Approaches to Legal Scholarship.
- Other course work requirements are optional and shall be determined upon consultation with the supervisor. All course work shall be subject to the approval of the Associate Dean, Graduate Studies, Law.
- Area Requirement: Before being allowed to proceed with formal research on a thesis topic, a student must demonstrate competence in a broader area within which the topic falls. An Individual Area Committee assists in framing that area and compiling an appropriate plan for carrying out the research. The research undertaken by the student either culminates in a written exam, based on the reading list, or else consists of a research project which is either a draft of a chapter of the thesis, or an overview of the general argument. Both paths lead to an oral exam based on the written work and the reading list. Normally, a student will have satisfied the area requirement by the end of the first year of registration.
- A student will not be allowed to continue in the doctoral program, where, in the opinion of the Area Committee, the student is not capable of demonstrating the capacity for independent legal research and writing at an advanced level.
- Following completion of the area requirements, a thesis must be prepared which, in the opinion of the Faculty, constitutes a distinct contribution to legal research or scholarship, and the student must pass an oral examination based on the thesis.
- The thesis must be completed within five years from the date of enrolment in the program.

Direct Entry SJD

- A student must be in attendance for at least four academic sessions (two periods of eight months each, September to April).
- Complete at least eight credit hours, including the graduate seminar, LAW 245Y Alternative Approaches to Legal Scholarship.
- All course work shall be subject to the approval of the Associate Dean, Graduate Studies, Law.
- Area Requirement: Before being allowed to proceed with formal research on a thesis topic, a student must demonstrate competence in a broader area within which the topic falls. An Individual Area Committee assists in framing that area and compiling an appropriate plan for carrying out the research. The research undertaken by the student either culminates in a written exam, based on the reading list,

or else consists of a research project which is either a draft of a chapter of the thesis, or an overview of the general argument. Both paths lead to an oral exam based on the written work and the reading list. Normally, a student will have satisfied the area requirement by the end of the first year of registration.

- A student will not be allowed to continue in the doctoral program, where, in the opinion of the Area Committee, the student is not capable of demonstrating the capacity for independent legal research and writing at an advanced level.
- Following completion of the area requirements, a thesis must be prepared which, in the opinion of the Faculty, will constitute a distinct contribution to legal research or scholarship, and the candidate must pass an oral examination based on the thesis.
- The thesis must be completed within five years from the date of enrolment in the program.

Courses
LAW 245Y   Alternative Approaches to Legal
                     Scholarship

Graduate Faculty

Full Members
Peter Benson - AB, MSc, LLB, LLM
Alan S Brudner - BA, MA, LLB, PhD
Jutta Brunnee - Ref jur, LLM, Doctor juris, Assoc jur
Bruce Chapman - BA, LLB, PhD
Sujit Choudhry - BSc, BA, LLB, LLM
Rebecca Cook - AB, MA, MPA, JD, LLM, JSD
Brenda Cossman - BA, LLB, LLM
Donald Dewees - BSc, LLB, BScEE, PhD
David Grant Duff - BA, MA, LLB, LLM
Anthony Duggan - BA, LLB, LLM, LLD
David Dyzenhaus - BA, LLB, DPhil, FRSC *(Associate Dean, Graduate Studies)*
Anver Emon - BA, JD, MA, LLM, PhD
Colleen Flood - BA, LLB, LLM, SJD
Edward Iacobucci - BA, MPhil, LLB
Darlene Johnston - JD, LLM
Karen Knop - BSc, LLB, LLM, SJD
Brian A Langille - BA, LLB, BCL
Trudo Lemmens - Candlur, Liclur, LLM
Jeffrey Macintosh - BSc, LLB, LLM, The Toronto Stock Exchange Chair in Capital Markets
Patrick Macklem - BA, LLB, LLM
Audrey Macklin - BA, LLB, LLM
Mayo Moran - BA, BEd, LLB, LLM, SJD *(Dean)*
Edward Morgan - BA, LLB, LLM
Jennifer R Nedelsky - BA, MA, PhD
James Phillips - MA, LLB, PhD
Denise Reaume - BA, LLB, BCL
Arthur S Ripstein - BA, MA, PhD, MSL
Kerry Rittich - MusBac, LLB, SJD
Kent Roach - BA, LLB, LLM
Carol Rogerson - BA, LLB, MA, LLM
David Schneiderman - BA, LLB, LLM

Ayelet Shachar - BA, MA, LLB, LLM, JSD
Martha Shaffer - AB, LLB, LLM
Lorne Sossin - BA, MA, LLB, PhD, LLM, JSD
Hamish Stewart - BA, LLB, ARCT, PhD
Michael Trebilcock - LLB, LLM, FRSC, University Professor
Catherine Valcke - LLB, LLM, JSD
Mariana Valverde - BA, MA, PhD, FRSC
Stephen Waddams - BA, LLB, MA, LLM, SJD, FRSC, The Goodman/Schipper Chair at the Faculty of Law
Ernest Weinrib - BA, LLB, PhD, University Professor, The Cecil A Wright Chair
Lorraine Weinrib - BA, LLB, LLM

Members Emeriti
Bernard Dickens - LLB, LLM, PhD, LLD, Dr. William M Scholl Professor Emeritus in Health Law and Policy
Martin Friedland - BCom, LLB, PhD, LLD, OC, QC, FRSC, University Professor Emeritus

Associate Members
Benjamin Alarie - BA, MA, LLB, LLM
Anita Anand - BA, MA, LLB, LLM
Lisa Austin - BA/BSc, LLB, MA
Nehal Bhuta - BA, LLB, MA, LLM
Michael Code - BA, LLB, LLM
Abraham Drassinower - BA, MA, LLB, PhD
Mohammad Fadel - BA, PhD, JD
Angela Fernandez - BPHIL, MPH, LLB, LLM
Andrew Green - BA, MA, LLB, LLM, JSD
Ran Hirschl - BA, LLB, MA, MPhil, PhD, Canada Research Chair
Ariel Katz - BA, LLB, LLM, SJD
Ian Lee - BCOM, LLB, LLM
Judith McCormack
Stephanie Sophia Moreau - BA, BPhil, PhD, JD
Mariana Prado - LLB,LLM
Cheryl Regehr - BA, MSW, PhD, Sandra Rotman Chair in Social Work
Andrea Slane - BA, PhD, JD
George Vegh

Linguistics   LIN

Faculty Affiliation
Arts and Science

Degree Programs Offered
Linguistics – MA, PhD

Overview
The Department of Linguistics offers **Master of Arts** and **Doctor of Philosophy** degree programs in three fields:
1. Theoretical Linguistics
2. Language Variation
3. Psycholinguistics

Contact and Address
Web: www.chass.utoronto.ca/linguistics/
E-mail: lingdept@chass.utoronto.ca
Telephone: (416) 978-4029
Fax: (416) 971-2688

Department of Linguistics
Sixth Floor, Robarts Library
Toronto, Ontario M5S 3H1
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Applicants with a bachelor's degree, or equivalent, with a minimum B+ average, may be admitted to a one-year or two-year MA program, depending on their background in linguistics. Admission to a one-year program requires a strong background in linguistics with at least courses in introductory phonetics, phonology, morphology, and syntax. Admission to a two-year program is offered to exceptional applicants whose background is limited to these courses.

Program Requirements
- The **one-year MA** program normally requires 4.0 full-course equivalents (FCE) including courses LIN 1121H, LIN 1131H, LIN 1181H, LIN 1290Y, and JAL 1145H, or their equivalents, if not already taken, plus other requirements as determined by the Department.
- The **two-year MA** program normally requires 8.0 FCE including courses LIN1121H, LIN 1131H, LIN 1181H, LIN 1290Y, and JAL 1145H, or their equivalents, if not already taken, plus other requirements as determined by the Department. LIN1121H, LIN 1131H, and LIN 1181H are normally taken in the first year. LIN 1290Y is taken in the final year of the program.
- All students must demonstrate an ability to read professionally in one language other than English. The choice of language must be approved by the graduate coordinator, having regard to the student's field of research. In some circumstances, demonstrated competence in computer programming may satisfy the requirement.

Doctor of Philosophy

Minimum Admission Requirements
- University of Toronto MA in linguistics, or its equivalent, with at least an A- average.

Program Requirements
- Students are normally required to complete 3.0 full-course equivalents (FCE) during the first year. Generals papers (LIN 2201H and LIN 2202H) in two areas of concentration (at least one of which must be in an area of linguistic theory) must be completed by the end of the second year.
- During these two years, students are normally required to be on campus full time for a residence period which entails being in such geographical proximity as to be able to visit the campus regularly and to participate fully in the Department's activities associated with the program.
- The language requirement as outlined for the MA degree must be satisfied. Additionally, there is one more language requirement. Other requirements are determined in consultation with the graduate coordinator.
- Candidates are required to present a thesis which must be an original contribution to linguistic knowledge. Both the preparation for and the writing of the thesis will be carried out under the supervision of members of the Department.

Courses
Course descriptions and other information are available each spring from the Coordinator of Graduate Studies. Not all courses are offered in a given year. Students should consult the departmental Web site.

JAL 1145H	Introduction to Field Methods
JAL 1155H	Language and Gender
JAL 1170H	Language Typology
JAL 1171Y	Dialectology
JLP 2450H	Psycholinguistics
JLP 2451H	Language Acquisition
JLP 2452H	Language Acquisition and Linguistic Theory
JRL 1100Y	Introduction to Romance Philology
LIN 1000Y	Introduction to Linguistics
LIN 1005H	Quantitative Methods in Linguistics (Credit/No Credit)

LIN 1028H   Phonetics
LIN 1029H   Sound Patterns in Language
LIN 1031H   Morphological Patterns in Language
LIN 1032H   Syntactic Patterns
LIN 1041H   Introduction to Semantics
LIN 1105H   Linguistic Structures
LIN 1106Y   Linguistic Structures
LIN 1115H   Second Language Acquisition
LIN 1121H   Phonological Theory
LIN 1126H   Phonetics
LIN 1127H   Phonetic Analysis
LIN 1131H   Introduction to Syntactic Theory
LIN 1133H   Morphology: Morphosyntactic Issues
LIN 1145H   Semantics
LIN 1151H   Urban Dialectology
LIN 1152H   Topics in Language Variation and Change
LIN 1156H   Language Variation and Change: Theory and Analysis
LIN 1162H   Comparative-Historical Linguistics I
LIN 1172H   Introduction to Cognitive Linguistics
LIN 1180H   History of Linguistic Thought
LIN 1181H   Introduction to Analysis and Argumentation
LIN 1182H   Language and Mind
LIN 1221H   Advanced Phonology I
LIN 1222H   Advanced Phonology II
LIN 1223H   Advanced Phonology III
LIN 1224H   Advanced Phonology IV
LIN 1226H   Advanced Phonetics
LIN 1231H   Advanced Syntax I
LIN 1232H   Advanced Syntax II
LIN 1233H   Advanced Syntax III
LIN 1234H   Advanced Syntax IV
LIN 1245H   Advanced Semantics I
LIN 1246H   Advanced Semantics II
LIN 1254H   Sociolinguistic Methods
LIN 1256H   Advanced Language Variation and Change
LIN 1270H   Language Processing and Linguistic Theory
LIN 1290Y   Linguistic Forum
LIN 1321H   Research in Phonology
LIN 1331H   Research in Syntax
LIN 1502Y   Reading Seminar
LIN 1503H   Reading Seminar
LIN 1504Y   Research Seminar
LIN 1505H   Research Seminar
LIN 1507H   Individual Readings I
LIN 1509H   Individual Readings II
LIN 2201H   Generals Paper I
LIN 2202H   Generals Paper II

Graduate Faculty

Full Members
Parth Bhatt - BA, MA, PhD
Robert Binnick - BA, MA, PhD
Craig Chambers - BA,MA,PHD
Laura Colantoni - MA, PhD
Elizabeth Cowper - BA, AM, PhD
B Elan Dresher - BA, PhD *(Chair)*
Michela Ippolito - BA, MPhil, PhD
Alana Johns - BA, MA, PhD
Yoon Jung Kang - BA, PhD
Alexei Kochetov - BA, MA, PhD
Philippe Martin - IRAL BR, D IIIe C, DSCA,ChPA
Diane Massam - BA, MA, PhD
Ana Teresa Perez-Leroux - BA, MA, PhD
Keren Rice - BA, MA, PhD, Canada Research Chair
Yves Roberge - BA, MA, PhD
Ronald Smyth - BA, MSc, PhD
Sali Tagliamonte - BA, MA, PhD *(Coordinator of Graduate Studies)*

Members Emeriti
John Chambers - BA, MA, PhD, DipEd
Peter Reich - BS, MS, PhD
Henry Rogers - BA, MA, PhD

Associate Members
Duk-Ho An - BA, MA, PhD
Heriberto Avelino - BA, MA, PhD
Susana Bejar - BA, MA, PhD
Marshall Chasin - BSc, MSc, AuD, Reg CASLPO, Aud(C), FAAA
Maria Cristina Cuervo - MA, PhD
Elaine Gold - BA, MA, PhD
Daniel Currie Hall - BA, MA, PhD
Rena Helms-Park - BA, MA, PhD, TESL
Emmanuel Nikiema - MA, PhD
Mihaela Pirvulescu - BA, MA, PhD
Jeffrey Steele - BA, MA, PhD

Management   MGT

Faculty Affiliation
Management

Degree Programs Offered
Management – MBA, EMBA, Combined BASc/MBA,
  Combined JD/MBA, MF, PhD
Master of Business Administration – MBA
Executive Master of Business Administration – EMBA
Global Executive Master of Business Administration
  – EMBA
Combined Bachelor of Applied Science/Master of
  Business Administration – BASc/MBA
Combined Juris Doctor/Master of Business
  Administration – JD/MBA
Master of Finance – MF
Doctor of Philosophy – PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Asia-Pacific Studies, see p. 413
   • Management, MBA
2. Environmental Studies, see p. 443
   • Management, MBA, PhD
3. Management and Economics, see p. 464
   • Management, PhD

Overview
The Joseph L. Rotman School of Management offers a suite of management programs including the **Master of Business Administration,** available in two-year and three-year formats; an **Executive Master of Business Administration**, a one-year format designed for senior managers; the **Omnium Global Executive Master of Business Administration,** an alternative to the EMBA for executives wanting to participate in an internationally-focussed business program; the **Master of Finance**, training tomorrow's global finance leaders; and a world-class doctoral program, the **Doctor of Philosophy**. The PhD program offers specialization in six different fields: accounting, finance, human resource management and organization behaviour, marketing; operations management; and strategic management. Other areas are available for selection as the minor field in management including international business.

In addition, the Rotman School of Management offers two combined MBA degree programs. The **Combined JD/MBA** is a four-year program offered by the Faculty of Law and the Rotman School of Management for students who wish to combine graduate training in management with a degree in law. The **Combined Jeffrey Skoll BASc/MBA,** established by the Faculty of Applied Science and Engineering and the Rotman School of Management, provides a fast track for students to earn their bachelor's degree in engineering and an MBA in six years and eight months.

Contact and Address
Web: www.rotman.utoronto.ca
Telephone: MBA: (416) 978-3499
        Executive MBA: (416) 946-3022
        Global Executive MBA: (416) 946-3022/
              www.omniumgemba.com
        PhD: (416) 978-4226

Joseph L. Rotman School of Management
105 St. George Street
University of Toronto
Toronto, Ontario M5S 3E6
Canada

Degree Programs

Master of Business Administration – Two-Year Program

Minimum Admission Requirements
- Four-year University of Toronto bachelor's degree or equivalent.
- Satisfactory score on the Graduate Management Admissions Test (GMAT) www.gmac.com. Test results are valid for five years.
- Preferential consideration given to applicants who demonstrate a minimum of two years of full-time work experience.
- English Language Facility. Satisfactory performance on one of the following tests:
   ○ Test of English as a Foreign Language (TOEFL) and Test of Written English (TWE) with the following minimum scores:
   ○ Paper-Based TOEFL exam: 600 with a minimum score of 5.0 on the TWE.
      ○ Computer-based TOEFL exam: 250 with a minimum score of 5.0 on the TWE
      ○ Internet-based TOEFL exam: overall score of 100 with 22 on the writing section.
   ○ IELTS – minimum score required is 7.0
   ○ MELAB – minimum score required is 85
   ○ COPE – minimum score required is 4 (with at least 1 in each component and 2 in the writing component)
   ○ Academic Preparation Course with the School of Continuing Studies, University of Toronto final grade of B in level 60 is required

Program Requirements
- Within this 16-month program (two academic years) students must:
   ○ Complete a set of mandatory first-year courses at the 1000-level. Each course has a weighting of 1, 2 or 3 modules. Three module courses are equivalent to three credit hours (no advanced standing will be granted for previous academic work completed or professional designations earned).

o Complete 5.0 elective full-course equivalents (FCE) at the 2000-level (equivalent to ten 2000-level courses). With the permission of the Assistant Dean and Executive Director, MBA Programs, students may take up to five 2000-level courses from another graduate unit or participate in a School- or University-approved international exchange program. In all cases, the courses selected are subject to the approval of the Assistant Dean and Executive Director, MBA Programs.
• All degree requirements must be completed within six years from the date of first enrolment in the program.

Master of Business Administration – Three-Year Program

Minimum Admission Requirements
• Four-year University of Toronto bachelor's degree or equivalent.
• Satisfactory score on the Graduate Management Admissions Test (GMAT) www.gmac.com. Test results are valid for five years.
• Preferential consideration given to applicants who demonstrate a minimum of four years of full-time work experience.
• English Language Facility. Satisfactory performance on one of the following tests:
  o Test of English as a Foreign Language (TOEFL) and Test of Written English (TWE) with the following minimum scores:
    o Paper-Based TOEFL exam: 600 with a minimum score of 5.0 on the TWE.
    o Computer-based TOEFL exam: 250 with a minimum score of 5.0 on the TWE
    o Internet-based TOEFL exam: overall score of 100 with 22 on the writing section.
  o IELTS – minimum score required is 7.0.
  o MELAB – minimum score required is 85.
  o COPE – minimum score required is 4 (with at least 1 in each component and 2 in the writing component).

Program Requirements
• There are two sections in the Three-Year Program: Evening section (36 months) and Morning section (32 months).
• Students must:
  o Complete a set of mandatory 1000-level courses. Each course has a weighting of 1, 2 or 3 modules. Three module courses are equivalent to three credit hours (no advanced standing will be granted for previous academic work completed or professional designations earned).
  o Complete 5.0 full-course equivalents (FCE) at the 2000-level (equivalent to ten 2000-level courses). With the permission of the Assistant Dean and Executive Director, MBA Programs, students may take up to five 2000-level courses from

another graduate unit or participate in a School- or University-approved international exchange program. In all cases, the courses selected are subject to the approval of the Assistant Dean and Executive Director, MBA Programs.
• All requirements for the degree must be completed within six years from the date of first enrolment in the MBA program.

Combined JD (Law)/MBA Program

Minimum Admission Requirements
• Applicants must be admitted to both the Faculty of Law and the Rotman School of Management. Individual applications are required for both programs and applicants must satisfy the admission requirements of both faculties independently.
• Management admission criteria are the same as those for the two-year MBA program, with the following exception: although work experience is not a requirement, the average MBA student would desirably have five years' experience. It is expected that JD/MBA applicants' academic and personal background reflects diversity and life experience.
• Applicants must obtain satisfactory scores in the Law School Admission Test (LSAT) and the Graduate Management Admission Test (GMAT).
• Students who are in the first year of either of the JD or Two-Year Program may apply for admission to the combined JD/MBA Program by meeting the normal application and admission requirements for the other faculty.

Program Requirements
• Within this combined four-year program, students must:
  o register and complete the first year of the JD program with at least a B standing to continue in the program.
  o complete the MBA 1000-level core courses with at least a B+ to be eligible to continue in the program.
  o A further 3.0 full-course equivalents (FCE) at the 2000-level (equivalent to six 2000-level courses) from the Rotman School of Management and 45 credits from the Faculty of Law (in addition to the JD requirements to complete a Moot, a Perspective course, and the Extended Writing Requirement).

Combined BASc (Engineering)/ MBA Program

Minimum Admission Requirements
• Students in the second or third undergraduate year at the Faculty of Applied Science and Engineering are eligible to apply for the combined BASc/MBA degree program.

- Applicants need a minimum B+ (77%) average in each of the following four sessions: 1W, 2F, 2W, 3F; participation in the PEY program, as well as satisfactory GMAT scores to be considered.

Program Requirements
- Within this combined six-year program, students in:
  o **Years 1-4**: complete engineering studies before entering MBA studies.
  o **Year 5**: complete a set of mandatory 1000-level MBA courses. Each course has a weighting of 1, 2, or 3 modules. Three module courses are equivalent to three credit hours (no advanced standing will be granted for previous academic work completed or professional designations earned.
  o **Year 6**: complete 5.0 elective full-course equivalents (FCE) at the 2000-level (equivalent to ten 2000-level courses). With the permission of the Assistant Dean and Executive Director, MBA Programs, students may take up to five 2000-level courses from another graduate unit or participate in a School or University-approved international exchange program. In all cases, the courses selected are subject to the approval of the Assistant Dean and Executive Director, MBA Programs.

Courses for the MBA

Weighting for MGT 1000-level courses is determined by the second digit of the four-digit course number as follows:

Second Digit Course Weight
0   CR/NCR (Credit/No Credit)
1   one credit hour
2   two credit hours
3   three credit hours

The Department should be consulted each session as to course offerings.

1000 Level

MGT 1102H Business Ethics
MGT 1210H   Managerial Economics
MGT 1211H   Economic Environment of Business
MGT 1212H   Global Managerial Perspective
MGT 1222H   Managerial Accounting
MGT 1241H   Operations Management
MGT 1261H   Managerial Negotiations
MGT1262H   Leadership
MGT 1263H   Managing People in Organizations
MGT 1291H   Foundations of Integrative Thinking
MGT 1292H   Integrative Thinking Practicum
MGT 1301H   Fundamentals of Strategic Management
MGT 1320H   Financial Accounting
MGT 1330H   Business Finance
MGT 1350H   Managing Customer Value
MGT 1382H   Statistics for Management

2000 Level
MGT 2001H   Research Project (quarter course)
MGT 2002Y   Research Project
MGT 2003H   Research Project
MGT 2010H   Business-Government Relations
MGT 2011H   International Business
MGT 2012H   Entrepreneurship
MGT 2015H   Special Topics in Strategic Management
MGT 2016H   Special Topics in Strategic Management
MGT 2017H   Special Topics in Strategic Management
MGT 2018H   Special Topics in Strategic Management
MGT 2019H   Special Topics in Strategic Management
MGT 2020H   Health Sector Strategy & Organizations
MGT 2024H   Outsourcing
MGT 2050H   Technology/Management Interface
MGT 2052H   Management Consulting
MGT 2053H   Organizational Strategy
MGT 2054H   Technology Strategy
MGT 2055H   Cooperative Strategy
MGT 2056H   Game Theory and Competitive Strategy
MGT 2057H   Venture Capital
MGT 2058H   Case Analysis and Presentation
MGT 2080H   Special Topics in Strategic Management
MGT 2081H   Special Topics in Strategic Management
MGT 2082H   Special Topics in Strategic Management
MGT 2083H   Special Topics in Strategic Management
MGT 2084H   Special Topics in Strategic Management
MGT 2115H   Special Topics in Business Economics
MGT 2116H   Special Topics in Business Economics
MGT 2117H   Special Topics in Business Economics
MGT 2118H   Special Topics in Business Economics
MGT 2119H   Special Topics in Business Economics
MGT 2122H   Business and the Regulatory Environment
MGT 2123H   International Business in the World Economy
MGT 2125H   Game Theory and Applications for Management
MGT 2126H   Real Estate Development
MGT 2127H   Economic Environment of International Business
MGT 2128H   Real Estate Economics
MGT 2129H   Forecasting Models and Econometric Methods
MGT 2140H   Special Topics in Business Economics
MGT 2141H   Special Topics in Business Economics
MGT 2142H   Special Topics in Business Economics
MGT 2202H   Planning and Control Systems
MGT 2203H   Current Issues in Financial Reporting and Disclosure
MGT 2204H   Canadian Tax Practice
MGT 2209H   Financial Statement Analysis
MGT 2215H   Special Topics in Accounting
MGT 2216H   Special Topics in Accounting
MGT 2300H   Corporate Financing
MGT 2301H   Financial Management
MGT 2302H   Security Analysis and Portfolio Management
MGT 2303H   Risk Modelling and Financial Trading Strategies
MGT 2304H   Financial Institutions and Capital Markets
MGT 2305H   International Financial Management

MGT 2306H   Options and Futures Markets
MGT 2307H   Advanced Derivatives
MGT 2308H   Financial Risk Management
MGT 2309H   Mergers and Acquisition
MGT 2310H   Analysis and Management of Fixed Income
                        Securities
MGT 2311H   Applied Portfolio Management
MGT 2312H   Value Investing
MGT 2315H   Special Topics in Finance
MGT 2316H   Special Topics in Finance
MGT 2317H   Special Topics in Finance
MGT 2405H   Supply Chain Management
MGT 2406H   Operations Management Strategy
MGT 2415H   Special Topics in Management Science
MGT 2500H   Marketing Strategy
MGT 2501H   Global Marketing
MGT 2502H   Mass Merchandising
MGT 2503H   Strategic Internet Marketing
MGT 2504H   Consumer Behaviour
MGT 2505H   Integrated Marketing Communication
MGT 2506H   Marketing Research
MGT 2507H   Marketing Analysis and Decision Making
MGT 2508H   Services Marketing
MGT 2509H   Marketing High-Tech Products
MGT 2510H   Distribution Channel Strategy
MGT 2511H   Marketing Financial Services
MGT 2512H   Branding
MGT 2513H   Pricing
MGT 2515H   Special Topics in Marketing
MGT 2516H   Special Topics in Marketing
MGT 2517H   Special Topics in Marketing
MGT 2518H   Special Topics in Marketing
MGT 2519H   Special Topics in Marketing
MGT 2520H   Special Topics in Marketing
MGT 2601H   Organization Design
MGT 2602H   Emotionally Intelligent Leadership
MGT 2603H   Advanced Negotiations and Conflict
                        Management
MGT 2604H   Organization Change and Development
MGT 2605H   International Organizational Behaviour
MGT 2606H   Designing New Work Organizations
MGT 2607H   Managerial Negotiations
MGT 2609H   Management of Human Resources
MGT 2610H   Industrial Relations
MGT 2612H   Managing Talent for Global Operations
MGT 2613H   Leadership
MGT 2615H   Special Topics in Organizational Behaviour
MGT 2616H   Special Topics in Organizational Behaviour
MGT 2618H   Special Topics in Organizational Behaviour
MGT 2704H   Information Technology Management
MGT 2715H   Special Topics in Information Systems
MGT 2800H   Management Science
MGT 2801H   Management Decision Analysis
MGT 2802H   Computer Modelling and Simulation
MGT 2910H   Learning How to Learn
MGT 2912H   Business Law
MGT 2913H   Getting It Done
MGT 2914H   Not-for-Profit Consulting
MGT 2915H   Multidisciplinary Special Topics
MGT 2916H   Multidisciplinary Special Topics
MGT 2917H   Multidisciplinary Special Topics

MGT 2918H   Multidisciplinary Special Topics
MGT 2920H   Top Manager's Perspective
MGT 2921H   Using History to Make Strategic Choices

Executive Master of Business Administration

Minimum Admission Requirements
- Admission is restricted to applicants with signifi-
  cant professional work or managerial experience.
  Applicants are considered under the general regula-
  tions of the School of Graduate Studies and must ob-
  tain either a satisfactory score for the Executive MBA
  Diagnostic Tool (EDT) or the Graduate Management
  Admission Test (GMAT). For further details, refer to
  the Web site or contact the program office.
- Please note special program fees apply for this
  program.

Program Requirements
- Within this 13-month program:
  - Students complete 23 courses with an accumu-
    lated credit weighting of 11.25.
  - One or more of the course(s) may be substituted
    by course(s) offered in the regular MBA program
    at the discretion of the Academic Director.

Courses for the EMBA
The Department should be consulted each session
regarding course offerings.

First Session
MGT 5001H   Strategy 1
MGT 5003H   Personal Leadership 1
MGT 5005H   The Business Environment 1
MGT 5012H   Special Topics in Strategic Management
MGT 5101H   Economics 1
MGT 5201H   Accounting 1
MGT 5301H   Finance 1
MGT 5401H   Business Operations
MGT 5501H   Marketing 1
MGT 5601H   Organizational Leadership 1
MGT 5801H   Quantitative Reasoning for Management

Second Session
MGT 5002H   Strategy 2
MGT 5004H   Personal Leadership 2
MGT 5006H   The Business Environment 2
MGT 5007H   International Business
MGT 5009H   Topics in Strategic Management
MGT 5010H   Industry Analysis Project
MGT 5011H   Capstone Project - The Responsible
                        Leader
MGT 5102H   Economics 2
MGT 5202H   Accounting 2
MGT 5302H   Finance 2
MGT 5502H   Marketing 2
MGT 5602H   Organizational Leadership 2

Global Executive Master of Business Administration

Minimum Admission Requirements
- Admission is restricted to applicants with significant professional work or managerial experience.
- Applicants are considered under the general regulations of the School of Graduate Studies.
- Applicants must also obtain either a satisfactory score for the Executive MBA Diagnostic Tool (EDT) or the Graduate Management Admission Test (GMAT). For further details, refer to the Web site or contact the program office.

Program Requirements
- Within this 18-month program:
  - o Students complete 23 courses with an accumulated credit weighting of 11.25
  - o Students complete six international modules consisting of two to three intensive weeks in each of the five locations: Europe (Switzerland, Hungary); South America (Brazil, Sao Paulo, Rio de Janeiro); China (Hong Kong, Shanghai); India (Hyderabad, Mumbai); and Canada (Toronto). The program starts and ends with a module in Toronto.
  - o The curriculum is closely aligned with courses offered in the Executive MBA program. Between modules, participants continue their academic work by utilizing our electronic learning tools.
  - o After successfully completing all modules, participants receive the MBA degree from the University of Toronto.

Courses for the GEMBA

MGT 5001H Strategy 1: Global Strategic Management 1
MGT 5002H Strategy 2: Corporate Strategy
MGT 5004H Personal Leadership: Corporate Leadership
MGT 5005H The Business Environment 1: Corporate Governance
MGT 5006H The Business Environment 2: Professional Responsibilities
MGT 5007H International Business: International Risk Management
MGT 5009H Topics in Strategic Management
MGT 5010H Industry Analysis Project: Developing a Business Plan
MGT 5011H Capstone Project - The Responsible Leader: Growth Project
MGT 5012H Special Topics in Strategic Management
MGT 5101H Economics 1: Economics Introduction
MGT 5102H Economics 2: Political Economy
MGT 5201H Accounting 1
MGT 5202H Accounting 2: International Accounting
MGT 5301H Finance 1: Financial Global Markets
MGT 5302H Finance 2: Corporate Finance
MGT 5401H Business Operations: Supply Chain Management

MGT 5501H Marketing: Creating Customer Value (Marketing)
MGT 5502H Marketing 2
MGT 5601H Organizational Leadership 1: Global Team Leadership
MGT 5602H Organizational Leadership 2: Negotiation
MGT 5801H Quantitative Reasoning for Managers
MGT 5901H Technology Innovation

Master of Finance

Minimum Admission Requirements
- Applicants are admitted under the general regulations, including a four-year undergraduate degree from the University of Toronto or its equivalent with a mid-B average in the final year of undergraduate or prior graduate education.
- Satisfactory score on the Graduate Management Admissions Test (GMAT) or completion of all three levels of the Charter Financial Analyst (CFA) designation prior to the application deadline.
- At least two years of full-time work experience in finance. In special circumstances, other substantial experiences will be considered in lieu of the work experience in finance, but only when accompanied by demonstrated exceptional academic and professional potential. Generally, applicants are not accepted immediately after completion of their undergraduate education, unless they have significant prior full-time work experience.
- English Language Facility. Satisfactory performance on one of the following tests:
  - o Test of English as a Foreign Language (TOEFL) and Test of Written English (TWE) with the following minimum scores:
    - o Paper-based TOEFL exam: 600 with a minimum score of 5.0 on the TWE
    - o Computer-based TOEFL exam: 250 with a minimum score of 5.0 on the TWE
    - o Internet-based TOEFL exam: overall score of100 with 22 on the writing section
- Equivalent performance on other tests (IELTS, MELAB) may be considered in special circumstances, but the TOEFL is preferred.
  - o IELTS – minimum score required is 7.0
  - o MELAB – minimum score required is 85
  - o COPE – minimum score required is 4 (with at least 1 in each component and 2 in the writing component)

Program Requirements
- Within this 20-month program (two academic years) students:
  - o must complete a structured sequence of 14 courses taken over five semesters (including summer). No advanced standing will be granted for previous academic work completed or professional designations earned.

o   may be required to do some pre-program stud-
    ies during the summer prior to the start of the
    program, depending on background preparation.
•   All degree requirements must be completed within
    six years of first enrolment in the Master of Finance
    program.

Courses for the MF

MGT 4310H   Foundations of Finance
MGT 4311H   Corporate Finance and Valuation
MGT 4312H   Derivatives
MGT 4313H   Firms, Deals and the Economy
MGT 4314H   Risk Management and Financial
            Institutions
MGT 4315H   Investment Banking
MGT 4316H   Financial Reporting and Financial
            Statement Analysis
MGT 4317H   Analysis of Fixed Income Markets
MGT 4318H   Finance Theory
MGT 4319H   Portfolio Management and Trading Risks
MGT 4320H   Advanced Accounting Topics for Finance
MGT 4321H   Leadership and Decision Making in
            Finance
MGT 4322H   Applications of Derivatives Products
MGT 4323H   Investments

Doctor of Philosophy

Minimum Admission Requirements
•   Applicants are admitted under the general
    regulations.
•   Students are expected to acquire a breadth of knowl-
    edge across each of the six disciplines (Accounting,
    Finance, Marketing, Operations Management,
    Organizational Behaviour and Human Resource
    Management, and Strategic Management.
•   Some depth in the cognate disciplines relevant to the
    field of specialization is required.
•   These requirements may be satisfied prior to entry
    to the PhD program through an MBA degree pro-
    gram coupled with a relevant undergraduate degree,
    or through an undergraduate degree in business,
    management, or commerce coupled with a discipline-
    based master's degree.
•   If the breadth and depth requirements are completed
    prior to entry to the PhD program, then the student
    is expected to complete the program in four years. If
    additional course work is required, then the student
    may need an additional year t complete the program.
•   Applicants should provide:
    o   Transcripts from each post secondary institution
        attended.
    o   A letter of intent for applying to the PhD Program.
    o   An updated Curriculum Vitae (CV).
    o   Two reference letters.
    o   A valid GMAT or GRE score.
    o   Proof of English language facility.

Program Requirements
•   Students spend the first two years on campus, reg-
    istered as full time students. During this time, they
    are normally expected to complete course work. The
    program consists of a major field and two minor fields
    of study.
•   Within this PhD program, students normally:
    o   Complete a minimum of 4.0 full-course equiva-
        lents (FCE) to satisfy requirements for one major
        field and two minor fields of study.
    o   A minimum of 2.0 FCE comprise the major field.
        These will normally be taken from 3000-level
        Management courses, but additional courses
        from other departments may be required.
    o   The two minor fields are usually taken in cognate
        departments. Each minor field comprises at
        least 1.0 FCE. With special permission from the
        Rotman School of Management, students may
        be exempted from 1.0 FCE for one of the minor
        fields on the basis of graduate-level work com-
        pleted at another university.
    o   In order to gain exposure to the breadth of the
        MBA program, 1.5 FCE chosen from the follow-
        ing list (or their equivalents) are required:
        o   MGT 1221H Accounting I or MGT 1222H
            Managerial Accounting
        o   MGT 1241H Operations Management
        o   MGT1301H Fundamentals of Strategic
            Management
        o   MGT 1330H Business Finance
        o   MGT 1350H Marketing
        o   MGT 1362H Managing People in
            Organizations
        The 1.5 FCE are chosen in consultation with the
        Area PhD Supervisor. The choice excludes any
        course from the student's major field of study. No
        student will be allowed to defend a dissertation
        proposal until the distribution requirements are
        completed.
        *Effective March 2004, the MBA distribution
        requirements in the PhD program were
        suspended for two years. The suspension maybe
        extended for the 2008/2009 academic year.
        All students registered at that time and newly
        admitted students since the 2004/2005 academic
        year will not be subjected to the MBA distribution
        requirements. In the meantime, an alternate
        suitable replacement that meets the objective of
        the MBA distributions is being developed.*
        o   A student is expected to be qualified in the
            three basic disciplines essential to the study of
            Management: economics, behavioural science,
            and quantitative analysis/statistics.
        o   Upon completion of the courses in the major
            and minor fields, the student is expected to pass
            comprehensive examinations in the major field.
        o   A thesis embodying the results of original
            investigation must be submitted and defended at
            a final oral examination in accordance with the
            regulation of the School of Graduate Studies.

Courses for the PhD
The Department should be consulted each session as to course offerings.

Courses normally restricted to PhD students
MGT 3001H   Research Methods in Strategic
                     Management
MGT 3002H   Advanced Topics in Strategy and
                     Organization
MGT 3003H   Advanced Topics in Strategy and
                     Economics
MGT 3004H   Advanced Topics in International Strategy
MGT 3005H   Strategic Management Workshop
MGT 3020H   Financial Accounting: Theory and Empirical
                     Research
MGT 3021H   Managerial Accounting Research Methods
MGT 3022H   Auditing Seminar
MGT 3023H   Topics in Accounting Research
MGT 3025H   Workshop in Accounting
MGT 3030H   Financial Theory I
MGT 3031H   Financial Theory II
MGT 3032H   Empirical Methods in Finance
MGT 3033H   Current Topics in Finance
MGT 3034H   Capital Markets Workshop
MGT 3041H   Seminar in Operations Management
MGT 3045H   Advanced Topics in Operations
                     Management I
MGT 3046H   Advanced Topics in Operations
                     Management II
MGT 3051H   Marketing Theory I: Consumer Behaviour
MGT 3052H   Marketing Theory II: Strategy
MGT 3053H   Behavioural Research Methods in
                     Marketing
MGT 3054H   Current Topics in Consumer Behaviour
MGT 3055H   Econometric Methods in Marketing
MGT 3056H   Current Topics in Marketing Strategy
MGT 3057H   Workshop in Marketing (Credit/No Credit)
MGT 3058H   The Psychology of Judgement and
                     Decision Making
MGT 3060H   Advances in Human Resource
                     Management
MGT 3062H   Methods and Research in Organizational
                     Behaviour and Industrial Relations
MGT 3063H   Advanced Topics in Organization Theory
MGT 3064H   Advanced Topics in Organizational
                     Behaviour
MGT 3065H   New Directions in Organizational Research
MGT 3090H   Reading Course in Approved Field
MGT 3091H   Reading Course in Approved Field

Graduate Faculty

Full Members
Varouj Aivazian - BS, MA, PhD
Terry Amburgey - BS, MA, PhD
Joel Amernic - BSc, MBA, FCA
Thomas Astebro - MSc, TECHLIC, PhD
Igor Averbakh - MSc, PhD
Joel Baum - BA, MBA, PhD
Jennifer Berdahl - BA, MA, MA, PhD
Oded Berman - BA, SM, PhD
Laurence Booth - BSc, MA, MBA, DBA
Sandford Borins - BA, MPP, PhD
Donald Brean - BA, BBA, MBA, MSc, PhD
Leonard Brooks - BCom, MBA, FCA, CA
Jeffrey Callen - BA, MBA, PhD
Kenneth Corts - BA, MA, PhD
Stephane Cote - BSc, MA, PhD
Joseph D'Cruz - BA, MBA, DBA
Jin-Chuan Duan - BSc, MBA, MSc, PhD
Alexander Dyck - BA, PhD
Ramy Elitzur - BA, MBA, MPhil, PhD, CPA, CMA
Richard Florida – BA, PhD
Brian Golden - BS, MS, PhD
David Goldreich - BS, MSIA, MS, PhD
Daniel Greeno - BCom, MBA, PhD
Hugh Gunz - BSc, DPhil, PhD
Paul Halpern - BCom, MBA, PhD
Scott Hawkins - BA, MS, PhD
Walid Hejazi - BA, MA, PhD
Ole-Kristian Hope - BA, MBA, PhD
Ignatius Horstmann - BA, PhD
John Hull - BA, MA, MA, PhD
Douglas Hyatt - BA, MA, PhD
R. Michael Jalland - BA, PhD
Raymond Kan - BBA, MBA, PhD
Eric Kirzner - BA, MBA
Dmitry Krass - BS, MSE, PhD
Gary Latham - BA, MS, PhD, FRSC
Sharmistha Law - BA, BS, MS, PhD
Yue Li - BSc, MBA, PhD
Jan Mahrt-Smith - BSc, PhD
Roger L. Martin - AB, MBA *(Dean)*
Susan McCracken - BCom, PhD, CA
Thomas McCurdy - BA, MA, PhD
William McEvily - BS, PhD
Anita McGahan – BA, MBA, PhD
Nitin Mehta - BTech, MS, MSIA, PhD
Ulrich Menzefricke - MBA, DBA
Joseph Milner - BS, MS, PhD
Matthew Mitchell – BS, MA, PhD
Mihnea (Michael) Moldoveanu - BSc, MSc, DBA
Sridhar Moorthy - BSc, MBA, MS, PhD
Joanne Oxley - BA, BSc, MBA, MA, PhD
Peter Pauly - MA, PhD *(Vice-Dean, Research & Academic Resources)*
Rebecca Reuber - BA, MSc, PhD, CIA
Gordon Richardson - BA, MBA, PhD
Marcel Rindisbacher - BS, MSc, PhD
Wendy Rotenberg - BA, MBA, PhD
Maria Rotundo - BA, MIR, PhD

Timothy Rowley - BA, MBA, PhD
Alan Saks - BA, MASc, PhD
Dan Segal - BA, PhD
Mengze Shi - BS, MA, MS, PhD
Brian Silverman - AB, SM, MA, PhD
Waldemar Smieliauskas - BS, MS, PhD
Dilip Soman - BE, MBA, PhD
Olav Sorenson – AB, MA, PhD
Mark Stabile - BA, MA, PhD, Director School of Public
 Policy and Governance
Andrew Stark - BA, MSc, MA, PhD
William Strange - BA, MA PhD
Mihkel Tombak - BASc, MBA, AM, PhD
Daniel Trefler - BA, MPh, PhD
Anil Verma - BTech, MBA, PhD
Qing (Kevin) Wang - BS, MA, PhD
Jason Wei - BSc, MBA, PhD
Anthony Wensley - BA, PGCE, MA, MBA, PhD
Alan White - BEng, MBA, PhD
Glen Whyte - LLB, MBA, MPhil, MA, PhD
Jia Lin Xie - BA, MBA, PhD
Ping Zhang - BSc, MBA, MAcc, PhD

Members Emeriti
Richard Bird - BA, MA, PhD, FRSC
John Crispo - BCom, PhD
Martin Evans - BSc, MScTech, MIA, PhD
James Fleck - BA, DBA
Myron Gordon - BA, MA, PhD, LLD, FRSC
Harvey Kolodny - BEng, MBA, DBA, PEng
Andrew Mitchell - BA, PhD
Daniel Ondrack - BCom, MBA, PhD
Albert Safarian - BA, PhD, FRSC
John Sawyer - BCom, MA, PhD
Thomas Wilson - BA, AM, PhD, FRSC

Associate Members
Philipp Afeche – BA, MS, PhD
Pankaj Aggarwal - BA, MBA, MBA, PhD
Ajay Agrawal - BASc, MEng, MBA, MA, PhD
Opher Baron - BSc, MBA, PhD
Bernardo Soares Blum - BA, MA, MA, PhD
Sabrina Buti – ME, MMEE, MPhil, PhD
Tiziana Casciaro – BA, MS, PhD
Feng Chen – BA, MSED, MBA, PhD
Andrew Tat Tin Ching - BEcon, MA, PhD
Kristina Dahlin - MSc, PhD
Sergei Davydenko - MSc, ME, PhD
Gus De Franco - HBA, MBA, PhD
Sanford De Voe – BA, PhD
Francois Derrien - HEC, MSc, PhD
Craig Andrew Doidge - BComm, MSC, PhD
Esther Eiling - BA, MSc, PhD
April Franco – BA, MA, PhD
Garth Frazer - BMath, BEd, MA, MPhil, PhD
Alberto Galasso - PhD
Avi Goldfarb - BAH, MA, PhD
Lu Han - BA, MA, PhD
Kyeongheui Kim - BA, MBA, PhD
Lisa Kramer - BBA, PhD

Mara Lederman - BA, PhD
Geoffrey Leonardelli - BA, MA, PhD
Hai Lu - PhD
Nina Mazar - PhD
Julie McCarthy - BA, MA, PhD
Sergio Meza - BSc, MBA, PhD
Samantha Montes - BA, MA, PhD
John Oesch - BSc, BEd, MEd, MBA, PhD
Lukasz Pomorski – MSc, MBA, PhD
Timothy Simcoe - AB, MA, PhD
Huilan Tian - BSc, MSc, PhD
Soo Min Toh - BBS, PhD
John Peter Trougakos - BS, MBA, PhD
I-Wen (Claire) Tsai – BBA, MBA, PhD
Mark Weber - BA, MA, MBA, PhD
Andrea Wojnicki - BComm, MBA, DBA
Moon Hung (Franco) Wong - Ph D, MA
Baohua Xin - PhD
Min Zhao – BA, MA, PhD
Chenbo Zhong – BA, MA, PhD
David Zweig - BA, MASc, PhD

Materials Science and Engineering   MMS

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Materials Science and Engineering – MASc, MEng, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomedical Engineering,
   - Materials Science and Engineering, MASc, PhD
2. Environmental Engineering,
   - Materials Science and Engineering, MASc, MEng, PhD

Overview
The Department of Materials Science and Engineering offers graduate programs leading to the degrees of **Master of Applied Science**, **Master of Engineering**, and **Doctor of Philosophy**. Graduate courses and research opportunities are offered to qualified students in a wide range of subjects.

Typical subjects in chemical metallurgy involve a study of the equilibria existing during the reduction of oxides with carbon and metals, properties of iron and steelmaking slags, the fundamental properties of fused salt solutions, fused salt electrolysis of reactive metals, kinetics of high-temperature reactions, mathematical modelling of metallurgical processes, process metallurgy, and hydrometallurgy.

Typical physical metallurgy and materials science subjects deal with the structure and properties of metallic, ceramic, and polymeric materials in such fields as plastic deformation, surface properties, electron microscopy, biomaterials, nuclear materials, metal-matrix composites (MMCs), metallic glasses, corrosion, fatigue, welding and bonding, phase transformations and solidification. These studies are all related to the general problem of understanding structure-property-processing relationships in materials.

Contact and Address
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E-mail: mse@ecf.utoronto.ca
Telephone: (416) 978-3012
Fax: (416) 978-4155

Department of Materials Science and Engineering
Room 140, Wallberg Building
University of Toronto
Toronto, Ontario M5S 3E4
Canada

Degree Programs

Master of Applied Science

Minimum Admission Requirements
- Students are accepted under the general regulations.
- For students whose primary language is not English, the department requires a TOEFL (Test of English as a Foreign Language) with the following minimum scores. Paper-based TOEFL:: minimum score of 580 and 4 on the TWE. Computer-based TOEFL: minimum score of 237 and 4 on the essay rating component. Internet-based TOEFL: minimum score of 93/120 and 22/30 on the writing and speaking sections.

Program Requirements
- The program of study normally includes 2.0 full-course equivalents, including the MASc Graduate Research Seminar, the Graduate Ethics Seminar, and a thesis. Normally, the course work selected includes the departmental seminar, which is a half-year course, and three half-courses, one of which is normally taken inside the department.
- The required thesis is based upon research work carried out in the department in the fields of chemical metallurgy, physical metallurgy, or materials science. The thesis must be presented at an oral examination.

Master of Engineering

Minimum Admission Requirements
- Students are accepted under the general regulations.
- For students whose primary language is not English, the department requires a TOEFL (Test of English as a Foreign Language) with the following minimum scores. Paper-based TOEFL: minimum score of 580 and 4 on the TWE. Computer-based TOEFL: minimum score of 237 and 4 on the essay rating component. Internet-based TOEFL: minimum score of 93/120 and 22/30 on the writing and speaking sections.

Program Requirements
- A student enrols in a field of study in consultation with a professor who will act as advisor throughout the student's program.
- For students with adequate undergraduate preparation, the normal program will include 5.0 full-course equivalents (FCE), of which 2.5 FCE must be taken within MSE; a project may be substituted for 1.5 FCE (in this case, 1.5 of the 3.5 FCE must be taken within MSE). The project must be presented at an oral examination.

Doctor of Philosophy

Minimum Admission Requirements
- For students whose primary language is not English, the department requires a TOEFL (Test of English as a Foreign Language) with the following minimum scores. Paper-based TOEFL:: minimum score of 580 and 4 on the TWE. Computer-based TOEFL: minimum score of 237 and 4 on the essay rating component. Internet-based TOEFL: minimum score of 93/120 and 22/30 on the writing and speaking sections.
- Very strong MASc students may apply to transfer to the PhD program after completing one year of the MASc program. Regulations governing such transfers are available in the Materials Science and Engineering Graduate Studies office. A student who is permitted such a transfer must complete only the PhD Graduate Research Seminar in addition to the four courses completed in the MASc program.

Program Requirements
- Students are normally expected to have completed the master's program before entering the PhD program.
- The major subject in a program will be chemical metallurgy, physical metallurgy, or materials science.
- The program of study normally includes 2.0 full-course equivalents (FCE), including the PhD Graduate Research Seminar, the Graduate Ethics Seminar (unless already taken at the MASc level), and a thesis. 0.5 of the 1.5 FCE is normally be taken inside the department.
- Within 12 months of initial enrolment, all PhD students must pass a general qualifying examination based on the course material taken within the department and on background knowledge in the student's field of specialization.
- The required thesis is based upon research work carried out in the department in the fields of chemical metallurgy, physical metallurgy, or materials science.

Courses

A schedule is available from the Coordinator of Graduate Studies at the beginning of the fall session listing the time and room location for each course offered.

All students wishing to undertake graduate research in the Department of Materials Science and Engineering must successfully complete a two-day intensive occupational health and safety training program which will normally take place during the week immediately preceding the commencement of graduate courses. More details concerning this course will be provided by the Coordinator of Graduate Studies once admission to a graduate program has been confirmed.

Note: Not all courses are offered every year. Please consult the department for a listing of courses being offered this year.

Materials Science

MSE 550H	Advanced Physical Properties of Structural Nanomaterials
MMS 1000H°	Graduate Research Seminar MASc
MMS 1013H	Growth and Characterization of Semiconductors
MMS 1014H	Interfacial Phenomena
MMS 1015H	Mechanical Properties of Solids I
MMS 1016H	Mechanical Properties of Solids II
MMS 1018H	Phase Transformations
MMS 1020H	Environmentally Induced Cracking
MMS 1022H	Special Topics in Materials Science I
MMS 1023H	Special Topics in Materials Science II
MMS 1024H	Interface and Nanophase Engineering
MMS 1025H	Non-Crystalline Solids
MMS 1026H	Analytical Electron Microscopy
MMS 1027H	Finite Element Analysis and Design of Metallurgical Systems
MMS 1028H	Advanced Materials Science
MMS 1029H	Electrochemical Synthesis of Nanomaterials
MMS 2000H°	Graduate Research Seminar PhD
MMS 2013H	Materials and Manufacturing
JMZ 1704H	Polymer Process Engineering
JTC 1020H	Ceramics
JTC 1331H	Biomaterials Science

Metallurgy

MMS 1000H°	Graduate Research Seminar MASc
MMS 2000H°	Graduate Research Seminar PhD
MMS 2006H	Molten Salt Electrolysis
MMS 2007H	Iron and Steel Making—selected topics
MMS 2008H	High Temperature Metallurgical Fluids
MMS 2014H	Non-Ferrous Extraction Metallurgy
MMS 2017H	Welding Metallurgy
MMS 2018H	Welding Processes and Testing
MMS 2020H	Mathematical Modelling in Materials Processing
MMS 2022H	Special Topics in Metallurgy I
MMS 2023H	Special Topics in Metallurgy II

Graduate Faculty

Full Members
Stavros Argyropoulos - DiplEng, MEng, PhD, PEng
Thomas Coyle - BSc, BA, ScD
Uwe Erb - DipIng
Marc Grynpas - MSc, PhD
Glenn Hibbard - BASc, PhD, PEng
Nazir Kherani - BASc, MASc, PhD, PEng
Keryn Lian - BASc, MASc , PhD
Zheng-Hong Lu - BSc, MSc, PhD
Hani Naguib - BSc, ME, PhD, PEng, Canada Research Chair
Jun Nogami - BASc, MASc, PhD
Thomas North - BSc, MSc, PhD, PEng

° Courses which may continue over a program. The course is graded when completed.

Doug Perovic - BASc, MASc, PhD, PEng *(Chair)*
Harry Ruda - BSc, ARSM, PhD
Steven Thorpe - BASc, MASc, PhD
Torstein Utigard - BSc, MASc, PhD, PEng
Zhirui Wang - BEng, MSc, PhD *(Coordinator of Graduate Studies)*

Members Emeriti
Karl Aust - BASc, MASc, PhD, FASM, FRSC, PEng
Brian Cox - BA, MA, PhD
Ursula Franklin - PhD, LLD, DSc, DDN, CC, FRSC, University Professor Emeritus
Douglas Lavers - BSc, MASc, PhD, FIEEE, PEng, Eugene Polistuk Chair in Electromagnetic Design
Alexander Mclean - BSc, PhD, PEng
Robert Pilliar - BASc, PhD, PEng
John Rutter - MA, PhD, PEng
Iain Sommerville - BSc, PhD, ARCS

Associate Members
Roland Bergman - BASc, MASc, PEng
Eli Sone - PhD, MS, BSc

Mathematical Finance   MMF

Faculty Affiliation
School of Graduate Studies

Degree Programs Offered
Mathematical Finance – MMF

Overview

Financial engineering is one of the fastest grow-ing areas of applied mathematics. In the **Master of Mathematical Finance** program, students reshape their existing analytical abilities with the help of senior academics in mathematics, computer science, statistics, and engineering who have experience with the tools of mathematical finance. This cross-disciplinary approach develops graduates with a richer, more innovative ap-proach to applied mathematics in real-world situations. Some of the faculty are seasoned practitioners from the financial industry while others are from leading firms in the financial software industry, developing applications around requirements like risk management, portfolio analysis, and the pricing of advanced derivatives.

The heart of the program is the four-month internship or campus project. Working on real financial projects, stu-dents learn to integrate and apply theoretical knowledge gained earlier in the program. In the internship, students team with employees of the sponsoring firm to experi-ence how financial mathematics impacts the decision-making processes of a financial services organization.

Contacts and Address
E-mail: math.finance@utoronto.ca
Web: www.mmf.utoronto.ca
Telephone: (416) 946-5206
Fax: (416) 946-5205

Mathematical Finance Program
Suite 219, 720 Spadina Avenue
University of Toronto
Toronto, Ontario M5S 2T9
Canada

Degree Programs

Master of Mathematical Finance

Minimum Admission Requirements
- Students are admitted under the general regulations of the School of Graduate Studies.
- Applicants must have a four-year University of Toronto bachelor's degree, or its equivalent, in a quantitative, technical discipline, with a minimum of a mid-B stand-ing in the final two years.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction was not English must demon-strate facility in the English language through the suc-cessful completion of the Test of English as a Foreign Language (TOEFL) with minimum scores as follows:
  - o Paper-based TOEFL exam: 580 and 5 on the Test of Written English (TWE)
  - o Computer-based TOEFL exam: 237 and 5 on the essay rating component
  - o Internet-based TOEFL exam: 93/120 and 22/30 on the writing and speaking sections
- Applicants must also show evidence of strong math-ematical ability. Appropriate workplace experience will be considered in lieu of formal education.
- Admission to the program is competitive. Those ac-cepted into the program will normally have achieved a standing considerably higher than the minimum mid-B standing or have demonstrated exceptional ability through appropriate workplace experience.
- Applicants must satisfy the admissions committee of their ability to do rigorous quantitative analysis at an advanced level. The broad background required for this program makes it likely that many strong ap-plicants will not possess all the background require-ments. It is expected that applicants will have extra depth in certain areas and need to do additional work in others. Admission may be conditional upon the applicant's satisfactory completion of the required background material.
- Applicants should submit a written statement of ap-proximately 300 words outlining their objectives for entering the program. Applicants should also explain how their background is appropriate. An interview may be required.
- Inquiries about part-time options for the program should be addressed to the Program Director.

Program Requirements
- The program of study begins in mid-August and will normally extend over twelve consecutive months dur-ing which the student is full-time.
- The program includes a four-month internship during the second session. Students will be responsible for obtaining their own internship. In cases where the student is taking a leave of absence from an appro-priate job, it is expected that the student will return to this job for the internship. In all cases, the Director must approve the placement.
- Students will proceed through the program as a group, following a common course of study. The course of study will be fully integrated and compu-ter-laboratory intensive. Course projects and as-signments will be designed to integrate the material learned from a variety of the courses and to utilize it in a practical context. Excellent communication and presentation skills will be emphasized in both the oral and written components of the projects.
- Students must complete all courses listed below.

Courses

Courses are offered in modules. A module will consist of a four-week unit with a minimum of three contact hours per week, or its equivalent. A large portion of the learning for the module will take place outside of class through carefully designed computer projects and group study. The courses have been packaged in units of one, two, three, four, or five modules, and the course weight will be equal to the number of modules; for example, a course with three modules will have a weight of three credit hours. Six modules will be considered the equivalent of one full course equivalent in a standard format.

The third digit of the four-digit course number determines the course weight.

Third Digit Notation:
1 = one-third of a half-course
2 = two-thirds of a half-course
3 = one half-course
4 = two-thirds of a full course
5 = one full course

MMF 1900Y   Internship (Credit/No Credit)
MMF 1910H   Introduction to Financial Industry
　　　　　　　　(Credit/No Credit)
MMF 1914H   Information Technology (Credit/No Credit)
MMF 1915H   Introduction of Financial Products
　　　　　　　　(Credit/No Credit)
MMF 1920H   Investment and Finance
MMF 1921H   Operations Research
MMF 1922H   Statistics for Finance I
MMF 1923H   Financial Markets and Corporate Policy
MMF 1926H   Workshop in Mathematical Finance
MMF 1927H   Workshop in Mathematical Finance
MMF 1941H   Stochastic Analysis
MMF 1943Y° Communication
MMF 1952Y° Pricing Theory
MMF 2000H   Risk Management
MMF 2011H   Advanced Stochastic Processes
MMF 2012H   Volatility Modelling and Forecasting
MMF 2021H   Numerical Methods for Finance
MMF 2025H   Risk Management Laboratory

Graduate Faculty

Full Members
Andrey Feuerverger - BSc, PhD
Kenneth Jackson - BSc, MSc, PhD
Sebastian Jaimungal - BASc, MSc, PhD
Roy Kwon - BA, MS, PhD
Thomas McCurdy - BA, MA, PhD
Luis Seco - PhD *(Director)*

Associate Members
Alexander Kreinin - MSc, PhD
Jason Pilling - BSc, MMF
Graham Pugh - BA, MA, PhD
Dan Rosen - BASc, MASc, PhD
Dmitri Rubisov - MEng, PhD
Johan Tuenter - BSc, MSc, PhD

° Courses which may continue over a program. The course is graded
　 when completed.

Mathematics MAT

Faculty Affiliation
Arts and Science

Degree Programs Offered
Mathematics – MSc, PhD

Overview
The Department of Mathematics offers opportunities for research – leading to the **Master of Science** and **Doctor of Philosophy** degrees - in the fields of pure mathematics and applied mathematics, including, but not restricted to, the fields of real and complex analysis, ordinary and partial differential equations, harmonic analysis, nonlinear analysis, several complex variables, functional analysis, operator theory, C*-algebras, ergodic theory, group theory, analytic and algebraic number theory, Lie groups and Lie algebras, automorphic forms, commutative algebra, algebraic geometry, singularity theory, differential geometry, symplectic geometry, classical synthetic geometry, algebraic topology, set theory, set-theoretic topology, mathematical physics, fluid mechanics, probability (in cooperation with the Department of Statistics), combinatorics, optimization, control theory, dynamical systems, computer algebra, cryptography, and mathematical finance.

More information about this program and courses may be found in the brochure Graduate Studies in Mathematics at the University of Toronto.

Contact and Address
Web: www.math.toronto.edu/graduate
E-mail: grad-info@math.toronto.edu
Telephone: (416) 978-7894
Fax: (416) 978-4107

Department of Mathematics
Room 6290, 40 St. George Street
University of Toronto
Toronto, Ontario M5S 2E4
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- SGS general regulations and evidence of an excellent academic background and mathematical ability.

Program Requirements
- Full-time students are accepted into a 12-month, 16-month, or 24-month program. The program may be completed on a part-time basis.

- Students in the 12-month program are required either (a) to successfully complete 3.0 approved full-course equivalents (FCE) and a supervised research project (MAT 4000Y), or its equivalent, or (b) successfully complete 2.0 approved FCE and submit an acceptable thesis. Two approved half-year courses are considered the equivalent of a full-year course. Two prerequisite courses may, with approval, be substituted for one program course. Students may, with approval, take courses outside the department as part of a coherent program.
- Students who do not have a complete undergraduate background in mathematics may be accepted into a 16-month or 24-month program which includes an approved selection of prerequisite and other courses in addition to the requirements of the 12-month program. This possibility may interest students who have some background in a subject in which mathematics is applied and/or who are interested in industrial applications of mathematics.
- Students who undertake the MSc part-time must, at a minimum, satisfy the requirements of the 12-month program.

Doctor of Philosophy

Minimum Admission Requirements
- Normally a master's degree from a recognized university. However, exceptionally strong BSc students may apply for direct admission to the PhD program. In all cases students must satisfy the department of their ability to do independent research at an advanced level. They must show evidence of an excellent academic background and mathematical ability.

Program Requirements
- Program is normally completed in four years of full-time study.
- At least 6.0 half-courses or 3.0 full-course equivalents (FCE).
- Students must pass a comprehensive examination in basic mathematics before beginning an area of specialization. This examination should be taken as soon as possible, and not later than the beginning of the third session of PhD study. The usual examination covers the three general areas of analysis, algebra, and topology, at the level of the first-year graduate courses offered by the department in these subjects. Students planning to specialize in applied mathematics must take the analysis and/or algebra portion of the comprehensive examination, but may substitute from several areas of applied mathematics for the remaining portions.
- Students must pass a specialist oral examination or give a seminar presentation in their particular field of study before embarking on serious thesis research.
- The main requirement of the degree is an acceptable thesis embodying original research of a standard that warrants publication in the research literature.

Courses

MAT 1000Y   Real Analysis
MAT 1001H   Complex Analysis
MAT 1002H   Topics in Complex Variables
MAT 1003H   Theory of Several Complex Variables
MAT 1004H   Theory of Approximation
MAT 1005H   Fourier Analysis
MAT 1006H   Topics in Real Analysis
MAT 1008H   Functions of a Complex Variable
MAT 1010H   Functional Analysis
MAT 1011H   Introduction to Linear Operators
MAT 1012H   Real Analysis II
MAT 1013H   Theory of Several Complex Variables II
MAT 1015H   Topics in Operator Theory
MAT 1016Y   Topics in Operator Algebras
MAT 1017H   Introduction to K-theory for Operator Algebras
MAT 1034H   Topics in Harmonic Analysis
MAT 1035H   C* Algebras
MAT 1037H   Von Neumann Algebras
MAT 1044H   Potential Theory
MAT 1045H   Topics in Ergodic Theory
MAT 1051H   Introduction to Ordinary Differential Equations
MAT 1052H   Topics in Ordinary Differential Equations
MAT 1060H   Partial Differential Equations I
MAT 1061H   Partial Differential Equations II
MAT 1062H   Topics in Partial Differential Equations I
MAT 1063H   Topics in Partial Differential Equations II
MAT 1075H   Differential Analysis
MAT 1100Y   Algebra
MAT 1101H   Topics in the Theory of Groups
MAT 1103H   Topics in Algebra I
MAT 1104H   Topics in Algebra II
MAT 1109H   Classical Groups
MAT 1110H   Algebraic Groups
MAT 1120H   Lie Groups and Lie Algebras I
MAT 1121H   Lie Groups and Lie Algebras II
MAT 1122H   Lie Groups and Representations I
MAT 1124Y   Topics in Matrix Theory
MAT 1126H   Lie Groups and Fluid Dynamics
MAT 1155H   Commutative Algebra
MAT 1190H   Algebraic Geometry
MAT 1191H   Topics in Algebraic Geometry
MAT 1194H   Algebraic Curves
MAT 1195H   Elliptic Curves and Cryptography
MAT 1196H   Representation Theory
MAT 1197H   Automorphic Forms and Representation Theory I
MAT 1198H   Automorphic Forms and Representation Theory II
MAT 1199H   Automorphic Forms
MAT 1200H   Algebraic Number Theory
MAT 1202H   Analytic Number Theory
MAT 1203H   Computational Aspects of Number Theory
MAT 1210H   Topics in Number Theory
MAT 1299H   Point Set Topology
MAT 1300Y   Topology
MAT 1302H   Combinatorial Theory
MAT 1303H   Combinatorial Designs
MAT 1309H   Geometrical Inequalities

MAT 1312H   Topics in Geometry
MAT 1313Y   Seminar in Geometry
MAT 1314H   Introduction to Noncommutative Geometry
MAT 1340H   Differential Topology
MAT 1341H   Differentiable Manifolds and Applications
MAT 1342H   Introduction to Differential Geometry
MAT 1343H   Riemannian Manifolds
MAT 1344H   Symplectic Geometry
MAT 1345H   Basic Algebraic Topology
MAT 1346H   Homotopy Theory
MAT 1347H   Topics in Symplectic Geometry and Topology
MAT 1350H   Topics in Algebraic Topology I
MAT 1351H   Topics in Homotopy Theory
MAT 1352H   Topics in Algebraic Topology II
MAT 1355H   Singularity Theory
MAT 1359H   Moduli Spaces of Flat Connections
MAT 1360H   Complex Manifolds
MAT 1392H   Algebra Seminar
MAT 1399H   Advanced Point Set Topology
MAT 1403H   Model Theory
MAT 1404H   Introduction to Model Theory and Set Theory
MAT 1430H   Set Theory
MAT 1435H   Infinitary Combinatorics
MAT 1436H   Large Cardinals, Structure Theory of Ideals and Applications
MAT 1448H   Topics in Set Theoretic Topology
MAT 1449H   Seminar in Foundations
MAT 1450H   Topics in Foundations
MAT 1499H   Teaching Large Mathematics Courses (Credit/No Credit)

Applied Mathematics

MAT 1500Y   Applied Analysis
MAT 1501H   Equations and Variational Calculus
MAT 1502H   Dynamical Systems and Stochastic Analysis
MAT 1507H   Asymptotic and Perturbation Methods
MAT 1508H   Techniques of Applied Mathematics
MAT 1520H   Wave Propagation
MAT 1525Y   Inverse Problems of X-Ray and Radar Imaging
MAT 1638H   Fluid Mechanics
MAT 1639Y   Topics in Fluid Mechanics
MAT 1700H   General Relativity
MAT 1705H   Foundations of Classical Mechanics
MAT 1710H   Group Theory and Quantum Mechanics
MAT 1711H   Topics in Quantum Mechanics
MAT 1722H   C* Algebras and Quantum Mechanics
MAT 1723H   Foundations of Quantum Mechanics
MAT 1724H   Functional Analysis in Quantum Mechanics
MAT 1725Y   Scattering Theory
MAT 1739H   Topics in Mathematical Physics
MAT 1750H   Computational Mathematics
MAT 1751H   Topics in Computational Mathematics
MAT 1760H   Computer Algebra
MAT 1761H   Algorithms in Algebraic Geometry
MAT 1839H   Optimization and Control
MAT 1840H   Control Theory
MAT 1843H   Mathematics of Pattern Recognition

MAT 1844H   Nonlinear Dynamical Systems
MAT 1845H   Dynamical Systems
MAT 1846H   Topics in Dynamical Systems
MAT 1847H   Holomorphic Dynamics
MAT 1855H   Mathematical Economics
MAT 1856H   Mathematical Finance
MAT 1880H   Case Studies in Applied Mathematics

Individual Reading Courses
MAT 1900Y   Readings in Pure Mathematics
MAT 1901H   Readings in Pure Mathematics
MAT 1902H   Readings in Pure Mathematics
MAT 1950Y   Readings in Applied Mathematics
MAT 1951H   Readings in Applied Mathematics
MAT 1952H   Readings in Applied Mathematics
MAT 2000Y   Readings in Theoretical Mathematics
MAT 2001H   Readings in Theoretical Mathematics I
MAT 2002H   Readings in Theoretical Mathematics II

MSc Project
MAT 4000Y+ Supervised Research Project

Graduate Faculty

Full Members
Peter Abrams - BS, PhD
Omer Angel - PhD
Sergey Arkhipov - PhD
James Arthur - BSc, MSc, PhD, FRS, FRSC, University Professor
Dror Bar-Natan - BSc, PhD
Edward Bierstone - BSc, MA, PhD, FRSC
Ilia Binder - BSc, MS, PhD
John Bland - BSc, MSc, PhD
Valentin Blomer - PhD
Thomas Bloom - BSc, MA, PhD, FRSC
Ragnar-Olaf Buchweitz - Dipl, DrRerMat
Almut Burchard - PhD, MSc
Man-Duen Choi - BSc, MSc, PhD, FRSC
James Colliander - BSc, PhD
Stephen Cook - BS, AM, PhD, FRSC, FRS, University Professor
Andres Del Junco - BSc, MSc, PhD
Nicholas Derzko - BSc, PhD
George Elliott - BSc, MSc, PhD, FRSC
Giovanni Forni - PhD
John Friedlander - BSc, MA, PhD, FRSC, University Professor
Michael Goldstein - BA, MMath, PhD, DSC
Ian Graham - BSc, PhD
Kentaro Hori - BSc, MSc, PhD
Victor Ivrii - PhD, DSc, FRSC
Lisa Jeffrey - AB, MA, PhD
Robert Jerrard - AB, PhD
Vitali Kapovitch - BSc, PhD

Yael Karshon - BSc, MSc, PhD
Konstantin Khanin - PhD
Boris Khesin - MSc, PhD
Askold Khovanskii - PhD, DSc
Henry Kim - BSc, PhD *(Coordinator of Graduate Studies)*
Stephen Kudla - BA, MA, PhD
Joseph Lorimer - BSc, MSc, PhD
Mikhail Lyubich - MS, PhD
Robert McCann - BS, PhD
Eckhard Meinrenken - Dipl, PhD
Eric Mendelsohn - BSc, MSc, PhD
Grigory Mikhalkin - BA, PhD
Pierre Milman - MA, PhD, FRSC
Fiona Murnaghan - BSc, MSc, PhD
Vijayakumar Murty - BSc, PhD, FRSC *(Chair)*
Alexander Nabutovsky - MSc, PhD
Adrian Nachman - BSc, MA, PhD
Charles Pugh - PhD
Mary Pugh - BA, PhD
Jeremy Quastel - BSc, MS, PhD
Joseph Repka - BSc, PhD
Frederic Rochon - BSc, MSc, PhD
Jeffrey Rosenthal - BSc, MA, PhD
Peter Rosenthal - BS, MA, PhD
Regina Rotman - BA, PhD
John Scherk - BSc, MSc, DPhil
Luis Seco - PhD
Paul Selick - BSc, MSc, PhD
Michael Shub - AB, MA, PhD,
Israel Michael Sigal - BA, PhD, FRSC, University Professor, Norman Stuart Robertson Chair in Applied Mathematics
Brian Street - BA, PhD
Catherine Sulem - MSc, DrD'Etat
Balazs Szegedy - MS, PhD
Franklin Tall - AB, PhD
Stephen Tanny - BSc, PhD
Stevo Todorcevic - MSc, PhD
Balint Virag - BA, MA, PhD
William Weiss - BSc, MSc, PhD
Michael Yampolsky - MSc, PhD

Members Emeriti
Mustafa Akcoglu - MSc, PhD, FRSC
David Andrews - BSc, MSc, PhD, Fellow ASA
Edward Barbeau - BA, MA, PhD
H Chandler Davis
Erich Ellers
Donald AS Fraser - BA, MA, MA, PhD, DMath, FRSC
Peter Greiner - BSc, MA, PhD, FRSC
J Stephen Halperin - BSc, MSc, PhD, FRSC
Wahidul Haque - MA, MS, PhD
Velimir Jurdjevic - BS, MS, PhD
Ivan Kupka
David Masson
James McCool - BSc, PhD
Kunio Murasugi
Paul Rooney

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Dipak Sen - MSc, DSc
Richard Sharpe - BSc, MA, PhD
F Arthur Sherk
Stuart Smith

Associate Members
Kiumars Kaveh - BSc, PhD
Raphael Ponge - BSc, MSc, PhD

Mechanical and Industrial Engineering MIE

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Mechanical and Industrial Engineering - MASc, MEng, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomedical Engineering, see p. 418
   - Mechanical and Industrial Engineering, MASc, PhD
2. Environmental Engineering, see p. 441
   - Mechanical and Industrial Engineering, MASc, MEng, PhD
3. Knowledge Media Design, see p. 462
   - Mechanical and Industrial Engineering, MASc, MEng, PhD

Overview
The Department of Mechanical and Industrial Engineering accepts qualified applicants for study in a wide range of topics, spanning the breadth of Mechanical and Industrial Engineering, including dynamic systems, vibrations, controls, robotics, solid mechanics, thermodynamics, combustion, heat transfer, fluid mechanics, environmental engineering, design, computer-aided engineering, flexible manufacturing, enterprise integration, information systems, fuzzy logic, operations research, production planning and scheduling, human factors/ergonomics, and other related topics.

The **Master of Applied Science** degree program provides students with an opportunity to pursue research-intensive advanced studies in a particular field of interest.

The **Master of Engineering** degree program is designed for students preparing for advanced professional activity; it is not a research-oriented degree.

The **Doctor of Philosophy** degree program is for students anticipating a career in which they will be performing or directing research at the most advanced level.

Contacts and Address
Web: www.mie.utoronto.ca
E-mail: gradoffice@mie.utoronto.ca
Fax: (416) 978-3453

Department of Mechanical and Industrial Engineering
Mechanical Engineering Building
5 King's College Road
University of Toronto
Toronto, Ontario M5S 3G8
Canada

Office Location:
Rosebrugh Building
Room 214, 164 College Street

Degree Programs

Master of Applied Science

Minimum Admission Requirements
- Applicants must normally have a minimum average of B+, or equivalent, in each of the final two years of an accredited four-year undergraduate program in engineering or a closely related field.
- Applicants are also assessed on publications, work experience, the school and program to which each previous degree pertains, evidence of exceptional communication skills, references, and the availability of financial resources, space, and suitable supervision.
- When proof of English language facility is required for admission, applicants may take one of a number of tests and present a minimum score.
  1 TOEFL (Test of English as a Foreign Language):
  o Paper-based TOEFL exam: 580 with 4 on the Test of Written English
  o Computer-based TOEFL exam: 237 with 4 on the essay rating component
  o Internet-based TOEFL exam: 93/120 with 22/30 on the writing and speaking sections.
  2 MELAB (Michigan English Language Assessment Battery): score of 85 or better.
  3 IELTS (International English Language Testing System): score of 7.0 or better.
  4 COPE (Certificate of Proficiency in English): total score of 4 or better (a least 1 in each component and 2 in the writing component).
- Please visit www.mie.utoronto.ca/grad for current English language facility requirements.

Program Requirements
- At the beginning of each student's program, a professor in the Department will be identified as the supervisor who will guide the student in the research program and selection of courses.
- For students with an adequate undergraduate background, the program will normally consist of 2.5 full-course equivalents (FCE) and a thesis.
- MASc students are required to participate in the non-credit seminar course JDE 1000H during their first or second session of registration.

Master of Engineering

Minimum Admission Requirements
- Applicants must normally have a minimum average of B+, or equivalent, in each of the final two years of an accredited four-year undergraduate program in engineering or a closely related field.
- Applicants are also assessed on publications, work experience, the school and program to which each previous degree pertains, evidence of exceptional communication skills, references, and the availability of financial resources.
- When proof of English language facility is required for admission, applicants may take one of a number of tests and present a minimum score.
    1. TOEFL (Test of English as a Foreign Language):
        - Paper-based TOEFL exam: 580 with 4 on the Test of Written English
        - Computer-based TOEFL exam: 237 with 4 on the essay rating component
        - Internet-based TOEFL exam: 93/120 with 22/30 on the writing and speaking sections.
    2. MELAB (Michigan English Language Assessment Battery): score of 85 or better.
    3. IELTS (International English Language Testing System): score of 7.0 or better.
    4. COPE (Certificate of Proficiency in English): total score of 4 or better (a least 1 in each component and 2 in the writing component).
- Please visit www.mie.utoronto.ca/grad for current English language facility requirements.

Program Requirements
- 5.0 full-course equivalents (FCE) or 3.5 FCE plus a supervised project. A plurality of the courses should be taught by the Department of Mechanical and Industrial Engineering.
- The program may be taken on a full-time or part-time basis; some courses are scheduled during evening hours to accommodate part-time students.

Doctor of Philosophy

Minimum Admission Requirements
- Admission to a PhD program is reserved for those who are able to present evidence of superior academic and research ability. Students may be admitted to the PhD program via one of three routes:
    - **Master's degree.** Appropriate University of Toronto master's degree, or its equivalent from a recognized university, with a minimum B+ average.
    - **Direct-entry**. Exceptionally strong applicants with a University of Toronto bachelor's degree with a minimum A- average may apply directly to the PhD program.
    - **Transfer**. Very strong MASc students may apply to transfer to the PhD program after completing only one year of the MASc program.

- When proof of English language facility is required for admission, applicants may take one of a number of tests and present a minimum score.
    1. TOEFL (Test of English as a Foreign Language):
        - Paper-based TOEFL exam: 580 with 4 on the Test of Written English
        - Computer-based TOEFL exam: 237 with 4 on the essay rating component
        - Internet-based TOEFL exam: 93/120 with 22/30 on the writing and speaking sections.
    2. MELAB (Michigan English Language Assessment Battery): score of 85 or better.
    3. IELTS (International English Language Testing System): score of 7.0 or better.
    4. COPE (Certificate of Proficiency in English): total score of 4 or better (a least 1 in each component and 2 in the writing component).
- Please visit www.mie.utoronto.ca/grad for current English language facility requirements.

Program Requirements
- At the beginning of each student's program, a professor in the Department will be identified as the supervisor and will guide the student in the research program and selection of courses.
- Minimum departmental standards in course work:
    - students with a **master's degree** normally are required to complete 2.5 full-course equivalents (FCE) and a thesis.
    - **Direct-entry** students admitted with a bachelor's degree are required to complete 4.0 FCE plus a thesis.
    - **Transfer** students must complete a total of 4.0 FCE plus a thesis.
- Students are required to participate in the non-credit seminar course JDE 1000H during their first or second session of registration.
- Each PhD student must pass a qualifying examination, a seminar presentation, additional annual progress meeting, the departmental PhD examination, and the SGS PhD final oral examination.
- PhD students are required to be on campus full-time unless special permission is obtained for off-campus study. Normally no more than four years are required to complete the program of study.

Courses
See the departmental graduate office for a schedule of available courses.

Robotics, Dynamic Systems and Controls
MIE 1001H	Dynamics II
MIE 1002H	Dynamics III
MIE 1005H	Theory of Vibrations I
MIE 1009H	Applied Acoustics
MIE 1043H	Control Systems II
MIE 1062H	Robot Kinematics and Dynamics
MIE 1063H	Introduction to Theoretical Kinematics
MIE 1064H	Control Analysis Methods with Applications to Robotics

MIE 1066H   Robot Mechanics and Control
MIE 1067H   Automation System Design and Integration
MIE 1068H   Applied Nonlinear Control
MIE 1069H   Introduction to Microsystems
MIE 506H   MEMS Design and Microfabrication

Thermal Sciences
MIE 1101H   Thermodynamics II
MIE 1102H   Fuel Cell Kinetics
MIE 1107H   Statistical Thermodynamics
MIE 1109H   Surface Phenomena
MIE 1110H   Nonequilibrium Thermodynamics
MIE 1111H   Conduction Heat Transfer
MIE 1112H   Advanced Topics in Conduction Heat
                  Transfer
MIE 1113H   Radiant Heat Transfer
MIE 1115H   Heat Transfer with Phase Change
MIE 1116H   Design and Analysis of Heat Exchangers
MIE 1118H   Partially Ionized Gases
MIE 1122H   Combustion Engine Processes
MIE 1123H   Fundamentals of Combustion
MIE 1124H   Combustion in I. C. Engines
MIE 1125H   Advanced Topics in Combustion
MIE 1126H   Diffusion-Wave Fields: Mathematical
                  Methods and Analytical Case Studies in
                  the Thermal, Electronic and Biomedical
                  Sciences
MIE 1127H   Engineering Applications of Sound,
                  Electromagnetic, Thermal and Photonic
                  Waves
MIE 1176H   Optoelectronic Energy Conversion II
MIE 1178H   Direct Energy Conversion and Corrosion
JEL 1704H   Introduction to Lasers
MIE 511H   Problems in Heat Transfer
MIE 513H   Combustion and Incineration
MIE 515H   Alternative Energy Systems
MIE 516H   Combustion and Fuels
MIE 517H   Fuel Cell System

Fluid Mechanics
MIE 1201H   Fluid Mechanics III
MIE 1202H   Fluid Mechanics IV
MIE 1203H   Hydrodynamics
MIE 1206H   Non-Newtonian Fluid Mechanics
MIE 1207H   Structure of Turbulent Flows
MIE 1209H   Advanced Topics in Turbulent Flows
MIE 1210H   Computational Fluid Mechanics and Heat
                  Transfer
MIE 1211H   Advanced Topics in Convection
MIE 1212H   Convective Heat and Mass Transfer
MIE 1213H   Advanced Topics in Computational Fluid
                  Dynamics
MIE 1220H   Environmental Fluid Dynamics
MIE 1221H   Advanced Topics in Hydraulics
MIE 1222H   Multiphase Flows
MIE 1231H   Introduction to Microfluidics
MIE 1232H   Microfluidics and Laboratory-on-a-Chip
                  Systems
MIE 1248H   Hydraulics of Open Channels
MIE 512H   Air Pollution: Its Formation and Control

MIE 514H   Atmospheric Pollution: Environmental
                  Effects and Consequences
MIE 519H   Environmental Fluid Mechanics
JMA 544H   Air Pollution and Control

Applied Mechanics
MIE 1301H   Solid Mechanics
MIE 1302H   Elasticity
MIE 1303H   Fracture Mechanics
MIE 1304H   Fracture and Fatigue Engineering
MIE 1307H   Theory and Application of Elastic Plastic
                  Fracture Mechanics
MIE 1340H   Plasticity and Metalforming
MIE 1341H   Plasticity I
MIE 1344H   Theory of Forming Processes
MIE 1346H   Viscoelasticity
MIE 1355H   Ultrasonic Non-Destructive Testing
MIE 1356H   Laser/Thermal Wave Techniques in NDE
MIE 1357H   Laser Biomedical Photoacoustics,
                  Biothermophotonics and Imaging
MIE 518H   Funadmentals of Aircraft Design
MIE 539H   Biomechanics II

Human Factors/Ergonomics
MIE 1402H   Experimental Methods in Human Factors
                  Research
MIE 1403H   Analytical Methods in Human Factors
                  Research
MIE 1404H   Human Factors in Information Technology
MIE 1405H   Human Control of Telerobotic Systems
MIE 1406H   Cognitive Work Analysis
MIE 1407H   Engineering Psychology and Human
                  Performance
MIE 1408H   Theoretical Foundations of Human Factors
MIE 1409H   Design of Ecological Interfaces
MIE 1410Y   Human Factors Project
MIE 1411H   Design of Work Places
MIE 1412H   Human-Automation Interaction

Information Systems
MIE 1501H   Information Systems I: Data and
                  Knowledge Modelling
MIE 1502H   Information Technology and Systems:
                  Management Strategies
JCI 1503H   Advanced Topics in Computing and
                  Information Systems
MIE 1504H   Management of Technological Change
MIE 1505H   Enterprise Modelling
MIE 1506H   Information Systems II: Models of
                  Reasoning
MIE 1507H   Analysis of Fuzzy Systems
MIE 1508H   Design of Fuzzy Systems
MIE 1509H   Seminar on Approximate Reasoning and
                  Knowledge-Based Systems
MIE 1510H   Formal Techniques in Ontology
                  Engineering
MIE 1511H   Data Integration Topics in Biosciences
MIE 1512H   Research Topics in XML Retrieval

Operations Research
MIE 1602H   Methods in Linear Programming
MIE 1603H   Integer Programming
MIE 1605H   Stochastic Processes
MIE 1606H   Queueing Theory
MIE 1607H   Stochastic Modelling and Optimization
MIE 1608H   Single Criterion Decision Making
MIE 1609H   Multiple Criteria Decision Making
MIE 1610H   The Design of Energy Systems
MIE 1611H   Planning for Capacity Expansion
MIE 1612H   Combinatorics and Graph Theory
MIE 1613H   Discrete Event Simulation
MIE 1614H   Introduction to Operational Research
MIE 1615H   Stochastic Dynamic Programming
MIE 1616H   Healthcare Management
MIE 1617H   Financial Optimization
MIE 1618H   Advanced Operations Research
MIE 1619H   Constraint Programming and Local Search
MIE 1620H   Mathematical Programming I
MIE 1621H   Mathematical Programming II
MIE 561H   Healthcare Systems
MIE 562H   Scheduling
MIE 566H   Decision Analysis

Design and Manufacturing Engineering
JCI 1321H   Wood Engineering
JMZ 1704H   Polymer Process Engineering
MIE 1706H   Manufacturing of Cellular and Microcellular Polymers
MIE 1712H   Manufacturing Processes, Machine Tools, Numerical Control
MIE 1713H   Analysis and Design of Joints in Manufactured Products
MIE 1714H   Optimal Design of Mechanical Systems
MIE 1715H   Quality Control
MIE 1716H   Design and Computer-Aided Engineering
MIE 1717H   Design for Manufacture and Assembly
MIE 1718H   Computer Integrated Manufacturing
MIE 1719H   Engineering Design Modelling
MIE 1720H   Creativity in Conceptual Design
MIE 1721H   Reliability
MIE 1722H   Supply Chain Management and Logistics
MIE 1723H   Engineering Maintenance Management
MIE 1724H   Topics in Estimation and Control of Discrete Product Manufacturing
MIE 1725H   Group Technology
MIE 1726H   Logistics
MIE 1727H   Quality Assurance I
MIE 1728H   Advanced Scheduling and Constraint Programming
MIE 1729H   Machine Perception and Robot Sensors
MIE 1730H   Plant Layout and Material Handling
MIE 1731H   Quality Assurance II
MIE 1732H   Tribology
MIE 540H   Product Design

Mathematical Modelling and Analysis
MIE 1801H   Engineering Analysis III
MIE 1802H   Engineering Analysis with Complex Variables

MIE 1804H   The Finite Element Method in Mechanical Engineering
MIE 1805H   Analysis of Engineering Data
MIE 1806H   Introduction to Digital Image Processing and Analysis
MIE 1807H   Principles of Measurements
MIE 1808H   Applied Dynamic System Modelling and Identification
MIE 1809H   Advanced Mechatronics
MIE 1810H   Neural Networks and Fuzzy Systems: Introduction, Modelling and Control
MIE 536H   Engineering Analysis II

Special Topics
MIE 2002H   Readings in Industrial Engineering I (Credit/No Credit)
MIE 2003H   Readings in Industrial Engineering II (Credit/No Credit)
MIE 2004H   Readings in Mechanical Engineering I (Credit/No Credit)
MIE 2005H   Readings in Mechanical Engineering II (Credit/No Credit)

Engineering Management Courses
Contact the MIE Graduate Office regarding APS courses that may be used for credit towards a degree program.

APS 1001H   Project Management
APS 1002H   Financial Engineering
APS 1003H   Professional Education
APS 1004H   Human Resources Management
APS 1005H   Operations Research for Engineering Management
APS 1088H   Entrepreneurship and Business for Engineers
APS 1201H   Topics in Engineering and Public Policy
APS 501H   Leadership and Leading in Groups and Organizations

Seminar Courses
MIE 1650Y   Research Seminars in OR (Credit/No Credit)
MIE 3002H   Engineering Teaching and Learning (Credit/No Credit)

Graduate Faculty

Full Members
Edgar Joel Acosta - BS, MS, PhD
Dionne Aleman - BSc, MSc, PhD
Cristina Amon - BSc, MS, ScD
Nasser Ashgriz - BSc, MSc, PhD
Ravin Balakrishnan - BSc, MSc, PhD
Ahmet Baris Balcioglu - BS, MS, PhD
J. Christopher Beck - BSc, MSc, PhD
Foued Ben Amara - BS, MS, PhD, PEng
Ridha Ben Mrad - BS, MSc, PhD, PEng
Bensiyon Benhabib - BSc, MSc, PhD, PEng

Markus Bussmann - BASc, MASc, PhD, PEng
Michael Carter - BMath, MMath, PhD
Sanjeev Chandra - BTech, MS, PhD
Mark Chignell - BSc, MSc, PhD
William Cleghorn - BASc, MASc, PhD, PEng, Clarice
 Chalmers Chair of Engineering Design
Mariano Consens - BEng, MSc, PhD
C Ross Ethier - BSc, MMath, SM, PhD, PEng
Mark Fox - BSc, PhD, FAAAI, FCIAR, NSERC Industrial
 Research Chair in Enterprise Integration
Andrei Goldenberg - BSc, MSc, PhD, FIEEE, PEng
Michael Gruninger - BSc, MSc, PhD
Axel Guenther - MS, PhD
Gregory Jamieson - BS, MASc, PhD, PEng
Andrew Jardine - BSc, MSc, PhD, MIMechE, MIEE, PEng
Olivera Kesler - BSE, SM, ScD, Canada Research Chair
Roy Kwon - BA, MS, PhD
Chi-Guhn Lee - BSc, MSc, PhD, PEng
Viliam Makis - MSc, PhD
Andreas Mandelis - BSc, MA, MSc, PhD, FAPS
Susan McCahan - BS, MS, PhD, PEng
Shaker Meguid - BME, MSc, PhD, PEng
Paul Milgram - BASc, MSEE, PhD, PEng
James Mills - BSc, MASc, PhD, PEng
Michael Moles - BA, PhD, MBA, PEng
Javad Mostaghimi - BSc, MSc, PhD, PEng, Canada
 Research Chair
Hani Naguib - BSc, ME, PhD, PEng, Canada Research
 Chair
Chul Park - BS, MS, PhD, PEng, Canada Research Chair
Lily Shu - BS, SM, PhD, Wallace G Chalmers Chair of
 Engineering Design
Craig Simmons - BSc, MSc, PhD, PEng, Canada
 Research Chair
Anthony Sinclair - BASc, MSE, PhD, PEng *(Chair)*
Jan Spelt - BASc, MASc, ME, PhD, PEng
David Steinman - BASc, MASc, PhD, PEng
Pierre Sullivan - BSME, MSME, PhD, PEng *(Coordinator
 of Graduate Studies)*
Yu Sun - BS, MS, PhD, PEng
Murray Thomson - BEng, MSc, PhD, PEng
Joaquim Jose Vicente - BASc, MS, PhD, PEng
James Wallace - BSME, BA, MSE, PhD, PEng
Lidan You - BS, MS, PhD
Jean Zu - BEng, MEng, PhD, PEng

Members Emeriti
Abdo Abdelmessih - BME, MS, PhD, PEng
Donald Allen - BSc, BE, MASc, PhD, FCSME, FEIC,
 PEng
William Baines - BSc, MS, PhD, PEng
Iain Currie - BSc, MASc, PhD, FCSME, PEng
Robert Fenton - DipIng, PhD
Patrick Foley - MA, FRSA, FHFAC
Frank Hooper - BASc, DIC, FEIC, PEng
David James - BSc, MA, MS, PhD, PEng
James Keffer - BASc, MASc, PhD
Harvey Kolodny - BEng, MBA, DBA, PEng
A Wilhelm Neumann - BA, DrRerNat
Joseph Paradi - BASc, MASc, PhD, FCAE, PEng
Morton Posner - BASc, PhD, PEng

John Senders - BASc, DIC, FEIC, FCSME, FCAE, PEng
Ismail Turksen - BSc, MSc, PhD, PEng
John Van De Vegte - BSc, MEng, PhD, PEng
Ronald Venter - BSc, MEng, PhD, PEng, FCSME
Charles Ward - BS, PhD, PEng

Associate Members
Noureddine Atalla - PhD
Kamran Behdinan - BASc, MASc, PhD
James Bookbinder - BA, MBA, PhD
Tom Chau - BASc, MASc, PhD
Elizabeth Croft - BASc, MASc, PhD
Ibrahim Dincer - BSc, MSc, PhD
Ebrahim Esmailzadeh - PhD, CEng
Deborah Fels - BSc, MHSc, PhD
Geoff Fernie
Daniel Frances - BASc, MASc, PhD, PEng
Michael Hair - BSc, PhD
Justin Hollands - BA, MA, PhD
Farhang Honarvar - BEng, MASc, PhD
John Kawall - BASc, MASc, PhD
Peter Knights - BEng, MEng, PhD
Frank Lin - BASc, MASc, MD, PhD
Guangjun Liu - BASc, MASc, PhD
Christian Moreau - BS, MS, PhD
Marcello Papini - BASc, MASc, PhD, PEng
Marius Paraschivoiu - BEng, MASc, PhD
Eric Pickett - BASc, MA, PhD
Remon Pop-Iliev - BEng, MASc, PhD, PEng
Milos Popovic - MSc, MASc, PhD
John Rogers - BSc, MS, PhD, PEng
Alison Smiley - BSc, MASc, PhD
Dong Sun - BASc, MASc, PhD
Thodoros Topaloglou - BSc, MSc, PhD
Gregory Zaric - BSc, MASc, MS, PhD

Medical Biophysics   MBP

Faculty Affiliation
Medicine

Degree Programs Offered
Medical Biophysics – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomolecular Structure, see p. 423
   - Medical Biophysics, PhD
2. Cardiovascular Sciences, see p. 426
   - Medical Biophysics, MSc, PhD
3. Developmental Biology, see p. 433
   - Medical Biophysics, PhD
4. Genome Biology and Bioinformatics, see p. 448
   - Medical Biophysics, PhD
5. Neuroscience, see p. 466
   - Medical Biophysics, MSc, PhD

Overview
The Department of Medical Biophysics, an interdisciplinary department with three streams – Cell and Molecular Biology, Molecular and Structural Biology, and Medical Physics – is located primarily at the Ontario Cancer Institute and the Sunnybrook Health Sciences Centre.

The department offers opportunities for research – leading to the **Master of Science** and **Doctor of Philosophy** degrees – in a variety of biological problems; projects which cut across the conventional boundaries of physics, engineering, chemistry, biology, and medicine are encouraged. The department emphasizes basic and applied research related to cancer. Projects include the following areas: tumour biology, radiobiology, membrane function, molecular interactions, gene expression, cell differentiation and growth control, viral and chemical carcinogenesis, cellular and molecular immunology, hemopoiesis, macromolecular structure via x-ray crystallography and NMR spectroscopy, the physics of radiation therapy and diagnostic imaging, development of imaging systems involving ultrasound, nuclear magnetic resonance, and electron optics.

For detailed information, please visit the departmental Web site.

Contact and Address
Web: medbio.utoronto.ca
E-mail: medbio@uhnres.utoronto.ca
Telephone: (416) 946-2972, 946-2973
Fax: (416) 946-2050

Department of Medical Biophysics
Ontario Cancer Institute
Room 7-413
610 University Avenue
Toronto, Ontario M5G 2M9
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- SGS general regulations.
- Successful applicants with B.Sc. degrees are enrolled in the MSc program; qualified students can reclassify into the PhD degree program during their second year.
- Applicants with diverse backgrounds are encouraged to apply.
- Applicants holding bachelors degrees from non-Canadian universities are required to provide GRE scores (general and subject) with their application.

Program Requirements
- Students must successfully complete all degree course requirements. Course requirements depend on the subject chosen for study and on the student's background.
- Successful completion of an oral examination on the thesis topic.
- Program is normally completed in two years.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants are admitted via one of two routes
  o Reclassification from the MSc program.
  o Completion of an MSc degree program in biological, physical, chemical, or medical sciences from a recognized Canadian University.
- Admission to the PhD program is highly selective and attainment of minimum admission requirements does not guarantee acceptance into the Ph.D. program.

Program Requirements
- Because of the broad range of topics available for thesis research and because of the different backgrounds of students admitted, each student, in consultation with his or her supervisor, will plan a program of study that provides the appropriate background for the area of investigation.
- All students must complete the required four full-course credits as outlined in the MBP Graduate Student Handbook.
- Students who transfer/reclassify into the doctoral program or who have completed a MSc degree in Medical Biophysics will receive credit for all

courses taken during their MSc program in Medical Biophysics. Students who completed their MSc degree in a department other than Medical Biophysics may request one full-course credit for that degree. These students must still complete or be formally exempt from the required courses for the Medical Biophysics MSc degree. Exemption from a required course does not reduce the number of courses required; students must substitute another course equivalent in place of the exempted course.

- All Ph.D. students are expected to participate in MBP 1015Y Biophysics Seminar Course regardless of whether they previously received credit for it or not.
- Except by special arrangements, students are required to be on campus and participating full time until all program requirements are completed.

Courses

MBP 1001Y   Advanced Cell Biology (Topics change; consult Course Coordinator about current topics)
MBP 1007H   Fundamentals in Molecular and Cell Biology I
MBP 1008H   Fundamentals in Molecular and Cell Biology II
MBP 1010H   Quantitative Biology—Statistical Methods
MBP 1011H   Foundations of Bioinformatics (Not currently offered; suggested alternative is JTB 2010H Proteomics and Functional Genomics)
MBP 1015Yº   Biophysics Seminar
MBP 1018Y   Oncology
MBP 1022H   Advanced Cell Biology for Physical Scientists
MBP 1023H   Clinical Radiation Physics
MBP 1024Y   Advanced Medical Imaging
MBP 1026H   Clinical Imaging for Physical Scientists
MBP 1028H   Optical, Thermal and Radiation Biophysics

Graduate Faculty

Full Members

Michael Archer - MA, MSc, PhD, DSc, Earle W McHenry Professor and Chair
Cheryl Arrowsmith - BSc, PhD
Liliana Attisano - BSc, PhD, Canada Research Chair
Jane Aubin - BSc, PhD
Dwayne Barber - BSc, PhD *(Vice-Chair)*
Samuel Benchimol - BSc, PhD
Yacov Ben-David - BSc, MSc, PhD
Neil Berinstein - MD, FRCP(C)
Alan Bernstein - BSc, PhD, FRSC
Matthew Bjerknes - BSc, MSc, PhD
Norman Boyd - MD, FRCP(C), The Lau Family Chair in Breast Cancer Research
Robert Glen Bristow - BSc, MSc, MD, PhD, FRCP(C)
Michael Bronskill - BSc, MSc, PhD

ºCourses which may continue over a program. The course is graded when completed.

Peter Burns - BSc, PhD *(Chair)*
Avijit Chakrabartty - BSc, MSc, PhD
Hazel Pl Cheng - BSc, MSc, PhD
Peter Cheung - PhD, MSc, BSc
Jayne Danska - AB, PhD
Daniel Dumont - BSc, MSc, PhD
Aled Edwards - BSc, PhD
Jorge Filmus - MSc, PhD
Stuart Foster - BASc, MSc, PhD
Paul Fraser - BSc, PhD
Brenda Gallie - MD
Jean Gariepy - BSc, PhD
Simon Graham - BSc, PhD
Abhijit Guha - BSc, MSc, MD, FACS, FRCS(C), The Alan and Susan Hudson Chair
Razqallah Hakem - PhD
Lea Anne Harrington - BSc, MSc, PhD
David Hedley - MBCHB, MD
Mark Henkelman - BSc, MSc, PhD, Canada Research Chair
Richard Hill - BA, PhD
David Hogg - BSc, MD, FRCP(C)
Thomas J Hudson - MD
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Mitsuhiko Ikura - BSc, PhD
Norman Iscove - MD, PhD
David Jaffray - PhD, BSc
Michael Julius - BSc, PhD
Igor Jurisica - DipIng, MSc, PhD
Suzanne Kamel-Reid - BA, MA, PhD
Gordon Keller - PhD
Robert Kerbel - BSc, PhD, John & Elizabeth Tory Professor of Experimental Oncology
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Fei-Fei Liu - MD, FRCP(C)
Geoffrey Liu - MD, MSc
Tak Mak - BSc, MSc, PhD, DSc, FRS, FRSC,University Professor, Canada Research Chair
David Malkin - MD, FRCP(C)
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Philip Marsden - MD, Keenan Chair in Medical Research
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Linda Penn - BSc, PhD
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Wen-Chen Yeh - MB, PhD
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Gang Zheng - MSc, PhD

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  Emeritus
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Alastair Cunningham - BVSc, PhD
John Hunt, Prof. Emeritus - BSc, MSc, PhD
Ernest Mcculloch - OC, MD, FRCP(C), FRSC, FRS,
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A Michael Rauth - BSc, PhD, Professor Emeritus
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Homayoun Vaziri - PhD, BSc
Richard Wells - MD, PhD
Minna Nancy Woo

Medical Science   MSC

Faculty Affiliation
Medicine

Degree Programs Offered
Bioethics - MHSc
Biomedical Communications - MScBMC
Medical Science - MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
2. Addiction Studies, see p. 406
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
3. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
4. Bioethics, see p. 416
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
5. Biomedical Engineering, see p. 418
   - Medical Science, MSc, PhD
6. Cardiovascular Sciences, see p. 426
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
7. Environment and Health, see p. 439
   - Health Science in Bioethics, MHSc
   - Medical Science, MSc, PhD
8. Genome Biology and Bioinformatics, see p. 448
   - Medical Science, PhD
9. Health Care, Technology and Place, see p. 454
   - Medical Science, PhD
10. Health Services and Policy Research, see p. 456
    - Health Science in Bioethics, MHSc
    - Medical Science, MSc, PhD
11. Knowledge Media Design, see p. 462
    - Medical Science, MSc, PhD
12. Neuroscience, see p. 466
    - Medical Science, MSc, PhD
13. Toxicology, Biomedical, see p. 421
    - Medical Science, MSc, PhD
14. Women's Health, see p. 478
    - Health Science in Bioethics, MHSc
    - Medical Science, MSc, PhD

Overview
The **Master of Health Science in Bioethics** is designed for practitioners wishing to augment their knowledge and skills in bioethics. It provides the theoretical, methodological, and applied skills requisite for health care professionals to face the bioethical challenges posed by modern health care. The program is a course-only, professional master's degree program. Students interested in a research-stream program should consider the Collaborative Program in Bioethics (CPB).

The **Master of Science in Biomedical Communications** is a two-year professional master's program involving the artist/visual communicator in medical and health education and research. The program offers two fields: Biomedical Media Design and Biomedical 3-D Visualization Design.

Master of Science and **Doctor of Philosophy** programs are available in a wide range of basic sciences, clinical sciences, and population health research. Under the mentorship of a faculty member, a student receives specialized training and exposure to Toronto's finest multidisciplinary research.

Students conduct research in one of four streams:
1. biomedical science
2. clinical science
3. health systems/services
4. population health

The full-time MSc and PhD programs emphasize hands-on research, rather than course work. Graduates may seek positions as academics and health care professionals in universities, government, and industry. The Institute of Medical Science (IMS) is the graduate unit of choice for MDs seeking training as clinician investigators.

Contact and Address

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Biomedical Communications Program
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Toronto, Ontario M5S 1A8
Canada

Degree Programs

Bioethics

Master of Health Science in Bioethics

Minimum Admission Requirements
- normally four years of undergraduate study and a recognized degree in one of the health care sciences (e.g., MD, BScN, BScOT, BScPT, BSW) or equivalent. Applicants from other disciplines considered on an individual basis.
- demonstrated evidence of scholarly ability and personal maturity
- potential that the applicant will provide significant bioethics leadership in his or her home institution or local community upon completion of the MHSc in Bioethics.

Program Requirements
- program is offered in modular format in 20 two-day Thursday/Friday blocks from September to April, normally over two years; certain international students may complete all course work in one academic year
- a major paper of publishable quality on a topic of the student's choice
- a practicum
- courses as outlined below

Courses

First year
HAD 5771H   Resource Allocation Ethics
MSC 3001Y   Foundations Seminar I
MSC 3003Y   Empirical Approaches in Bioethics
MSC3005H   Legal Approaches to Bioethics
PHL 2146Y   Topics in Bioethics

Second year
MSC 1051H   Research Ethics
MSC 1052H   Clinical Bioethics
MSC 3002Y   Foundations Seminar II
MSC 3004Y   Ethics Committees and Consultations
        For international students, MSC 3004Y is not required. Instead, MSC 3010Y *International Research Ethics* is required and is taken in May.
MSC 3006Y   Bioethics Independent Study
MSC 3008Y   Practicum

Biomedical Communications

Master of Science in Biomedical Communications

Minimum Admission Requirements
- graduation from a recognized university with a minimum four-year undergraduate degree which includes a variety of courses in the arts, sciences, and humanities
- minimum mid-B standing (73-76% or 3.0 based on a 4-point scale) in final two years of undergraduate study
- high-quality portfolio of visual material; consult the MScBMC Web site for list of prerequisite courses required for admission

Program Requirements
- 8.5 full-course equivalents (FCE); students have the option to select either 1.0 elective FCE and a master's research project and paper or 2.0 elective FCE and a master's research project

Courses
Consult Faculty each session regarding course offerings.

Required Courses
LMP 1012H   Seminars on Pathology
MSC 1001Y   Human Anatomy (Including Embryology)
MSC 2001Y   Visual Representation of Medical Knowledge
MSC 2002Y   Sequential Medical Communication
MSC 2003Y   Biomedical Communications Technologies
MSC 2004H   Research Methods
MSC 2005H   Evolution of Medical Illustration
MSC 2009H   Ethics and Professionalism in Biomedical Communications
MSC 2012H   Neuroanatomy for Visual Communication
MSC 2013Y   Master's Research Project and Paper

Elective Courses
Students are encouraged to take at least one of their electives in a graduate program other than Biomedical Communications.

MSC 2015H   Interpretive Visualization: Cinematic Design and Preproduction

MSC 2016H   Visualization Methods
MSC 2017H   Visualization Technology
MSC 2006H   Advanced Media Design Technologies
MSC 2007H   Visual Synthesis of Medical/Scientific
                       Process
MSC 2008H   Community-Centred Design Research
MSC 2011H   Special Topics in Biomedical
                       Communications

Medical Science

Master of Science

Minimum Admission Requirements
- four-year BSc or an MD degree from a recognized university and academic credentials and background preparation appropriate to the field of study. Applicants lacking adequate background in biological, natural, or social sciences may be required to take undergraduate or graduate courses considered necessary to provide a proper basis for their research.
- average in final year of undergraduate study and an A- cumulative average over three of the four total years of study
- applicants whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the **English language** through the successful completion of one of the following English language proficiency tests:
  - o **Test of English as a Foreign Language (TOEFL)**: a minimum score of 600 on the paper-based test and 5 on the Test of Written English (TWE); or a minimum score of 93/120 on the internet-based test and 22/30 on the writing and speaking sections.
  - o **Michigan English Language Assessment Battery (MELAB)**: minimum score of 87.
  - o **International English Language Testing System (IELTS)**: minimum score of 7.5.
  - o **Certificate of Proficiency in English (COPE)**: minimum score of 5.

Program Requirements
- course work and research; program normally requires two years
- 1.0 graduate full-course equivalent (FCE) in addition to MSC 1010Y° *MSc Student Seminars*
- a research thesis and oral thesis examination
- students are expected to be on campus and participating full time until all program requirements are completed

Doctor of Philosophy

Minimum Admission Requirements
- applicants whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the **English language** through the successful completion of one of the following English language proficiency tests:
  - o **Test of English as a Foreign Language (TOEFL)**: a minimum score of 600 on the paper-based test and 5 on the Test of Written English (TWE); or a minimum score of 93/120 on the internet-based test and 22/30 on the writing and speaking sections.
  - o **Michigan English Language Assessment Battery (MELAB)**: minimum score of 87.
  - o **International English Language Testing System (IELTS)**: minimum score of 7.5.
  - o Certificate of Proficiency in English (COPE): minimum score of 5.
- students are accepted via one of three routes:
  - o after **completing** MSc degree (with a MSc thesis) with at least A- standing from a recognized university.
  - o **transfer from the IMS MSc** program. Outstanding students may be considered for reclassification into the PhD program without writing a MSc thesis.
  - o **direct entry** into the PhD Program from a four-year BSc or an MD degree, without completing a MSc degree.

Program Requirements
- coursework - students may be required to take extra courses in addition to the degree requirements listed below:
  - o **Students with MSc degree** (with a MSc thesis) complete a minimum of 1.0 graduate full-course equivalent (FCE), plus MSC 1011Y° *PhD Student Seminars*.
  - o **Transfer students from the IMS MSc** must complete 1.0 graduate FCE with a minimum A- average, plus MSC 1010Y° *MSc Student Seminars*. If recommended by the Program Advisory Committee, the student will be evaluated in an oral transfer examination within 18-24 months of initial graduate registration. Successful applicant will enter the PhD program and complete a minimum of 2.0 graduate FCE (including those already completed in the MSc), plus MSC 1011Y° *PhD Student Seminars*. Alternatively, the Exam Committee may decide that the student must complete the MSc degree before being considered for admission to the PhD program.

° Courses which may continue over a program. The course is graded when completed.

o **Direct entry** students must pass a qualifying examination within 18-24 months of entry and must complete a minimum of 2.0 graduate FCE plus MSC 1011Yº *PhD Student Seminars.*
- a research thesis and oral thesis examination
- courses should be completed in the first year; research, written thesis, and oral defense will be completed by the end of year 3 or 4
- students are expected to be on campus and participating full time until all program requirements are completed

Courses
Not all courses are offered each year. Check departmental Web site for course availability.

JCV 3060H Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction
JCV 3061H Advanced Topics in Cardiovascular Sciences—Hormones
JCV 3062H Advanced Research in Cardiovascular Sciences—Heart Function
JCV 3063H Advanced Research in Cardiovascular Sciences—Vascular
JFK 1120H Selected Topics in Drug Development I
JFK 1121H Selected Topics in Drug Development II
JHM 1000H Issue Analysis in Interdisciplinary International Health Research
JPM 1005Y Behavioural Pharmacology
JPM 1008H Psychopharmacology and Women's Health
MSC 1001Y Human Anatomy (Including Embryology)
MSC 1006H Advanced Neuroanatomy
MSC 1008Y Advanced Human Embryology and Teratology
MSC 1010Yº MSc Student Seminars (Credit/No Credit)
MSC 1011Yº PhD Student Seminars (Credit/No Credit)
MSC 1040H Physiologic Basis of Disease
MSC 1051H Research Bioethics
MSC 1052H Clinical Bioethics
MSC 1060H Biostatistics for Health Scientists
MSC 1080H Introduction to Biostatistics and Clinical Epidemiology
MSC 1081H Studies in Schizophrenia
MSC 1082H Seminars in Psychosomatic Research
MSC 1084H Glomerular Based Diseases–Bench to Bedside
MSC 1085H Molecular Approaches to Mental Health and Addictions
MSC 1090H Introduction to Clinical Biostatistics
MSC 1500H Advanced Radiotherapy and Medical Physics
MSC 1501H Frontiers in Radiation Medicine Research
MSC 1502H Translational Radiobiology Applied to Radiation Science

º Courses which may continue over a program. The course is graded when completed.

MSC 2010Y Molecular Medicine in Human Genetic Disease
MSC 2020H Diagnostic and Therapeutic Strategies in Genomic Medicine
MSC 4100H Cell Mechanics: Structure, Function, and Disorder
MSC 5100H Evolutionary Medicine: The Sociobiology of Sickness and Healing
MSC 6000H Special Topics in Anatomy
MSC 7000Y Regenerative Medicine
MSC 8000Y Transdisciplinary Studies in Infectious Disease (using Hepatitis C as a Model)

Graduate Faculty

Full Members
Sharon Abel - BSc, MA, PhD
Jean Addington
Anne Agur - BSc, MSc, PhD
Claude Alain - BA, MA, PhD
Johane Allard - MD, FRCP(C)
Benjamin Alman - MD, FRCSC, Canada Research Chair
Liliana Attisano - BSc, PhD, Canada Research Chair
Jane Aubin - BSc, PhD
George Awad
Peter Backx - BSc, MSc, PhD, DVM
Elizabeth Badley - BSc, MSc, DPhil, PhD
Michael Bagby
Darius Bagli
Andrew Baker - MD, FRCP(C)
Michael Baker - MD
Brenda Banwell
Bharati Bapat - BSc, MSc, PhD
Howard Barbaree - PhD
Cathy Barr - PhD
Maria Barrera - MA, PhD
Sylvain Baruchel
Anne Bassett - MD
Christine Bear - BSc, MSc, PhD
Joseph Beitchman - MD
Jaques Belik - MD
Denise Belsham - PhD, Canada Research Chair
Michelle Bendeck - BSc, PhD
Bhagu Bhavnani - PhD
Arlene Bierman - BA, MD, MS
Sandra Black - BSc, MD
Ray Blanchard - BA, MA, PhD
Alan Bocking - MD, FRCS(C)
Earl Bogoch - BA, MSc, MD, PhD
Claire Bombardier - MA, MD, FRCP(C)
Joseph Boyle - BA, PhD
T. Douglas Bradley - BA, MD, NRC, FRCP(C)
Donald Branch - PhD
Roderick Angus Bremner - PhD
Julie Brill - BA, PhD
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Dianne Broussard - BA, PhD
Theodore Brown - BSc, PhD

John Brumell - BSc, PhD
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Robert Casper - MD, FRCSC
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Pamela Catton
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Helen Chan - MD
Kenneth Chapman - MSc, MD
Robert Chen - MA, MB, BChir, MSc, FRCP(C)
Angela Cheung - BA, MD, PhD, FRCP(C)
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David Kaplan - BA, PhD, Canada Research Chair

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Peter Mclaughlin - MD

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Howard Mount - PhD
I. Gary Naglie - BSc, MDCM, FRCP(C), ABM
Steven Narod - BSc, MD, FRCP(C)
Samuel Noh
David Novak - AB, MHL, rabbinical diploma, PhD
Hugh Mervyn O'Brodovich - MD
Arne Ohlsson - MSc, MD, FRCP(C)
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Marion Olmsted
Michal Opas - MSc, PhD
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Margaret Rand - BSc, PhD
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Vivek Rao
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  FRCPsych
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Cheryl Regehr - BA, MSW, PhD, Sandra Rotman Chair in
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Glenn Regehr - BA, PhD
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Reinhart Reithmeier - BSc, PhD
Gary Remington - MD, PhD, FRCP(C)
Rebecca Renwick - DIP (P&OT), BA, PhD
Richard Reznick

Robin Richards - BA, MD, FRCP(P)
Timothy Roberts
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  Bersagel Chair in Medical Oncology
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Albert Yee

Medieval Studies   MST

Faculty Affiliation
Arts and Science

Degree Programs Offered
Medieval Studies – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Ancient and Medieval Philosophy, see p. 411
    *   Medieval Studies, PhD
2. Book History and Print Culture, see p. 424
    *   Medieval Studies, MA, PhD
3. Editing Medieval Texts, see p. 437
    *   Medieval Studies, PhD
4. Sexual Diversity Studies, see p. 469
    *   Medieval Studies, MA, PhD
5. Women and Gender Studies, see p. 473
    *   Medieval Studies, MA, PhD

Overview
The Centre for Medieval Studies provides interdepartmental programs in the medieval period. Students are expected to cross the limits of traditional subjects, and research is especially encouraged in often-neglected boundary areas between traditional departments.

The Centre offers its students training in basic skills and tools in order to read the materials remaining from the medieval past and to explore them with learning and imagination. All students entering the Centre are asked to improve their proficiency in Latin before registration, since there are Medieval Latin requirements for all degrees. Examinations in Medieval Latin are set at the beginning of the fall session and at the end of the spring session. All incoming students must take the Level One Latin examination at the beginning of the fall session for placement purposes.

Contact and Address
Web: www.chass.utoronto.ca/medieval/
E-mail: medieval.studies@utoronto.ca
Telephone: (416) 978-4884

Centre for Medieval Studies
125 Queen's Park, Third floor
University of Toronto
Toronto, Ontario M5S 2C7
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
*   Four-year BA, or its equivalent, with at least B+ standing in previous courses. Course work in the medieval period must have formed part of the program.
*   Applicants for the MA degree, full-time and part-time, must:
    o   Follow application instructions on the department's Web site
    o   Complete forms in which they state the reasons for undertaking graduate studies in the medieval area and their qualifications for applying to do so.
*   Applicants for the MA degree, full-time and part-time, must either achieve a pass of the Level One Medieval Latin examination upon arrival or else attain credit in MST 1000Y in the first year of enrolment in the MA program.

Program Requirements
*   MA students may be full-time or part-time.
*   Students may obtain an MA in medieval studies by course work or by a combination of course work and thesis.
    o   In the **course work option**, the student must successfully complete 4.0 full-course equivalents (FCE), unless he or she passes the Level One Latin examination upon arrival, in which case 3.0 FCE are required. MA students who pass the Level One Latin examination on arrival are required to take only 3.0 FCE for the MA; however, those interested in eventually proceeding to the PhD are strongly urged to audit MST 1001Y. (Enrolment for credit for MST 1001Y is open only to students enrolled in a doctoral program.) MA students who do not pass the Level One Latin examination on arrival MUST register for MST 1000Y.
    o   In the **thesis option**, in addition to the thesis, 3.0 FCE are required or else 2.0 FCE plus a Level One Latin examination pass upon arrival in the program. An MA thesis must be on a subject approved by the Centre.
*   Course training in Latin is given at three levels. All students are expected to arrive with knowledge equivalent to a first-year university course in Latin language. MST 1000Y *Introductory Medieval Latin* is the MA-level course. While this course is preparatory to the departmental Level One Latin examination, a pass in the course does not guarantee a pass of the departmental examination at the corresponding level. Advanced seminars are open to those who have achieved the Level Two Latin examination pass on arrival.

Doctor of Philosophy

Minimum Admission Requirements

- Applicants must satisfy the Centre of their ability to do independent research of high quality. Students may be admitted via one of two routes:
  - a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with an average grade of at least A- in the applicant's overall program.
  - a University of Toronto master's degree in medieval studies or a related field, or its equivalent from a recognized university, with an average grade of at least A- in the applicant's overall program. Students in the Centre's MA program must apply formally for admission to the PhD program on the same basis as all other applicants.
- All applicants must:
  - follow application instructions on the department's Web site.
  - complete forms in which they state the reasons for undertaking graduate studies in the medieval area and their qualifications for applying to do so.
  - pass the Level One Latin examination before they may register in the PhD program.

Program Requirements

- The PhD is offered only on a full-time basis. During the first two years, students must take a minimum of 3.0 FCE, including 1.0 FCE in one minor subject. In view of the Centre's interdepartmental nature, courses in medieval philosophy, history, music, English, and so on, that are related to the general area of the major field may be counted as minors, as long as they do not directly constitute part of the major field proposal. MST 1001Y may not be counted as a minor subject or included in the 3.0 FCE minimum for the degree, but it must be taken in addition to the 3.0 FCE minimum by all those who do not pass the Level Two Latin examination upon arrival in the program.
- Course training in Latin is given at two levels. MST 1001Y *Intermediate Medieval Latin* is the PhD-level course. While this course is preparatory to the departmental Level Two Latin examination, a pass in the course does not guarantee a pass of the departmental examination at the corresponding level. Advanced seminars are open to those with either prior credit in MST 1001Y or else a pass of the Level Two Latin examination. These seminars thus serve both advanced students of medieval Latin as well as those who have passed MST 1001Y but require further training in order to achieve the Level Two Latin examination pass.
- Level Two Latin examination and the Centre's examinations in the French and German languages.
- Major field proposal and major field examination.
- The outline of the student's proposed doctoral dissertation should be worked out by the student in close consultation with the supervisor and the advisory committee. The complete PhD dissertation prospectus should be prepared according to the Centre's guidelines. The candidate will be required to defend the dissertation at the final oral examination.
- It is possible to complete a PhD in Medieval Studies in four years, but some students, depending on their background preparation, find that it takes longer than four years. Students intending to work in an area of medieval studies that requires the acquisition of one or more extra languages may find that it is not possible to complete a doctorate within four years.

Courses

Not all courses are offered every year. Please consult the Centre's Web site which lists the courses the Centre for Medieval Studies will offer this year as well as those offered by associated departments. A graduate course is understood to require at least two hours per week of class meeting and such research hours as may be required.

Courses marked (PR) have prerequisites; further information may be obtained from the Centre's Web site.

Foundations and Theory of Medieval Studies

HIS 1201H, MST 3101H, MST 3103H, MST 3201H, MST 3301H, MST 3401H, MST 3501H. Please refer to the detailed listing below for complete titles.

Art

FAH 1120H   Problems in Patronage
FAH 1121H   Twelfth-Century Renaissance?
FAH 1122H   Crusaders in the East: Art and Life
FAH 1123H   The Art of the Medieval Book
FAH 1124H   Byzantine Church Decoration
FAH 1125H   Problems in Medieval Pilgrimage
FAH 1126H   Exceptional Cities of the Middle Ages
FAH 1127H   Early Medieval Art
FAH 1128H   Byzantine Art and the West
FAH 1130Y   The Classical Tradition in Western Medieval Art
FAH 1131H   Profane Medieval Art
FAH 1134H   Communal Painting and Propaganda in Italy During the Thirteenth and Fourteenth Centuries
FAH 1135H   Naples in the Later Middle Ages
FAH 1141H   Words and Images in Medieval Art
FAH 1171H   Beginning of Modernism: From Images to Pictures
FAH 1172H   Medieval Visualizations of "Reality": Life, War, and Death
FAH 1200H   Crusader Art
FAH 1228H   Representation, Information and Interpretation of Medieval Pictures

Book History and Print Culture

BKS 1000Y   Book History and Print Culture
BKS 2000H   Advanced Seminar in Book History and Print Culture
BKS 2001H   Practicum in Book History and Print Culture

Classics
CLA 5007H   Criticism of Latin Poetry
CLA 5017H   Latin Legal Texts and the History of Late Roman Institutions

Comparative Literature
COL 5021H   The Body in Medieval Literature
COL 5032H   Feminist Approaches to Medieval Literature
COL 5064H   Medieval Literary Theory

East Asian Studies
EAS 1143Y   Civilization in Medieval China

English
ENG 1001H   Old English I
ENG 1002H   Old English II
ENG 1027H   Constructions of the Other in Medieval Literature
ENG 1093H   The Medieval Vernacular Book
ENG 1551H   Chaucer: Canterbury Tales
ENG 1583H   Langland: Piers Plowman

French Language and Literature
FRE 1164H   Medieval French Language and Literature
FRE 1310H   Le *Roman de la rose* et l'allégorie médiévale

Germanic Languages and Literatures
GER 1200H   Middle High German

History
HIS 1201H   The Materials of Medieval History (Credit/No Credit)
HIS 1207H   Pastoralia: The Medieval History of Pastoral Care
HIS 1208H   Writings of Robert Grosseteste
HIS 1209H   The Anglo-Saxons
HIS 1210H   Gregory of Tours and the Sixth Century
HIS 1213H   Medieval Institutes of Perfection (joint graduate/undergraduate)
HIS 1214H   The Merovingians
HIS 1215H   Social Change in Medieval England, 1154-1279
HIS 1218H   The Mediaeval Church (joint graduate/undergraduate)
HIS 1220H   Mediaeval Canon Law (joint graduate/undergraduate)
HIS 1221H   Topics in Early Modern European Social History
HIS 1222H   Ritual in Renaissance and Early Modern Europe
HIS 1223H   Humanism and the Renaissance
HIS 1230H   The Sexes in the Western World, 1450-1650
HIS 1283H   Crusades, Conversion and Colonialization in the Medieval Baltic (joint graduate/undergraduate)
HIS 1293Y   Kievan Rus'

History and Philosophy of Science and Technology
HPS 1215H   Medieval Technology and Society
HPS 1217H   Technology and War: 1090-1918
HPS 5007H   Fundamentals of the History of Technology I

Italian Studies
ITA 1025H   Old Italian
ITA 1165H   Introduction to Italian Philology
ITA 1170H   Textual Criticism and the Editing of Early Italian Texts
ITA 1200H   Dante
ITA 1203H   Boccaccio
ITA 1330H   Petrarch and Petrarchism
ITA 1540H   Renaissance Italian Theatre
ITA 1545H   The Sacra Rappresentazione
ITA 1597H   The Commedia dell'Arte

Joint Courses
JMT 1001H   Topics in the Ancient Philosophical Commentators (PR)
JRL 1100Y   Introduction to Romance Philology

Medieval Studies
MST 1000Y   Introductory Medieval Latin
MST 1001Y   Intermediate Medieval Latin
MST 1002Y   Advanced Medieval Latin (Credit/No Credit)
MST 1012H   Carolingian Poetry (PR)
MST 1013H   Pre-Conquest Anglo-Latin Literature (PR)
MST 1016H   Hagiography of the Norman Transition (PR)
MST 1020H   The Medieval Latin Epic (PR)
MST 1022H   Virgil in the Middle Ages (PR)
MST 1035H   Humanistic Latin (PR)
MST 1101H   Codicology
MST 1104H   Latin Palaeography I (PR)
MST 1105H   Latin Palaeography II (PR)
MST 1107H   Latin Textual Criticism (PR)
MST 1110H   Diplomatics and Diplomatic Editing (PR)
MST 1111H   Sources and Materials for Editing Medieval Texts (PR)
MST 1113H   Vernacular Text-Editing: A Collaborative Project
MST 1115H   English Palaeography (PR)
MST 1120H   Literacy in Early Medieval Europe
MST 1210H   Judeo-Christian Koine Greek (PR)
MST 1212H   The Apocryphal Bible (PR)
MST 1371H   Old English Philology: Grammar (PR)
MST 1379H   The Blickling Homilies (PR)
MST 1381H   Homilies of the Vercelli Book (PR)
MST 1384H   The Exeter Book of Old English Verse (PR)
MST 1385H   Theory and Practice in the Editing of Old English Texts (PR)
MST 1386H   Materials for Anglo-Saxon Studies
MST 1392H   Editing and Appreciating Wulfstan's Prose (PR)
MST 1398H   Alfredian Prose (PR)
MST 2005H   German Heroic Epic (PR)
MST 2006H   Wolfram von Eschenbach: *Parzival* (PR)
MST 2010Y   Old Norse
MST 2015H,Y Studies in Old Norse Texts (PR)

MST 2017H The Sources of Norse Myths (PR)
MST 2019H Icelandic Family Sagas (PR)
MST 2021H Insular Literacy 400-1200
MST 2022H Anglo-Saxon Schools (PR)
MST 2030Y Old and Middle Irish
MST 2031H Early Irish Saga (PR)
MST 2032H Medieval Irish Poetry 500-1600 (PR)
MST 2033H Textual Studies in Medieval Irish Poetry (PR)
MST 2038H Medieval Brittany (PR)
MST 2039H Saints, Monasteries, and Heretics in Medieval Brittany
MST 2040H Beginnings of Medieval Rhetoric and Poetics (PR)
MST 2041H Medieval Allegory
MST 2048H Music in Medieval Life
MST 2050Y Middle Welsh
MST 2055Y Studies in Middle Welsh Texts (PR)
MST 3010Y Augustine of Hippo: Life and Writings
MST 3021H Boethius (PR)
MST 3022H Consolation Through the Ages: Later Medieval Approaches to Boethius's *Consolation of Philosophy* (PR)
MST 3025H The Medieval Alexander (PR)
MST 3035H Alexander Neckam: Life and Works (PR)
MST 3101H Current Theory and Medieval Texts: An Introduction
MST 3102H Topics in Current Theory and Medieval Texts (PR)
MST 3103H The Theory of the Middle Ages
MST 3131H Troubadours and Trouvères
MST 3140Y Medieval Catalan Language and Literature
MST 3150H Medieval French Epic I (PR)
MST 3151H Medieval French Epic II (PR)
MST 3152H Introduction to Old Occitan (PR)
MST 3153H Old Occitan Trobador Poetry (PR)
MST 3154H British History in French: Wace, Brut (PR)
MST 3155H Chrétien de Troyes, Perceval (PR)
MST 3156H Charlemagne: Facts and Legends
MST 3157H Old French and Old Occitan Crusade Epics (PR)
MST 3162H Boccaccio and Chaucer
MST 3201H Medieval Social History
MST 3203H Topics in Medieval Economic History
MST 3204H Marxism and Premodern History
MST 3205H Violence in Medieval Society
MST 3210H Medieval Spain (PR)
MST 3225H Jews and Christians in Medieval and Renaissance Europe
MST 3230H The Common Law of Medieval Europe
MST 3235H Communal Florence, 1150-1500 (PR)
MST 3236H The Papal Monarchy
MST 3242H The Carolingians and the Birth of Europe
MST 3243H Dark Age Italy
MST 3244H Saints and their Cities in Early Medieval Italy
MST 3259H Medieval Monastic Culture: Lands of St. Benedict
MST 3262H Monastic Identities
MST 3265H Hagiographies and Methodologies

MST 3285H Naming the Rose: Intellectual History of the Later Middle Ages (PR)
MST 3301H Themes in Medieval Philosophy
MST 3305H Property and Poverty in the High Middle Ages (PR)
MST 3306H Augustine on Will and Grace (PR)
MST 3307H Augustine in Transition (PR)
MST 3309H Fear and Loathing in the Middle Ages: Medieval Theories of the Emotions (PR)
MST 3321H Philosophy of Mind in the Middle Ages (PR)
MST 3322H William of Ockham (PR)
MST 3325H Introduction to Medieval Ethical Theory (Twelfth to Fourteenth Century)
MST 3345H Prophets and Philosophers: Theories of Prophecy in the Medieval Islamic, Jewish and Christian Traditions
MST 3346H Medieval Islamic Philosophy
MST 3401H Introduction to Medieval Christianity
MST 3405H Early Christian Monasticism
MST 3415H John Cassian and Early Monasticism in Gaul
MST 3425H Eastern Christianity 325-1453 CE
MST 3501H Introduction to the Medieval Christian Liturgy
MST 9310Y,H Directed Reading
MST 9315Y,H Directed Reading

Music
MUS 1040H Topics in Medieval Music
MUS 1063H Musical Notation of the Middle Ages

Near and Middle Eastern Civilizations
NMC 1311Y Post-Biblical Hebrew: Mishnah and Midrashim
NMC 1324Y Hebrew Legal Codes, Medieval and Modern
NMC 1326Y Topics in Midrashic Literature
NMC 1500Y Archaeology, from Alexander to Muhammad
NMC 2090Y Islamic History to the Fall of Baghdad
NMC 2119H Readings in Mediaeval Arabic Legal Documents
NMC 2131H Ethics and Education in Medieval Arabic Texts
NMC 2132H Hadith: Classical Religious Literature in Islam
NMC 2133H Medieval Arabic Sources on Islamic Thought
NMC 2135H Story-tellers, Travellers, and Warriors in Medieval Arabic Literature
NMC 2221H Medieval Persian Ethical and Advice Literature
NMC 2222H Persian Mystical Poetry
NMC 2225H History of Medieval Iran and Central Asia
NMC 2226H Readings in Medieval Persian Historical and Documentary Sources
NMC 2500H Early Islamic Art and Architecture
NMC 2515Y The Islamic City
NMC 2520H Western Medieval Islamic Architecture

NMC 2521H   The Taj Mahal and Its Origins: Medieval
            Islamic Architecture in Iran, Central Asia,
            and India
NMC 2526H   Islamic Painting
NMC 2527H   Islamic Decorative Arts
NMC 2540Y   Islamic Archaeology

Philosophy
PHL 2020H   Augustine
PHL 2030H   Aquinas
PHL 2032H   Seminar in Aquinas
PHL 2040H   Medieval Philosophy
PHL 2041H   Seminar in Medieval Philosophy
PHL 2042H   Topics in Medieval Philosophy
PHL 2045H   Late Medieval Philosophy

Religion
RLG 2043Y   Studies in Jewish and Christian Liturgy to
            the Seventh Century
RLG 3224Y   Early Eastern Christianity
RLG 3225Y   Early Churches in Cross-Cultural
            Perspective
RLG 3232H   Sacred Space in the Christian Tradition
RLG 3653Y   Jewish Exegetical Traditions in Antiquity
RLG 3941Y   Celtic Mythology
RLG 3944H   Uses of the Bible in the Middle Ages

Slavic Languages and Literatures
SLA 1104H   Introduction to Old Church Slavonic
SLA 1109H   Studies in Old Church Slavonic

Spanish
SPA 2021H   The Politics of Print
SPA 2022H   Books and Borders

Graduate Faculty

Full Members
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George Rigg - BA, MA, DPhil
Brian Stock - AB, PhD
Robert Taylor - MA, PhD

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Dorothy Haines, BA, MA, PHD
Joan Holland - BA, PhD
Dorothea Kullmann - MA, PhD
Sarah MacLean - BA, MA, PhD
David McDougall - BA, MA, PhD
Ian McDougall - BA, MA, PhD
Martin Pickavé - BA, MA, PhD
Markus Stock – MA, PhD
Robert Sweetman

Molecular Genetics MMG

Faculty Affiliation
Medicine

Degree Programs Offered
Genetic Counselling - MSc
Molecular Genetics – MSc, PhD

Overview
   The Department of Molecular Genetics is located in the Medical Sciences Building, the FitzGerald Building, the Best Institute, the Hospital for Sick Children, and the Mount Sinai Hospital.
   The **Master of Science** program in **Genetic Counselling** is a full-time professional degree program that prepares students with the academic and clinical skills to provide genetic counselling. Graduates may work as part of a health-care team to gather relevant medical and family histories, to guide further investigations, and to communicate probable or established diagnoses, mode of inheritance, natural history, risk of recurrence, and associated options. This program has been accredited by the American Board of Genetic Counseling.
   The **Master of Science** and the **Doctor of Philosophy** programs in **Molecular Genetics** offer research training in a broad range of genetic systems from bacteria and viruses to humans. Research projects include DNA repair, recombination and segregation, transcription, RNA splicing and catalysis, regulation of gene expression, signal transduction, interactions of host cells with bacteria and viruses, developmental genetics of simple organisms (worms and fruit flies) as well as complex organisms (mice), molecular neurobiology, molecular immunology, cancer biology and virology, structural biology, and human genetics and gene therapy.
   For detailed information on these programs, visit the Department's Web site.

Collaborative Programs
   Degree programs that participate in:
1. Biomolecular Structure, see p. 423
   • Molecular Genetics - PhD
2. Developmental Biology, see p. 433
   • Molecular Genetics - PhD
3. Genome Biology and Bioinformatics, see p. 448
   • Molecular Genetics - PhD
4. Neuroscience, see p. 466
   • Molecular Genetics, MSc, PhD

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Department of Molecular Genetics
University of Toronto
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Canada

Degree Programs

Genetic Counselling

Master of Science

Minimum Admission Requirements
• Four-year University of Toronto bachelor's degree with a B+ standing both cumulatively and in the final year, or its equivalent from another university.
• Prerequisite courses in biology, molecular biology/genetics, biochemistry, embryology/developmental biology, statistics, and psychology.
• The development of strong interpersonal skills as evidenced by extracurricular activity is sought in both the application and interview processes.
• Conditional acceptance may be granted to outstanding applicants lacking the above prerequisite courses; in such instances, the courses deemed necessary must be completed with a B+ standing prior to admission.

Program Requirements
• Students must complete 14 required courses (listed below), laboratory and clinical practica with a minimum B standing. Lectures, meetings, and rounds must be attended at a minimum of 85% of scheduled occurrences.
• There is no thesis requirement, but an independent research project consisting of a limited clinical research study, an extensive literature review from a novel viewpoint, or a new case presentation involving clinical, cytogenetic, and molecular work-up will be completed and presented both orally and in written format suitable for publication.
• Students spend 18 months over a 2-year period in full-time attendance.
• Students are encouraged to organize an intervening summer rotation in a geographic location of their choice.

Required Courses
MSC 2010Y   Advanced Concepts in Human Genetic Disease
MMG 1120Y Clinical Rotations I
MMG 1122Y Issues in Genetic Counselling I
MMG 1124Y Principles of Effective Counselling
MMG 1126Y Clinical Issues in Pregnancy and Child Development

MMG 1128Y Risk Calculation and Research
              Methodology
MMG 1130Y Tutorial in Molecular Genetics
MMG 1132H Laboratory Skills
MMG 1220Y Clinical Rotations II
MMG 1222Y Issues in Genetic Counselling II
MMG 1224Y Advanced Principles of Effective
              Counselling
MMG 1226Y Concepts in Clinical Genetics
MMG 1228Y Independent Research Project
MMG1230H Cancer Genetic Counselling

Molecular Genetics

Master of Science

Minimum Admission Requirements
• Normally a B.Sc. or M.D. degree or equivalent with excellent academic credentials in molecular biology, genetics, microbiology, and/or biochemistry.

Program Requirements
• Successful completion of MMG 1012H° (or equivalent) and MMG 1015Y° (seminar course).
• A thesis on a research project.
• Defence of the thesis at an oral examination.
• Students are required to spend 12 months in full-time attendance.

Doctor of Philosophy

Minimum Admission Requirements
• Admission via one of two routes:
  o Admission into the PhD program with a completed MSc degree or equivalent from the University of Toronto or another recognized university.
  o Reclassification to the PhD program during the first or second year in the MSc program.
• Attainment of minimum admission standards does not guarantee acceptance into the PhD program.

Program Requirements
• Successful completion of MMG 1012H° (or equivalent) and MMG 1015Y° (seminar course), MMG 1016H° (or equivalent), and MMG 1017H°.
• A thesis on a research project.
• Students entering the doctoral program from a master's program, either through transfer or admission, are required to spend a minimum of two sessions in full-time attendance.

*Listing (course description) in the Faculty of Arts and Science Calendar, Molecular Genetics and Molecular Biology Program
°Course which may continue over a program. The course is graded when completed.

Courses
JBB 1425H Biophysical Methods
JBB 2025H Protein Crystallography
JDB 1025Y Developmental Biology
MMG 1012H° Topics in Molecular and Medical Genetics I (formerly MMG 1012Y°)
MMG 1015Y° Seminar
MMG 1016H° Topics in Molecular and Medical Genetics II (formerly MMG 1014Y°)
MMG 1017H° Topics in Molecular and Medical Genetics III
MMG 1420H* Regulation of Gene Expression
MMG 1425H Signal Transduction and Cell Cycle Regulation
MMG 1451H* Genetic Analysis of Development: Yeast and Worms

Graduate Faculty

Full Members
Brenda Jean Andrews - BSc, PhD, FRSC
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Scott Gray-Owen - BSc, PhD
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Michal Thomas - MSc
Sheila Unger
Sunita Vohra
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Elizabeth Winsor - BSc, MSc, PhD
Grace Yoon - BSc, MD

Music   MUS

Faculty Affiliation
Music

Degree Programs Offered
Composition – MMus, DMA
**Music Education, Musicology,
 Ethnomusicology** – MA, PhD
Performance – MMus, DMA

Collaborative Programs Offered
Degree programs that participate in:
1. Book History and Print Culture, see p. 424
   - Music, MA, PhD
2. Editing Medieval Texts, see p. 437
   - Music, PhD
3. South Asian Studies, see p. 471
   - Music, MA, PhD

Overview
A taught graduate degree program at the Faculty of Music was inaugurated in 1954. The Faculty of Music currently offers graduate degrees in five areas of concentration and fosters the institutional alliance of all areas of advanced music study. In addition to our longstanding graduate degrees in the areas of composition, music education, and musicology, we have recently introduced master's and doctoral degree specialisations in ethnomusicology as well as a doctoral degree in performance. Although music theory is not offered as a named degree specialisation, students in this field of study are welcome to enrol in our musicology degree programs. Graduates from all areas of our program occupy leading positions in music departments across Canada and around the world.

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Graduate Department of Music
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Degree Programs

Composition

Master of Music

Minimum Admission Requirements
- Applicants for the Master of Music (MusM) in composition must hold a Bachelor of Music degree in the area of specialisation from the University of Toronto with an average standing of mid-B or better over the final two years, or an equivalent program and standing from another university. Applicants whose undergraduate degree does not meet this standard may be required to take appropriate prerequisite courses.
- Applicants in composition must submit several original compositions, at least one of which shall be with moderately large instrumentation.

Program Requirements
- Minimum of 6.0 full-course equivalents (FCE) taken over two years, including MUS 3100Y and its continuation MUS 3105Y.
- Students may be required to take additional courses based on the results of diagnostic tests in musical analysis, counterpoint, and harmony given upon entrance.
- Each student will prepare an original composition in large form or an electroacoustic composition of comparable dimensions which will be defended at a final oral examination.

Doctor of Musical Arts

Minimum Admission Requirements
- Applicants for the Doctor of Musical Arts (DMA) in composition must hold the degree of Master of Music in composition from the University of Toronto, or its equivalent from another university, with an average standing of B+ or better.
- Two or more extended compositions in various media and a recording of at least one of these works must be submitted together with the application and complete academic credentials.

Program Requirements
- Students take a minimum of 5.0 full-course equivalents (FCE), including MUS 3300Y, MUS 3305Y, and MUS 3999Y (research project, selected in consultation with the advisory committee). Students entering from outside the University of Toronto will be given diagnostic tests in musical analysis, counterpoint, and harmony, the result of which may be additional course requirements.
- Upon completion of course work, students are required to present a recital of original works (MUS 3888Y) to the satisfaction of the department. In some cases professional quality tapes of perform-

ances totalling the equivalent of a full recital may be substituted.
- The thesis for the Doctor of Musical Arts shall be an extended composition approved by the department, prepared under the supervision of an advisory committee and defended at the final oral examination.
- Students must complete all requirements for the DMA within six years.

Courses

Final course offerings may vary. Students should consult the departmental handbook.

MusM/DMA in Composition

MUS 3100Y   MusM Advanced Composition I
MUS 3101H   Seminar in Schenkerian Analysis I
MUS 3105Y   MusM Advanced Composition II
MUS 3110H   Classical Orchestration
MUS 3222H   Composing for Film
MUS 3300Y   DMA Advanced Composition I
MUS 3305Y   DMA Advanced Composition II
MUS 3309H   Brahms: Symphonies and Chamber Music
MUS 3404H   Extended Tonal Techniques in the Twentieth
                        Century
MUS 3410H   Advanced Analysis: 1850-1910
MUS 3412H   Theories of Rhythm and Metre
MUS 3420H   Composing for Percussion
MUS 3512H   Research in Composition
MUS 3800H   Electroacoustic Music
MUS 3888Y° DMA Recital of Works
MUS 3999Y° Research Project (DMA)
MUS 4615H   Analysis and Performance Practices of
                        Twentieth-Century Music

Music Education

Master of Arts

Minimum Admission Requirements
- Bachelor of Music degree in music education from the University of Toronto with an average standing of mid-B or better over the final two years, or an equivalent program and standing from another university. Applicants whose undergraduate degree does not meet this standard may be required to take appropriate prerequisite courses.
- Applicants will normally have two years of teaching experience, although this requirement may be waived at the discretion of the department.
- An interview with the music education faculty must be scheduled whenever possible. With faculty approval, an assigned essay may be substituted for the interview.
- Appropriate letters of reference commenting on professional performance and promise are also required.

°Course which may continue over a program. The course is graded
 when completed.

Program Requirements
- Students may complete the degree program full-time or part-time.
- Students complete 4.0 full-course equivalents (FCE) including:
  - A minimum of 2.5 FCE in music education, including Research Methods in Music Education (MUS 2111H) and Philosophy and Music Education (MUS 2151H)
  - Elective courses may be chosen from the MA/PhD/MusM/DMA courses of instruction and/or other graduate courses available in the University, subject to the approval of the department
  - A major essay (MUS 2990Y) may be substituted for 1.0 FCE with the approval of the department
- Pass a comprehensive examination in music education (written and oral).
- All degree requirements must be completed within five years of first enrolment.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants must hold a master's degree in music education from this university with an average standing of B+ or better, or an equivalent degree and standing from another university. An interview with the music education faculty must be scheduled whenever possible. An assigned essay may be substituted for the interview with faculty approval.
- Applicants must provide their results on the Miller Analogies Test.
- At the discretion of the faculty, applicants may be required to provide a videotape of their teaching expertise.
- Appropriate letters of reference commenting on the applicant's teaching experience, music performance ability, and academic ability.

Program Requirements
- 6.0 full-course equivalents (FCE) including:
  - At least 2.0 FCE (including MUS 2995Y Music Education Doctoral Research Project) must be taken from the departmental offerings in music education.
  - The balance of the student's required program must be approved by the department and may include courses from the MA/MusM/PhD/DMA list and/or from another graduate unit.
  At the department's discretion, the student may receive credit for up to 3.0 FCE from an acceptable master's degree program.
- Students must be registered full time, on campus for a minimum of two sessions, in order to be in such geographical proximity as to be able to participate fully in the department's activities associated with the program.

- Language requirements, if any, will be established by the student's advisory committee, based on specific research needs.
- As early as possible in year 2, the student will submit a thesis proposal which must be approved by the end of that year.
- Upon successful completion of the comprehensive examination, the candidate proceeds to complete an oral defence of the thesis proposal, a thesis, and an oral defence of the thesis.

Courses

Final course offerings may vary. Students should consult the departmental handbook.

MA/PhD in Music Education

MUS 2010H   Seminar in Music Education
MUS 2111H   Research Methods in Music Education
MUS 2151H   Philosophy and Music Education
MUS 2180H   Seminar in Canadian Music Education
MUS 2182H   Issues in Music Education
MUS 2199H° Special Topics in Music Education
MUS 2222H   Choral Literature and Conducting I
MUS 2223H   Choral Literature and Conducting II
MUS 2990Y° MusM Major Essay (Music Education)
MUS 2995Y° Music Education Doctoral Research Project
MUS 2998H   Reading in Advanced Topics in Music Education
Other courses

Musicology

Master of Arts

Minimum Admission Requirements
- Applicants to the MA in musicology/theory are accepted under the general regulations.
- University of Toronto Bachelor of Arts specialist degree or the Bachelor of Music degree with an average standing of mid-B or better over the final two years, or equivalent standing from another university. Applicants whose undergraduate degrees do not meet this standard may be required to take up to a full year of prerequisite courses.
- Applicants must submit an essay representative of their work in music history.

Program Requirements
- The two-year MA program in musicology requires 6.0 full-course equivalents (FCE) including:
  o Introduction to Music Research I and II (MUS 1000H and MUS 1001H) in year 1.

°Courses which may continue over a program. The course is graded when completed.

  o We advocate interdisciplinarity with ethnomusicology, and while the majority of electives chosen will reflect traditional scholarship in Western art music, others may be chosen to provide a broader base that includes non-Western and popular musics. To reinforce the notion of interdisciplinarity, up to 1.0 FCE may be taken from another graduate unit.
- The primary means of evaluating quality are research essays and seminar presentations. The MA Major Paper (MUS 1990H) is optional.
- Students must maintain a minimum average of A- in year 1 of the program in order to progress to year 2.
- One language other than English is required. This will ordinarily be German except by petition to the department. We encourage the completion of the language requirement at the earliest possible opportunity.

Doctor of Philosophy

Minimum Admission Requirements
- The PhD in musicology is a research degree. Applicants must hold a master's degree with specialization in musicology, ethnomusicology, or theory and must have an average standing of B+ or better.
- Essay of approximately 3,000 words which demonstrates their ability to handle a research problem.
- Applicants, whether from the University of Toronto or from elsewhere, may be interviewed by the department.
- Exceptional students may be admitted directly to the doctoral stream with an appropriate bachelor's degree.

Program Requirements

From a **master's degree**.
- Applicants admitted with a master's degree in musicology, ethnomusicology, or theory must complete a minimum of 3.0 full-course equivalents (FCE):
  o The PhD Seminar (MUS 1250H) is taken in the first session.
  o Course work should be completed during year 1 of study with an average grade of at least A-; the exception is MUS 1999H, which lays the groundwork for the major field examination and the dissertation – this course must be started at the beginning of the second session of year 1 and completed by the end of the first session of year 2.
  Students may be required to take additional courses or acquire other skills to meet the needs of their proposed subjects of study.
- Students must demonstrate advanced reading knowledge of German; however, with departmental permission, another non-English language may be substituted, provided it is required for the approved research. Advisory committees may require competence in additional languages. All remaining course

and language requirements, including the field exam, must be completed successfully by the end of year 2.
- Prepare a thesis and defend it at a final examination.

From a **bachelor's degree**.
- 3.0 FCE at the graduate level must be completed in year 1 with a minimum average of A-; this is a prerequisite to undertaking the requirements listed above for students with master's degree in hand.

Ethnomusicology

Master of Arts

Minimum Admission Requirements
- Applicants to the MA in ethnomusicology are accepted under the general regulations.
- University of Toronto Bachelor of Arts specialist degree or the Bachelor of Music degree with an average standing of mid-B or better over the final two years, or the equivalent standing from another university. Applicants whose undergraduate degrees do not meet this standard may be required to take up to a full year of prerequisite courses.
- Applicants must submit an essay representative of their work in music history or ethnomusicology.

Program Requirements
- The two-year MA program in the field of ethnomusicology requires 6.0 full-course equivalents (FCE) including:
  - Introduction to Music Research I and II (MUS 1000H and MUS 1001H) in year 1.
  - Fieldwork Methods and Practicum (MUS 1002H), offered in alternate years.
  - We advocate interdisciplinarity with musicology, and while the majority of electives reflect sociomusical scholarship of non-Western and popular musics, others provide a broader base that includes traditional scholarship in Western art music. To reinforce the notion of interdisciplinarity, up to 1.0 FCE may be taken from another graduate unit.
  - The primary means of evaluating quality are research essays and seminar presentations. The MA Major Paper (MUS 1990H) is optional.
- Students must maintain a minimum average of A- in year 1 of the program in order to progress to year 2.
- One language other than English is required: this should be relevant to a student's musical and scholarly interests. The chosen language must be approved by the department. Students are strongly encouraged to complete the language requirement in year 1.

Doctor of Philosophy

Minimum Admission Requirements
- The PhD in ethnomusicology is a research degree. Applicants must hold a master's degree with specialization in ethnomusicology, musicology, or music theory, but may also be in a cognate field such as anthropology or cultural studies. Applicants must have an average standing of B+ or better.
- An essay of approximately 3,000 words which demonstrates their ability to handle a research problem.
- Applicants, whether from the University of Toronto or elsewhere, may be interviewed by the department.
- Exceptional students may be admitted directly to the doctoral stream with an appropriate bachelor's degree (direct entry).

Program Requirements

From a **master's degree**:
- Students are required to take 3.0 full-course equivalents (FCE). The department may prescribe additional courses if it is felt they are necessary to develop the knowledge and skills required for a student's proposed subject of study. By the end of year 1, 2.5 FCE must be completed with at least a grade of A. The PhD Seminar (MUS 1250H) is compulsory and must be taken in the first session. Other courses will be chosen from the departmental list; however, with departmental approval, 0.5 graduate FCE may be taken outside the department.
- Research in Ethnomusicology (MUS 1997H), which lays the groundwork for the major field examination and the dissertation, must be started at the beginning of the second session of year 1 and completed by the end of the first session of year 2.
- Advanced oral and reading knowledge of a language other than English is required: this should be relevant to a student's musical and scholarly interest. The department may also require competence in additional languages deemed necessary for a proposed area of research. Language requirements must be completed successfully by the end of year 2.
- During year 1, students are expected to discuss their interests, expectations, and research objectives with faculty members. An appropriate supervisor of MUS 1997H must then be agreed upon. The supervisor will be primarily responsible for determining the structure and content of MUS 1997H, which will include a research paper.
- All course requirements must be completed by the end of year 2.

From a **bachelor's degree** (direct entry):
- An intermediate-level language examination must be taken in year 1. All language requirements must be completed by year 3.
- Students must take 3.0 FCE in year 1, exclusive of MUS 1250H and MUS 1997H. An average grade of at least A- must be maintained to continue with the doctorate; otherwise, the student will be required to

transfer into the master's program. Successful students go on to take 3.0 more FCE in year 2, inclusive of MUS 1250H in the first session and MUS 1997H from the beginning of the second session.
- All course requirements must be completed by the end of year 3.

Courses

Final course offerings may vary. Students should consult the departmental handbook.

MA/PhD in Musicology/Ethnomusicology
MUS 1000H   Introduction to Music Research I
MUS 1001H   Introduction to Music Research II
MUS 1204H   Orientalism and Opera: Interdisciplinary
                        Approaches
MUS 1215H   Music in Cities and Courts 1575-1750
MUS 1243H   The Italian in Handel
MUS 1244H   Rhythm and Metre in Cross-Cultural
                        Perspective
MUS 1246H   Music and Colonialism
MUS 1250H   PhD Seminar
MUS 1317H   Music in Canada
MUS 1990H   MA Major Paper
MUS 1997H   Research in Ethnomusicology
MUS 1998H   Individual Reading and Research
MUS 1999H° Research in Musicology
MUS 3101H   Seminar in Schenkerian Analysis I
MUS 3309H   Brahms: Symphonies and Chamber Music
MUS 3412H   Theories of Rhythm and Metre

Performance

Minimum Admission Requirements
The following are minimum admission requirements for students interested in pursuing the Master of Music Performance Program
- Bachelor of Music degree in the area of specialization from the University of Toronto with an average standing of mid-B or better over the final two years, or an equivalent program and standing from another university. Applicants whose undergraduate degree does not meet this standard may be required to take appropriate prerequisite courses.
- Applicants must pass an audition.

Students admitted to the Master of Music (MMus), Performance Program must satisfy the following Program Requirements:

°Courses which may continue over a program. The course is graded when completed.

Performance
Master of Music
Field - Collaborative Piano

Program Requirements
- 7.0 full-course equivalents (FCE) including:
    o   MUS 4444Y and MUS 4445Y (applied lessons)
    o   1.0 FCE in music literature (MUS 4200Y), normally taken in year 1
    o   1.0 FCE selected from MUS 4600H; MUS 4610H; MUS 4615H
    o   Advanced Song Studies for Pianists (MUS 4504H)
    o   Sonata Coaching I (MUS 4506H)
    o   Advanced Repertoire for Singers and Pianists II (MUS 4214H)
    o   Performance Studies I: Piano-Instrumental Master Class (MUS 4730H)
    o   Collaborative Piano Studio Class (MUS 4502H)
    o   Based on the outcome of preliminary consultations with the department, students may be required to take Advanced Diction Studies (MUS 4500H).
- Two recitals.

Performance
Master of Music
Field - Conducting

Program Requirements
- 6.0 full-course equivalents (FCE) including:
    o   1.0 FCE in music literature (MUS 4200Y, normally taken in year 1)
    o   1.0 FCE selected from: MUS 4600H or MUS 4606H; MUS 4610H; MUS 4615H.
    o   Orchestral conducting majors must also complete MUS 4220H, MUS 4221H, MUS 4222Y, MUS 4223H, and MUS 4700H (choral).
    o   Wind ensemble conducting majors must also complete MUS 4226H, MUS 4227H, and MUS 4228Y.
    o   Choral conducting majors must also complete MUS 4223H, MUS 4224H, MUS 4225Y, MUS 4220H, and MUS 4700H (choral).
- Two public performances.

Performance
Master of Music
Field - Instrumental

Program Requirements
- 7.0 full-course equivalents (FCE) of which 5.0 FCE must include:
    o   MUS 4444Y and MUS 4445Y (applied lessons)
    o   1.0 FCE in music literature (MUS 4200Y) normally taken in the first year of the program

- o 1.0 FCE selected from MUS 4600H or MUS 4606H; MUS 4610H; MUS 4615H
- o 1.0 FCE chosen from a specified list approved by the department
- Two recitals. Recitals may include a chamber music component with the approval of the department.

Performance
Master of Music
Field – Jazz

Program Requirements
- 7.0 full-course equivalents (FCE) including:
  - o MUS 4444Y; MUS 4445Y; MUS 4300Y, normally taken in year 1
  - o MUS 4606H; MUS 4615H
  - o either MUS 4310Y, MUS 4311Y, or 1.0 FCE chosen from a specified list approved by the department
  - o Students must also include in their programs 1.0 FCE selected from one or more of the following areas:
    - o Small Group Jazz Ensemble Performance (MUS 4740H, MUS 4741H, MUS 4742H, MUS 4743H)
    - o Jazz Orchestra (MUS 4750H, MUS 4751H, MUS 4752H, MUS 4753H), or
    - o Vocal Jazz Ensemble (MUS 4760H, MUS 4761H, MUS 4762H, MUS 4763H)
- Two recitals; however students may elect to replace one recital with a significant recording project.

Performance
Master of Music
Field – Opera

Program Requirements
- 7.0 full-course equivalents (FCE) as follows:
  - o MUS 4444Y and MUS 4445Y (applied lessons)
  - o 1.0 FCE in music literature (MUS 4200Y, taken in year 1)
  - o Advanced Performance Studies (MUS 4620Y, taken in year 2)
  - o 1.0 FCE chosen from a specified list approved by the department
  - o 2.0 FCE in Operatic Studies (MUS 4900Y and MUS 4901Y)
- Performance in operatic productions will be evaluated by a committee and assigned grades under Operatic Role I (MUS 4966Y) and Operatic Role II (MUS 4988Y).

Performance
Master of Music
Field – Piano Pedagogy

Program Requirements
- 7.0 full-course equivalents as follows:
  - o MUS 4444Y and MUS 4445Y (applied lessons)
  - o 1.0 FCE in music literature (MUS 4200Y), normally taken in year 1
  - o 1.0 FCE selected from MUS 4600H; MUS 4610H; MUS 4615H
  - o MUS 4770H; MUS 4771H; MUS 4772H; and MUS 4773H
  - o 1.0 FCE chosen from MUS 2122H; MUS 4730H-4733H; MUS 4620Y; or from a list of courses approved by the department
- Two recitals.

Performance
Master of Music
Field – Vocal

Program Requirements
- 7.0 full-course equivalents (FCE) of which 5.0 FCE must include:
  - o MUS 4444Y and MUS 4445Y (applied lessons)
  - o 1.0 FCE in music literature (MUS 4200Y) normally taken in program year 1
  - o 1.0 FCE selected from MUS 4600H or MUS 4606H; MUS 4610H; MUS 4615H
  - o 1.0 FCE chosen from a specified list approved by the department
- Two recitals. Recitals may include a chamber music component with the approval of the department.

Performance
Master of Music
Field – Vocal Pedagogy

Program Requirements
- 7.0 full-course equivalents (FCE) as follows:
  - o MUS 4444Y and MUS 4445Y (applied lessons)
  - o 1.0 FCE in music literature (MUS 4200Y), normally taken during year 1
  - o 1.0 FCE selected from MUS 4600H, MUS 4610H and MUS 4615H; or MUS 4620Y
  - o MUS 2122H, MUS 4240H, MUS 4241H, MUS 4248H
  - o 0.5 FCE selected from MUS 4231H, MUS 4213H, and MUS 4730H
  - o 0.5 FCE chosen from a list of courses approved by the department
- Two recitals.

Performance

Doctor of Musical Arts

Minimum Admission Requirements
- Applicants for the Doctor of Musical Arts (DMA) in performance must hold the degree of Master of Music in performance from the University of Toronto, or its equivalent from another university, with an average standing of B+ or better.
- Applicants are required to pass an audition.
- An essay of approximately 3,000 words which demonstrates the student's ability to handle a research problem.
- Applicants, whether from the University of Toronto or elsewhere, may be interviewed by the department.

Program Requirements
- Applicants must complete a minimum of 5.0 full-course equivalents (FCE) as follows:
  o DMA Seminar (MUS 4800H) is taken in the first session
  o Work on Research in Performance (MUS 4899H) is begun in the second session
  o Advanced Applied Music I and II (MUS 4844Y and MUS 4845Y)
  o Remaining 2.0 FCE must be graduate seminar courses

  Course work should be completed by the end of year 2 with an average grade of at least A-. Exceptions to the time of completion are Research in Performance (MUS 4899H), which lays the groundwork for the dissertation research and leads to a major field examination in the middle of year 2, and Advanced Applied Music II (MUS 4845Y). Students may be required to take additional courses or acquire other skills to meet the needs of their proposed areas of study.
- Three DMA recitals - MUS 4866Y, MUS 4877Y, MUS 4888Y. The format of these recitals will be determined in consultation with the major teacher and the supervisory committee.
- Reading knowledge in one language other than English is required. The required language will be determined by the department. The department may require competence in additional languages. All remaining course and language requirements, including the field exam, must be completed successfully by the end of year 2.

Courses

Final course offerings may vary. Students should consult the departmental handbook.

MusM/DMA in Performance
MUS 4200Y   Seminar in Music Literature
MUS 4213H   Advanced Repertoire for Singers and Pianists I
MUS 4214H   Advanced Repertoire for Singers and Pianists II
MUS 4219H   Perspectives on the Business of Music Performance
MUS 4220H   Orchestral Conducting I
MUS 4221H   Orchestral Conducting II
MUS 4222Y   Advanced Orchestral Conducting
MUS 4223H   Choral Conducting I
MUS 4224H   Choral Conducting II
MUS 4225Y   Advanced Choral Conducting
MUS 4226H   Wind Ensemble Conducting I
MUS 4227H   Wind Ensemble Conducting II
MUS 4231H   Advanced Vocal Repertoire Study I
MUS 4232H   Advanced Vocal Repertoire Study II
MUS 4241H   Advanced Vocal Pedagogy and Vocology
MUS 4248H   Optimizing the Singing Mind
MUS 4270H   Piano Pedagogy – Beginning and Intermediate Levels
MUS 4271H   Practicum - Beginning and Intermediate Levels
MUS 4300Y   Seminar in Jazz Studies
MUS 4310Y   Advanced Jazz Composition and Arranging I
MUS 4311Y   Advanced Jazz Composition and Arranging II
MUS 4444Y   Applied Music I
MUS 4445Y   Applied Music II
MUS 4500H   Advanced Diction Studies
MUS 4504H   Advanced Song Studies for Pianists
MUS 4506H   Sonata Coaching I
MUS 4507H   Sonata Coaching II
MUS 4510H   Opera Performance for Pianists
MUS 4512H   Operatic Répétiteur
MUS 4600H   Performance Practices Before 1800
MUS 4606H   Special Topics in Performance Practice
MUS 4610H   Analysis and Performance: Music of the Eighteenth and Nineteenth Centuries
MUS 4615H   Analysis and Performance Practices of Twentieth-Century Music
MUS 4620Y   Advanced Performance Studies
MUS 4700H   Major Ensemble I
MUS 4701H   Major Ensemble II
MUS 4702H   Major Ensemble III
MUS 4703H   Major Ensemble IV
MUS 4706H   Contemporary Chamber Ensemble I
MUS 4707H   Contemporary Chamber Ensemble II
MUS 4708H   Contemporary Chamber Ensemble III
MUS 4709H   Contemporary Chamber Ensemble IV
MUS 4710H   Chamber Music I
MUS 4711H   Chamber Music II
MUS 4712H   Chamber Music III
MUS 4713H   Chamber Music IV
MUS 4714H   Chamber Choir I
MUS 4715H   Chamber Choir II
MUS 4716H   Chamber Choir III
MUS 4717H   Chamber Choir IV
MUS 4720H   Opera I
MUS 4721H   Opera II
MUS 4722H   Opera III
MUS 4723H   Opera IV
MUS 4730H   Performance Studies I
MUS 4731H   Performance Studies II
MUS 4732H   Performance Studies III

MUS 4733H   Performance Studies IV
MUS 4740H   Small Group Jazz Performance I
MUS 4741H   Small Group Jazz Performance II
MUS 4742H   Small Group Jazz Performance III
MUS 4743H   Small Group Jazz Performance IV
MUS 4750H   Jazz Orchestra I
MUS 4751H   Jazz Orchestra II
MUS 4752H   Jazz Orchestra III
MUS 4753H   Jazz Orchestra IV
MUS 4760H   Vocal Jazz Ensemble I
MUS 4761H   Vocal Jazz Ensemble II
MUS 4762H   Vocal Jazz Ensemble III
MUS 4763H   Vocal Jazz Ensemble IV
MUS 4770H   Oratorio Ensemble I
MUS 4771H   Oratorio Ensemble II
MUS 4772H   Oratorio Ensemble III
MUS 4773H   Oratorio Ensemble IV
MUS 4774H   Early Music Instrumental Ensemble I
MUS 4775H   Early Music Instrumental Ensemble III
MUS 4776H   Early Music Instrumental Ensemble III
MUS 4777H   Early Music Instrumental Ensemble IV
MUS 4780H   World Music Ensemble I
MUS 4781H   World Music Ensemble II
MUS 4782H   World Music Ensemble III
MUS 4783H   World Music Ensemble IV
MUS 4785H   Orchestral Studies I
MUS 4786H   Orchestral Studies II
MUS 4787H   Orchestral Studies III
MUS 4788H   Orchestral Studies IV
MUS 4790H   Instrumental Performance Class I
MUS 4791H   Instrumental Performance Class II
MUS 4792H   Instrumental Performance Class III
MUS 4793H   Instrumental Performance Class IV
MUS 4795H   Piano/Instrumental I
MUS 4796H   Piano/Instrumental II
MUS 4797H   Piano/Instrumental III
MUS 4798H   Piano/Instrumental IV
MUS 4800H   DMA Seminar
MUS 4844Y   Advanced Applied Music I
MUS 4845Y   Advanced Applied Music II
MUS 4866Y   DMA Recital I
MUS 4877Y   DMA Recital II
MUS 4888Y   DMA Recital III
MUS 4899H   Research in Performance
MUS 4900Y   Operatic Studies I
MUS 4901Y   Operatic Studies II
MUS 4966Y° Operatic Roles I
MUS 4988Y° Operatic Roles II
MUS 5700H   Piano Master Class I
MUS 5701H   Piano Master Class II
MUS 5702H   Piano Master Class III
MUS 5703H   Piano Master Class IV
MUS 5710H   Early Music Vocal Ensemble I
MUS 5711H   Early Music Vocal Ensemble II
MUS 5712H   Early Music Vocal Ensemble III
MUS 5713H   Early Music Vocal Ensemble IV
MUS 6666Y° Recital I
MUS 8888Y° Recital II

° Courses which may continue over a program. The course is graded
   when completed.

**Courses recognized for MusM in Performance and
MA graduate credit**
     Available to MA students only with the permission of
the department.

MUS 1030H   Topics in Romantic Music
MUS 1040H   Topics in Medieval Music
MUS 1090H   Topics in Ethnomusicology

Graduate Faculty

Full Members
Gage Averill - BA, PhD
Lee Bartel - BA, BMus, MEd, PhD
William Bowen - BA, BMus, MA, PhD
M. Celia Cain - MA, PhD
Ka Nin Chan - BASc, BMus, MMus, MusD
Caryl Clark - BMus, MA, PhD
Lori Anne Dolloff - MusB, PhD
Darryl Edwards - MMus, DMA
Robin Elliott - PhD, Chalmers Chair in Canadian Music
Elizabeth Gould - BM, MA, DMA
John Haines - PhD, Canada Research Chair
J Russell Hartenberger - BMus, MMus, PhD *(Associate
  Dean, Graduate Education)*
Christos Hatzis - MM, PhD
Sandra Horst - MM
Bina John
Gregory Johnston - BMus, MA, PhD
Gaynor Grey Jones - BA, MA, PhD
James Kippen - BA, PhD
Midori Koga - BMus, MMus, DMA
John Kruspe - MusBac
Gary Kulesha - ARCT, AMusTCL
Sherry Lee - BMus, MA, PhD
Lorna Macdonald - BME, MM, Lois Marshall Chair in
  Voice
Gillian MacKay - BMus, MMus, DMus
Ryan McClelland
Kenneth McLeod - MA, PhD
James Parker - MM, DMA (Rupert E Edwards Chair in
  Piano)
Mary Ann Parker - BA, MM, PhD, ARCT
Dennis Patrick - MMus
Terry Promane - HonsDipMus
Doreen Rao - BS, MM, PhD, Elmer Iseler Chair in
  Conducting
Alexander Rapoport - MusDoc
Paul Read - BEd, MusBac, MusM
Jeffrey Reynolds - BA, BMus, MMus, MA, PhD
Timothy Ries
Shauna Rolston - BA, MM
Annette Sanger - BAMusic, PhD
Patricia Shand - BA, MMus, EdD, ARCT
Henri-Paul Sicsic
Cameron Walter - BMus, MMus, EdD

Members Emeriti
William Aide - BSc, ARCT, LRCT
Raffi Armenian - BS
David Beach - BA, MusM, PhD
Andrew Hughes - MA, DPhil, University Professor
 Emeritus
Edward Laufer - MusBac, MFA, MusM

Associate Members
Michael Albano
David Fallis
Mary Haines - MMus
Harcus Hennigar
David Hetherington
Kevin Komisaruk - BMus, MMus, DMus
Che Anne Loewen - MM
Mary Morrison - ArtDip
Charlotte Nediger
Marietta Orlov - MAPerf
Jeff Packman
Annalee Patipatanakoon
Katharine Rapoport
Mark Sallmen - MA, PhD
Clare Scholtz
Nancy Sicsic
Alan Stanbridge - BSc, MA, PhD
Ivars Taurins
Camille Watts
Lydia Wong - MusBac

Near and Middle Eastern Civilizations   NMC

Faculty Affiliation
Arts and Science

Degree Programs Offered
Near and Middle Eastern Civilizations – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Jewish Studies, see p. 460
   - Near and Middle Eastern Civilizations, PhD
2. Women and Gender Studies, see p. 473
   - Near and Middle Eastern Civilizations, MA, PhD

Overview
The Department of Near and Middle Eastern Civilizations offers graduate programs leading to the **Master of Arts** and **Doctor of Philosophy** in two fields, listed below with their areas of specialization:

Ancient Near Eastern Studies
Near Eastern Archaeology (Egyptian, Mesopotamian, Syro-Palestinian, Islamic)
Assyriology
Near Eastern History
Egyptology
Hebrew and Judaic Studies
Aramaic-Syriac Studies

Middle Eastern and Islamic Studies
Syriac
Arabic Studies
Persian Studies
Turkish Studies
History of the Islamic World and the Modern Middle East
Islamic Religion and Philosophy
Islamic Art and Material Culture

Contact and Address
Web: www.utoronto.ca/nmc
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Fax: (416) 978-3305

Department of Near and Middle Eastern Civilizations
Second Floor, 4 Bancroft Avenue
University of Toronto
Toronto, Ontario M5S 1C1
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Four-year BA in a relevant program from a recognized university with an average of at least B+, or equivalent, in the final year.
- Two letters of reference.
- Statement of academic intent.
- Some programs may require appropriate training in a primary source language.
- Students choosing a concentration in Islamic Art and Material Culture must have a reading knowledge of French or German at the time of admission.

Program Requirements
- Depending upon the amount of undergraduate preparation, students may be enrolled in either a two-year or a one-year program.
- Students choosing a concentration in Islamic Art and Material Culture are required to successfully complete at least 6.0 full-course equivalents (FCE) in Art and Near and Middle Eastern Civilizations (a minimum of 2.0 FCE in each). This is normally a two-year program.

Doctor of Philosophy

Minimum Admission Requirements
- Admission via one of two routes:
  - MA degree in a relevant program from a recognized university with at least an A- average or equivalent in courses taken for the MA program.
  - Direct entry from a bachelor's degree for exceptionally qualified applicants, at the discretion of the Department.
- Ability to conduct independent research.
- Competence in primary source language(s) relevant to the applicant's research.
- Two letters of reference.
- Statement of academic intent.

Program Requirements
- Program of study is determined in consultation with the Department and includes written and oral general examinations. These examinations will be taken no later than January in the year following the completion of course work for the PhD program.
- Students are required to demonstrate reading comprehension in two languages of modern scholarship (typically French and German), the first by the end of their first year in residence, and the second by the end of their second year of residence. Other languages, such as Arabic or Modern Hebrew, may be substituted as appropriate. In some cases, the Department may require competence in another lan-

guage relevant to the student's program. The choice of language(s) must be approved by the Department.

- Students are required to be registered on campus for the period during which course work requirements are being fulfilled, and in no case for less than two academic years.
- The minimum course requirement will normally be 6.0 graduate full-course equivalents (FCE). In approved cases, up to 3.0 FCE may be applied from the U of T MA program or its equivalent, at the discretion of the Department.

Courses

Akkadian Language and Literature
NMC 1001Y   Introduction to Old Babylonian
NMC 1002Y   Selected Standard Babylonian Texts
NMC 1003Y   Akkadian Historical Texts
NMC 1006Y   Akkadian Literary Texts
NMC 1007Y   Akkadian Letters and Business Documents (Early Period)
NMC 1008Y   Akkadian Letters and Business Documents (Late Period)

Ancient Egyptian Language and Literature
NMC 1201Y   Introduction to Middle Egyptian Dialect
NMC 1202Y   Middle Egyptian Texts
NMC 1203Y   Late Egyptian Texts
NMC 1204Y   Cursive Scripts
NMC 1207H   Introduction to Demotic
NMC 1209Y   Old Egyptian Texts
NMC 1210Y   Ancient Egyptian Historical Texts
NMC 1213Y   Egyptian Religious and Funerary Literature

Arabic Studies
NMC 2100Y   Intensive Arabic I
NMC 2101Y   Intensive Arabic II
NMC 2102Y   Advanced Standard Arabic
NMC 2117H   Readings in Mediaeval Arabic Chronicles
NMC 2118H   Readings in Mediaeval Arabic Biographical Literature
NMC 2119H   Readings in Mediaeval Arabic Legal Documents
NMC 2120Y   Readings from Muslim Chronicles of the Crusades
NMC 2130Y   Topics in Arabic Literature
NMC 2131H   Ethics and Education in Medieval Arabic Texts
NMC 2132H   Hadith: Classical Religious Literature in Islam
NMC 2133H   Mediaeval Arabic Sources on Islamic Thought
NMC 2134H   Classical Arabic Poetry
NMC 2135H   Story-tellers, Travellers and Warriors in Mediaeval Arabic Literature

Aramaic-Syriac Language and Literature
NMC 1100Y   Introduction to Aramaic
NMC 1101Y   Early Syriac Texts

NMC 1102Y   Palestinian Aramaic Texts
NMC 1104Y   Aramaic Epigraphy
NMC 1105Y   Syriac Historical Texts
NMC 1106Y   Syriac Exegetical Texts
NMC 1110H   Palestinian Targum
NMC 1111Y   Babylonian Aramaic

Archaeology
NMC 1400Y   Introduction to the Archaeology of the Near East
NMC 1401Y   Prehistory of Western Asia
NMC 1403H   Art of Egypt
NMC 1405Y   Seminar in the Archaeology of Western Asia (1)
NMC 1406Y   Problems in the Archaeology of Bronze Age Syria-Palestine
NMC 1407Y   Problems in the Archaeology of Iron Age Syria-Palestine
NMC 1408Y   Seminar in the Archaeology of Syria-Palestine
NMC 1409H   Archaeology and Material Culture of Ancient Egypt I
NMC 1410H   Archaeology and Material Culture of Ancient Egypt II
NMC 1411H   Near Eastern Ceramics (1)
NMC 1412H   Near Eastern Ceramics (2)
NMC 1414H   Egyptian Artifacts
NMC 1415H   Archaeology in Egyptian Art
NMC 1416H   Egyptian Iconography
NMC 1417H   Architecture of Egypt
NMC 1418Y   Archaeology of Nubia
NMC 1419Y   Art, Archaeology and Culture of Egypt in the Age of the Pyramids
NMC 1420Y   Selected Topics in Near Eastern Archaeology
NMC 1421Y   Seminar in Egyptian Archaeology
NMC 1422Y   Polarized-light Microscopy in Archaeology
NMC 1500Y   Archaeology, from Alexander to Muhammad
NMC 2540Y   Islamic Archaeology

Gender-Related Topics in Law and Religion
NMC 1608H   Life Cycle and Personal Status in Judaism
NMC 1609H   Gender-Related Topics in Law and Religion

Hebrew Language and Literature
NMC 1300Y   Intensive Prerequisite Hebrew
NMC 1302Y   The Psalter
NMC 1304Y   Biblical Narrative
NMC 1305H   Early Hebrew Epigraphy
NMC 1306H   Scribes, Manuscripts, and Translations of the Hebrew Bible
NMC 1309H   Wisdom in Ancient Israel
NMC 1310H   The First Part of Isaiah
NMC 1311Y   Post-Biblical Hebrew: Mishnah and Midrashim
NMC 1312H   Midrash Before the Rabbis: The Beginnings of Biblical Interpretation
NMC 1313H   Mishnah and Tosefta
NMC 1314H   Law in Ancient Judaism
NMC 1316H   Modern Hebrew Poetry

NMC 1317H Modern Hebrew Prose
NMC 1318H Midreshei Halakha: Purity and Cultic Texts
NMC 1319H Midreshei Halakha: Legal Texts and
              Narrative
NMC 1324Y Hebrew Legal Codes, Mediaeval and
              Modern
NMC 1326Y Topics in Midrashic Literature
NMC 1327H Themes in Midrashic Literature
NMC 1328H Intertextuality: Tannaitic and Amoraic
              Literature

History
NMC 2090Y Islamic History to the Fall of Baghdad
NMC 2140Y Political and Economic Development in the
              Arab World from the Tanzimat to 1914
NMC 2145Y Problems of Land Tenure and Tribal Society
              in the Arab World
NMC 2155Y The Emergence of Modern Iraq
NMC 2170H Topics in Modern Arab History I
NMC 2171H Topics in Modern Arab History II
NMC 2173H Intellectuals of the Modern Arab World
NMC 2180H Iranian Modernity
NMC 2225H History of Medieval Iran and Central Asia
NMC 2226H Readings in Medieval Persian Historical
              and Documentary Sources
NMC 2310Y Ottoman History to 1800
NMC 2315Y Seminar in Topics from Ottoman History

Islamic Art and Material Culture
NMC 2500H Early Islamic Art and Architecture
NMC 2501H Later Islamic Art and Architecture
NMC 2515Y The Islamic City
NMC 2520H Western Medieval Islamic Architecture
NMC 2521H The Taj Mahal and Its Origins: Medieval
              Islamic Architecture in Iran, Central Asia,
              and India
NMC 2526H Text and Image: The Formation of Arabic
              and Persian Manuscript Illustration
NMC 2527H Islamic Decorative Arts
NMC 2530Y Selected Problems in Islamic Art and
              Archaeology

Linguistics
NMC 1651H Phoenician and Punic Epigraphy
NMC 1652H Ugaritic
NMC 1653H Issues in Ancient Hebrew Philology
NMC 1654H Advanced Ancient Hebrew Grammar
NMC 1655H Comparative Semitics
NMC 1657H Issues in Ancient Hebrew Linguistics

Persian Studies
NMC 2035Y Women and Writing in Twentieth-Century
              Iran
NMC 2200Y Intensive Persian I
NMC 2201Y Intensive Persian II
NMC 2220Y Classical Persian Literature
NMC 2221H Medieval Persian Ethical and Advice
              Literature
NMC 2222H Persian Mystical Poetry
NMC 2223H The *Masnavi* of Rumi

NMC 2224H Persian Myths, Islamic Legends, and
              Mystical Allegories
NMC 2227H Topics on Zoroastrian Cosmology
NMC 2235Y Literature and Society in Twentieth-Century
              Iran
NMC 2335H Literature by Iranians in the Diaspora

Religion and Philosophy
NMC 1613Y Ancient Western Asiatic Religions
                   (PhD students in Near and Middle Eastern
                   Civilizations excluded)
NMC 1614Y Ancient Egyptian Religion (PhD students in
              Near and Middle Eastern Civilizations excluded)
NMC 2045Y Islamic Philosophical Texts
NMC 2050Y Islamic Theology and Philosophy
NMC 2052H Islamic Religious Thought
NMC 2053Y Images of the Prophet Muhammad
NMC 2055H The Qur'an and Its Interpretation
NMC 2056H Readings in Qur'an and Tafsir

Research Methodology
NMC 2010Y Bibliographical Problems of Islamic
              Research
NMC 2030Y Problems of Translation from Primary
              Sources
NMC 2080Y Theory and Method in Middle Eastern
              Studies

Sumerian
NMC 1701Y Sumerian Historical Texts

Turkish Studies
NMC 2300Y Intensive Turkish I
NMC 2301Y Intensive Turkish II
NMC 2330Y Readings in Ottoman Historical Texts
NMC 2331Y Ottoman Palaeography and Diplomatics
NMC 2340Y Studies in Ottoman and Turkish Literature
NMC 2345Y The Steppe Frontier in Islamic History

Other Courses
NMC 2000Y Directed Reading
NMC 2001Y Directed Reading and Research
RST 9999Y MA Thesis

Graduate Faculty

Full Members
Virginia Aksan - BA, MLS, MA, PhD
Paul-Alain Beaulieu - BA, LLB, MA, PhD *(Associate
  Chair & Coordinator of Graduate Studies)*
Michele Daviau - MA, PhD
Harry Fox - BA, BSc, MA, MS, PhD
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Sebastian Guenther - MA, PhD
Baruch Halpern - AB, MA, PhD
Amir Harrak - MA, PhD
Timothy Harrison - BA, MA, PhD
Amir Hassanpour - BA, MA, PhD
Paul Kingston - BA, MA, MPhil, DPhil

Todd Lawson - BA, MA, PhD
Ronald Leprohon - BA, PhD
Tirzah Meacham - BA, MA, PhD
Sarianna Metso - MA, PhD
Hindy Najman - BA,MAPHD
Judith Newman - AB, MAR, PhD
Linda Northrup - BA, MA, PhD *(Chair)*
Victor Ostapchuk - BA, PhD
James Reilly - BA, MA, PhD
Karin Ruhrdanz - SCD, PhD
Walid Saleh - BA, MA, PhD
Maria Subtelny - BA, PhD
Mohamad Tavakoli-Targhi - BA, MA, PhD
Glen Taylor - BA, MTh, MPhil, PhD

Members Emeriti
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Libby Garshowitz - BA, MA, PhD
Lisa Golombek - MA, PhD
John Holladay, Jr. - BD, TD
Albertine Jwaideh - MA, BLitt, DPhil
Edward Keall - BA, PhD
R.Theodore Lutz - MA
Michael Marmura - MA, PhD, FRSC
Albert Pietersma - BA, BD, PhD
Rivanne Sandler - BA, MA, PhD
Roger Savory - MA, PhD
Ronald Sweet - BA, MA, PhD
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Sharon Green - BA, MA, PhD
Jens Hanssen - BA, MPhil, DPhil
Robert Holmstedt - BA, MA, PhD
Robert Mason - BA, PhD
Amira Mittermaier - MA, PhD
Mary-Ann Pouls Wegner - BA, PhD
Enrico Raffaelli - PhD

Nursing Science   NUR

Faculty Affiliation
Nursing

Degree Programs Offered
Nursing Science – MN, Combined MHSc (Health Administration)/MN, PhD

Diploma Programs Offered
Nurse Practitioner - Post-Master's Nurse Practitioner (PMNP) Diploma

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   Nursing Science, MN, PhD
2. Addiction Studies, see p. 406
   Nursing Science, MN, PhD
3. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   Nursing Science, MN/MHSc, PhD
4. Bioethics, see p. 416
   Nursing Science, MN, MN/MHSc, PhD
5. Cardiovascular Science, see p. 426
   Nursing Science, MN, PhD
6. Ethnic and Pluralism Studies, see p. 445
   Nursing Science, MN, PhD
7. Health Care, Technology and Place, see p. 454
   Nursing Science, PhD
8. Health Services and Policy Research, see p. 456
   Nursing Science, MN, PhD
9. Women and Gender Studies, see p. 473
   Nursing Science, MN, MN/MHSc, PhD
10. Women's Health, see p. 478
   Nursing Science, MN, PhD

Overview
The **Master of Nursing** program prepares advanced nursing practitioners with specialized knowledge, skills, and expertise in a defined area of nursing to design programs and influence practice in that area. The program offers three fields of study:
1. Nursing administration
2. Clinical nursing
3. Acute care nurse practitioner
   i)   Adult acute care
   ii) Child acute care

The **Combined Master of Health Science (Health Administration)/Master of Nursing** program provides an opportunity for students with a strong interest in both nursing and health administration to engage in an integrated and coherent program of study leading to the concurrent receipt of the MN and MHSc (Health Administration) degrees within 2.5 years of full-time study.

The **Doctor of Philosophy** program prepares scientists with the required analytical and research skills for the study of clinical or administrative nursing problems. Each student will choose to study in one of three research fields:
1. Nursing science of healthy individuals, families, and communities
2. Nursing science of individuals and families experiencing acute and chronic illness
3. Science of nursing administration

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Graduate Department of Nursing Science
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Canada

Degree Programs

Nursing Science

Master of Nursing

Minimum Admission Requirements
- Applicants must hold the BScN degree of the University of Toronto or an equivalent degree. Applicants must have obtained at least a mid-B standing in the final year of undergraduate study and, in addition, must have obtained at least B standing in the next-to-final year.
- Applicants seeking admission to the Acute Care Nurse Practitioner field must also have two years of clinical experience.
- For further information about admissions, please contact the Graduate Department of Nursing Science.

Program Requirements
- To qualify for the degree, a student shall complete a program of study outlined by the Graduate Department of Nursing Science.
- Students are strongly encouraged to enrol on a full-time basis; however, a part-time option is available on a limited enrolment basis. Part-time students must be enrolled at minimum in two out of three sessions in each academic year. The program will normally be completed within two years of full-time study. All requirements for the degree must be completed satisfactorily within six calendar years from the date of the student's first enrolment in the program.

Combined Master of Health Science (Health Administration)/Master of Nursing

Minimum Admission Requirements
- Admission to the combined program is conditional upon independent admission to each of the participating graduate units. Applicants will normally be required to complete separate application forms on a concurrent basis and pay the application fees for admission to the MN Program and the MHSc (Health Administration) Program. Students must satisfy the full requirements for each of the participating graduate units.
- The aggregate criteria listed below must be satisfied to ensure that an application is considered complete for the purpose of entry into the Combined MHSc/MN Program in Health Administration and Nursing Science. Applicants must:
  - be accepted under the general regulations of the School of Graduate Studies. Meeting the minimum requirements does not guarantee admission.
  - hold a University of Toronto BSc degree in nursing with B+ standing or better in the last two years of undergraduate study, or its equivalent from a recognized university. The student is expected to have good academic standing in non-nursing as well as nursing subjects.
  - have successfully completed an introductory course in statistics prior to admission.
  - have at least three years of work experience in the health care field.

Program Requirements
- Year 1 - students enrol in the Faculty of Nursing and complete 4.0 required full-course equivalents (FCE) for the MN degree.
- Year 2 - students enrol in the Department of Health Policy, Management and Evaluation (HPME) and complete 5.5 FCE towards the MHSc (Health Administration) degree plus 1.0 elective FCE that can be taken from either degree program.
- Year 3 – 1.0 FCE taken in HPME.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants must normally have a master's degree in nursing with at least a B+ standing, or its equivalent from a recognized university.
- For further information about admissions, please contact the Graduate Department of Nursing Science.

Program Requirements
- The PhD program in nursing may be completed as a full-time program or a flexible-time program.

Full-time PhD Option
- The program of study includes a minimum of five courses, including NUR 1081Y PhD Student/Faculty Seminars, and a thesis.
- In order to qualify for the degree, a student shall complete a program of study approved by the Graduate Department of Nursing Science. The student's program will be planned in consultation with a supervisory committee. It will be designed to support the student's research and to provide depth and breadth in the area of study.
- An examination of the dissertation proposal is required, usually in the second year and no later than August 31 of the third year, at the completion of the minimum course work requirements. The student's dissertation will be defended in the departmental oral examination and the final oral examination of the School of Graduate Studies.
- All requirements for the degree must be completed satisfactorily within six calendar years from the date of the student's first enrolment in the PhD program.

Flexible-time PhD Option
- Applicants must indicate on the application form their preference for the flexible-time option. The admission, course, and degree requirements for the flexible-time option are identical to those listed for the full-time PhD program.
- The dissertation proposal is usually examined in the third year and no later than the fourth year.
- All requirements for the degree must be completed satisfactorily within eight years from the date of the student's first enrolment in the PhD program.

Nurse Practitioner

Post-Master's Nurse Practitioner Diploma

Minimum Admission Requirements
- Applicants to the Post-Master's Nurse Practitioner (PMNP) Diploma program must have completed a master's degree in nursing or an equivalent graduate degree that includes clinical nursing experience and a minimum of two years of clinical nursing experience.
- Preference is given to applicants who have one or more years in an advanced nursing practice role (in addition to clinical experience) and support within their employment setting.

Program Requirements
- The PMNP Diploma program requires 3.5 full-course equivalents (FCE) including two clinical courses and a clinical component. Course options focus on either acute care adult or acute care child
- During the final two courses of the program, learners are engaged in clinical practice.
- The program can be completed in one year on a full-time basis or in 20 months on a part-time basis. Part-

time students must be enrolled in a minimum of two out of three sessions in each academic year.

Courses

NUR 1012H   Culture and Relations
NUR 1014H   The Politics of Aboriginal Health
NUR 1016H   Health Systems, Policy, and the Profession
NUR 1017H   History of Ideas in Nursing Practice
NUR 1021H   Nursing Ethics
NUR 1022H   Research Design, Appraisal, and Utilization
NUR 1023H   Critical Issues in the Design and Conduct of Controlled Trials of Behavioural Health Care Interventions (For Ph.D. students only. Prerequisite: Introductory graduate course in research design and biostatistics. For students planning an RCT for their thesis research.)
NUR 1024H   Foundations of Qualitative Inquiry
NUR 1025H   Doing Qualitative Research: Design and Data Collection
NUR 1026H   Evaluating Interventions in Clinical Settings (Prerequisites: Intermediate level statistics course (graduate level), basic knowledge of research design and methods, and advanced knowledge of statistical analyses.)
NUR 1028H   Introduction to Qualitative Research: Methodologies, Appraisal and Knowledge Translation
NUR 1031H   Technology and Place in Contemporary Health Care Work
NUR 1032H   Group Process and Professional Practice
NUR 1034H   Program Planning and Evaluation in Nursing
NUR 1035H   Public and Population Health Perspectives
NUR 1036H   Advanced Nursing Practice in Oncology
NUR 1037H   Aging and Place: Social and Policy Transitions
NUR 1039H   Women's Health Across the Lifespan
NUR 1040H   Issues in Women's Health Care
NUR 1041H   Caring for Children: Places, Programs and Caregivers
NUR 1042H   Responses of Children and Families to Illness in Childhood
NUR 1043H   Theories of Interpersonal Process
NUR 1044H   "Thinking" About Children: Implications for Health Care Research, Practice and Policy
NUR 1045H   Theories of Pain: Impact on the Individual, Family and Society
NUR 1046H   Persistent Illness: Theoretical, Research and Practice Implications
NUR 1047H   Community Participation and Health
NUR 1048H   Politics of Health in the Community
NUR 1049H   Nursing Approaches to Common Physiological and Behavioural Manifestations of Critically Ill Patients
NUR 1050H   Coping With Illness
NUR 1051H   Assessment and Management of Common Responses to Illness
NUR 1052H   Perinatal Nursing Sciences
NUR 1056H   Places, Programs, and People Who Provide Care

NUR 1057H   Interventions to Enhance Health, Abilities and Well-being
NUR 1058H   Aging, Gender and Equity
NUR 1059H   Informatics: Theory and Application in Nursing
NUR 1060H   Leadership and Management of Nursing and Health Services
NUR 1061H   Patient Information Systems/Workload Measurement
NUR 1062H   Measuring Nursing Care Effectiveness: Economic and Financial Perspectives
NUR 1064H   Behaviour in Health Care Organizations
NUR 1066H   Theoretical Basis for Methodology for Quality Improvement in Nursing Services
NUR 1067H   Recovery-Oriented Mental Health Systems of Care
NUR 1068H   Youth and Mental Health Promotion
NUR 1072Y   Advanced Nursing Practice Scholarship
NUR 1080H   Theoretical Perspectives in Nursing Science (Required course for Ph.D. students only)
NUR 1081Y   Ph.D. Student/Faculty Seminars
NUR 1082H   Knowledge Production in Nursing and Health
NUR 1083H   Comparative Politics of Health Policy in Globalizing World
NUR 1084H   Essentials in Applied Statistics in Nursing
NUR 1090H   Measuring Nursing Phenomena (Prerequisite: completion of an advanced graduate level statistics course)
NUR 1100Y   Pathophysiologic Concepts and Therapeutics
NUR 1101H   Advanced Health Assessment and Clinical Reasoning (Adult) (Pre- or corequisite: NUR 1022H)
NUR 1102H   Advanced Health Assessment and Clinical Reasoning (Child) (Pre- or corequisite: NUR 1022H)
NUR 1109Y   Advanced Nursing Practice in Caring for Clients and Families I (Prerequisites: Successful completion of NUR 1017H, NUR 1022H, NUR 1101H or 1102H, NUR 1103H, and NUR 1104H)
NUR 1110Y   Advanced Nursing Practice in Caring for Clients and Families II (Credit/No Credit) (Prerequisite: NUR 1109Y. Pre- or corequisite: NUR 1034H)

Joint Courses

JNH 5001H   Health Care Settings, Site and Human Well Being
JNH 5002H   The Body, Health Care, Technology and Place
JPX 1001H   Parenting: Multidisciplinary Perspectives

Graduate Faculty

Full Members
Janet Angus - RN, BScN, MScN, PhD
Sylvain Baruchel
Arlene Bierman - BA, MD, MS
Beverley Chalmers - BA, MA, PhD
Lisa Cicutto - BScN, MSc, PhD
Paul Corey - BSc, MA, PhD
Peter C Coyte - BA, MA, PhD
Cindy-Lee Dennis - BScN, MScN, PhD
Diane Doran - RN, BA, MHSc, PhD
Adam Dubrowski - PhD
Mary Jane Esplen - RN, BScN, MScN, PhD
Martin Evans - BSc, MScTech, MIA, PhD
Margaret Fitch - BN, MScN, PhD
Denise Gastaldo - BScN, MA, PhD
Paula Goering - RN, BSN, MSN, PhD
Edith Hillan - RN, BScN, RM, MPhil, MSc, PhD
Ellen Hodnett - BSN, MScN, PhD, Reisman Chair in
  Perinatal Nursing Research
Doris Howell - PhD
Nazilla Khanlou - RN, BScN, MSc, PhD
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Lynn McDonald - BA, MSW, PhD
Linda McGillis - RN, MSc, PhD
Kathy McGilton - BScN, MScN, PhD
Patricia McKeever - BN, MSc(A), PhD
Kelly Metcalfe - BScN, PhD
Carles Muntaner - MD, PhD
Sioban Nelson - BA, PhD
Linda-Lee O'Brien-Pallas - BScN, MScN, PhD, National
  Research Chair in Nursing Human Resources
Elizabeth Peter-Hardtke - MsN, PhD *(Chair, Graduate
  Program & Associate Dean, Academic Progams)*
Souraya Sidani - BSN, TD, MS, PhD
Peter Singer - MD, MPH, FRCPC
Bonnie Stevens - BScN, MScN, PhD, Signy Hildur Eaton
  Chair in Pediatric Nursing Research
David Streiner - BA, MS, PhD, CPsych
Ann Tourangeau - RN, BScN, MN, PhD
Judith Watt-Watson - BScN, MScN, PhD
David Zakus - BSc, MES, MSc, PhD

Members Emeriti
Gail Donner - RN, BScN, MA, PhD, Order of Ontario
Ruth Gallop - BScN, MScN, PhD
William Harvey - BSc, BA, MA, PhD, LLB
Dorothy Pringle - BScN, MS, PhD, Order of Canada

Associate Members
Sherri Adams - BScN, MScN
Gavin John Andrews - BA, PhD
Heather Arthur - BScN, MScN, PhD
Marilyn Ballantyne - RN, BScN, MScN, MHSc
Kathy Boutis - BScN, MD
Elizabeth Burcher - MScN
Wilfrida Chavez - MHS

Angela Cooper - PhD
Dauna Crooks - BScN, MScN, DNSc
Albina DiCenso - BScN, MSc, PhD
James Drake - BSE, MBBCh, MSc, FRCS(C)
Christine Duffield - BScN, MHP, PhD
Carole Estabrooks - PhD
Marcia Facey - PhD
Mary Ferguson Pare - BScN, MPh, PhD
Debra Fraser-Askin
Susan Galloway - BScN, MScN
Dianne Godkin - BScN, MN, PhD
Catherine Hardie - RN, MSN, EdD
Lesleyanne Hawthorne - PhD
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Cheryl Lynn Williams - PhD
Gail Wilson - RN, BScN, MScN
Francine Wynn - BA, MA, PhD *(Coordinator of
  Graduate Studies)*

Nutritional Sciences   NFS

Faculty Affiliation
Medicine

Degree Programs Offered
Nutritional Sciences – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   - Nutritional Sciences, MSc, PhD
2. Toxicology, Biomedical, see p. 421
   - Nutritional Sciences, MSc, PhD
3. Women's Health, see p. 478
   - Nutritional Sciences, MSc, PhD

Overview
The Department of Nutritional Sciences offers advanced studies leading to the **Master of Science** and **Doctor of Philosophy** degrees in the basic science, clinical, and community aspects of human nutrition. Research projects range from the molecular to the community level of inquiry. Applicants with appropriate preparation in health sciences will be admitted under the general regulations of the School of Graduate Studies.

Applicants interested in pursuing a Master of Health Science degree in the area of Community Nutrition or a Master of Science in Community Health degree in the area of Public Health Nutrition are advised to consult the calendar entry for the Department of Public Health Sciences for details.

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Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Applicants are admitted under the general regulations of the School of Graduate Studies. Students with diverse backgrounds are encouraged to apply.
- A- standing in the final two years of a bachelor's degree program or evidence of strong potential as a researcher.

Program Requirements
- Minimum program length for full-time students is 12 months. A limited number of students are admitted to the MSc program on a part-time basis.
- Students participate in NFS1204Y *Master's Seminars in Nutritional Sciences* throughout their period of full-time registration and complete a minimum of two half-courses.
- For students with undergraduate training in nutritional sciences, at least one of these courses must be taken in the Department. Students with undergraduate training in disciplines other than nutritional sciences must take at least two half-courses from the Department.
- A course in statistical methods or research design and analysis is required if not completed previously.
- Thesis on an approved research area and its defence at an oral examination.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants may enter the PhD program in one of two ways:
  o Directly from a bachelor's degree if their background is deemed appropriate and they have an A- or better average in their final two years.
  o With an appropriate MSc degree with at least an A- standing or evidence of strong potential as a researcher. Exceptional students may be allowed to reclassify into the PhD program after one year without completing the MSc on the recommendation of an advisory committee and successful completion of a reclassification examination.

Program Requirements
- The residence requirement for students admitted with a bachelor's degree is three years; for students admitted with a master's degree is two years.
- It is expected that students from either background can complete their PhD in a period of four years of full-time study, research, and thesis preparation; however, some students may require longer.
- Students participate in NFS 1304Y *Doctoral Seminars in Nutritional Sciences*.

- Students entering with a bachelor's degree will also complete a minimum of six half-courses; those entering with an MSc degree, a minimum of four half-courses. The courses will be chosen by each student to provide an appropriate background for his or her area of investigation. It is expected that all students will have an adequate knowledge of research design and statistics through course work in their past or the current graduate program. The choice of courses will be made in consultation with the supervisor and the student's advisory committee and is subject to the approval of the Department.
- Successful completion of a comprehensive examination in nutritional sciences.
- Thesis.
- Student must pass the departmental examination before proceeding to the final oral examination.

Courses

Not all courses are offered every year. Please consult the Department regarding course offerings.

NFS 1201H   Public Health Nutrition
NFS 1204Y°   Master's Seminars in Nutritional Sciences (Credit/No Credit)
NFS 1208H   Field Observation and Nutrition Program Laboratory I
NFS 1209H   Field Observation and Nutrition Program Laboratory II (Credit/No Credit)
NFS 1210H   Field Observation and Program Laboratory III: Management of Community Food Programs
NFS 1211H   Community Nutrition
NFS 1212H   Regulation of Food Safety
NFS 1216H   Selected Topics Nutrition
NFS 1218H   Recent Advances in Nutritional Sciences I
NFS 1219H   Recent Advances in Nutritional Sciences II: Diet and Cancer
NFS 1220H   Clinical Nutrition
NFS 1221H   Nutrition Programs and Strategies
NFS 1222H   Recent Advances in Nutritional Sciences II: Diet and Cardiovascular
NFS 1223H   Dietary Carbohydrate and Glycaemic Index in Health and Disease
NFS 1224H   Nutritional Epidemiology
NFS 1301H   Directed Reading in Nutritional Sciences
NFS 1304Y°   Doctoral Seminars in Nutritional Sciences (Credit/No Credit)
NFS 1484H   Advanced Nutrition

Graduate Faculty

Full Members
Johane Allard - MD, FRCP(C)
Gerald Anderson - BSc, MSc, PhD
Michael Archer - MA, MSc, PhD, DSc, Earle W McHenry Professor and Chair *(Chair)*
Norman Boyd - MD, FRCP(C), The Lau Family Chair in Breast Cancer Research
Ahmed El-Sohemy - BSc, MSc, PhD, Canada Research Chair
Gail Eyssen - BSc, MSc, PhD
Carol Greenwood - BSc, MSc, PhD
Anthony Hanley - MSc,PhD *(Graduate Coordinator, Admissions and Awards)*
David Ja Jenkins - BA, MB, BS, MA, MD, PhD, Canada Research Chair
Young-In Kim - MD, FRCP(C)
Nancy Kreiger - BA, MPH, MPHIL, PhD
Lawrence Alan Leiter - BSc, MD, FRCP(C)
Ian Munro - BSc, MSc, PhD, FRCPath
Steven Narod - BSc, MD, FRCP(C)
Deborah O'Connor - BASc, MSc, PhD
Paul Pencharz - MB, ChB, PhD, FRCP(C)
Daniel Sellen - BA, MA, PhD, CRC
Valerie Tarasuk - BA, BEd, BASc, MSc, PhD
Reinhold Vieth - BSc, MSc, PhD
Vladimir Vuksan - BSc, MSc, PhD
Wendy Ward - BASc, MSc, PhD *(Graduate Coordinator, Student Affairs)*
Thomas Wolever - BA, BM, BCh, MA, MSc, PhD, DM
Stanley Zlotkin - BSc, MD, PhD, FRCP(C)

Members Emeriti
George Beaton - MA, PhD
Robert Bruce - BSc, MD, MSc, PhD, FRCP(C), FRSC
Khursheed Jeejeebhoy - MB, PhD, MRCP, FRCP(C), FRCP(E)
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A Venketeshwer Rao - BSc, MSc, PhD
Lilian Thompson - BSc, MSc, PhD

Associate Members
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Elena Comelli - MSc, PhD
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Ann Fox - BAA, MHSc
Robert Josse - MBBS, BSc, FACP, FRCP, FRCP(C)
Mary Keith - BASc, PhD, RD
Anthony Levitt - MBBS, DGo, FRCP(C)
David Ma - BSc, PhD
David Yeung - BA, MA, PhD

° Courses which may continue over a program. The course is graded when completed.

Occupational Science and Occupational Therapy   OCT

Faculty Affiliation
Medicine

Degree Programs Offered
Occupational Science and Occupational Therapy- MScOT

Collaborative Programs Offered
Degree programs that participate in:
1. Women's Health, see p. 478
   - Occupational Science and Occupational Therapy, MScOT

Overview
The **Master of Science in Occupational Therapy** program prepares students in advanced academic and professional knowledge and applied research skills for leadership in occupational therapy practice. The program emphasizes the application of theory and research evidence to clinical practice through rigorous studies in occupational therapy and research production and utilization. Graduates are eligible to write the certification examination of the Canadian Association of Occupational Therapists, a requirement for registration with the College of Occupational Therapists of Ontario and most other professional regulatory colleges in Canada. Practice in another country generally requires the graduate to pass the licensing requirement specific to that country. Graduates are eligible to:
1. practice independently in a variety of roles, such as consultants and case managers, and in a range of settings, such as acute care, interdisciplinary programs, private practice, and primary health care,
2. supervise rehabilitation assistants, OT aides, or other support workers,
3. use principles of research-based practice to guide and evaluate service delivery,
4. contribute to research that will advance the knowledge base of the discipline,
5. assume management roles,
6. take leadership roles in the profession,
7. take leadership roles in health care and other sectors including social services, education, and labour,
8. fill academic-practitioner positions, and
9. pursue doctoral studies and careers in academia or clinical research.

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Department of Occupational Science and Occupational Therapy
University of Toronto
160-500 University Avenue
Toronto, Ontario M5G 1V7
Canada

Degree Programs

Master of Science in Occupational Therapy

Minimum Admission Requirements
- Four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum mid-B average in the final year. The department will review the last 10 full-course equivalents completed at the undergraduate level by the application deadline.
- Apply ONLINE using the Ontario Rehabilitation Sciences Programs Application Service (ORPAS) at <www.ouac.on.ca/orpas/>. Applications are accepted approximately mid-October each year.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction is not English must provide proof of English facility. See Basic English Facility Requirements in this calendar for general information and acceptable tests. The department strongly prefers the Test of English as a Foreign Language (TOEFL) and requires a minimum score of:
  - o 600 on the paper-based test, accompanied by a minimum score of 5 on the Test of Written English
  - o 250 on the computer-based test, accompanied by a minimum score of 5 on the Test of Written English
  - o 100/120 on the Internet-based test with 22/30 on the speaking section and 22/30 on the writing section.
  TOEFL candidates should request that results be sent to institution code 0982.

Program Requirements
- The MScOT is a two-year, 23-course program of continuous study.
- Students begin their studies in September and complete six consecutive sessions, with a range of four to six concurrent courses in each session. There are four full-time block fieldwork components within the program of study.

Courses

OCT 1100H° Applied Skills and Technology: Human Factors and Design in Occupational Therapy

OCT 1111Y Occupational Science: Foundations for Occupational Therapy

OCT 1121H Research Issues and Approaches in Occupational Therapy

OCT 1122H Methods in Practice-Based Research

OCT 1123H Framing Practice-Based Research

OCT 1131H Occupational Therapy Practice l

OCT 1132H Occupational Therapy Practice ll

OCT 1133H Occupational Therapy Practice lll

OCT 1141H Assessment in Occupational Therapy

OCT 1152Y Musculoskeletal Structure and Function

OCT 1162Y Psychosocial Perspectives in Occupational Therapy

OCT 1172Y+ Neuro-motor/Neuro-cognitive Perspectives in Occupational Therapy

OCT 1183Y Occupational Therapy Fieldwork l

OCT 1190Y° Building Practice Through Mentorship

OCT 1220Y° Graduate Research Project

OCT 1251H Enabling Occupation with Children: Part I

OCT 1252H Enabling Occupation with Children: Part II

OCT 1261H Enabling Occupation with Adults: Part I

OCT 1262Y Enabling Occupation with Adults: Part ll

OCT 1271H Enabling Occupation with Older Adults: Part I

OCT 1272H Enabling Occupation with Older Adults: Part II

OCT 1281Y Occupational Therapy Fieldwork II

OCT 1282Y Occupational Therapy Fieldwork III

OCT 1283Y Occupational Therapy Fieldwork IV

Graduate Faculty

Full Members
Anne Agur - BSc,MSc,PhD
Heather Carnahan - BPE, MSc, PhD
Anne Carswell - Dip(OT), BSc, MSc,PhD
Angela Colantonio - BA, BSc, MHSc, PhD
Deirdre Dawson - BSc, MSc, PhD
Sharon Friefeld - BSc(OT), MA, PhD
Michael Iwama - BSc, BSc(OT), MSc, PhD
Bonnie Kirsh - BSc(OT), MEd, PhD
Alex Mihailidis - BASc, MASc, PhD, PEng
Helene Polatajko-Howell - BOT, MEd, PhD, OT(C) *(Chair)*
Susan Rappolt - BSc(OT), MSc, PhD
Denise Reid - BSc(OT), MEd, PhD
Rebecca Renwick - DIP (P&OT), BA, PhD

Members Emeriti
Judith Friedland - BA, Dip(P&OT), MA, PhD

Associate Members
Donna Barker - BSc(OT), MSc
Dorcas Beaton - BSc(OT), MSc, PhD
Debra Cameron - BSc(OT), MEd, PhD
Jill Cameron - BSc, MSc, PhD
Kent Campbell - BSc, PhD
Lynn Cockburn - BComm, BSc(OT), MEd, MPH
Susan Farrow - BA, BSc(OT)
Anne Fourt - BSc(OT), MEd
Debbie Hebert - BSc(OT), MScKin
Michelle Keightley - BSc, MA, PhD
Sylvia Langlois - BHSc(OT), MSc
Patricia Mckee - Dip(OT), BSc(OT), MSc
Patty Rigby - Dip(OT), MHSc
Barbara Secker - BA, MA, PhD
Rachel Stack - BSc, MClSc
Jill Stier - BMR(OT), MA *(Coordinator of Graduate Studies)*
Barry Trentham - BSc(OT), MES

° Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Pharmaceutical Sciences PHM

Faculty Affiliation
Pharmacy

Degree Programs Offered
Pharmaceutical Sciences – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
   Pharmaceutical Sciences, MSc, PhD
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   Pharmaceutical Sciences, MSc, PhD
3. Biomedical Engineering, see p. 418
   Pharmaceutical Sciences MSc, PhD
4. Cardiovascular Sciences, see p. 426
   Pharmaceutical Science, MSc, PhD
5. Global Health, see p. 452
   Pharmaceutical Sciences, PhD
6. Health Care, Technology and Place, see p. 454
   Pharmaceutical Sciences, PhD
7. Health Services and Policy Research, see p. 456
   Pharmaceutical Sciences, MSc, PhD
8. Neuroscience, see p. 466
   Pharmaceutical Sciences, MSc, PhD
9. Toxicology, Biomedical, see p. 421
   Pharmaceutical Sciences, MSc, PhD

Overview
The Department of Pharmaceutical Sciences offers graduate programs leading to the **Master of Science** and **Doctor of Philosophy** degrees. The Department offers research opportunities and courses in three principal areas:
1. **Molecular Pharmacology and Toxicology:** drug receptor interactions, molecular biology, electrophysiology, biochemistry, clinical, adverse drug reactions, and drug metabolism
2. **Pharmaceutics and Pharmacokinetics:** pharmaceutical and medicinal chemistry, pharmaceutical formulations, radiopharmaceutical synthesis, drug discovery, biophysical chemistry, basic pharmacokinetics and clinical research
3. **Clinical, Social and Administrative Pharmaceutical Sciences:** clinical and pharmacy practice, sociology of health, social psychology, health policy, and health economics

Contact and Address
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Graduate Department of Pharmaceutical Sciences
Leslie Dan Faculty of Pharmacy
University of Toronto
144 College Street
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Canada

Degree Programs

Master of Science

Minimum Admission Requirements

Full-Time MSc
- Four-year University of Toronto BSc degree or its equivalent from a recognized university with at least a mid-B average in each of the last two years of undergraduate study.
- The Pharmaceutical Sciences Graduate Admissions Committee considers the applicant's background and accomplishments, academic standing, and financial support from the potential supervisor.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination is not English are required to write the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  o paper-based TOEFL: 600 and 5 on the TWE
  o computer-based TOEFL: 250 and 5 on the essay rating component.
  o Internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections.
- If the undergraduate degree was not obtained from a recognized Canadian or U.S. university, the applicant must write and achieve scores at the 50th percentile ranking or better on the Graduate Record Examination (GRE—General Test).

Part-Time MSc
- A limited number of students will be admitted to the MSc program on a part-time basis. All admission requirements are the same as for the full-time MSc.

Program Requirements

Full-Time MSc
- A program of study that provides the appropriate foundation for thesis research. The program depends on the student's background and is planned in consultation with the supervisor and advisory committee, with the approval of the graduate chair.
- The student normally completes two full-course equivalents (FCE), but a minimum of one FCE is required.
- Yearly advisory committee meetings.
- One poster presentation given to all faculty and graduate students at Graduate Research in

Progress (GRIP), and attendance at GRIP and Post-GRIP.
- Regular attendance at Pharmaceutical Sciences departmental seminars (at least 8 seminars annually)
- An oral presentation on their own research work given within 12-24 months of beginning the program.
- Final seminar to be given during the thesis defence.
- A thesis based on an approved research problem in a field of pharmaceutical sciences.

Part-Time MSc
- All requirements are the same as for the MSc full-time program, except part-time students are required to attend at least four departmental seminars in each academic year.
- A 20-30 minute oral presentation of own research work is given every other year during enrolment.

Doctor of Philosophy

Minimum Admission Requirements

Full-Time PhD
- Appropriate University of Toronto MSc degree, or its equivalent from a recognized university, with a minimum overall B+ average.
- Under exceptional circumstances, students may be admitted directly to the PhD program with a four-year BSc degree or its equivalent. Factors considered include academic standing, ability to conduct research, and availability of financial support from the potential supervisor.
- The Pharmaceutical Sciences Graduate Admissions Committee considers the applicant's background and accomplishments, academic standing, and financial support from the potential supervisor.
- Applicants whose primary language is not English and who graduated from a university where the language of instruction and examination is not English are required to write the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  o paper-based TOEFL: 600 and 5 on the TWE
  o computer-based TOEFL: 250 and 5 on the essay rating component.
  o Internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections.
- If the undergraduate degree was not obtained from a recognized Canadian or U.S. university, the applicant must write the Graduate Record Examination (GRE—General Test) and achieve scores at the 50th percentile ranking or better on the Verbal and Quantitative components and a minimum score of 5.0 on the Analytical Writing component.

Transfer from MSc to PhD
- Students who have a high academic standing and a clearly demonstrated ability to do research at the doctoral level may be eligible to transfer to the PhD program after one year in the MSc program. The student must have completed at least one FCE with an average grade of A minus and have financial support.
- A transfer from the MSc program to the PhD program occurs normally within 15 months of the student's first registration in the MSc program.

Flexible-Time PhD
- The Department offers a flexible-time PhD program option for selected students. This program benefits professionals with career obligations and whose employment is closely related to their intended area of research.
- Applicants must meet all the admission requirements for entry to the full-time PhD program in Pharmaceutical Sciences.
- A letter of support from the employer.
- The departmental admissions committee reviews the applications; admission is highly selective with preference given to applicants who:
  o are members in good standing of a regulated profession or scientific society, and
  o hold a university appointment in Canada at an academic standard equivalent to the University of Toronto Lecturer.

Program Requirements

Full-Time PhD
- A program of study that provides the appropriate foundation for thesis research. The program depends on the student's background and is planned in consultation with the supervisor and advisory committee, with the approval of the graduate chair. Students normally complete 2.0 FCEs. Students admitted directly to the PhD program with a BSc must complete 3.0 FCEs.
- Yearly advisory committee meetings.
- A qualifying examination.
- Two short research presentations to all faculty and graduate students at Graduate Research in Progress (GRIP), an exit full-length research seminar to be given before the thesis defence, and attendance at GRIP and Post-GRIP.
- Regular attendance at Pharmaceutical Sciences departmental seminars.
- In addition to the departmental exit seminar held within three months of the final thesis defence, all PhD students are required to give an oral research presentation of approximately 20-30 minutes every year after the first 12 months of registration in the program.
- A thesis in conformity with the University regulations, based on research conducted while registered in a PhD program at the University of Toronto.
- Students are required to be on campus and participating full-time (including summer) until all program requirements are completed. Simultaneous registration in another full-time degree program is not

allowed. Course work should normally be completed within the first two years of registration.

Transfer from MSc to PhD
- The transferred student must complete all remaining course requirements of the MSc program, except the thesis, in addition to the requirements of the PhD program. Credit is given in the doctoral program for research and graduate courses completed prior to the transfer.

Flexible-Time PhD
- The program requirements for the flexible-time PhD option are identical to the requirements for the full-time PhD program.
- The time limit for completion of the flexible-time PhD program option from first registration in the program is eight years for students with a master's degree and nine years for students with a bachelor's degree. Students must ensure that they have adequate time on campus to attend classes and to fulfil the academic requirements.
- Full-time registration is required for the first four years for those entering the program with a master's degree; five years for those with a bachelor's degree. Thereafter, students may register part-time.

Courses

Please consult the Department's timetable for courses offered in a given year.

PHM 1107H   Advanced Pharmacokinetics Course I
PHM 1108H   Advanced Pharmacokinetics Course II
PHM 1109H   Recent Developments in Dosage Form Design (prerequisite PHM 224Y or equivalent)
PHM 1110H   Chemical Basis of Drug Metabolism
PHM 1111H   Research and Statistical Analytical Methods
PHM 1114H   Special Topics in Radiopharmaceuticals I
PHM 1115H   Special Topics in Radiopharmaceuticals II
PHM 1116H   Pharmacoeconomic Evaluation
PHM 1117H   DNA-Drug Interactions
PHM 1118H   Drug Utilization: Patterns, Outcomes, and Issues in Drug Use Evaluation
PHM 1120H+ Selected Research Topics in the Pharmaceutical Sciences
PHM 1122H   Fundamentals of Drug Discovery
PHM 1123H   Thermodynamics of Macromolecular Interactions
PHM 1124H   The Power and Politics of Global Pharmaceutical Policy
PHM 1125H   Complementary/Alternative Medicine: Health Systems and Policy Issues
PHM 1126H   The Economics of Health and Health Care
JFK 1120H   Selected Topics in Drug Development I
JFK 1121H   Selected Topics in Drug Development II
JFK 1122H   Drug Transport Across Biological Membranes

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

JNP 1014Y   Interdisciplinary Toxicology
JNP 1016H   Graduate Seminar in Toxicology
JNP 1017H+ Molecular and Biochemical Basis of Toxicology
JNP 1018H+ Current Topics in Molecular and Biochemical Toxicology
JPY 1007Y   Neuropharmacology of Neurotransmitter Receptors
JRX 1124H   Structure-Based Drug Design

Graduate Faculty

Full Members
Christine Allen - BSc; PhD
Zubin Austin - BScPhm, MBA, MIS, MEd, PhD
Peri Ballantyne - BA, MA, PhD
Reina Bendayan - BScPharm, PharmD *(Associate Dean, Graduate Education)*
Heather Boon - BScPhm, PhD
Barry Bowen - BScPhm, MScPhm
Usanda Busto - PharmD
Tigran Chalikian - BS, MS, PhD
Yu-Ling Cheng - SB, SM, PhD
Jillian Cohen-Kohler - BA, MA, PhD
Thomas Einarson - BScPhm, MEd, MPharm, MSc, PhD
Jean Gariepy - BSc, PhD
Guri Giaever - BS, PhD
Denis Grant - BSc, PhD
Paul Grootendorst - BA, MA, PhD
David Hampson - BS, MS, PhD *(Coordinator of Graduate Studies)*
Heiko Heerklotz - PhD
Jeffrey Henderson - BA, PhD
K Wayne Hindmarsh - BSPhm, MSc, PhD, FCSFS
Anne Holbrook - MD, BScPhm, PharmD, MSc
Shinya Ito - MD, ABCP
Shana Kelley - BA, PhD
Gideon Koren - MD, FRCP(C)
Lakshmi Kotra - BPhm, PhD
Murray Krahn - BA, MSc, MD, FRCP(C)
Ping Lee - BS, PhD
Robert Macgregor - BS, PhD
Linda MacKeigan - BScPhm, PhD
Linda Muzzin - BA, MA, MA, PhD
K Sandy Pang - BScPhm, PhD
Peter Pennefather - BSc, PhD
Micheline Piquette-Miller - BScPhm, PhD
Raymond Reilly - BScPhm, MScPharm, PhD
Bradley Saville - BSc, PhD, PEng
Michael Spino - BScPharm, PharmD
Beth Sproule - BScPhm, PharmD
Anna Taddio - BScPhm, MSc, PhD
Jack Uetrecht - BS, MS, MD, PhD, Canada Research Chair
Scott Walker - BScPhm, MScPharm
James Wells - BScPhm, MSc, PhD
Peter Wells - BScPhm, PharmD
Xiao Yu Wu - BSc, MScEng, PhD

Members Emeriti
Joan Marshman - BScPhm, MSc, PhD
John Nairn - PhD
Peter John O'Brien - BSc, MSc, PhD
Harold Segal - BScPhm, MS, PhD

Associate Members
Stephane Angers - BSc, PhD
Jana Bajcar - BScPhm, MScPharm
Ian Crandall - BSc, MSc, PhD
Carolyn Cummins - PhD, BSc
Brian Hardy - BScPhm, PharmD
Emmanuel Papadimitroupoulos - BSc, BSP, MScPharm,
 PhD
Alison Thompson - BA, MA, PhD

Pharmacology and Toxicology PCL

Faculty Affiliation
Medicine

Degree Programs Offered
Pharmacology – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addition Studies, see p. 406
   Pharmacology, MSc, PhD
2. Cardiovascular Sciences, see p. 426
   Pharmacology, MSc, PhD
3. Neuroscience, see p. 466
   Pharmacology, MSc, PhD
4. Toxicology, Biomedical, see p. 421
   Pharmacology, MSc, PhD
5. Women's Health, see p. 478
   Pharmacology, MSc, PhD

Overview
The Department of Pharmacology and Toxicology offers graduate programs leading to the degrees of **Master of Science** and **Doctor of Philosophy in Pharmacology**. Research activity, from which graduate students may choose problems for their theses, include:
- biochemical and molecular pharmacology
- cardiovascular pharmacology
- clinical pharmacology
- drug addiction
- drug metabolism, distribution, and pharmacokinetics
- endocrine pharmacology
- immunopharmacology
- neuropharmacology
- pharmacogenetics
- psychopharmacology
- receptor pharmacology
- second messengers and signal transduction
- toxicology

All MSc and PhD students are expected to undertake self-directed study and to demonstrate proficiency in pharmacological principles throughout the course of their graduate program.

Contact and Address:
Web: www.pharmtox.utoronto.ca/
E-mail: pharmtox.dept@utoronto.ca
Telephone: (416) 978-5244
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Department of Pharmacology and Toxicology
Room 4207, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum B+ average in the final year of the undergraduate program.
- Applicants are normally required to have taken courses in physiology, biochemistry, or allied sciences sufficient to form a foundation for their work in pharmacology.
- The Department must be satisfied about the applicant's background, accomplishments, and financial support.
- All successful applicants are responsible for obtaining research supervision and financial support before they are permitted to officially register in their program.

Program Requirements
- Minimum period of one full year of residence during which time the student is required to be on campus full-time and consequently in such geographical proximity as to be able to participate fully in the Department's activities associated with the program.
- PCL 1002Y Graduate Pharmacology. The academic program may require additional coursework.
- Each student will present a departmental seminar after approximately one year in the program.
- Each student will participate in a research program and present the results of the investigation as a written thesis. The thesis will be evaluated and defended to the satisfaction of a thesis examination committee.
- MSc students in pharmacology who intend to continue their studies in the PhD program may choose to be evaluated during their MSc oral defence.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto MSc degree, or its equivalent from a recognized university, with a minimum B+ average in master's courses
- Applicants are normally required to have taken courses in physiology, biochemistry, or allied sciences sufficient to form a foundation for their work in pharmacology.
- The Department determines the eligibility of prospective students. The Department assesses the student's ability for advanced study and independent research in pharmacology.
- Well qualified students with excellent research potential holding an appropriate bachelor's degree may be considered for direct admission to the PhD program. These applicants must have achieved a minimum final year average of A-.

- Applicants with MSc degrees from other departments or universities, and students admitted with a bachelor's degree will have their research ability reviewed after completion of one year. Upon successful completion of a departmental seminar and recommendation from the student's advisory committee, the student will be permitted to proceed with the PhD program.
- Students transferring from the master's program in pharmacology to the PhD program may receive full credit for master's courses towards doctoral course requirements, with the Department's permission.
- All successful applicants are responsible for obtaining research supervision and financial support before they are permitted to officially register in their program.

Program Requirements

- Minimum period of two full years of residence during which time the student is required to be on campus full-time and consequently in such geographical proximity as to be able to participate fully in the Department's activities associated with the program.
- PCL 1002Y Graduate Pharmacology (major subject), PCL 1003Y° Seminars in Pharmacology (Credit/No Credit course), 1.0 additional FCE (minor subject), and any other courses advised by the Graduate Education Committee. The student's advisory committee should help the student determine the minor course.
- Pharmacology graduate faculty members also offer a variety of laboratory-based and tutorial-based learning modules to provide breadth to the student's training experience beyond their particular areas of research focus. During their program, PhD students are required to choose five breadth modules from among available options, at least one of which must be a laboratory module and one a tutorial module. 0.5 FCE from outside the student's research area may substitute for one of the five breadth modules. The student's advisory committee will assist the student in choosing suitable modules.
- As part of the course requirement for PCL 1003Y° Seminars in Pharmacology, the student must present thesis material in seminars to the Department on two occasions, one of which will take place between two and six months prior to the departmental final oral examination.
- Each student will participate in a research program and present the results of the investigation as a written thesis. The thesis must be orally defended to the satisfaction of a thesis examination committee.
- PhD students in other departments who desire to take a minor in pharmacology will be permitted to take one of the listed courses depending on their previous training and space availability in the course.

° Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Courses

The Department should be consulted each session as to course offerings. Students may also find up-to-date course information on the departmental Web site: www.pharmtox.utoronto.ca/programs/grad/courses.htm .

PCL 1001Y   Systems Pharmacology
PCL 1002Y   Graduate Pharmacology
PCL 1003Y°   Seminars in Pharmacology (Credit/No Credit)
PCL 1004Y   Clinical Pharmacology
PCL 1012H   Cognitive Neuropharmacology
PCL 1015H   Applied Pharmacogenetics and Pharmacogenomics
JFK 1120H   Selected Topics in Drug Development I
JFK 1121H   Selected Topics in Drug Development II
JFK 1122H   Drug Transport Across Biological Membranes
JNP 1014Y   Interdisciplinary Toxicology
JNP 1016H   Graduate Seminar in Toxicology
JNP 1017H+   Molecular and Biochemical Basis of Toxicology
JNP 1018H+   Current Topics in Molecular and Biochemical Toxicology
JNR 1444Y   Fundamentals of Neuroscience: Cellular and Molecular
JPM 1005Y   Behavioural Pharmacology
JPY 1007Y   Neuropharmacology of Neurotransmitter Receptors
JYG 1555H   Topics in Cellular and Molecular Neurobiology

Graduate Faculty

Full Members
Usanda Busto - PharmD
Paul Dorian - MSc, MDCH
Susan George - MD, FRCP
Denis Grant - BSc, PhD *(Chair)*
Larry Grupp - DSc
David Hampson - BS, MS, PhD
Patricia Harper - BSc, MSc, PhD
Shinya Ito - MD, ABCP
Stephen John Kish - PhD
Gideon Koren - MD, FRCP(C)
Krista Lanctot - PhD
Dzung Le - MSc, PhD
Peter Pun Li - PhD
John MacDonald - BSc, PhD
Norton Milgram - BA, MA, PhD
Jane Mitchell - PhD
Malcolm Moore - MD
Claudio Naranjo - MD
Jose Nobrega - BA, MA, PhD
Brian O'dowd - PhD
K Sandy Pang - BScPhm, PhD
John Parker - MD
Peter Pennefather - BSc, PhD
Arturas Petronis - MD, PhD

Micheline Piquette-Miller - BScPhm, PhD
David Riddick - BSc, PhD *(Coordinator of Graduate Studies)*
Bernard Schimmer - BS, PhD
John Wesley Semple - PhD
Neil Shear - BA, MD, FRCP(C)
Carter Snead III - MD
Denise Tomkins - BSc, PhD
Rachel Tyndale - PhD
Jack Uetrecht - BS, MS, MD, PhD, Canada Research Chair
Jerry Warsh - MD, PhD
James Wells - BScPhm, MSc, PhD
Peter Wells - BScPhm, PharmD
Albert Wong - MD, PhD

Members Emeriti
Willets Burnham - BA, PhD
Laszlo Endrenyi - PhD
Gerald Joseph Goldenberg - MD
Johannes Heersche - BSc, PhD
Tadanobu Inaba - BEng, MSc, PhD
Dezso Kadar - BSc, MSc, PhD
Harold Kalant - MD, PhD
Peter John O'Brien - BSc, MSc, PhD
Allan Okey - BSc, MSc, PhD
Cecil Pace-Asciak - PhD
Philip Seeman - BSc, MSc, MDCH, PhD
Edward Sellers - MD, PhD, FRCP(C)

Associate Members
Rebecca Laposa - PhD
Bernard Le Foll - MD, PhD
Jason Matthews - PhD
J. Peter McPherson - BSc, MSc, PhD
Hee-Won Park - MSc, PhD
Cindy Woodland - BSc, MSc, PhD
Martin Zack - PhD

Philosophy   PHL

Faculty Affiliation
Arts and Science

Degree Programs Offered
Philosophy - MA, PhD, Combined JD/PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Ancient and Medieval Philosophy, see p. 411
   Philosophy, PhD
2. Bioethics, see p. 416
   Philosophy, MA, PhD
3. Editing Medieval Texts, see p. 437
   Philosophy, PhD
4. Environmental Studies, see p. 443
   Philosophy, MA, PhD
5. Jewish Studies, see p. 460
   Philosophy, PhD
6. Women and Gender Studies, see p. 473
   Philosophy, MA, PhD

Overview
The Department of Philosophy offers two degree programs - **Master of Arts** and **Doctor of Philosophy** - as well as a combined program - **Combined Juris Doctor/ Doctor of Philosophy** program - which enables students to pursue work at the intersection of philosophy and law and to complete both the PhD and the Juris Doctor programs in a shorter time than it would take to complete the degrees separately.

Applicants should consult the department's Graduate Bulletin for complete details of graduate programs, course offerings, and short academic profiles of the graduate faculty. The Graduate Bulletin is available online at philosophy.utoronto.ca/graduate/courses.html.

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Department of Philosophy
Jackman Humanities Building (JHB)
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Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Students are admitted under the general regulations of the School of Graduate Studies. Admission requires a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes at least 6.0 full-course equivalents (FCE) in philosophy, with an average grade of at least a mid-B in the applicant's overall program and of at least an A- in the applicant's philosophy courses.
- Applicants must submit the following supporting documents with their applications:
  o One official transcript of the applicant's academic record from each university attended, complete to the time of application.
  o A statement of about 300 words, indicating the applicant's areas of interest in philosophy at the graduate level.
  o Two letters of reference from philosophy instructors, written on the appropriate forms.
  o One sample of the applicant's written work in philosophy (written in English or French); e.g., a term paper, not exceeding 20 pages. It should be as recent as possible and should provide evidence of ability to study philosophy at an advanced level.
  o Applicants whose primary language is not English and who are not graduates of a university whose language of instruction is English must complete the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
    o Paper-based TOEFL exam: 600 and 5 on the TWE
    o Computer-based TOEFL exam: 250 and 5 on the essay rating component
    o Internet-based TOEFL exam: 100/120 and 22/30 on the writing and speaking sections.
  Equivalent results in some other recognized test of English-language facility are acceptable.
- PhD applicants are strongly encouraged (but are not required) to submit the results of the Graduate Record Exam (GRE) taken within the preceding 18 months.

Program Requirements
- The program consists of a minimum of 4.0 full-course equivalents (FCE) in philosophy. At least 1.0 FCE must be in the history of philosophy and at least 1.0 FCE must be in the problems of philosophy.
- Each MA student is assigned an Advisor who will recommend a suitable program of philosophy courses. The student's choice of courses must be approved by the department.
- It is possible for a full-time student to complete all requirements for the MA degree in the fall and winter sessions; however, the department encourages stu-

dents to take no more than 3.0 FCE during the fall and winter sessions and to complete the last course during the summer session.
- Part-time enrolment in the MA program is permitted; the requirements for the degree must be completed within five academic years.

Doctor of Philosophy

Minimum Admission Requirements
- Students approved by the department are admitted under the general regulations of the School of Graduate Studies via one of two routes:
  - From a **bachelor's degree**. A four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes at least 6.0 full-course equivalents (FCE) in philosophy, with an average grade of at least a B+ in the applicant's overall program and of at least an A- in the applicant's philosophy courses.
  - From a **master's degree.** A University of Toronto master's degree in philosophy, or its equivalent from a recognized university, with an average grade of at least an A- in the applicant's overall program
- Applicants must submit the following supporting documents with their applications:
  - One official transcript of the applicant's academic record from each university attended, complete to the time of application.
  - A statement of about 300 words, indicating the applicant's areas of interest in philosophy at the graduate level.
  - Two letters of reference from philosophy instructors, written on the appropriate forms.
  - One sample of the applicant's written work in philosophy (written in English or French); e.g., a term paper not exceeding 20 pages. It should be as recent as possible and should provide evidence of the student's capability to study philosophy at an advanced level.
  - Applicants whose primary language is not English and who are not graduates of a university whose language of instruction is English must complete the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
    - Paper-based TOEFL exam: 600 and 5 on the TWE
    - Computer-based TOEFL exam: 250 and 5 on the essay rating component
    - Internet-based TOEFL exam: 100/120 and 22/30 on the writing and speaking sections.
    Equivalent results in some other recognized test of English-language facility are acceptable.
- Students who wish to take one or more of the courses offered by the department as non-degree students should apply for admission as Special Students. The application procedures and deadlines are the same for both the MA and PhD programs.

- Students enrolled in graduate programs in philosophy in other universities are welcome to apply to spend a year studying at the University of Toronto. Please direct any inquiries to the Graduate Coordinator.
- PhD applicants are strongly encouraged (but are not required) to submit the results of the Graduate Record Exam (GRE) taken within the preceding 18 months.

Program Requirements
PhD students pursue a program of study and research approved by the department. The minimum requirements follow:
- **Course Requirements.**
  - Students with a four-year **bachelor's degree** must take a minimum of 6.0 FCE in philosophy, with an average grade of at least an A-. At least 1.0 FCE must be in the history of philosophy and at least 1.0 FCE must be in the problems of philosophy. Students who fail to maintain an average of at least an A- after completing 3.0 FCE may have their registration terminated.
  - Students with a **master's degree** must take a minimum of 3.0 FCE in philosophy, with a minimum A- average. At least 1.0 FCE must be in the history of philosophy and at least 1.0 must be in the problems of philosophy. A student whose MA degree does not exhibit sufficient breadth, in particular, does not include the equivalent of at least 1.0 FCE in the history of philosophy and at least 1.0 FCE in the problems of philosophy, may be required to take additional courses.
- All students must complete the proseminar in philosophy (PHL 1111H) during the fall session of their first year. This will count as 0.5 FCE toward the number of requisite courses.
- With the department's permission, a student may replace up to 1.0 FCE in philosophy with a graduate course offered by another department.
- A doctoral student is required to complete at least 3.0 FCE by the end of the first year of registration and to complete any of the remaining degree course requirements by the end of the second year.
- **Breadth Requirement.** A student must demonstrate competence in at least six areas of philosophy: three of the five specified areas in the history of philosophy and no more than two consecutively (ancient, medieval, 17th-18th century, 19th century, and 20th century), and in each of three areas in problems of philosophy: metaphysics, epistemology and philosophy of science, values (ethics, politics, aesthetics, and philosophy of religion), and mind, language and logic
- **Area Requirement.** Before proceeding with formal research on a thesis topic, the student must demonstrate competence in a broader area within which that topic falls. For further information see Information for Doctoral Students, available from the Graduate Office.
- **Language Requirement.** A student must demonstrate a reading knowledge of French; however, with

the permission of the department, another language (other than English) may be substituted for French, provided that this other language is required in carrying out the approved research area. The student's area committee may require competence in additional languages deemed necessary for the student's proposed area of research.

- **Thesis.** A candidate must submit a thesis on an approved subject and defend the thesis at a final oral examination. The department is not obligated to provide supervision in areas falling outside the competency, interest, or availability of its graduate faculty.
- **Residence.** Students must be registered as full-time on-campus students and must reside in sufficient geographical proximity to enable them to fulfil the course, breadth, area, and language requirements set by the department in a smooth and timely fashion. They are also expected to participate fully in departmental activities. While writing the thesis, candidates are expected to be in residence, with the exception of absence for research.

Combined Juris Doctor/Doctor of Philosophy Program

Minimum Admission Requirements
- Entry to the program requires admission to both the PhD program in philosophy and the JD program in law. Separate applications are required.

Program Requirements
- For details, visit the Faculty of Law's Web site at www.law.utoronto.ca/prosp_stdn_content. asp?itemPath=3/6/15/0/0&contentId=190
- Year 1 - students complete the first year of the law curriculum.
- Year 2 - students complete the remaining requirements for the JD degree and begin course work required for the PhD. Note that some of the courses completed in fulfillment of PhD requirements will be counted for credit towards the JD and vice versa.
- By the end of Year 4, in the case of someone admitted on the basis of a master's degree, otherwise by the end of Year 5, a student should have completed any remaining course requirements for the PhD degree, satisfied the breadth requirement, and met the area requirement. The candidate then begins work on the thesis.
- During Years 1 and 2, students are registered as full-time law students; subsequently, they are registered as full-time doctoral students and are eligible for graduate funding.

Courses
Not all courses are offered every year. Please consult the department's *Graduate Bulletin*, which lists the courses the department will offer this year as well as those offered by other departments that may be taken for philosophy credit.

Required Course for Ph.D. Students
PHL 1111H   Proseminar

Reading Courses
PHL 1000H,Y Reading Course
PHL 1001H,Y Reading Course
PHL 1500H,Y Reading Course

History of Philosophy

Ancient Philosophy
PHL 2000H   Early Greek Philosophy
PHL 2002H   Plato
PHL 2003H   Aristotle
PHL 2005H   Seminar in Plato
PHL 2007H   Seminar in Aristotle
PHL 2009H   Seminar in Greek Philosophy
PHL 2010H   Late Greek Philosophy

Eastern Philosophy
PHL 2015H   Confucianism
PHL 2016H   Taoism: Philosophy and Religion
PHL 2017H   Buddhism in China

Medieval Philosophy
PHL 2020H   Augustine
PHL 2030H   Aquinas
PHL 2032H   Seminar in Aquinas
PHL 2040H   Medieval Philosophy
PHL 2041H   Seminar in Medieval Philosophy
PHL 2042H   Topics in Medieval Philosophy
PHL 2045H   Late Medieval Philosophy

Early Modern Philosophy
PHL 2050H   Descartes
PHL 2051H   The Rationalists
PHL 2054H   Hume
PHL 2055H   The Empiricists
PHL 2057H   Seminar in Seventeenth-Eighteenth Century Philosophy
PHL 2062H   Kant's *Critique of Pure Reason*
PHL 2063H   Kant's *Ethics*
PHL 2064H   Seminar in Kant

Nineteenth- and Twentieth-Century Philosophy
PHL 2076H   Hegel
PHL 2078H   Kierkegaard
PHL 2079H   Marxist Philosophy
PHL 2084H   Seminar in Nineteenth-Century Continental Philosophy
PHL 2085H   Husserl
PHL 2088H   Heidegger
PHL 2089H   Seminar in Twentieth-Century Continental Philosophy

PHL 2090H   Hermeneutics
PHL 2091H   The Critical Theory of Society
PHL 2092H   Pragmatism
PHL 2093H   Frege
PHL 2094H   Russell
PHL 2095H   Wittgenstein
PHL 2096H   Seminar in Analytic Philosophy
PHL 2097H   Topics in Analytic Philosophy
PHL 2099H   Bernard Lonergan

Problems of Philosophy

Metaphysics and Epistemology
PHL 2100H   Metaphysics
PHL 2101H   Seminar in Metaphysics
PHL 2105H   Topics in Metaphysics
PHL 2110H   Epistemology
PHL 2111H   Seminar in Epistemology
PHL 2115H   Topics in Epistemology
PHL 2119H   Philosophical Foundations of
                    Multidisciplinary Studies
PHL 2171H   Philosophy of Mind
PHL 2172H   Seminar in Philosophy of Mind
PHL 2174H   Freud's Philosophy of Mind
PHL 2181H   Philosophy of Religion
PHL 2182H   Seminar in Philosophy of Religion

Logic and the Philosophy of Language
PHL 2120H   Introductory Mathematical Logic
PHL 2122H   Advanced Logic
PHL 2124H   Seminar in Logic
PHL 2125H   Many Valued and Modal Logics
PHL 2126H   Philosophy of Logic
PHL 2127H   Philosophy of Mathematics
PHL 2128H   Decision and Game Theory
PHL 2130H   Topics in Informal Logic
PHL 2190H   Philosophy of Language
PHL 2191H   Seminar in the Philosophy of Language
PHL 2197H   Foundations of Computation and
                    Information

Value Theory
PHL 2131H   Ethics
PHL 2132H   Seminar in Ethics
PHL 2133H   Topics in Ethics
PHL 2135H   Metaethics
PHL 2141H   Political Philosophy
PHL 2142H   Seminar in Political Philosophy
PHL 2143H   Social Philosophy
PHL 2144H   Seminar in Social Philosophy
PHL 2145H   Bioethics
PHL 2146Y   Topics in Bioethics
JVP 2147H   Environmental Philosophy
PHL 2148H   Philosophy of Law
JPL 2149H   Legal Theory
PHL 2151H   Aesthetics
PHL 2152H   Philosophy and Teaching

Feminist Philosophy
JPW 2118H   Philosophical Foundations of Women's
                    Studies

PHL 2140H   Feminist Philosophy

Philosophy of Science
JPH 2192H   Philosophy of Science
JPH 2194H   Topics in the History of the Philosophy of
                    Science
PHL 2195H   Philosophy of Biology
PHL 2196H   Topics in the Philosophy of Science
PHL 2199H   Seminar in the Philosophy of Science

Miscellaneous
PHL 3000H   Professional Workshop
PHL 3101H   Intensive Special Course
PHL 4900H   Research Seminar

Graduate Faculty

Full Members
Donald Ainslie - BSc, MA, PhD *(Chair)*
Derek Allen - BA, BPhil, MA, DPhil
Rachel Barney - BA, PhD, Canada Research Chair
Joseph Berkovitz - BSc, MA, PhD
Deborah Black - BA, MA, PhD
Joseph Boyle - BA, PhD
James Brown - BA, MA, PhD
Anjan Chakravartty - BSc, MA, MPhil, PhD
Philip Clark - BA, PhD
Rebecca Comay - BA, MA, PhD
Frank Cunningham - BA, MA, PhD, FRSC
David Dyzenhaus - BA, LLB, DPhil, FRSC
Paul Franks - BA, MA, PhD
Lloyd Gerson - BA, MA, PhD
Robert Gibbs - BA, MA, PhD
Willi Goetschel - LicPhil, PhD
Paul William Gooch - BA, MA, PhD
Joseph Heath - BA, MA, PhD
Thomas Hurka - BA, BPhil, DPhil, FRSC
Douglas Hutchinson - BA, BPhil, DPhil
Brad Inwood - BA, MA, PhD, FRSC, Canada Research
 Chair
Bernard Katz - BA, MA, PhD
Peter King - AB, PhD
Mark Kingwell - BA, MLitt, PhD
Philip Kremer - BSc, PhD *(Coordinator of Graduate
 Studies)*
Lynda Lange - BA, MA, PhD
Martin Lin - BA, PhD
Peter Ludlow - BA, PhD
Mohan Matthen - BSc, MA, PhD, Canada Research Chair
Cheryl Misak - BA, MA, DPhil, FRSC
Kathryn Morgan - BA, MA, MEd, PhD
Margaret Morrison - BA, MA, PhD
Amy Mullin - BA, PhD
Jennifer Nagel - BA, MA, PhD
David Novak - AB, MHL, rabbinical diploma, PhD
Diana Raffman - BA, PhD
Arthur S Ripstein - BA, MA, PhD, MSL
Marleen Rozemond - BA, PhD
William Edward Seager - BA, MA, PhD

Sonia Sedivy - BA, PhD
Vincent Tsing-song Shen - BA, MA, PhD, Lee Chair
Brian Cantwell Smith - BS, MS, PhD, Canada Research
 Chair
Gopal Sreenivasan - BA, BPhil, PhD, Canada Research
 Chair
Ingrid Stefanovic - BA, MA, PhD
L Wayne Sumner - BA, MA, PhD, FRSC, University
 Professor
Sergio Tenenbaum - BA, MA, PhD
Evan Thompson - AB, MA, PhD
Paul Thompson - BA, MA, PhD
Denis Walsh - BSc, PhD, BA, MPhil, PhD, Canada
 Research Chair
Jennifer Whiting - BA, MA, PhD
Byeong-Uk Yi - BA, MA, MA, PhD

Members Emeriti
John Canfield - BA, AM, PhD
Ronald De Sousa - BA, PhD, FRSC
Daniel Goldstick - BA, BPhil, DPhil
Andre Gombay - BA, MA, BPhil
Ian Hacking - BA, MA, PhD, FRSC, OC, University
 Professor
Jordan Sobel - MA, PhD
Alasdair Urquhart - MA, PhD

Associate Members
Imogen Dickie - BA, BPhil, DPhil
Jennifer Hawkins - BA, MA, PhD
Benjamin Hellie - BA, PhD
Stephanie Sophia Moreau - BA, BPhil, PhD, JD
Martin Pickave - BA, MA, PhD
Gurpreet Rattan - BSC, MA, PhD
Jonathan Weisberg - BA, PhD
Jessica Marie Wilson - BA, PhD

Physical Therapy   PHT

Faculty Affiliation
Medicine

Degree Programs Offered
Physical Therapy – MScPT

Overview
The **Master of Science in Physical Therapy** (MScPT) is a 24-month professional program leading to entry to practice. The program is accredited by the Accreditation Council for Canadian Physiotherapy Academic Program. Graduates will be eligible to write the Physiotherapy Competency Examination of the Canadian Alliance of Physiotherapy Regulatory Boards, which qualifies them to practice physical therapy in Canada. Graduates will be eligible to register in the Canadian Physiotherapy Association and the Colleges of Physiotherapy in all Canadian provinces. The MScPT program is also ac- credited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, enabling graduates to apply for licensure in the United States.

The **Master of Science in Physical Therapy, Advanced Standing Option** is a professional graduate degree program that allows eligible physical therapists with a BScPT from a Canadian university to acquire the entry-to-practice master's degree on a part-time basis in an online, e-learning environment with two on-campus residencies. There is a strong focus on research and best practices integrated throughout the one-year program. Students complete a group research project during this one-year program.

Contact and Address
Web: www.physicaltherapy.utoronto.ca
E-mail: physther.facmed@utoronto.ca
Telephone: (416) 978-2765
Fax: (416) 946-8562

Department of Physical Therapy
c/o Centre for Function and Well-Being
Rehabilitation Sciences Building
Room 160, 500 University Avenue
Toronto, Ontario M5G 1V7
Canada

Degree Programs

Master of Science in Physical Therapy

Minimum Admission Requirements

24-month Program
- Applicants to the 24-month MScPT program are considered if they hold a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum mid-B average in the final year.
- Prerequisite courses including human vertebrate physiology (1.0 full-course equivalent (FCE)), life and/or physical science(1.0 FCE), social sciences, humanities or languages (1.0 FCE); and statistics or research methods (0.5 FCE). Refer to the depart- mental Web site www.physicaltherapy.utoronto.ca for a full listing of admission requirements.
- Facility in the English language must be demonstrat- ed by all applicants educated outside Canada whose primary language is not English and who graduated from a university where the language of instruction and examination was not English. The department prefers the TOEFL, with minimum scores of:
  - Paper-based test: 600 with 5 on the TWE and 50 on the TSE.
  - Computer-based test; 250 with 5 on the essay rating component and 50 on the TSE.
  - Internet-based test: 100/120 and 22/30 on the writing and speaking sections.

Advanced Standing Option
- Applicants to the 12-month MScPT Advanced Standing Option will be considered if they have completed a four-year undergraduate BScPT degree program in Canada (or Quebec equivalent) with a minimum mid-B average.

Program Requirements

24-month Program
- Students normally complete all requirements within 24 months.
- Participate in 12 units that includes lectures, semi- nars, tutorials, laboratories, case-based learning, structured clinical sessions, structured independent study units, and clinical internships. Research princi- ples and practices are integrated into the curriculum. Students are required to complete all units.
- Complete a group research project.
- Demonstrate proficiency in key areas of profes- sional practice, including research practice, prior to graduation.

Advanced Standing
- Complete the program on a part-time basis in an online, e-learning environment with two on-campus residencies. There is a strong focus on research and best practices integrated throughout the program.
- Complete a group research project.
- Complete the program in 12-months.

Courses
PHT 1001H   Introduction to Professional Physical Therapy Practice, Evaluation and Research
PHT 1002Y   Cardiorespiratory and Exercise Physical Therapy Practice

PHT 1003Y   Musculoskeletal Physical Therapy Practice
PHT 1004Y   Clinical Internship—Cardiorespiratory
                        (Honours/Pass/Fail)
PHT 1005Y   Neurological Physical Therapy Practice
PHT 1006Y   Research and Program Evaluation for
                        Physical Therapy Practice I
PHT 1007Y   Clinical Internship—Neuroscience
                        (Honours/Pass/Fail)
PHT 1008Y+ Advanced Neuromusculoskeletal Physical
                        Therapy Practice
PHT 1009Y+ Clinical Internship—Musculoskeletal II
                        (Honours/Pass/Fail)
PHT 1010Y   Research and Program Evaluation
                        for Physical Therapy Practice II
                        (Honours/Pass/Fail)
PHT 1011Y   Clinical Internship—Selective
                        (Honours/Pass/Fail)
PHT 1012Y   Research and Program Evaluation for
                        Physical Therapy Practice III
PHT 1013H+ Professional Practice Issues in Physical
                        Therapy (Credit/No Credit) (Advanced
                        Standing Option only)
PHT 1014Y   Clinical Internship—Musculoskeletal
                        (Honours/Pass/Fail)

Selective Course
PHT 1015Y   Clinical Internship—Physical Therapy
                        Practice (Honours/Pass/Fail) (PHT 1015Y
                        may replace any one of PHT 1004Y, PHT 1007Y,
                        PHT 1009Y, PHT 1011Y, and PHT 1014Y.)

Graduate Faculty

Full Members
Katherine Berg - BPT, BScPT, MSc, PhD *(Chair)*
Dina Brooks - BSc(PT), MSc, PhD
Cheryl Cott - Dip(PT), BPT, DipGer, MSc, PhD
Aileen Davis - BSc(PT), MSc, PhD
Susan Jaglal - BSc, MSc, PhD *(Vice-Chair, Research)*
William McIlroy - BSc, MSc, PhD (Adjunct)
Mary (Molly) Verrier - DipP&OT, MHSc
Karen Yoshida - BPhE, BSc(PT), MSc, PhD

Associate Members
Robyn Davies - Dip(PT), BHSc(PT), MSc(PT)
Cindy Ellerton - BSc(PT), MSc
Catherine Evans - BSc(PT), MSc, PhD *(Coordinator of Graduate Studies)*
Barbara Gibson - BMR(PT), MSc, PhD
Chantal Graveline - BSc(PT), MSc, PhD
Joanne Howe - Dip(P&OT), BSc(PT)
Judith Hunter - BPT, MSc, PhD
Clifford Klein - BA, MA, PhD
Michel Landry - BSc(PT), MSc(PT), PhD
Brenda Mori - BSc(PT), MSc

Stephanie Nixon - BHSc(PT), BA, MSc, PhD
Ethne Nussbaum - BSc(PT), MEd, PhD
Kelly O'Brien - BSc, BSC(PT)
Jo-Anne Piccinin - BSc(PT), MSc
Nancy Salbach - BSc(PT), MSc, PhD
Sharon Switzer-Mcintyre - BPE, BSc(PT), MEd, PhD *(Vice-Chair, Education)*
Ada Tang - BSc(PT), MSc
Virginia Wright - PhD
Euson Yeung - BSc(PT), MEd
Nancy Young - BSc(PT), MSc, PhD (Adjunct)
Karl Zabjek - BSc, MSc, PhD

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Physics   PHY

Faculty Affiliation
Arts and Science

Degree Programs Offered
Physics – MSc, PhD

Collaborative Programs Offered
 Degree programs that participate in:
1. Astrophysics, see p. 415
   - Physics, MSc
2. Biomedical Engineering, see p. 418
   - Physics, MSc, PhD
3. Geology and Physics, see p. 450
   - Physics, MSc, PhD

Overview
The Department of Physics offers graduate programs leading to the **Master of Science** and the **Doctor of Philosophy** degrees. The department carries out research in experimental and theoretical physics in the following fields: atmospheric physics, geophysics, quantum optics and condensed matter physics, subatomic physics, and biophysics. The department has close ties with the Canadian Institute for Theoretical Astrophysics. This association enables our students to work and consult with leading theorists who are appointed to, or who are visiting, CITA.

Students are accepted under the general regulations. The department provides financial support for one year of the MSc and four years of the PhD program.

Contact and Address
Web: www.physics.utoronto.ca
E-mail: grad@physics.utoronto.ca
Telephone: (416) 978-2945
Fax: (416) 978-1547

Department of Physics
Room 315, McLennan Physical Labs
University of Toronto
Toronto, Ontario M5S 1A7
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- An appropriate four-year bachelor's degree with a final year average of at least mid-B from the University of Toronto, or its equivalent.
- Proof of English language facility for applicants whose first language is not English.

Program Requirements
Students normally complete program requirements in one of three ways:
- **Option 1**: Course Work plus MSc Research Report
  - Complete **5.0** full-course equivalents (FCE) including: 3.0 FCE graduate lecture courses, 1.0 FCE 6000-series research course appropriate to field of specialization, and PHY 3400Y (MSc Research Report) course.
- **Option 2**: Course Work plus MSc Research Project
  - Complete **5.0** Full Credit Equivalents (FCE) including: 2.0 FCE graduate lecture courses, 1.0 FCE 6000-series research course appropriate to field of specialization, 1.0 FCE 7000-series seminar course and PHY 3400Y (MSc Research Project) course.
- **Option3:** Course Work + MSc Research Thesis
  - Complete 6.0 full course equivalents (FCE) including: 2 FCE graduate lecture courses, 1 FCE 6000-series research course appropriate to field of specialization, 1 FCE 7000-series seminar course, PHY 3400Y (MSc Research Report) course, and PHY 9999Y (Thesis Course). Please note students are expected to complete these requirements within six sessions (two years) of initial registration. Departmental financial support is only provided for the first year. Students following this stream will not normally be considered for PhD admission.
- All MSc students are expected to attend the weekly general colloquium conducted by the department.
- The MSc program is full time.

Doctor of Philosophy

Minimum Admission Requirements
- An appropriate University of Toronto master's degree or its equivalent, with an average of at least B+ or demonstrated comparable research competence.
- Proof of English facility for applicants whose first language is not English.
- Outstanding applicants may be considered directly from undergraduate programs. Normally, these applicants will have an undergraduate average of A or higher.

Program Requirements
Students can normally complete program requirements in one of two ways:
- **Option 1**: Entry from MSc:
  - Complete 4.0 FCE graduate lecture courses and a thesis. Course credit will normally be given toward the PhD for all graduate lecture courses taken during a master's program in this department. Students who have completed an appropriate MSc elsewhere and are entering the PhD program will generally be given a course credit of up to 2.0 FCE graduate lecture courses.

o   Complete a qualifying oral examination within 8 months of starting the PhD program.

- **Option 2**: Direct Entry from Undergraduate Studies
First Year Requirements:
    - o   Complete 2.0 FCE graduate lecture courses, 1.0 FCE 6000-series research course appropriate to field of specialization, and a research progress report.
    - o   Direct-entry students must maintain a B+ average in order to continue. A student who commences a direct-entry PhD will normally not be permitted to re-register in the MSc program.

Upper Year Requirements:
- o   Complete an additional 2.0 FCE graduate lecture courses and a thesis.
- o   Complete a qualifying oral examination within 20 months of beginning the PhD.
- All PhD students are expected to attend the weekly general colloquium conducted by the department.
- The PhD program is full time.

Courses

All courses are not given every year. Please check the departmental brochure or Web site for course availability.

Introductory Courses
PHY 1406H   Microprocessor Interfacing Techniques
PHY 1460H   Nonlinear Physics
PHY 1483H   Relativity Theory I
PHY 1484H   Relativity Theory II
PHY 1485H   Advanced Classical Optics
PHY 1487H   Quantum Theory of Solids I
PHY 1489H   Introduction to High Energy Physics
PHY 1491H   Current Interpretations of Quantum Mechanics
PHY 1492H   Physics of the Earth
PHY 1493H   Geophysical Imaging I
PHY 1494H   Geophysical Imaging II
PHY 1496H   Experimental Applied Geophysics
PHY 1498H   Introduction to Atmospheric Physics

General Courses
PHY 1500H   Statistical Mechanics
PHY 1510H   Electromagnetism
PHY 1520H   Quantum Mechanics
PHY 1530H   Fluid Mechanics
PHY 1540H   Mathematical Methods in Physics
PHY 1600H   Effective Communication for Physicists

Specialized Courses
PHY 2108H   Special Topics in Physics I
PHY 2109H   Special Topics in Physics II
PHY 2202H   Atomic and Molecular Physics
PHY 2203H   Quantum Optics I
PHY 2204H   Quantum Optics II

PHY 2205H   Special Topics in Quantum Optics I
PHY 2206H   Special Topics in Quantum Optics II
PHY 2207H   Physics of Photonic Crystals
PHY 2208H   Nonlinear Optics
PHY 2209H   Linear and Nonlinear Optics II
PHY 2211H   Quantum Information Theory
PHY 2301H   Structure and Dynamics of Condensed Matter
PHY 2303H   Quantum Theory of Solids II
PHY 2313H   Special Topics in Condensed Matter Physics I
PHY 2314H   Special Topics in Condensed Matter Physics II
PHY 2315H   Advanced Statistical Mechanics
PHY 2321H   Many Body Physics I
PHY 2322H   Many Body Physics II
PHY 2401H   Cosmology and Black Holes
PHY 2403H   Quantum Field Theory I
PHY 2404H   Quantum Field Theory II
PHY 2405H   Experimental High Energy Physics
PHY 2406H   Special Topics in Particle Physics I
PHY 2407H   Special Topics in Particle Physics II
PHY 2408H   Phenomenology of the Standard Model
PHY 2502H   Climate System Dynamics
PHY 2504H   Advanced Atmospheric Dynamics
PHY 2505H   Atmospheric Radiative Transfer and Remote Sounding
PHY 2506H   Data Assimilation and Retrieval Theory
PHY 2509H   Special Topics in Atmospheric Physics I
PHY 2510H   Special Topics in Atmospheric Physics II
PHY 2601H   Special Topics in Geophysics I
PHY 2602H   Special Topics in Geophysics II
PHY 2603H   Inverse Theory
PHY 2605H   Exploration Seismology
PHY 2606H   Global Geophysics
PHY 2607H   Advanced Electromagnetic Methods in Geophysics
PHY 2608H   Elastic and Inelastic Waves in Inhomogeneous Media I
PHY 2609H   Planetary Physics
PHY 2701H   Biological Physics
JGP 4170H   Geotectonics

Report Course for MSc Students
PHY 3400Y+ Selected Topics in Physics

Seminar Courses
PHY 7001Y+ Atmospheric Physics Seminar
PHY 7002Y+ Biophysics/Medical Physics Seminar
PHY 7003Y+ Condensed Matter and Statistical Physics Seminar
PHY 7004Y+ Geophysics Seminar
PHY 7005Y+ Quantum Optics Seminar
PHY 7007Y+ Particle Physics and Relativity Seminar

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Research Courses
PHY 6011Y   Research in Atmospheric Physics
PHY 6021Y   Research in Biophysics and Medical
      Physics
PHY 6031Y   Research in Condensed Matter and
      Statistical Physics
PHY 6041Y   Research in Geophysics
PHY 6051Y   Research in Quantum Optics
PHY 6071Y   Research in Particle Physics and Relativity

Graduate Faculty

Full Members
Jonathan Abbatt - BSc, AM, PhD
David Bailey - BSc, PhD
Richard Bailey - BSc, PhD
Virginijus Barzda - BSc, MSc, PhD
J Richard Bond - BSc, MS, PhD, FRS, FRSC, OC, Fellow
  CIAR, Fellow APS, University Professor
Kin-Yip Chun - BASc, MA, PhD
Richard Code - BSc, AM, PhD
Rashmikant Desai - BSc, PhD
Al-Amin Dhirani - BSc, MSc, PhD
D. James Donaldson - BSc, PhD
James Drummond - BA, MA, DPhil
Charles Dyer - BSc, MSc, PhD
Richard Edwards - BSc, PhD, ARCS
Claudiu Gradinaru - BSc, PhD
P Allan Griffin - BSc, MSc, PhD
Bob Holdom - BSc, MA, PhD
Kentaro Hori - BSc, MSc, PhD
Daniel James - BA, PhD
Sajeev John - PhD, University Professor, Canada
  Research Chair
Dylan Jones - BA, MSc, PhD
Michael Joy - BSc, MASc, PhD, PEng
Stephen Julian - BSc, MSc, PhD
Hae-Young Kee - BS, MS, PhD, Canada Research Chair
Anthony Key - MA, DPhil
Yong Baek Kim - BSc, PhD, Canada Research Chair
Young-June Kim - BSc, PhD
Lev Kofman - MSc, PhD, Fellow CIAR
Peter Krieger - BSc, MSc, PhD
Paul Kushner - BSc, MSc, PhD
Hoi-Kwong Lo - BA, MS, PhD, Canada Research Chair
Julian Lowman - BSc, MSc, PhD
Michael Luke - PhD *(Chair)*
George Luste - BA, PhD
Robin Marjoribanks - BSc, MS, MSc, PhD
John Martin - PhD
Bernd Milkereit - Diplom, Dr rer nat
R J Dwayne Miller - BSc, PhD, FRSC, Canada Research
  Chair
Jerry Mitrovica - BASc, MSc, PhD
GW Kent Moore - BSc, PhD
Stephen Morris - BSc, MSc, PhD
Norman Murray - BSc, PhD, Canada Research Chair
C. Barth Netterfield - BSc, PhD, Fellow CIFAR
Kenneth Norwich - BSc, MSc, MD, PhD

Robert Orr - BSc, PhD, ARCS
Arun Paramekanti - Bach of Tech, PhD
Amanda Peet - BSc, PhD
W Richard Peltier - BSc, MSc, PhD, FRSC, University
  Professor
Ue-Li Pen - BSc, MSc, PhD
Erich Poppitz - BSc, PhD
Russell Pysklywec - BSc, PhD
Joseph Repka - BSc, PhD
Pierre Savard - BSc, MSc, PhD
Theodore Shepherd - BSc, PhD *(Coordinator of*
  Graduate Studies)
Pekka Sinervo - BSc, PhD
John Sipe - BSc, MSc, PhD
Sabine Stanley - BSc Hon, PhD
Aephraim Steinberg - PhD
Kimberly Strong - BSc, DPhil
Richard Teuscher - BSc, MSc, PhD
Christopher Thompson - BS, PhD
Joseph Thywissen - BS, MA, PhD
William Trischuk - BSc, PhD
Henry Van Driel - BSc, MSc, PhD, FRSC
Kaley Walker - PhD, BSc
John Wei - BA, MS, PhD
Mathew Wells - BSc, PhD

Members Emeriti
Han Cho - BSc, MSc, PhD
Thomas Drake - BSc, MSc, PhD
David Dunlop - MA, PhD
Allan Jacobs - BASc, MSc, PhD
Martin Lee - BA, MA, PHD
Albert Litherland - BSc, PhD, FRSC, FRS, University
  Professor Emeritus
Robert Logan - BSc, PhD
Albert May - BA, MSc, PhD
Patrick O'Donnell - BSc, PhD
John Perz - BASc, MASc, PhD
David Rowe - BA, MA, DPhil, FRSC
Michael Walker - BEng, DPhil
Gordon West - BASc, MA, PhD
Samuel Wong - BA, MS, PhD

Associate Members
David McMillen - BSc, MSc, PhD

Physiology   PSL

Faculty Affiliation
Medicine

Degree Programs Offered
Physiology – MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Biomedical Engineering, see p. 418
   - Physiology, MSc, PhD
2. Cardiovascular Sciences, see p. 426
   - Physiology, MSc, PhD
3. Developmental Biology, see p. 433
   - Physiology, PhD
4. Neuroscience, see p. 466
   - Physiology, MSc, PhD

Overview
The Department of Physiology offers graduate programs leading to the **Master of Science** and **Doctor of Philosophy** degrees. Research ranges from the gene level to the organism level in areas including endocrinology and diabetes; reproduction endocrinology; fetal physiology, pregnancy, and parturition; neuroendocrinology; cardiorespiratory regulation; gastrointestinal motility; sensory physiology; motor control; brain development and aging; ionic channels and synaptic transmission; excitability, ultrastructure and plasticity of the brain.

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Room 3217, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Admission is based on academic record, an essay summarizing background strengths and scientific aims, and at least two confidential letters of reference.
- Minimum standing of at least B+ in the final year of a University of Toronto 20-credit bachelor's degree, or its equivalent from a recognized university, with courses such as biochemistry, calculus, organic and physical chemistry, general physics, and physiology.
- We encourage physical science stream students from undergraduate programs in physics, mathematics, engineering, and other sciences to apply to the MSc program.
- Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the English language through the successful completion of the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
   o Paper-based TOEFL: 600 and 5 on the TWE
   o Computer-based TOEFL: 250 and 5 on the essay rating component
   o Internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections
   Other English proficiency tests are acceptable. Please consult the Web site for departmental standards.

Program Requirements
- 1 full-course equivalent (FCE) in Physiology graduate-only courses. Courses are selected in consultation with the supervisor and/or advisory committee. See the Physiology Web site for details of course requirements.
- Attend the departmental seminar series.
- Present and defend a research thesis acceptable to the graduate department.
- After 12 to 18 months in the MSc program, students will do one of the following:
   o write and defend a MSc thesis and graduate
   o write and defend a thesis and go on to the PhD program
   o transfer from the MSc into the PhD program. Transfer is encouraged for students who have made substantial progress in their research and have demonstrated the desire and potential to meet the requirements of a rigorous research training program. Such students will have fulfilled all course requirements for the MSc with at least an A- average and have demonstrated potential for publication of their work. There must be a clearly identified program for future research that continues, or is consistent with, work already underway. Too large a project for the MSc is not a reason for transfer to the PhD

Doctor of Philosophy

Minimum Admission Requirements
- Admission is based on academic record, an essay summarizing background strengths and scientific aims, and at least two confidential letters of reference.
- Students may be admitted via one of the following routes:

o after completion of the MSc degree program or its equivalent with at least B+ standing from a recognized university

o through transfer from the MSc program

- Applicants should have taken courses such as bio-chemistry, calculus, organic and physical chemistry, general physics, and physiology.

- Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the English language through the successful com-pletion of the Test of English as a Foreign Language (TOEFL) with the following minimum scores:

  - Paper-based TOEFL: 600 and 5 on the TWE
  - Computer-based TOEFL: 250 and 5 on the essay rating component
  - Internet-based TOEFL: 100/120 and 22/30 on the writing and speaking sections

  Other English proficiency tests are acceptable. Please consult the Web site for departmental standards.

Program Requirements

- 2.0 full course equivalents (FCE) in Physiology grad-uate-only courses. Up to 1.0 FCE can be claimed from the student's MSc program completed in an-other department or university, subject to approval by the Graduate Studies Committee. Students transfer-ring from MSc in Physiology are required to complete 1.0 FCE since these students will have already ful-filled 1.0 FCE in the MSc.

- PSL 1066H *PhD Research Grant Proposal* is a man-datory course and counts as 0.5 FCE. This course requires a written proposal and oral defence of the student's research program over the ensuing three years. . See the Physiology Web site for details of course requirements.

- Attendance at and contribution to the departmental seminar program is an important part of graduate education and is a requirement of the program.

- The recommended completion time for the doctoral program is approximately four years, by which time the candidate will write and defend a research thesis, first before a departmental committee and subse-quently before a committee approved by the School of Graduate Studies.

Courses

Not all courses are offered each year. Check departmental Web site for course availability and course requirements.

JCV 1060H   Developmental Cardiovascular Physiology

JCV 3060H   Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction

JCV 3061H   Advanced Topics in Cardiovascular Sciences—Hormones

JCV 3062H   Advanced Research in Cardiovascular Sciences—Heart Function

JCV 3063H   Advanced Research in Cardiovascular Sciences—Vascular

JYG 1555H   Advanced Topics: Cellular and Molecular Neuroscience

PSL 1024H   Advanced Topics: Endocrinology and Neuroendocrinology

PSL 1026H   Advanced Topics: Experimental Cell Physiology

PSL 1034H   Advanced Topics: Metabolic Disorders

PSL 1036H   Advanced Topics: Respiration

PSL 1047H   Advanced Topics: Somatosensory and Pain Neuroscience

PSL 1053H   Advanced Topics: Critical Assessment of Ion Channel Function

PSL 1066H°   Research Grant Proposal (Credit/No Credit)

PSL 1067H   Advanced Topics: Advances and Techniques in Developmental Physiology

PSL 1068H   Advanced Topics: Molecular Basis of Behaviour

PSL 1069H   Advanced Topics: Respiratory Physiology

PSL 1070H   Advanced Topics: Hormone Action

PSL 1480H   Advanced Topics: Investigative Developmental Physiology

Joint Graduate/Undergraduate

JNR 1444Y   Fundamentals of Neuroscience: Cellular and Molecular

JNS 1000Y   Fundamentals of Neuroscience: Systems and Behaviour

PSL 1052H   Fundamentals of Ion Channel Function

PSL 1054H   Physiological Instrumentation and Electronics

PSL 1061H   Reproductive Physiology

PSL 1421H   Pregnancy and Birth: From Implantation to Newborn

PSL 1425H   Integrative Metabolism and Its Endocrine Regulation

PSL 1432H   Theoretical Physiology

PSL 1460H   Molecular Physiology

PSL 1462H   Molecular Aspects of Cardiovascular Function

PSL 1472H   Sleep Physiology and Chronobiology

PSL 1497H   Scientific Communication

° Courses which may continue over a program. The course is graded when completed.

Graduate Faculty

Full Members
Susan Adamson - BSc, MSc, PhD
Gerald Anderson - BSc, MSc, PhD
Peter Backx - BSc, MSc, PhD, DVM
Christine Bear - BSc, MSc, PhD
Jaques Belik - MD
Denise Belsham - PhD, Canada Research Chair
Alan Bocking - MD, FRCS(C)
Rudy Boonstra - BSc, PhD
Dianne Broussard - BA, PhD
Theodore Brown - BSc, PhD
Patricia Brubaker - BSc, PhD, Canada Research Chair
Isabella Caniggia - MD, PhD
Peter Carlen - MD, FRCP(C)
Robert Casper - MD, FRCSC
John Challis - BSc, PhD, DSc, FIBiol, FRCOG, FRSC
Milton Charlton - BSc, MSc, PhD *(Coordinator of Graduate Studies)*
Allan Coates - BEng(Elect), MDCM
Nicholas Diamant - MDCM, FRCP(C)
Jonathan Dostrovsky - BSc, MSc, PhD
James Eubanks - PhD
George Fantus - BSc, MDCM, FRCP(C)
Zhong Ping Feng - MD, PhD
Paul Frankland - PhD, Canada Research Chair
Herbert Gaisano - BS, MD, FRCP(C)
Adria Giacca - MD
Gregory Hare
Robert Harrison - BSc, PhD, DSc
Scott Heximer - PhD, Canada Research Chair
Richard Horner - PhD
Mansoor Husain - BSc, MD
William Hutchison - PhD
Robert Jankov - MB, PhD, FRCPC
Zhengping Jia - PhD
Tianru Jin - MD, PhD
Nicola Jones - MD, FRCP(C), PhD
Sheena Josselyn - PhD, Canada Research Chair
Brian Kavanagh - MB FRCP(C)
Amira Klip - MSc, PhD, FRSC
Gary Lewis - MD, FRCP(C), Canada Research Chair
Fang Liu - PhD
Mingyao Liu - MSc, MD
Peter Liu - MD, FRCP(C)
Wei Yang Lu - MD, PhD
Stephen Lye - BSc, MI, PhD, Canada Research Chair
John MacDonald - BSc, PhD *(Chair)*
William Mackay - BSc, MSc, PhD
Stephen Matthews - BSc, DPhil
William McIlroy - BSc, MSc, PhD (Adjunct)
Freda Miller - BSc, PhD, FRSC, Canada Research Chair
Linda Mills - BSc, PhD
Philippe Monnier - MBA, PhD
Howard Mount - PhD
Dominic Ng - BSc, MSc, PhD, MD, FRCP(C)
Hugh Mervyn O'Brodovich - MD
Beverley Orser - MD, FRCPS(C), PhD, Canada Research Chair
Cho Pang - BSc, MSc, PhD

Peter Pennefather - BSc, PhD
Martin Post - PhD, DVM, Canada Research Chair
Susan Elizabeth Quaggin - MD, Canada Research Chair
John Roder - BA, PhD, Canada Research Chair
Carol Rodgers - BPE, MHK, PhD
Norman Rosenblum - BSc, MD, FRCPS(C), Canada Research Chair
Michael Salter - MD, PhD, Canada Research Chair
Bernard Schimmer - BS, PhD
Lyanne Schlichter - BSc, MSc, PhD
Ze'ev Seltzer - DMD, Canada Research Chair
Barry Sessle - BDS, BSc, MSD, PhD, FRSC, Canada Research Chair
Frances Skinner - BMath, MASc, PhD
Michael Sole - BSc, MD, FRCP(C)
Elise Stanley - PhD, Canada Research Chair
Shuzo Sugita - BA, MA, PhD, Canada Research Chair
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William Trimble - BSc, PhD, Canada Research Chair
Robert Tsushima - BSc(Hon), PhD
Douglas Tweed - MD, PhD
Michael Tymianski - MD, PhD, FRCS(C)
Mary (Molly) Verrier - DipP&OT, MHSc
Allen Volchuk - BSc, PhD, Canada Research Chair
Mladen Vranic - MD, DSc, FRSC
Lu-Yang Wang - PhD, Canada Research Chair
Qinghua Wang - MD, PhD
Michael Wheeler - BSc, PhD
Gregory Wilson - BSc, MSc, MD, FRCP(C)
Carin Wittnich - MSc, DVM
J. Martin Wojtowicz - BSc, PhD
Mei Zhen - BSc, PhD, Canada Research Chair
Min Zhuo - PhD, Canada Research Chair

Members Emeriti
David Butler - BSc, MSc, PhD, DSc, FIBiol
Kenneth Norwich - BSc, MSc, MD, PhD

Associate Members
Steffen-Sebastian Bolz - MD, PhD
Sirano Dhe-Paganon - BSc,PhD
Joseph Fisher
Anthony Gramolini - PhD
Andrea Jurisicova - PhD
Tony Lam - PhD
Evelyn Lambe - PhD
Cyril David Mazer
Jinrong Min - PhD
Heyu Ni - MD, PhD
Ian Rogers - MSc, PhD
Haibo Zhang - MD, PhD

Political Science   POL

Faculty Affiliation
Arts and Science

Degree Programs Offered
Political Science – MA, Combined JD/MA, Combined JD/PhD, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Asia-Pacific Studies, see p. 413
   - Political Science, MA
2. Dynamics of Global Change, see p. 436
   - Political Science, PhD
3. Environmental Studies, see p. 443
   - Political Science, MA, PhD
4. Ethnic and Pluralism Studies, see p. 445
   - Political Science, MA, PhD
5. International Relations, see p. 458
   - Political Science, MA
6. Jewish Studies, see p. 460
   - Political Science, PhD
7. Sexual Diversity Studies, see p. 469
   - Political Science, MA, PhD
8. South Asian Studies, see p. 471
   - Political Science, PhD
9. Women and Gender Studies, see p. 473
   - Political Science, MA, PhD

Overview
The **Master of Arts** program is designed to satisfy the diverse interests of students who wish to pursue a year of graduate study in political science. Students admitted to the general or "departmental" MA program may choose from two specializations. The Political Theory stream is for students whose interests are primarily normative and philosophical. The Politics and Policy stream appeals to students with more practical interests. The department also offers a specialized MA program in the Political Economy of International Development.

The **Combined Juris Doctor/Master of Arts** program allows students to obtain an MA in International Relations as well as a JD degree in Law.

The **Combined Juris Doctor/Doctor of Philosophy** program enables students to acquire a PhD in Political Science as well as a JD in law.

The **Doctor of Philosophy** program offers courses in five core fields: Political Theory, Canadian Government and Politics, International Relations, Comparative Government—Developing Societies, Comparative Government—Industrial Societies. Many of the teaching and research interests of departmental faculty focus on areas that cross conventional core fields, designated as areas of specialization which provide an alternative way of structuring the graduate program. The current areas of specialization offered are: Public Policy (PP); Political Economy (PEC); Public Law and Federalism

(PLF); Political Behaviour and Democratic Politics (PBD); Women, Gender, and Politics (WGP).

Contact and Address
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Canada

Degree Programs

Degree of Master of Arts

Departmental Master of Arts Program

Minimum Admission Requirements
- Cumulative grade average of B+ or better in a bachelor's program equivalent to a University of Toronto four-year bachelor's degree program. Preference will be given to applicants with outstanding academic records and a strong background in political science.
- Admission is competitive. Enrolment in the program is limited, and meeting minimum requirements does not guarantee admission. All applicants are considered on their individual merit by a departmental admissions committee. Applicants lacking an adequate background in political science may be required to complete additional undergraduate courses before being considered for admission. Such work should be undertaken in consultation with the MA supervisor.
- Applicants must submit a complete application according to instructions on the Web site (www.chass.utoronto.ca/polsci/information/graduate/application_procedures.htm).

Program Requirements
- Minimum of 4.0. full-course equivalents (FCE).
- Programs are normally completed in two sessions, except in environmental studies, which includes an internship, or in other programs where additional requirements or prerequisites must be met.
- A thesis may replace 1.0 political science FCE with the approval of the department.
- The equivalent of 1.0 FCE may be taken in a cognate discipline with the approval of the department.
- For students intending to proceed to a PhD at the University of Toronto, there are advantages to planning the MA program with a view to eventually meeting PhD requirements.
- The departmental MA comprises two streams:
   o Political Theory
   o Politics and Policy

Students are admitted to one stream and may switch streams once in the program only with permission of the MA Supervisor.

Political Theory Stream
- This stream is intended primarily for students who wish to concentrate their studies in the theory area.
- Students in this stream will normally take 3.0 FCE in the political theory subfield and at least 1.0 FCE in an area outside political theory. All courses should be chosen in consultation with the MA Supervisor.

Politics and Policy Stream
- This stream is aimed at students with more empirical interests in political science. It is particularly designed to serve those who wish to apply their political science skills in the public service or in the private sector, as well those contemplating further academic study or research.
- Courses must include at least 0.5 FCE in political theory, which can be either the 0.5 FCE offered by the department specifically for this purpose (POL 2040H) or any other theory course. Also required is at least 0.5 FCE in statistics or research design. POL 2502Y, POL 2503H, and POL 2504H are among the courses currently offered by the department which meet this requirement. The final requirement is a full-year seminar which emphasizes an independent research project. POL 2810Y and POL 2811Y are the two seminars currently offered which meet this requirement. Courses in this program should be chosen in consultation with the MA supervisor.

Specialist Program in Political Economy of International Development

Minimum Admission Requirements
- Satisfactory background in political science and undergraduate prerequisites in microeconomics, macroeconomics, and statistics. A "satisfactory background in political science" means a minimum of five well distributed courses, including at least one relating to development. Those who lack any of these prerequisites must obtain them in addition to the required graduate courses. Therefore, this specialist program may take some entrants longer than one academic year to complete.

Program Requirements
- JPE 2408Y, complete the equivalent of 0.5 FCE in economics, normally ECO 2700H, selected from the economics course list (see listing in the Graduate Information Guide). One additional course must be chosen from the approved political science course list. The remaining course may be chosen from either the political science or political economy course lists.

Combined Juris Doctor/Master of Arts, Law and Political Science (specialization in International Relations)
The combined JD/MA in International Relations allows for the completion of both degrees in three years rather than the four that the separate degrees would take.

Minimum Admission Requirements
- Students must be admitted to both the Faculty of Law and the Collaborative Master of Arts Program in International Relations (MAIR).

Program Requirements
- Year 1 – complete the first year of law in the combined program
- Years 2 and 3 – complete credits toward both JD and MA (Collaborative International Relations) degrees. The MAIR requirements in year 2 and 3 are JHP 2231H, ECO 2302H, LAW 252H, 1.0 FCE from MAIR electives and 1.5 FCE from the political science timetable

Combined Juris Doctor/Doctor of Philosophy
The JD and PhD can be completed in at least one year less time than it would take to undertake the degrees separately.

Minimum Admission Requirements
- Students must be admitted to both the Faculty of Law and the Doctor of Philosophy Program

Program Requirements
- Year 1 - complete the first year of law in the combined program
- Year 2 - complete a year in Political Science
- Years 3 and 4 - two years in Law
- Complete the requirements of the PhD program, including a thesis.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants may be admitted via one of three routes:
  o excellent students who have completed an MA degree in political science (or its equivalent) by the time of enrolment
  o excellent students who have completed the equivalent of a four-year B.A. with a concentration in political science by the time of enrolment. Students admitted to the PhD from a BA (or equivalent degree) who receive less than an A- average in their first four courses will be recommended to SGS for transfer to the MA program. If the transfer is approved, these students will graduate with a terminal MA, provided their grades meet the requirements for the MA degree.

o In exceptional cases, on the initiative of the Director of Graduate Studies, MA students may be transferred PhD program. Such transfers will occur only where a full assessment of an applicant's BA record (or equivalent) was impossible and where that student's instructors concur that the student in question has excelled in the first half of the MA program.
- Applicants from both levels are expected to have achieved grades averaging A- or better in their most recent degree. Applicants from the BA level will apply to the MA program but indicate on the MA application that they wish to be considered for direct entry to the PhD program.
- Applicants must submit a complete application according to instructions on the Web site (http://www.chass.utoronto.ca/polsci/information/graduate/application_procedures.htm)

Program Requirements
- PhD students have the option of organizing their course work in one of two ways:
  o **A major core field and a minor core field.** Students who choose this option must fulfil the 1.0 core FCE requirement plus the equivalent of another 1.0 FCE in the major field, and the core course plus the 1.0 FCE in the minor field.
  o **A major core field and an area of specialization**. Students who choose this option must fulfil the core 1.0 FCE requirement plus the equivalent of another 1.0 FCE in the major field and the equivalent of 2.0 FCE in their area of specialization, at least one of which must be outside the major field.
- **Major field examination.** By the end of Year 2, all PhD students will be expected to have taken an examination in the major field. In the fields of Canadian Government and Politics, International Relations, Comparative Government—Developing Societies, and Comparative Government—Industrial Societies, the examination is based largely on the subject matter of the core course. In Political Theory, it is based on a list of texts made available by the department.
- **Thesis proposal, thesis committee, and thesis schedule.** Students should assign a high priority to defining a thesis topic and choosing a thesis committee. The research and writing of the thesis will follow the acceptance of the thesis proposal.
- **Language requirement.** Students must demonstrate competence in French or in an approved language appropriate to the nature of the graduate work in which they are engaged.

Students with MA
- Students should aim to complete PhD requirements within five years.
- 2.0 to 5.0 FCE depending on student's relevant background in the major and minor field or area of choice. All PhD students are required to have at least 0.5 graduate FCE in political theory. All PhD students in majors other than political theory are also required

to complete 0.5 FCE in research design. Graduate courses taken at the MA level at the University of Toronto or elsewhere may be counted, with the department's permission, towards meeting some course requirements. Most students who enter from the MA will take the equivalent of 3.0 FCE to satisfy program requirements; all PhD students must take a minimum of 2.0 FCE with the department after entering the PhD program.
- Minimum of three sessions in residence.

Students with BA
- Students should aim to complete PhD requirements within six years.
- 6.0 FCE with at least an A- average in their first four courses in order to continue in the PhD program. In selecting courses, students should ensure that they satisfy the field and/or area requirements as described for those entering the PhD program with an MA.
- Minimum of six sessions in residence.

Courses
Some courses listed have an undergraduate component and begin the first week of the session. POL 2501Y is a general research design course, the research component of which depends on the student's declared area of specialization. Thus, half of the credit for this course may be counted for credit in the major field, though not in political theory.

Not all courses are given every year. Consult the departmental timetable.

Political Theory
POL 2000Y Comparative Studies in the History of Political Thought *(core course)*

POL 2001Y Problems of Political Community
POL 2004Y Marxism
POL 2006H Studies in Modern Political Theory
POL 2007Y Twentieth-Century Political Thought
POL 2008Y The Political Theory of G. W. F. Hegel
POL 2010H Democratic Theory
POL 2011H Problems in the Political Thought of the Socratic School
POL 2014H The Problem of Natural Right
POL 2016H Topics in the Philosophy of Law
POL 2019Y The Political Philosophy of Political Economy
POL 2021Y Comparative Studies in Jewish and Non-Jewish Political Thought
POL 2024H Feminist Theory: Challenges to Legal and Political Thought
POL 2025Y Enlightenment and Its Critics
POL 2026H Topics in Political Thought I
POL 2027H Topics in Political Thought II
JPJ 2028H Constitutional Theory
POL 2030Y Democratic Citizenship
POL 2032H Judgement in Law and Politics

JPJ 2036Y Comparative Constitutionalism: Rights and Judicial Review
POL 2037H Law, Religion and Public Discourse
JPD 2037Y Post-Modern and Contemporary Thought
POL 2038Y Pluralism, Justice and Equality
POL 2040H Horizons of Political Reflection
JPJ 2047H Comparative Constitutional Law and Politics
POL 2071H The Political Thought of George Grant
POL 2083H Cosmopolitanism
POL 2127Y Multiculturalism in Canada
PHL 2141H Political Philosophy
POL 2226H Ethics and International Relations
POL 2235H Development, International Relations, Globalization: Through the Lens of a Gender
POL 2423H Colonialism/Post-Colonialism: The Colonial State and its Forms of Power
POL 2801H Special Topics II
RLG 3622H Maimonides and His Modern Interpreters

Canadian Government and Politics
POL 2100H Government of Canada *(core course)*
POL 2700H Comparative Politics *(core course)*

POL 2102H Topics in Canadian Politics I
POL 2103H Topics in Canadian Politics II
POL 2110H The Politics of Public Sector Budgeting
JPJ 2116H Constitutional Politics
JPJ 2120H Law and Public Policy
JPJ 2121H Federalism and Governance in Canada
POL 2125H Experiencing Public Policy-Making
POL 2126H Canadian Public Sector Management
POL 2127Y Multiculturalism in Canada
POL 2139H The Canadian Welfare State in Comparative Perspective
POL 2190Y Topics in Canadian Politics I
POL 2191Y Topics in Canadian Politics II
JPJ 2220H Public Law, Social Regulation and Poverty
POL 2228H Dynamics of the Global Trade System
POL 2317H Politics and Policy Analysis
JPF 2430Y Cities
HAD 5011H Canada's Health System and Health Policy
HAD 5765H Case Studies in Health Policy

International Relations
POL 2200Y International Politics *(core course)*

DGC 1000H Core Issues in the Dynamics of Global Change
DGC 2000H Special Topics in the Dynamics of Global Change
DGC 2001H Special Topics in the Dynamics of Global Change
DGC 2002H Special Topics in the Dynamics of Global Change
DGC 2003H Special Topics in the Dynamics of Global Change
JHP 1631H Intelligence and International Relations
JPJ 2031H Telecommunications and Internet Law
JPJ 2035H International Taxation

JPJ 2037H International Trade Regulation
JPJ 2039H European Community Law
JPJ 2042H Labour Policy
JPJ 2045H Institutionalizing Doubt: Modernity and the Challenge to Traditional Legal Traditions
JPJ 2046H Law, Institutions and Development
JPJ 2048H International Human Rights Law
JPJ 2049H International Women's Rights Law
JPJ 2050H Legal Issues in Cyberspace
JPJ 2051H Foundations of the Law of the European Union
POL 2202H Advanced Topics in International Political Economy
POL 2205H Topics in International Politics I
POL 2206H Topics in International Politics II
POL 2207H Topics in International Politics III
POL 2208Y Third World Politics in International Affairs
POL 2210Y Elements of United States Foreign Policy
POL 2213H Global Environmental Politics
POL 2216Y The Military Instrument of Foreign Policy
POL 2217Y Politics of the International System
POL 2218H Political Economy of International Trade
POL 2225H Environmental Change
POL 2226H Ethics and International Relations
POL 2228H The Dynamics of the Global Trade System
POL 2229H G8 and Global Governance I
JBP 2230H Topics in International Politics
POL 2230H G8 and Global Governance II
JHP 2231H The History and Philosophy of International Relations Thought
JPD 2232H International Governance
POL 2233H Conflict and Conflict Management
POL 2234H Globalization, Internationalization, and Public Policy
POL 2235H Development, International Relations, Globalization: Through the Lens of a Gender
POL 2240H The Geopolitics of Information and Communication Technologies
POL 2260H Security Ontology
POL 2314H Political Economy of Eastern Asia
POL 2801H Special Topics

Comparative Government (Industrial Countries)
POL 2300H Comparative Politics of Industrial Societies *(core course)*
POL 2700H Comparative Politics *(core course)*

JPV 1201H Politics, Bureaucracy, and the Environment
JHP 1289Y Twentieth-Century Ukraine
JPJ 2036Y Comparative Constitutionalism: Rights and Judicial Review
JPJ 2047H Comparative Constitutional Law and Politics
JPJ 2116H Constitutional Politics
JPJ 2121H Federalism and Governance in Canada
POL 2139H The Canadian Welfare State in Comparative Perspective
POL 2202H Advanced Topics in International Political Economy

POL 2234H   Globalization, Internationalization, and Public Policy
POL 2302H   Topics in United States Government and Politics
POL 2304Y   Topics in Soviet and Post-Soviet Politics (exclusion to POL 2324H)
POL 2307H   Political Economy of Technology: From the Auto-Industrial to the Information Age
POL 2308Y   Politics and Governments of Eastern Europe
POL 2313Y   Comparative Political Parties and Elections
POL 2314H   Political Economy of Asia Pacific
POL 2316H   Women and Politics
POL 2317H   Politics and Policy Analysis
POL 2318H   Comparative Public Policies: Selected Areas
POL 2321H   Topics in Comparative Politics I
POL 2322H   Topics in Comparative Politics II
POL 2322Y   Topics in Comparative Politics II
POL 2323Y   Multilevel Politics: The European Union in Comparative Perspective
POL 2324H   Ethnonationalism and State-Building: The Communist and Post-Communist Experience (exclusion to POL 2304Y)
POL 2325Y   The Politics of Post-Communism
POL 2338H   Innovation and Governance
POL 2341H   Nationalism, Myths and Identity: Ukraine and the CIS
POL 2344H   Identity, Democracy and Autocracy in Ukraine
POL 2372H   The Comparative Political Economy of Industrial Societies
POL 2391H   Topics in Comparative Politics III
POL 2392Y   Topics in Comparative Politics IV
JPJ 2394H   Innovation and Knowledge Transfer
POL 2411H   Topics in Asian Politics
POL 2429Y   Nationalism, Ethnic Conflict, and Democracy
JPF 2430Y   Cities

Comparative Government (Developing Countries)

POL 2400H   Theories and Issues -The Politics of Development *(core course)*
POL 2700H   Comparative Politics *(core course)*

JPV 1201H   Politics, Bureaucracy and the Environment
POL 2208Y   Third World Politics in International Affairs
POL 2218H   The Political Economy of International Trade
POL 2234H   Globalization, Internationalization, and Public Policy
POL 2235H   Development, International Relations, Globalization: Through the Lens of a Gender
POL 2314H   Political Economy of Asia Pacific
POL 2322H   Topics in Comparative Politics II
POL 2391H   Topics in Comparative Politics III
POL 2392Y   Topics in Comparative Politics IV
POL 2403H   Topics in African Politics I
POL 2404H,Y Topics in African Politics II

POL 2405H   Topics in Latin American Politics
JPE 2408Y   Political Economy of International Development
POL 2409Y   Politics and Planning in Third World Cities
POL 2411H   Topics in Asian Politics
JPE 2415Y   Research Essay: Political Economy of Development
POL 2416Y   Politics and Society in Contemporary China
POL 2418H   Topics in Middle East Politics
POL 2420H   Globalization, Gender and Development
POL 2423H   Colonialism/Post-Colonialism
POL 2429Y   Nationalism, Ethnic Conflict, and Democracy
JPF 2430Y   Cities
POL 2482H   The Politics of Disease and Epidemic

Miscellaneous
POL 2501Y   Research Methods and Design to Dissertation Seminar: Issues in Research Design
POL 2502Y   Quantitative Methods and Data Analysis
POL 2503H   Thinking Through Research Design
POL 2504H   Statistics for Political Scientists
POL 2505H   Qualitative Methods in Political Research
POL 2800H   Intensive Course
POL 2810Y   MA Research Seminar I
POL 2811Y   MA Research Seminar II
POL 2904Y   Reading course in an approved special field
POL 2905H   Reading course in an approved special field
POL 2906Y   Reading course in an approved special field

Graduate Faculty

Full Members
Emanuel Adler - BA, MA, PhD, Andrea and Charles Bronfman Chair in Israeli Studies
Robert Andersen - BA, MA, PhD
Sylvia Bashevkin - BA, MA, PhD
Harald Bathelt - MA, Diplom, PhD, Habilitation(Post Doc), CRC
Ronald Beiner - BA, DPhil
Jacques Bertrand - BA, MSc, MA, PhD
Aurel Braun - BA, MA, PhD
Alan S Brudner - BA, MA, LLB, PhD
David Cameron - MSc, BA, PhD *(Chair)*
Joseph Carens - AB, MPhil (Theol), MPhil, PhD
Simone Chambers - BA, MA, MPhil, PhD *(Coordinator of Graduate Studies)*
David Cook - BA, MA, PhD
Frank Cunningham - BA, MA, PhD, FRSC
Richard Day - BA, MA, Dip REES, PhD
Raisa Deber - SB, SM, PhD
Ronald Deibert - BA, MA, PhD
Dickson Eyoh - BA, MA, PhD
Victor Falkenheim - BA, MA, PhD
Joseph Fletcher - BA, MA, PhD

Donald Forbes - BA, MA, PhD
Rodney Haddow - BA, MScEcon, PhD
Randall Hansen - BA, MPhil, DPhil, Canada Research
  Chair
Ran Hirschl - BA, LLB, MA, MPhil, PhD, Canada
  Research Chair
Thomas Homer-Dixon - BA, PhD
Paul Kingston - BA, MA, MPhil, DPhil
John Kirton - BA, MA, PhD
Nancy Kokaz - BA, BA, MA, PhD
Jeffrey Kopstein - BA, MA, PhD
Lawrence LeDuc - BA, MA, PhD
Paul Magocsi - AB, MA, MA, PhD, FRSC
Patricia McCarney - BA, MCP, PhD
Jennifer R Nedelsky - BA, MA, PhD
Neil Nevitte - BA, MA, PhD
Clifford Orwin - AB, MA, PhD
Louis Pauly - BA, MA, MSc, MA, PhD, Canada Research
  Chair, Director
David Rayside - BA, AM, PhD
Kent Roach - BA, LLB, LLM
Arthur Rubinoff - BA, MA, PhD
Richard Sandbrook - BA, MA, DPhil, FRSC
Edward Schatz - PhD
David Schneiderman - BA, LLB, LLM
Donald Schwartz - BA, MA, PhD
Richard Simeon - BA, MA, PhD
Grace Skogstad - BA, MA, PhD
Peter Solomon - BA, MA, CertRussInst, PhD
Susan Solomon - BA, MA, CertRussInst, PhD
Janice Stein - BA, MA, PhD, FRSC, University Professor,
  Belzberg Professor of Conflict Management and
  Negotiation
Judith Ann Teichman - BA, MA, PhD
Carolyn Tuohy - BA, MA, PhD, Senior Fellow School of
  Public Policy and Governance
Robert Vipond - BA, AM, MA, PhD
Lorraine Weinrib - BA, LLB, LLM
David Welch - BA, AM, PhD, Ignatieff Chair
Graham White - BA, MA, PhD
Linda White - BA, MA, PhD
Melissa Williams - AB, AM, PhD
Nelson Wiseman - BA, MA, PhD
David Wolfe - BA, MA, PhD
Joseph Wong - BA, MA, PhD, Canada Research Chair

Members Emeriti
Edward Andrew - BA, PhD
Stephen Clarkson - BA, MA, D de Rech
Michael Donnelly - BS, Institute Certificate, MA, PhD
Richard Gregor - BA, MA, PhD
Franklyn J. Griffiths - BA, MIA, PhD
Gad Horowitz - BA, MA, PhD
Alkis Kontos - Barrister at Law, MA, PhD
Ronald Manzer - BA, BEd, MA, PhD
Robert Matthews - BA, MIA, PhD
R Cranford Pratt - BA, MPhil
Abraham Rotstein - BA, PhD
Paul Russell - BA, BA, LLD, FRSC, OC, University
  Professor Emeritus

Richard Stren - BA, MA, PhD
Melville Watkins - Bach Commerce

Associate Members
Nida Alahmad
Ana Maria Bejarano - BA, MA, PhD
Solomon Benjamin - BAarch, MSArchS, PhD
Steven Bernstein - BA, MA, PhD
Sandford Borins - BA, MPP, PhD
Sujit Choudhry - BSc, BA, LLB, LLM
Lilach Gilady - MA, BA, MPhil, PhD
Antoinette Handley - BA, MPhil, PhD
Ailsa Henderson - PhD
Matthew Hoffmann - BS, PhD
Gustavo Indart - BA, MA, PhD
Rebecca Kingston - BA, MA, PhD, CEP
Margaret Kohn - BA, MA, PhD
Renan Levine - BA, PhD
Wambui Mwangi - BA, MA, PhD
Carla Norrlof - BA, MA, DES, PhD
David Pond - PhD
Ayelet Shachar - BA, MA, LLB, LLM, JSD
Andrew Stark - BA, MSc, MA, PhD
Phil (Triadafilos) Triadafilopoulos - BA, MA, PhD
Lucan Alan Way - BA, MA, PhD

Professional Graduate Programs Centre (Mississauga)
PGPC

Faculty Affiliation
Professional Graduate Programs (Mississauga)

Degree Programs Offered
Management & Professional Accounting
 – MMPA

Diploma Programs Offered
Investigative & Forensic Accounting - DIFA

Overview
The **Master of Management & Professional Accounting** (MMPA) is designed to educate future leaders of the accounting profession at the master's level in management and at the professional level in accounting and related subjects.

The curriculum is organized to provide an excellent understanding of:
- the challenges, functions and needs of management,
- accounting, finance, auditing, and tax,
- essential professional subjects,
- management skills, and
- professional capabilities.

Students from any undergraduate background may apply. Advanced standing may be granted.

The **Diploma in Investigative & Forensic Accounting** (DIFA) provides a rigorous and comprehensive education in investigative and forensic accounting (IFA) matters useful in becoming an expert IFA consultant, practitioner, and expert witness in legal proceedings. Expertise may include financial matters related to investigation for fraud, calculation of damages, advisors in disputes, and preparers and deliverers of information to the courts. For students who are graduate Chartered Accountants, the diploma program is the educational gateway to the CA·IFA post-graduate specialist designation offered by the Canadian Institute of Chartered Accountants.

Contact and Address

Professional Graduate Program Centre
Web: www.utm.utoronto.ca/research
E-mail: devin.kreuger@utoronto.ca
Telephone: (905) 828-5357
Fax: (905) 569-4388

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Canada

Management & Professional Accounting
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Telephone: (905) 828-3985
Fax: (905) 569-4306

Room K108, Kaneff Centre
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3359 Mississauga Road North
Mississauga, Ontario L5L 1C6
Canada

Investigative & Forensic Accounting
Web: www.utm.utoronto.ca/difa
E-mail: difa@utoronto.ca
Telephone: (905) 569-4331
Fax: (905) 569-4306

Room K108, Kaneff Centre
University of Toronto at Mississauga
3359 Mississauga Road
Mississauga, Ontario L5L 1C6
Canada

Degree Programs

Management & Professional Accounting

Master of Management & Professional Accounting

Minimum Admission Requirements
- Undergraduate degree equivalent to a four-year program at the University of Toronto with a standing equivalent to at least mid-B.
- Satisfactory GMAT score.
- Proof of English facility if the applicant's first language is not English. Details on English language requirements are available in this calendar.

Program Requirements
- Program runs for 27 months covering 7 sessions of full-time study, including 5 academic sessions and 2 co-op work placement sessions in accounting- or finance-related areas. The final session of the program will include a professional integrating experience (PIE) consisting of a four-week period in which students will complete one or more of the following:
  - attend the professional school of a professional accounting body, or
  - write professional accounting examinations, or
  - complete a consulting or work-term project
- Prescribed curriculum consists of 33 courses plus a professional integrating experience (PIE) covering an aggregate of 71 modules. Students may choose to take either MGT 2070H or MGT 2208H in their final academic session.

- All requirements for the degree must be completed within six years from the date of first enrolment.

Courses

Notations for all courses are indicated in parenthesis following the course code and are determined as follows:

Credit Hours	Notation
0	CR/NCR (Credit/No Credit)
1	one module
2	two modules (half-course equivalent)
3	three modules

One module equals 5 weeks with 3 contact hours per week.

The department should be consulted each session as to course offerings.

MGT 1090H(0)+	Accounting Work-Term Course I
MGT 1102H(1)	Business and Professional Ethics
MGT 1210H(2)	Managerial Economics
MGT 1211H(2)	Economic Environment of Business
MGT 1221H(2)	Accounting I
MGT 1222H(2)	Managerial Accounting
MGT 1241H(2)	Operations Management
MGT 1260H(2)	Leadership in the Management of Teams
MGT 1272H(2)	Management Information Systems
MGT 1301H(3)	Fundamentals of Strategic Management
MGT 1323H(3)	Auditing and Reporting
MGT 1330H(3)	Business Finance
MGT 1350H(3)	Marketing
MGT 1362H(3)	Managing People in Organizations
MGT 1382H(3)	Statistics for Management
MGT 2004H(3)	Advanced Concepts in Strategic Management
MGT 2014H(2)	The Legal Environment of Professions and Corporations
MGT 2070H(1)	Management Consulting (elective course)
MGT 2090H(0)+	Accounting Work-Term Course II
MGT 2205H(3)	Advanced Financial Accounting
MGT 2206H(3)	Taxation I
MGT 2207H(2)	Taxation II
MGT 2208H(1)	Taxation III (elective course)
MGT 2224H(2)	Computer Auditing
MGT 2225H(2)	Advanced Auditing Topics
MGT 2250H(3)	Financial Reporting I
MGT 2251H(3)	Financial Reporting II
MGT 2260H(3)	Management Control
MGT 2261H(2)	Advanced Management Accounting
MGT 2273H(3)	Accounting Information Systems
MGT 2280H(2)	Accounting Theory and Research
MGT 2281H(1)	Seminar in Professional Accounting
MGT 2282H(1)	Integrative Cases in Professional Decision Making
MGT 2301H(2)	Financial Management

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Diploma Programs

Investigative & Forensic Accounting

Diploma of Investigative & Forensic Accounting

Minimum Admission Requirements
- Undergraduate degree equivalent to a four-year program at the University of Toronto, in Commerce, Business Administration, or Accounting, with a standing equivalent to at least a mid-B in the final undergraduate year.
- Two years of relevant experience in accounting.

Program Requirements
- 10 half-course program over a minimum 2.2 year period. Courses are taken sequentially and advanced standing course exemptions are possible. The program is offered using a combination of two one-week intensive in-residence sessions, e-learning and teleconference modules, with group discussions, assignments, and formal examinations. It is possible for students to participate from anywhere in the world.

Courses

IFA 1900H	Introduction to Investigative and Forensic Accounting
IFA 1901H	Investigative and Forensic Accounting Practice Issues
IFA 1902H	Legal Process—Introductory
IFA 1903H	Investigative-related Matters—Introductory
IFA 1904H	Loss Quantification—Introductory
IFA 2900H	Loss Quantification—Advanced
IFA 2901H	Investigative-Related Matters—Advanced
IFA 2902H	Legal Process—Advanced
IFA 2903H	Advanced Topics/Emerging Issues
IFA 2904H	Integrative Capstone

Courses IFA 1900H and IFA 2904H each involve a mandatory in-residence session at the University of Toronto Mississauga. IFA 2904H requires participation in moot court and other experiential learning sessions. The remaining eight courses are offered via weekly online sessions.

Graduate Faculty

Management & Professional Accounting

Full Members
Varouj Aivazian - BS, MA, PhD
Leonard Brooks - BCom, MBA, FCA, CA
Yue Li - BSc, MBA, PhD
Wendy Rotenberg - BA, MBA, PhD
Waldemar Smieliauskas - BS, MS, PhD
Mihkel Tombak - BASc, MBA, AM, PhD
Anthony Wensley - BA, PGCE, MA, MBA, PhD

Associate Members
Guy Allen - BA, MA, PhD
Mark Weber - BA, MA, MBA, PhD

Diploma of Investigative & Forensic Accounting

Full Members
Leonard Brooks - BCom, MBA, FCA, CA *(Program Director)*
Waldemar Smieliauskas - BS, MS, PhD

Psychology   PSY

Faculty Affiliation
Arts and Science

Degree Programs Offered
Psychology - MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
   - Psychology, MA, PhD
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Psychology, MA, PhD
3. Developmental Science, see p. 434
   - Psychology, MA, PhD
4. Neuroscience, see p. 466
   - Psychology, MA, PhD
5. Women's Health, see p. 478
   - Psychology, MA, PhD

Overview
Graduate training in psychology stresses training in general experimental psychology. Areas of specialization include the following: brain and behaviour, perception and cognition, developmental psychology, social psychology, and personality/abnormal psychology. The Department does not offer instruction or specialization in clinical psychology. In all areas, the emphasis is on training for experimental research.

Contact and Address
Web: www.psych.utoronto.ca
E-mail: grad@psych.utoronto.ca
Telephone: (416) 978-3404
Fax: (416) 978-4811

Department of Psychology
Graduate Studies
Room 4034, Sidney Smith Hall
University of Toronto
Toronto, Ontario M5S 3G3
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, with a minimum A- average (or first-class standing) in the last two undergraduate years, and the equivalent of 6.0 full-course equivalents (FCE) in psychology including statistics and some laboratory experience.

Program Requirements
- One academic year of graduate study.
- Courses and individual research training leading to a thesis.
- In the MA year, students must complete the following 2.0 FCE as follows:
  o PSY 1000H Directed Studies to prepare for the MA thesis research
  o PSY 2001H Design of Experiments I, experimental design and statistics
  o two half-courses
- MA thesis

It is expected that following the MA year, students will proceed to the PhD program. To be eligible for admission, adequate research performance and at least an A- average are normally required.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto master's degree, or its equivalent from a recognized university, with a minimum A- average, and adequate research performance.

Program Requirements
- Minimum of two years of residence beyond the master's degree, but usually takes at least three years. Applicants with a master's degree from another university may be required to enrol in a three-year residence program.
- Individual programs of study are planned and include continuing research training with staff members. There is no language requirement.
- PSY 3000H Research Project in Psychology - usually taken in PhD 1. This is a research project course supervised by a faculty member other than the student's PhD supervisor. It is a one-session course spread over PhD 1.
- PSY 3001H Scientific and Professional Psychology - usually taken in PhD 1.
- An advanced statistics course chosen from a list provided by the Department.
- Two half-courses.
- PSY4000H. Thesis proposal and oral exam (examination in the student's area of specialization).
- PhD thesis.
- Students may take other courses as they wish, but it is expected that the requirements will be completed in the first two years of the PhD program. Students admitted with an MA from another university will normally be required to fulfil the Ph.D. requirements; however, exemptions may be granted by the graduate director of the Department of Psychology.

Courses

Not all courses are offered each year. For current offerings, consult the Coordinator of Graduate Studies.

PSY 1000H   Directed Studies
PSY 1200H,Y Selected Topics in Psychology
PSY 1500H   Conceptual Bases of Psychology
PSY 2001H   Design of Experiments I
PSY 2002H   Design of Experiments II

Biology and Behaviour

Core Courses
PSY 5101H   Mechanisms of Behaviour
PSY 5102H   Motivational Processes
PSY 5103H   Learning and Plasticity
PSY 5104H   Neuropsychology

Advanced Courses
PSY 5110H   Advanced Topics in Behavioural
                    Neuroscience I
PSY 5111H   Advanced Topics in Behavioural
                    Neuroscience II
PSY 5112H   Advanced Topics in Behavioural
                    Neuroscience III
PSY 5120H   Advanced Topics in Animal Behaviour and
                    Motivation I
PSY 5121H   Advanced Topics in Animal Behaviour and
                    Motivation II
PSY 5122H   Advanced Topics in Animal Behaviour and
                    Motivation III
PSY 5130H   Advanced Topics in Neuropsychology I
PSY 5131H   Advanced Topics in Neuropsychology II
PSY 5132H   Advanced Topics in Neuropsychology II

Perception/Cognition/Cognitive Neuroscience

Core Courses
PSY 5201H   Audition
PSY 5202H   Vision
PSY 5203H   Higher Cognition
PSY 5204H   Attention
PSY 5205H   Memory

Advanced Courses
PSY 5210H   Advanced Topics in Perception I
PSY 5211H   Advanced Topics in Perception II
PSY 5212H   Advanced Topics in Perception III
PSY 5220H   Advanced Topics in Cognition I
PSY 5221H   Advanced Topics in Cognition II
PSY 5222H   Advanced Topics in Cognition III

° Courses which may continue over a program. The course is graded
  when completed
+Extended course. For academic reasons, course work is extended
  into session following academic session in which course is offered.

Developmental Psychology

Core Courses
PSY 5300H   History, Theory and Methods of
                    Developmental Psychology
PSY 5301H   Biological Development
PSY 5302H   Perceptual Development
PSY 5303H   Cognitive Development
PSY 5304H   Language Development
PSY 5305H   Social Development

Advanced Courses
PSY 5310H   Advanced Topics in Development I
PSY 5311H   Advanced Topics in Development II
PSY 5312H   Advanced Topics in Development III
PSY 5313H   Advanced Topics in Development IV

Social/Personality/Abnormal Psychology

Core Courses
PSY 5401H   Abnormal
PSY 5402H   Personality
PSY 5403H   Social Cognition
PSY 5404H   Interpersonal and Group Behaviour

Advanced Courses
PSY 5410H   Advanced Topics in Abnormal I
PSY 5411H   Advanced Topics in Abnormal II
PSY 5412H   Advanced Topics in Abnormal III
PSY 5420H   Advanced Topics in Personality I
PSY 5421H   Advanced Topics in Personality II
PSY 5422H   Advanced Topics in Personality III
PSY 5430H   Advanced Topics in Social Psychology I
PSY 5431H   Advanced Topics in Social Psychology II
PSY 5432H   Advanced Topics in Social Psychology III
PSY 5433H   Advanced Topics in Social Psychology IV
PSY 3000H°   Research Project in Psychology
PSY 3001H   Professional Psychology (Credit/No Credit)
PSY 3002H   Teaching Practicum (Credit/No Credit)
PSY 4000H°   Specialization Study (Credit/No Credit)

PSY 4700H   Psychology Testing and Assessment I
PSY 4701H   Psychology Testing and Assessment II
PSY 4705H   Psychological Assessment of Children
PSY 4710H   Practicum in Testing and Assessment
                    (Credit/No Credit)
PSY 4711H   Practicum in Applied Psychology (Credit/
                    No Credit)
PSY 4720H,Y+ Internship in Applied Psychology (Credit/
                    No Credit)

Cross-Listed Courses
CSC 2535H   Computation in Neural Networks
JLP 2450H   Psycholinguistics
JNS 1000Y   Fundamentals of Neuroscience: Systems
                    and Behaviour
JNS 1001H   Neuroanatomy of Mind
JPX 1001Y   Parenting: Multidisciplinary Perspectives
JPM 1005Y   Behavioural Pharmacology
ZOO 2215Y   Insect Behaviour

Graduate Faculty

Full Members
Claude Alain - BA, MA, PhD
Thomas Alloway - BA, MA, PhD
Adam Anderson - BA, PhD, Canada Research Chair
Nicole Anderson - BA, MA, PhD, CPsych
Janet Astington - BA, BSc, MA, PhD
Leslie Atkinson - BA, MA, PhD, CPsych
John Bassili - BA, PhD
Kirk Blankstein - BA, MA, PhD
Douglas Bors - BA, MA, PhD, PhD
Craig Chambers - BA, MA, PhD
Alison Chasteen - BA, MA, PhD
Carl Corter - BA, PhD, Atkinson Charitable Foundation
  Chair in Early Child Development and Education
George Scott Cree - BA, MA, PhD
John Cunningham - BSc, MA, PhD
William Cunningham - BA, MA, MSc, MPhil, PhD
Gerald Chaim Cupchik - BA, MA, PhD
Meredyth Daneman - BA, MA, PhD
Eve De Rosa - BA, PhD
Maureen Dennis - BA, MA, PhD
Karen Dion - BA, PhD
Kevin Dunbar - BA, MA, PhD
Gillian Einstein - PhD
Suzanne Erb - BSc, MA, PhD
Susanne Ferber - MSc, PhD
Alison Fleming - BS, PhD
Paul Fletcher - BSc, DPhil
Marc Fournier - BA, PhD
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Robert Gerlai - MSc, PhD
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Joan Grusec - BA, PhD
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C Peter Herman - BA, PhD
C Ross Hetherington - BSc, MA, PhD
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Maureen Lovett - BSc, MSc, PhD
Geoffrey MacDonald - BA, PhD
Mary Patricia McAndrews - BSc, MA, PhD
Anthony Randal McIntosh - BSc, MSc, PhD
Norton Milgram - BA, MA, PhD
Ashley Monks - BS, MSc, PhD
Giampaolo Moraglia - BPhil, MA, MS, PhD
Morris Moscovitch - BSc, MA, PhD, Dr. Max and Gianna
  Glassman Chair of Neuropsychology

Paul Muter - BA, MA, PhD
Matthias Niemeier - MA, PhD
Jose Nobrega - BA, MA, PhD
David Nussbaum - BA, MA, PhD
Jordan Peterson - BA, PhD
Ted Petit - BS, MA, PhD
Laura Ann Petitto - BSc, MA, MSc, PhD
Kathy Pichora-Fuller - BA, MSc, PhD
Terry Picton - MD, MSc, PhD
Jason Plaks - BA, MA, MPhil, PhD
Patricia Pliner - PhD
Janet Polivy - BS, MA, PhD
Constantine Poulos - BS, MA, PhD
Jay Pratt - BA, MA, PhD *(Graduate Director)*
Martin Ralph - BSc, PhD
Arun Ravindran - MBBS, MSc, PhD, FRCP(C),
  FRCPsych
Eyal Reingold - PhD
Joanne Rovet - BSc, PhD
Jennifer Ryan - BS, PhD, Canada Research Chair
Jean Saint-Cyr - BA, MA, PhD
Glenn Schellenberg - BSc, PhD
Ulrich Schimmack - BA, MA, PhD
Mark Schmuckler - BA, PhD
Bruce Schneider - BA, PhD
Sara Shettleworth - BA, MA, PhD
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Ian Spence - MA, PhD
Donald Stuss - BA, BPh, MA, PhD, University Professor
Jennifer Tackett - BA, PhD
Romin Tafarodi - BA, PhD
Margot Taylor - BA, MA, PhD
William Thompson - PSc, MA, PhD
Franco Vaccarino - BSc, MSc, PhD
Pascal van Lieshout - PhD
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John Yeomans - BA, PhD
Konstantine Zakzanis - BA, MA, PhD
Philip Zelazo - PhD
Kenneth Zucker - BA, MA, PhD, CPsych

Members Emeriti
Rona Abramovitch - BA, MA, PhD
Fergus Craik - BSc, PhD, University Professor Emeritus
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Jonathan Freedman - BA, PhD
Robert Lockhart - BA, MA, PhD
Nicholas Mrosovsky - BA, PhD
Keith Oatley - BA, PhD
Marilyn Smith - BA, PhD
Sandra Trehub - BComm, MA, PhD
Endel Tulving - BA, PhD, University Professor Emeritus
Blossom Wigdor - BA, PhD

Associate Members
Michelle Keightley - BSc, MA, PhD
Donald Mabbott, MD

Public Health Sciences   CHL

Faculty Affiliation
Medicine

Degree Programs Offered
Public Health Sciences – MHSc, MSc, PhD, MScCH

Collaborative Programs Offered
Degree programs that participate in:
1. Aboriginal Health, see p. 404
   - Public Health Sciences, MHSc, MSc, PhD
2. Addiction Studies, see p. 406
   - Public Health Sciences, MHSc, MSc, PhD
3. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Public Health Sciences, MHSc, MSc, PhD
4. Bioethics, see p. 416
   - Public Health Sciences, MHSc, MSc, PhD
5. Cardiovascular Sciences, see p. 426
   - Public Health Sciences, MHSc, MSc, PhD
6. Community Development, see p. 428
   - Public Health Sciences, MHSc
7. Environment and Health, see p. 439
   - Public Health Sciences, MHSc, MSc, PhD
8. Health Care, Technology and Place, see p. 454
   - Public Health Sciences, PhD
9. Health Services and Policy Research, see p. 456
   - Public Health Sciences, MHSc, MSc, PhD
10. Women and Gender Studies, see p. 473
   - Public Health Sciences, MHSc, MSc, PhD
11. Women's Health, see p. 478
   - Public Health Sciences, MHSc, MSc, PhD

Overview
The Department of Public Health Sciences offers four graduate degree programs, available both full time and part time. A complete description of all programs is available on the departmental Web site: www.phs.utoronto.ca

The **Master of Health Science** (MHSc) program is designed for students interested in professional and/or research careers in the community, academic, public, or private sectors. Four specializations are offered:
1. Community Health and Epidemiology
2. Community Nutrition
3. Health Promotion
4. Occupational and Environmental Health

The **Master of Science** (MSc) program is for students interested in research and academic careers in Biostatistics.

The **Doctor of Philosophy** (PhD) prepares students for research and academic careers in the Public Health Science disciplines. Specializations include:
1. Biostatistics
2. Epidemiology
3. Social and Behavioural Health Sciences

The PhD program may be completed on a full-time or flexible-time basis.

The **Master of Science in Community Health** (MScCH) is a program restricted to practising health professionals. Four specializations are offered:
1. Health Practitioner Teacher Education
2. Family and Community Medicine
3. Public Health Nutrition
4. Wound Prevention and Care

Contact and Address
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Graduate Department of Public Health Sciences
Room 620, 155 College Street
University of Toronto
Toronto, Ontario M5T 3M7
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Degree Programs

Master of Health Science

Minimum Admission Requirements
- Appropriate four-year undergraduate degree from a recognized university, with a minimum mid-B average in the final year.
- At least one course in undergraduate statistics.
- Relevant work or volunteer experience.
- Each specialization has unique requirements; refer to the Web site for details.

Program Requirements
- 10.0 full course equivalents (FCE), of which 0.5 FCE is a core subject and at least 1.0 FCE is a field practicum.
  - **Full-time students**, depending on the area of specialization, require between 16 and 22 months to complete the program, including time spent in field practica. Specific program requirements, course sequences, and options vary by area of specialization and are fully explained on the Web site.
  - **Part-time students** have a maximum of six years to complete the program.

Master of Science

Minimum Admission Requirements
- Appropriate four-year undergraduate degree from the University of Toronto, or its equivalent from a recognized university, with a minimum mid-B average in the final year.

Program Requirements
- Students specializing in Biostatistics may choose a course-only or thesis program. See the Web site for details.
  - **Full-time students** can complete the program in 12 months.
  - **Part-time students** have a maximum of five years to complete the program.

Doctor of Philosophy

Minimum Admission Requirements
- Master's degree in a Public Health Science-related discipline from a recognized university, with a minimum A- standing.
- Demonstrated educational and/or professional experience that indicates a capacity to undertake research-oriented doctoral studies.
- Consult the Web site for details.

Program Requirements

Full-Time PhD
- Course requirements vary by specialization and are related to the student's knowledge of the field. Consult the Web site.
- Successful completion of formal examinations and other assessments at specified points within the program to ensure continuation in the program.
- Proficiency in statistics or research methods.
- A written comprehensive examination in the major area of specialization.
- Writing of a PhD thesis under the supervision of an approved thesis committee.
- The oral defence of the thesis before an examination committee.
- Completion of all degree requirements within six years from first registration in the program.

Flexible-Time PhD
- Degree requirements for the flexible-time program are identical to those for the full-time PhD program.
- A plan of study and research activities will be negotiated at initial registration, to be reviewed and updated annually.
- Students have up to eight years to complete the program. They are required to register full-time for the first four years of their program. Thereafter, they may register part-time.

Master of Science in Community Health

Minimum Admission Requirements
- An undergraduate degree in a public health specialty and/or one of the regulated health professions in Ontario with the equivalent of a minimum mid-B average in the final academic year.
- Relevant academic preparation and professional experience as either a public health, community, or clinical practitioner.
- Some fields (i.e., FCM, PHN, and WPC) require appropriate certification/licensure in a regulated health profession and may require a valid license to practice in Canada or the student's home jurisdiction.
- A Diploma in Community Health may be awarded in exceptional circumstances to students who have completed 70% of the program requirements.

Program Requirements
- The MScCH is a course-work only program which requires the completion of 5.0 full course equivalents (FCE), including 0.5 FCE of a core Public Health Sciences subject; 0.5 to 1.0 FCE in supervised field placements or practica.
- The specific program requirements, course sequences, and options vary by field of specialization; they are fully outlined on the Web site.
- Students can complete the program in 12 months of intensive full-time study or over a maximum period of 5 years of part-time study.

Courses

Core Courses
CHL 5004H   Introduction to Public Health Sciences

Biostatistics and Demography
CHL 5201H   Introductory Biostatistics for Students in Biological Sciences I
CHL 5202H   Introductory Biostatistics for Students in Biological Sciences II
CHL 5203H   Public Health Research Methods
CHL 5204H   Survey Methods in Health Sciences II
CHL 5205H   Demography and Vital Statistics I
CHL 5206H   Demography and Vital Statistics II
CHL 5207Y   Laboratory in Statistical Design and Analysis
CHL 5208Y   Advanced Laboratory in Statistical Design and Analysis
CHL 5209H   Survival Analysis I
CHL 5210H   Categorical Data Analysis
CHL 5211H   Demographic Analysis
CHL 5220H   Community Health Appraisal Methods I
CHL 5221H   Community Health Appraisal Methods II
CHL 5222H   Longitudinal Data Analysis
CHL 5223H   Applied Bayesian Methods
CHL 5224H   Statistical Genetics
CHL 5225H   Advanced Statistical Methods for Clinical Trials

CHL 5250H   Special Topics in Biostatistics
CHL 5251H   Survival Analysis II

Community Nutrition

Courses offered by the Department of Nutritional Sciences

NFS 1201H   Public Health Nutrition
NFS 1204Yº   Master's Seminars in Nutritional Sciences
   (Credit/No Credit)
NFS 1208H   Field Observation and Nutrition Program
   Laboratory I
NFS 1209H   Field Observation and Nutrition Program
   Laboratory II
NFS 1211H   Community Nutrition
NFS 1216H   Selected Topics in Nutrition
NFS 1218H   Recent Advances in Nutritional Sciences I
NFS 1219H   Recent Advances in Nutritional Sciences II
NFS 1220H   Clinical Nutrition
NFS 1221H   Nutrition Programs and Strategies
NFS 1484H   Advanced Nutrition

Epidemiology
CHL 5401H   Epidemiologic Methods I
CHL 5402H   Epidemiologic Methods II
CHL 5403H   Epidemiology of Non-Communicable
   Diseases
CHL 5404H   Research Methods I
CHL 5405H   Assessment of Community Health Needs
CHL 5406H   Quantitative Methods for Biomedical
   Research
CHL 5407H   Categorical Data Analysis for
   Epidemiologic Studies
CHL 5408H   Research Methods II
CHL 5409H   Cancer Epidemiology
CHL 5410H   Occupational Epidemiology
CHL 5411H   International Health
CHL 5412H   Communicable Disease Epidemiology I:
   Principles
CHL 5413H   Public Health Sanitation
CHL 5414H   Additional Topics in Epidemiology of Non-
   Communicable Diseases
CHL 5415H   Communicable Disease Epidemiology II:
   Practice
CHL 5416H   Environmental Epidemiology
CHL 5417H   Tobacco and Health: From Cells to Society
CHL 5418H   Scientific Overview in Epidemiology
CHL 5419H   Empirical Perspectives on Social
   Organization and Health
CHL 5420H   Global Health Research
CHL 5421H   Aboriginal Health
CHL 5422H   Applied Epidemiology and Public Health
   Policy
CHL 5423H   Doctoral Series in Epidemiology
CHL5424H   Advanced Quantitative Methods in
   Epidemiology
CHL 5450H   Special Topics in Epidemiology

º Courses which may continue over a program. The course is graded
  when completed.

Family Medicine
CHL 5601H   Teaching Evidence-Based Family Medicine
   in the Clinical Setting
CHL 5602H   Working with Families in Family Medicine
CHL 5603Y   Social, Political, and Scientific Issues in
   Family Medicine
CHL 5604H   Human Development Issues for Family
   Medicine
CHL 5605H   Research Issues in Family Medicine/
   Primary Care
CHL 5606H   Research in Family Medicine/Primary Care
   Methodological Applications
CHL 5607H   Teaching and Learning by the Health
   Professions: Principles and Theories
CHL 5608H   Teaching and Learning by the Health
   Professions: Practical Issues and
   Approaches
CHL 5609H   Continuing Education in the Health
   Professions
CHL 5610H   Theory and Practice of Behaviour Change
   in Health Professional Settings
CHL5611H   Continuing Education Planning,
   Management and Evaluation in the Health
   Professions
CHL5630Y   Wound Prevention and Care

Global Health
CHL 5700H   Global Public Health
CHL 5702H   History of International Health
CHL 5703H   Urban Epidemics

Health Promotion
CHL 5801H   Health Promotion
CHL 5802H   Planning in Health Promotion and
   Population Health
CHL 5803H   Health Promotion Strategies
CHL 5804H   Health Behaviour Change
CHL 5805H   Critical Issues in Health Promotion Practice
CHL 5806H   Health Promotion Practice Field Inquiry
JXP 5807H   Health Communications

Occupational and Environmental Health
CHL 5902H   Advanced Occupational Hygiene
CHL 5903H   Environmental Health
CHL 5904H   Perspectives in Occupational Health and
   Safety—Legal and Social Context
CHL 5905H   Advanced Clinical Studies in Occupational
   Medicine
CHL 5906H   Organization and Management of
   Occupational Health Services
CHL 5907H   Radiological Health
CHL 5910H   Occupational and Environmental Hygiene I
CHL 5911H   Occupational and Environmental Hygiene II
CHL 5912H   Industrial Toxicology
CHL 5914H   Physical Agents I—Noise
CHL 5915H   Control of Occupational Hazards
CHL 5916H   Environmental Health Policy
CHL 5917H   Concepts in Safety Management
CHL 5918H   Biological Hazards in the Workplace and
   Community
CHL 5950H   Special Topics in Occupational and
   Environmental Health

Public Health Policy
CHL 5300H   Public Health Policy

Social and Behavioral Health Sciences
CHL 5101H   Social Theory and Health
CHL 5102H   Social and Political Forces in Health
CHL 5103H   Sociology of Health in Canada
CHL 5104H   Health Psychology
CHL 5105H   Social Determinants of Health
CHL 5106H   Health and Illness Behaviour in Children and Adolescents
CHL 5108H   Work and Well-Being
CHL 5109H   Gender and Health
CHL 5110H   Theory and Practice of Program Evaluation
CHL 5111H   Qualitative Research Methods
CHL 5112H   Community Development in Health
CHL 5113H   Health and Culture: Meeting the Needs of a Multicultural Society
CHL 5114H   Social Science Perspectives on Mental Health
CHL 5115H   Qualitative Analysis and Interpretation
CHL 5116H   Public Policies to Improve Health
CHL 5117H   A Global Perspective on the Health of Women and Children
CHL 5118H   International Health, Human Rights, and Peace-Building
CHL 5119H   Social and Political Perspectives on Drugs and Addiction
CHL 5120H   Population Health Perspectives on Mental Health and Addictions
CHL 5121H   Genomics, Bioethics and Public Policy
CHL 5122H   Qualitative Research Practice (Credit/No Credit)
CHL 5123H   Issues in the Transdisciplinary Research and the Health of Marginalized Population
CHL 5124H   Public Health Ethics
CHL 5150H   Social Science Research

Practica and Related Courses
CHL 5690H   MSc CH Required Practicum (Credit/No Credit)
CHL 5691H   MSc CH Optional Practicum (Credit/No Credit)
CHL 6010Y+ Required MHSc Practicum (Credit/No Credit)
CHL 6011H+ Required Practicum Extension (Credit/No Credit)
CHL 6020Y+ Optional MHSc Practicum (Credit/No Credit)
CHL 6021H+ Optional Practicum Extension (Credit/No Credit)
CHL 6022Y+ Long Extension to Optional Practicum (Credit/No Credit)

Reading Courses and Research Projects
CHL 7001H   Directed Reading in an Approved Field of Community Health
CHL 7002H   Approved Research Project in an Approved Field of Community Health

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Collaborative Program Courses

Addiction Studies
CHL 5417H   Tobacco and Health: From Cells to Society
PAS 3700H   Multidisciplinary Aspects of Addiction Studies
PAS 3701H   Advanced Research Issues in Addictions

Aging and the Life Course
AGE 2000H   Social Determinants of Aging and Health
AGE 2500H   Research Topics in Aging and the Life Course
AGE 3000H   Advanced Research Seminar in Aging and the Life Course

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Martin Zack - PhD

Public Policy and Governance   PPG

Faculty Affiliation
Arts and Science

Degree Programs Offered
Public Policy and Governance - MPP

Overview
An interdisciplinary program is offered by the School of Public Policy and Governance leading to a **Master of Public Policy** degree. The program provides professional education in two fields of specialization: Social and Economic Policy (domestic) and Global Public Policy.

The MPP is offered as a 20-month program featuring core instruction on a small-group, cohort-based model. In addition to the core of material considered essential for policy practice, students take elective courses within either of the two fields of specialization, each of which cuts across critical policy sectors such as health, education, cities, and the environment. Integrating seminars are led by faculty members. Invited visiting public sector leaders and external researchers bridge theory and practice, providing contact with senior professionals in government and the broader public, private, and community sectors. The program also provides access to courses and research facilities available in many other graduate departments, centres, and institutes across the University.

Contact and Address
Web: www.publicpolicy.utoronto.ca
E-mail: public.policy@utoronto.ca
Telephone: (416) 978 5120
Fax: (416) 978 5079

School of Public Policy and Governance
University of Toronto
Canadiana Building
Third floor, 14 Queen's Park Crescent West
Toronto, Ontario M5S 3K9
Canada

Degree Programs

Master of Public Policy

Minimum Admission Requirements
- Four-year University of Toronto bachelor's degree with at least an overall B+ standing in the final year, or its equivalent from a recognized university, is required for admission to the 20-month program.
- Program is open to applicants of all disciplinary backgrounds. A basic competency in mathematics and a basic understanding of the Canadian political system are assumed. Applicants without such preparation

should consult with the program director. University-level courses in these areas are not required for admission.

Program Requirements
Students normally:
- Complete 8.0 Full Course Equivalents (FCE) including 6.0 FCE (see required core courses listed below)
- 2 FCE within one of two areas of specialization chosen from the list of electives offered by participating graduate units.
- PPG 2006Y (a mandatory internship) normally completed in the summer between first and second year or during the second year. The internship research report is graded on a credit/no-credit basis.

Courses

Required Core Courses
PPG 1000H   Governance and Institutions
PPG 1001H   The Policy Process
PPG 1002H   Microeconomics for Policy Analysis
PPG 1003H   Macroeconomics for Policy Analysis
PPG 1004H   Quantitative Methods for Policy Analysis
PPG 1005H   The Social Context of Policy-making
PPG 1007H   Putting Policy into Action: Strategic
                     Implementation of Public Objectives
PPG 2001H   Integrating Seminars - Current Issues/
                     Problems in Public Policy and Practice
PPG 2002H   Integrating Seminars - Current Issues/
                     Problems in Public Policy and Practice
PPG 2003H   Integrating Seminars - Current Issues/
                     Problems in Public Policy and Practice
FIS 1210H   Information and Its Social Contexts
POL 2234H   Globalization, Internationalization, and
                     Public Policy

Elective Courses offered by the School of Public Policy and Governance
PPG 2010H   Panel Methods for Public Policy Analysis
PPG 2011H   Ethics of Public Administration
PPG 2012H   Topics in Public Policy

Internship
PPG 2006Y   MPP Internship

Graduate Faculty

Full Members
Geoff Anderson - BSc, MD, MSc, PhD
Michael Baker - BCom, MA, PhD, Royal Bank Chair in
  Public and Economic Policy
Dwayne Benjamin - BSc, MA, PhD
Philip Byer - SB, SM, PhD, PEng
David Cameron - MSc, BA, PhD
Michael Carter - BMath, MMath, PhD
Peter C Coyte - BA, MA, PhD

Morley Gunderson - BA, MA, PhD, Canadian Imperial
 Bank of Commerce (CIBC) Chair in Youth Employment
Rodney Haddow - BA, MScEcon, PhD
Randall Hansen - BA, MPhil, DPhil, Canada Research
 Chair
Bryan Karney - BASc, MEng, PhD, PEng
Heather MacLean - BASc, MBA, MSc, PhD, PEng
Eric Miller - BASc, MASc, PhD, Bahen/Tanenbaum
 Professor
John Myles - BA, BT, MA, PhD, FRCS, Canada Research
 Chair
Neil Nevitte - BA, MA, PhD
Phillip Oreopoulos - BA, MA, PhD
James Pesando - BA, MA, PhD
Douglas Reeve - BSc, MASc, PhD, PEng, FCIC, FTAPPI,
 FIAWS, DTech
Jeffrey Reitz - BS, PhD, FRSC, Robert F Harney
 Professor of Ethnic Immigration and Pluralism Studies
Richard Simeon - BA, MA, PhD
Michael Smart - BA, MA, PhD
Lorne Sossin - BA, MA, LLB, PhD, LLM, JSD
Mark Stabile - BA, MA, PhD, Director School of Public
 Policy and Governance *(Director)*
Ingrid Stefanovic - BA, MA, PhD
Janice Stein - BA, MA, PhD, FRSC, University Professor,
 Belzberg Professor of Conflict Management and
 Negotiation
Michael Trebilcock - LLB, LLM, FRSC, University
 Professor
Graham White - BA, MA, PhD
Linda White - BA, MA, PhD
Melissa Williams - AB, AM, PhD
David Wolfe - BA, MA, PhD
Joseph Wong - BA, MA, PhD, Canada Research Chair

Associate Members
Sujit Choudhry - BSc, BA, LLB, LLM
David Grant Duff - BA, MA, LLB, LLM
Colleen Flood - BA, LLB, LLM, SJD
Andrew Green - BA, MA, LLB, LLM, JSD
Joseph Heath - BA, MA, PhD
Kenneth Leithwood - BA, BPE, MPE, PhD
Benjamin Levin - BA, MEd, PhD
Ito Peng - BA, BSW, MA, PhD
Michal Perlman - BA, MSc, PhD
Grace Skogstad - BA, MA, PhD
Phil (Triadafilos) Triadafilopoulos - BA, MA, PhD

Rehabilitation Science   REH

Faculty Affiliation
Medicine

Degree Programs Offered
Rehabilitation Science – MSc, PhD

Collaborative Programs Offered
Students in rehabilitation science may participate in any of the following collaborative programs:
1. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
    - Rehabilitation Science, MSc, PhD
2. Biomedical Engineering, see p. 418
    - Rehabilitation Science, MSc, PhD
3. Cardiovascular Sciences, see p. 426
    - Rehabilitation Science, MSc, PhD
4. Health Care, Technology and Place, see p. 454
    - Rehabilitation Science, MSc, PhD
5. Health Services and Policy Research, see p. 456
    - Rehabilitation Science, MSc, PhD
6. Neuroscience, see p. 466
    - Rehabilitation Science, MSc, PhD

Overview
Rehabilitation Science is the systematic study of promoting, maintaining or restoring human function, mobility, occupation and well-being. Using basic and applied methods, the science is focused on phenomena at the level of the cell, person, family, community, or society to develop and evaluate theories, models, processes, measures, interventions, and policies to prevent, reverse, or minimize impairments, enable activity, and facilitate participation.

By its very nature, rehabilitation science is multidisciplinary. The Graduate Department of Rehabilitation Science offers graduate programs leading to the degrees of **Master of Science** and **Doctor of Philosophy.** To capture the full breath of rehabilitation, the expertise of our faculty and the research of our students, Rehabilitation Science has identified five fields of study:
1. Movement Science
2. Occupational Science
3. Rehabilitation Health Services Studies
4. Rehabilitation Technology Sciences
5. Social and Cognitive Rehabilitation Sciences

Contact and Address
Web: www.utoronto.ca/gdrs
E-mail: rehab.science@utoronto.ca
Telephone: (416) 978-0300
Fax: (416) 946-8762

Graduate Department of Rehabilitation Science
Rehabilitation Sciences Building
160 - 500 University Avenue
Toronto, Ontario M5G 1V7
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Four-year University of Toronto BSc degree, or equivalent, with special training in occupational therapy, physical therapy, or a related field, or the equivalent from a recognized university with a B+ average in the final two years of undergraduate study. Related fields might include nursing, psychology, sociology, social work, physical and health education, basic sciences, biomedical engineering, kinesiology, and others.
- Evidence of written and verbal proficiency in English is required for applicants whose first language is not English (see SGS Admissions Standards and Procedures).

Program Requirements
- Complete course work and a thesis based on the student's research.
- Successful completion of 2.5 full-course equivalents (FCE) as follows:
    - REH 1100H *Theory and Research in Rehabilitation Science*
    - REH 2001Y *Rehabilitation Presentations and Proceedings*
    - 0.5 FCE in research methods
    - 0.5 FCE in a related field of study
- Submission of a thesis and completion of an oral examination of the thesis.
- Minimum of 12 months of full-time study. Students should be aware that the completion of the thesis may take longer.
- Exceptional students may be considered for enrolment in a part-time program. Requirements are the same as for the full-time MSc program with the following exceptions:
    - Residency requirements waived
    - Course work must be completed within two years of initial registration
    - Program must be completed within five years of registration
    - Completion of an annual learning contract and program map

Part-time students should be aware that it is the student's responsibility to modify his or her work schedule to accommodate required course work since course times are not flexible.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto MSc degree, or its equivalent from a recognized University with a minimum A- average or a MScOT or MScPT degree with a research component with a minimum of A- standing.
- Well qualified students with excellent research potential holding a BSc degree may be considered for direct admission to the PhD program. These applicants must:
  - have a minimum A+/A average (GPA 4.0) in an undergraduate program from a recognized university.
  - have previous relevant research experience, outstanding references and a personal recommendation from a potential supervisor.
  - successfully complete a qualifying examination within the first 18 months of the program.
- Applicants, whose first language is not English, must provide evidence of written and verbal proficiency in English by completing one of the following tests:
  - Test of English as a Foreign Language (TOEFL) and the Test of Written English (TWE) with the following minimum scores:
    - Paper-based TOEFL: 600 and 5 on the TWE.
    - Computer-based TOEFL: 250 and 5 on the essay rating component.
    - Internet-based TOEFL (IBT): 100/120 and 22/30 on the writing and speaking sections.
  - Michigan English Language Assessment Battery (MELAB): 87
  - International English Language Testing System (IELTS): 7.5

Program Requirements
- A minimum of 2.0 full-course equivalent (FCE) as follows:
  - REH 3100H *Advanced Rehabilitation Research Issues* or equivalent (0.5 FCE)
  - An advanced research methods course. (0.5 FCE)
  - REH 3001Y *Advanced Rehabilitation Presentation and Proceedings.*(1.0 FCE)
- A comprehensive examination with written and oral components.
- Complete and defend a thesis.
- Students may be required to take extra courses in addition to the degree requirements listed above.
- Students are expected to be on campus and participating full time until all program requirements are completed.

Courses
Since not all courses are offered each academic year, the department should be consulted each session as to course offerings.

REH 1100H Theory and Research in Rehabilitation Science
REH 1120H Research Methods for Rehabilitation Science
REH 1130H Theory and Research in Occupational Science
REH 1510H Disordered and Restorative Motor Control
REH 1620H Methodological Issues in Research on Aging and Health
REH 2000H Individual Reading and Research Course
REH 2001Yº Rehabilitation Presentations and Proceedings (Credit/No Credit)
REH 3001Yº Advanced Rehabilitation Presentation and Proceedings (Credit/No Credit)
REH 3100H Advanced Rehabilitation Research Issues

Graduate Faculty

Full Members
Anne Agur - BSc, MSc, PhD
Elizabeth Badley - BSc, MSc, DPhil, PhD
Katherine Berg - BPT, BScPT, MSc, PhD *(Chair)*
Sandra Black - BSc, MD
Kathryn Ann Boschen - BA, MA, PhD
Dina Brooks - BSc(PT), MSc, PhD *(Coordinator of Graduate Studies)*
Heather Carnahan - BPE, MSc, PhD
Anne Carswell - Dip(OT), BSc, MSc, PhD
Tom Chau - BASc, MASc, PhD
Angela Colantonio - BA, BSc, MHSc, PhD
Cheryl Cott - Dip(PT), BPT, DipGer, MSc, PhD
Aileen Davis - BSc(PT), MSc, PhD
Geoffrey Fernie - BSc, PhD, PEng, CCE
John Frank - BSc, MD, CCFP, MSc, FRCP(C)
Michael Iwama - BSc, BSc(OT), MSc, PhD
Susan Jaglal - BSc, MSc, PhD
Bonnie Kirsh - BSc(OT), MEd, PhD
William McIlroy - BSc, MSc, PhD (Adjunct)
Alex Mihailidis - BASc, MASc, PhD, PEng
Morris Milner - BSc, PhD
Cameron Mustard - AB, ScD
Helene Polatajko-Howell - BOT, MEd, PhD, OT(C)
Milos Popovic - MSc, MASc, PhD
Susan Rappolt - BSc(OT), MSc, PhD
Denise Reid - BSc(OT), MEd, PhD
Rebecca Renwick - DIP (P&OT), BA, PhD
David Streiner - BA, MS, PhD, CPsych
Donald Stuss - BA, BPh, MA, PhD, University Professor
Scott Thomas - BSc, MSc, PhD

º Courses which may continue over a program. The course is credited when completed.

Mary (Molly) Verrier - DipP&OT, MHSc
Karen Yoshida - BPhE, BSc(PT), MSc, PhD
Nancy Young - BSc(PT), MSc, PhD (Adjunct)

Members Emeriti
Judith Friedland - BA, Dip(P&OT), MA, PhD

Associate Members
Dorcas Beaton - BSc(OT), MSc, PhD
Debra Cameron - BSc(OT), MEd, PhD
Jill Cameron - BSc, MSc, PhD
Kent Campbell - BSc, PhD
Paul Comper - BA, MA, PhD, C Psych
Deirdre Dawson - BSc, MSc, PhD
Barbara Gibson - BMR(PT), MSc, PhD
Roger Goldstein - MB, ChB, MRCP, FRCP(C), FCCP
Sherry Grace - BA MA PhD
Chantal Graveline - BSc(PT), MSc, PhD
Robin Green – BA, PhD, CPych
Michelle Keightley - BSc, MA, PhD
Clifford Klein - BA, MA, PhD
Michel Landry - BSc(PT), MSc(PT), PhD
Cindi Marie Morshead - BSc, PhD
Stephanie Nixon - BHSc(PT), BA, MSc, PhD
Ethne Nussbaum - BSc(PT), MEd, PhD
Nancy Salbach - BSc(PT), MSc, PhD
Barbara Secker - BA, MA, PhD
Fraser Shein - BSc, MEng, PhD
Martin Steinbach - PhD
Sharon Switzer-Mcintyre - BPE, BSc(PT), MEd, PhD
Gary Teare - DVM, MSc, PhD
Karl Zabjek - BSc, MSc, PhD

Religion   RLG

Faculty Affiliation
Arts and Science

Degree Programs Offered
Religion – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Bioethics, see p. 416
   - Religion, MA, PhD
2. Editing Medieval Texts, see p. 437
   - Religion, PhD
3. Environmental Studies, see p. 443
   - Religion, MA, PhD
4. Ethnic and Pluralism Studies, see p. 445
   - Religion, MA, PhD
5. International Relations, see p. 458
   - Religion, MA
6. Jewish Studies, see p. 460
   - Religion, PhD
7. South Asian Studies, see p. 471
   - Religion, MA, PhD
8. Women and Gender Studies, see p. 473
   - Religion, MA, PhD
9. Women's Health, see p. 478
   - Religion, MA, PhD

Overview
The Centre for the Study of Religion offers Master of Arts and Doctor of Philosophy programs for the study of religion and facilitates research and publication on religion. The Centre consolidates the vast curricular and faculty resources that are distributed throughout the many departments and colleges of the University and enables its students to use any resource in the University which serves the study of religion.

The Centre conceives the academic study of religion in interdisciplinary terms and embraces humanistic, historical, and social scientific approaches and methods. Programs of study are constructed individually to fit the specific needs and interests of each student. At the doctoral level, from the point of admission onward, student programs must be matched with the expertise of at least three professors who help supervise the student's work. The Centre's Graduate Studies Handbook, available on the Web and from the Centre, gives full information on admissions and programs as well as the research and teaching interests of the faculty.

Contact and Address
Web: www.religion.utoronto.ca/
E-mail: religion.grad@utoronto.ca
Telephone: (416) 978-3057
Fax: (416) 978-1610

Centre for the Study of Religion
123 St. George Street
University of Toronto
Toronto, Ontario M5S 2E8
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Normally a four-year bachelor's degree with specialization in religion or a cognate discipline broadly equivalent to the University of Toronto's BA Specialist degree in religion, with at least B+ standing in the final year. Students without appropriate preparation may be required to take additional work either before admission or during an extended master's program.

Program Requirements
- **Courses**. 4.0 full-course equivalents (FCE); included in the total are RLG 2000Y Major Research Paper and RLG 1200H,Y MA Method and Theory Workshop. An extended program requires additional courses, some of which may be at the undergraduate level. Satisfactory performance requires the completion of all course work taken for graduate credit with an average grade of at least A-.
- **Language(s)**. Reading knowledge of at least one language, in addition to English, selected from languages of modern scholarship and/or necessary source languages.

Doctor of Philosophy

Minimum Admission Requirements
- Normally, completion of all requirements of the Centre's MA program, or a comparable program at another university, with an average of at least A- in course work and with no individual course falling below B.

Program Requirements
- **Courses**. A minimum of 3.0 full-course equivalents (FCE), including RLG 1000Y Method and Theory in the Study of Religion and at least 0.5 FCE outside the area of specialization. Students may be required to take more than 3.0 FCE if their preparation is considered deficient in a subject required for their program. Satisfactory performance requires the completion of all course work taken for graduate credit with an average grade of at least A-.
- **Languages.** Reading knowledge of at least two languages in addition to English, selected from languages of modern scholarship and necessary source languages provided that at least one shall be a language of modern scholarship. The language

requirements must be fulfilled before writing the general examinations.

- **General Examinations.** Upon completion of course work, the language requirements, and the thesis pre-proposal, the student's supervisory committee will set general examinations to assess the student's readiness for thesis research. The general examinations must be completed during the third year of doctoral study.
- **Thesis Proposal.** Within three months of successful completion of the General Examinations, the student must submit a thesis proposal for approval by the student's supervisory committee.
- **Thesis.** Upon approval of the thesis proposal by the student's supervisory committee, the candidate proceeds to research and write a doctoral thesis which must be defended successfully at an oral examination.
- **Colloquium Presentation.** Once general examinations are completed, PhD candidates are required to participate at least once in the Centre for the Study of Religion's colloquium before undertaking their final oral examination.
- **Final Oral Examination.** The supervisory committee should approve the completed thesis before it is submitted for examination.
- **Residence.** Students are required to spend at least two fall and winter sessions on campus in full-time study, normally those of the first two academic years of a program.

Courses

Not all courses are offered every year. Please consult the Centre's *Graduate Studies Handbook* which lists the courses the Centre will offer this year as well as those cross-listed from other departments.

Religion

RLG 1000Y   Method and Theory in the Study of Religion
RLG 1200H,Y The MA Method and Theory Workshop
RLG 1500Y   Directed Reading
RLG 1501H   Directed Reading
RLG 1502H   Directed Reading
RLG 2000Y   Major Research Paper
RLG 2007H   Ethics, Society, and Technology
RLG 2011H   Evil and Faith: Studies in Judaeo-Christian Theodicy
RLG 2012Y   Natural Law in Judaism and Christianity
RLG 2016H   Radical Evil: Religious, Philosophical and Psychological Response
RLG 2018H   Religion and Bioethics
RLG 2019H   Religion and the Environment
RLG 2021H   Historiography of Religions
RLG 2025H   Critical Social Theory and Feminist Religious Thought
RLG 2026H   Modernity, Postmodernity, and the Future of Religion
RLG 2028H   Enemies of God: Religion and Violence in a (Post) Modern Time
RLG 2037H   Religion, Medicine and Healing

RLG 2041Y   Biblical Interpretation: Its History and Theory
RLG 2043Y   Studies in Jewish and Christian Liturgy to the Seventh Century
RLG 2060H   Religion and Philosophy in the European Enlightenment
RLG 2088H   The Birth of Anthropology and the study of Primitive Religion
RLG 2089H   The Study of Non-Literate Religions in Nineteenth- and Early Twentieth-Century France
RLG 2090H   Topics in Psychology of Religion
RLG 3101H   Yahweh and Other Deities in Ancient Israel
RLG 3142H   The Book of Genesis
RLG 3143H   Hebraica
RLG 3144H   Isaiah and Prophecy in the Early Judaism and Christianity
RLG 3201H   Topics in Christian Origins I
RLG 3202H   Topics in Christian Origins II
RLG 3205H   Early Christian Self-Definition and the Separation from Judaism
RLG 3224Y   Early Eastern Christianity
RLG 3225Y   Early Churches in Cross-Cultural Perspective
RLG 3228H   Social History of the Early Jesus Movement
RLG 3232H   Sacred Space in the Christian Tradition
RLG 3230H   Topics in Comparative Theology
RLG 3235H   Liberation Theology: Examining the Work of Gustavo Guitiérrez and Thomas Berry
RLG 3236H   Religious Pluralism and the Church
RLG 3237H   Religion and Social Reform in Canada
RLG 3243H   The Synoptic Problem
RLG 3244H   The Sayings Gospel Q: Text and Social History
RLG 3248H   Gospel of John and the Jesus Traditions
RLG 3249H   Studies in the Synoptic Gospels
RLG 3250H   Heresy and Deviance in Early Christianity
RLG 3252H   The Letter of James and Early Christian Wisdom
RLG 3255H   Aspects of Matthean Interpretation
RLG 3258H   Salvation as Liberation in Paul
RLG 3260H   Twentieth-Century Political Philosophy within Christianity
RLG 3261H   Augustine, Aquinas, Lonergan
RLG 3265H   Christian Spirituality and Modern Culture
RLG 3270H   Christianity and Crisis in North America
RLG 3272H   Jews and Judaism in Christian Traditions
RLG 3446H   Causation, Movement and Time in Buddhist Scholastic Debate
RLG 3448H   History of Sanskrit Buddhist Tantric Literature
RLG 3450H   Buddhism and Science
RLG 3452H   The History and Historiography of Buddhism
RLG 3454H,Y Readings in Tibetan Buddhism
RLG 3456H   Tantra in Tibet
RLG 3458H   Rhetoric and Discipline in Buddhist Studies
RLG 3460H   Basic Sanskrit Readings (1)
RLG 3461H   Basic Sanskrit Readings (2)
RLG 3500Y   Special Topics in Islamic Studies

RLG 3501H   Special Topics in Islamic Studies
RLG 3505H   Topics in Islamic Religious Literature
RLG 3510H   Studies in Islamic Thought and Spirituality
RLG 3512H   Introduction to Islamic Law
RLG 3514H   Ismaili History and Thought: The Persian
                    Tradition
RLG 3520H   Disciplining Islam
RLG 3522H   Dreams, Visions and the Enlightenment
RLG 3611H   Topics in Rabbinic Midrash
RLG 3621H   Modern Jewish Thought
RLG 3622H   Maimonides and His Modern Interpreters
RLG 3623H   Philosophy, Theology, and Politics: The
                    Thought of Leo Strauss
RLG 3624Y   The Jurisprudence of Maimonides
RLG 3631H   The Community of the Dead Sea Scrolls
RLG 3634H   Worship and Scripture at Qumran
RLG 3641H   Interpretations of Jewish Tradition
RLG 3645Y   The Jewish Legal Tradition
RLG 3647H   Early Rabbinic Judaism
RLG 3651H   Hellenistic-Jewish Thought
RLG 3653Y   Jewish Exegetical Traditions in Antiquity
RLG 3655H   Readings in Jewish Literature (200 BCE
                    - 200 CE)
RLG 3661H   Judaism and Philosophy
RLG 3691H   Themes in Jewish Studies I
RLG 3692H   Themes in Jewish Studies II
RLG 3712H   Asceticism in the Hindu Tradition
RLG 3713Y   Hinduism and Politics
RLG 3721H   Ramayana in Literature, Theology and
                    Political Imagination
RLG 3741H   Interpretations of Hindu Tradition
RLG 3743H   The Bhakti Tradition
RLG 3744H   Hindu Epics
RLG 3745H   Hindu Myths and Mythology
RLG 3762H   Religion and Aesthetics in South Asia
RLG 3764H   Readings in Sanskrit Philosophy
RLG 3930H   Religion in Canada Since 1867
RLG 3931H   Topics in North American Religions
RLG 3941Y   Celtic Mythology
RLG 3944H   Uses of the Bible in the Middle Ages
RLG 4000Y   Directed Reading: TST Seminar
RLG 4001H   Directed Reading: TST Seminar
RLG 4004H   Colloquium Presentation

Other Departments

Students may take courses offered by other graduate units, including the following:

Anthropology
ANT 6003H Critical Issues in Ethnography I
ANT 6004H Critical Issues in Ethnography II

East Asian Studies
EAS 1223Y   Readings in Dharmasastra
EAS 1500H,Y The Structure of the Classical Sanskrit
                    Language (formerly EAS 2004Y
                    Introduction to Sanskrit)
EAS 1501H   Intermediate Sanskrit Texts

EAS 1999Y   Seminar in East Asian Studies in
                    Bibliography, Reference and Research
                    Methodology
EAS 2003Y   Advanced Sanskrit Texts I
EAS 2006H,Y Advanced Sanskrit Texts II
EAS 2007H   Advanced Sanskrit Texts I

Ethnic and Pluralism Studies (Collaborative Program)
JTH 3000H   Coordinating Seminar in Ethnic and
                    Pluralism Studies

History
HIS 1000H   Historiography
HIS 1006H   Historiography "From Below": Critical and
                    Comparative Perspectives
HIS 1201H   The Materials of Medieval History
HIS 1204H   The Life and Writings of Thomas Aquinas
HIS 1206H   Popular Religion in the Middle Ages
HIS 1207H   Pastoralia: The Medieval Literature of
                    Pastoral Care
HIS 1208H   Writings of Robert Grosseteste
HIS 1211Y   History and Historiography in the Golden
                    Legend
HIS 1213H   Medieval Institutes of Perfection
HIS 1221H   Topics in Early Modern Social History
HIS 1222H   Ritual in Renaissance and Early Modern
                    Europe
HIS 1230H   The Sexes in the Western World,
                    1450-1650
HIS 1242H   Religion and Society in Europe, 1760-1914
HIS 1536H   Religion, Society, and Politics in
                    Eighteenth- and Nineteenth-Century
                    America
HIS 1537H   Society, Culture and Politics in the Early
                    United States, 1780-1850
HIS 1674Y   Japanese Political Thought, 1868-Present
JHA 1690Y   Nationalism in India—Before and After
                    Independence
HIS1709H   Conversion and Christianities in the Early
                    Modern Spanish World

Italian Studies
ITA 1545H   The Sacra Rappresentazione

Law
Participation in LAW courses is at the discretion of the Faculty of Law upon presentation, to the Faculty of Law Records Office, of a signed permission form from the student's home department Note that preference is given to JD students and that many law courses are full by the end of the Faculty of Law add/drop period.

LAW497H   Law, Religion and Public Discourse

Medieval Studies
MST 1210H   Judeo-Christian Koine Greek
MST 1212H   The Apocryphal Bible
MST 3010H   Augustine of Hippo
MST 3205H   Violence in Medieval Society
MST 3210H   Medieval Spain, 1000-1300
MST 3261H   Cluny in the Central Middle Ages
MST 3265H   Hagiographies and Methodologies

MST 3401H   Introduction to Medieval Christianity
MST 3405H   Early Christian Monasticism
MST 3415H   John Cassian and Early Monasticism in
                    Gaul
MST 3425H   Eastern Christianity 325-1453CE

Near and Middle Eastern Civilizations
NMC 1305H   Early Hebrew Epigraphy
NMC 1311Y   Post-Biblical Hebrew: Mishnah and
                    Midrashim
NMC 1324Y   Hebrew Legal Codes, Medieval and
                    Modern
NMC 2050Y   Islamic Theology and Philosophy
NMC 2053H   Islam in Cross-Cultural Contact:
                    Interreligious and Intercultural Encounters
NMC 2055H   The Qur'an and Its Interpretation
NMC 2056H   Reading in Qur'an and Tafsir
NMC 2090Y   Islamic History to the Fall of Baghdad
NMC 2112Y   Medieval Islamic Institutions
NMC 2119Y   Readings in Medieval Arabic Historical and
                    Documentary Sources
NMC 2131H   Ethics and Education in Medieval Arabic
                    Texts
NMC 2132Y   Hadith: Classical Religious Literature in
                    Islam
NMC 2133H   Medieval Arabic Sources on Islamic
                    Thought
NMC 2170H   Topics in Modern Arab History I
NMC 2221Y   Medieval Persian Ethical and Advice
                    Literature
NMC 2222Y   Persian Mystical Poetry

Philosophy
PHL 2015H   Confucianism
PHL 2016H   Taoism: Philosophy and Religion
PHL 2017H   Buddhism in China
PHL 2020H   Augustine
PHL 2030H   Aquinas
PHL 2032H   Seminar in Aquinas
PHL 2090H   Hermeneutics
PHL 2099H   Bernard Lonergan
PHL 2119H   Philosophical Foundations of
                    Multidisciplinary Studies
PHL 2140H   Feminist Philosophy
PHL 2144H   Seminar in Social Philosophy
PHL 2146H   Topics in Bioethics
JVP 2147H   Environmental Philosophy
PHL 2151H   Aesthetics
PHL 2181H   Philosophy of Religion

Sociology
SOC 6018H   Sociology of Religion I
SOC 6118H   Sociology of Religion II
SOC 6201H   Sociological Theory III—Theory and
                    Method in Historical Sociology

Graduate Faculty

Full Members
L Jane Abray - BA, MA, MPh, PhD
Phyllis Airhart - BA, MA, PhD
Joseph Bryant - BA, MA, PhD
Janice Boddy, BA, MA, PHD
Michael Cobb, BA, MA, AM, PHD
Isabelle Cochelin - BSc, BA, MA, DEA, PhD
Hilary Cunningham - BA, MA, PhD
Arti Dhand - BA, MA, PhD
James DiCenso - BA, MA, PhD
Terence Donaldson - BSc, MRel, ThM, ThD
Ann Dooley - BA, MA, PhD
Konrad Eisenbichler - BA, MA, PhD
Anver Emon - BA, JD, MA, LLM, PhD
Nicholas Everett, BA, MA, PHD
Mohammad Fadel, BA, JD, PHD
Harry Fox - BA, BSc, MA, MS, PhD
Paul Franks, AB, MA, PHD
Frances Garrett, BA, MA, PHD
Robert Gibbs - BA, MA, PhD
Gillian Gillison - BA, PhD
Joseph Goering - BA, MAR, MA, MSL, PhD
Willi Goetschel - LicPhil, PhD
Paul William Gooch - BA, MA, PhD
Kenneth Green - BA, MA, PhD
Amir Harrak - MA, PhD
Marsha Hewitt - BA, MA, MA, PhD
Chelvanayakam Kanaganayakam - BA, PhD
Malavika Kasturi, DPHIL
Mark Kingwell - BA, MLitt, PhD
Juri Kivimae, AM, PHD
Pamela Klassen - BA, MA, MPhil, PhD *(Director of
   Graduate Studies)*
John Kloppenborg - BA, MA, PhD *(Chair)*
Michael Lambek, BA, MA, PHD
Todd Lawson, BA, MA, PHD
John Magee, BA, MA, PHD
John Marshall, MA, PHD
Mark McGowan - BA, MA, PhD
Neil McMullin, BA, STB, MTH, PHD
Sarianna Metso, PHD
Mark Meyerson - BA, MA, PhD
Kenneth Mills - BA, MA, DPhil
Andrea Most, BA, MA, PHD
Amy Mullin - BA, PhD
Heather Murray - BA, MA, PhD
Hindy Najman - BA, MA, PhD
Judith Newman - AB, MAR, PhD
Linda Northrup - BA, MA, PhD
David Novak - AB, MHL, rabbinical diploma, PhD
James Reilly - BA, MA, PhD
Walid Saleh - BA, MA, PhD
Stella Sandahl - MA, DES, PhD
Lawrence Schmidt - BA, MA, PhD
Vincent Tsing-song Shen - BA, MA, PhD, Lee Chair
Robert Sinkewicz - BA, AM, MDiv, DPhil
Ingrid Stefanovic - BA, MA, PhD
Maria Subtelny - BA, PhD
Glen Taylor - BA, MTh, MPhil, PhD

Nicholas Terpstra - BA, MA, PhD
Leif Vaage - BA, MDiv, PhD
Shafique Virani, PHD

Members Emeriti
John Brownlee - BA, MA, MPh
William Callahan - AB, MA, PhD
Alan Davies - BA, BD, STM, PhD
C. Thomas McIntire, PHD
Graeme Nicholson, BA, BD, MA, PHD
Joseph O'Connell - BA, MA, PhD
Roger O'Toole, DIPED, BA, MA, PHD
G Peter Richardson - Bar, BD, PhD
Brian Stock - AB, PhD
Joseph Michael Vertin - BA, STB, STL, MA, PhD

Associate Members
Juhn Ahn - BA, MA, PhD
Andreas Bendlin, PHD
Christoph Emmrich - BA, MA, PhD
Yiftach Fehige, MA, PHD
Jennifer Harris - BA, MA, PhD
Abrahim Khan - BS, BD, MA, PhD
Reid Locklin - BA, MTS, PhD
Amira Mittermaier - MA, PhD
Enrico Raffaelli, PHD
Ajay Rao - BA, MA, MA, PhD
Stephen Scharper - BA, MA, PhD

Slavic Languages and Literatures   SLA

Faculty Affiliation
Arts and Science

Degree Programs Offered
Slavic Languages and Literatures – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Jewish Studies, see p. 460
   - Slavic Languages and Literatures, PhD

Overview
The Graduate Department of Slavic Languages and Literatures offers instruction leading to two degrees – **Master of Arts** and **Doctor of Philosophy** – in one of the broadest ranges of Slavic languages and literatures available in a North American university. The following subjects are offered as both major and minor fields: Croatian and Serbian Languages and Literatures, Czech and Slovak Languages and Literatures, Polish Language and Literature, Russian Language and Literature, Slavic Linguistics, and Ukrainian Language and Literature.

Contact and Address
Department of Slavic Languages and Literatures
Room 431, 121 St. Joseph Street
Alumni Hall
St. Michael's College
University of Toronto
Toronto, Ontario M5S 1J4
Canada

Web: www/utoronto.ca/slavic/
E-mail: slavic@chass.utoronto.ca
Telephone: (416) 926-2075
Fax: (416) 926-2076

Degree Programs

Master of Arts

Minimum Admission Requirements
- Undergraduate degree, equivalent to a four-year program (preferably in a cognate area) at the University of Toronto, with an overall standing equivalent to at least a mid-B in the final year.
- A minimum A- average in all third and fourth year Slavic subjects taken is recommended.

Program Requirements
- Proficiency in language of major must be demonstrated during first week of session. Undergraduate language courses may be required. These are not tabulated as part of graduate program course requirements.
- Students normally complete:
  o 4.0 full course equivalents (FCE) including SLA1104H and SLA1040H, OR
  o 3.0 FCE including SLA1104H and SLA1040H; plus a research paper written in English.
- All MA students are required to take SLA 1104H *Introduction to Old Church Slavonic* or present evidence to the Department that an equivalent course has been completed elsewhere.
- Students majoring in one of the Slavic languages and literatures must have acquired a working knowledge (equivalent to a first-year language course) of a second Slavic language (most often Russian) or have completed, by the end of their program, an approved undergraduate course in a Slavic language that is different than their major language of study. A final grade of B or better is required in all language courses.
- Students who intend to major or minor in Slavic linguistics must take SLA 1109H.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto master's degree, or its equivalent, with a minimum A- average in graduate courses and demonstrated research competence.

Program Requirements
Students are normally required to:
- Complete a major and a minor program.
- Complete 9.0 full course equivalents (FCE) with at least 0.5 FCE in Slavic linguistics. Advanced standing to a maximum of 3.0 FCE may be available for work completed in the MA.
- Minor programs should include 2.0 FCE from any one of Croatian and Serbian Languages and Literatures, Czech and Slovak Languages and Literatures, Polish Language and Literature, Russian Language and Literature, Slavic Linguistics, and Ukrainian Language and Literature OR, with departmental approval, from a cognate discipline (e.g., Cinema Studies, Comparative Literature, Drama, History, Philosophy).
- Maintain a minimum annual average of A- to continue in the PhD program. Poor performance in one session (below a B average) may result in the termination of a student's PhD eligibility.
- Acquire a working knowledge of a Slavic language other than their major language of study OR complete at least two approved undergraduate courses in a Slavic language that is different than their major language of study. A working knowledge is defined as proficiency equivalent to a second year course. Students must also satisfy departmental requirements for their major language. Students who do

not major in Russian most often choose it as their second Slavic language.

- Demonstrate a reading knowledge of French or German.
- Pass written comprehensive examinations in the major field and written and oral comprehensive examinations in the special field. The major field exam cannot be taken if students have any outstanding course work.
- Dissertation.
- In years 1 and 2, students must take courses and be on campus full-time to participate fully in the PhD program's activities.
- Complete all program requirements, including the thesis, within five years of initial registration.

Slavic Linguistics Specific Program Requirements

Within the PhD program requirements listed above, students studying Slavic linguistics should include:

- at least 3.0 FCE in Slavic linguistics; as well as 2.0 FCE in theoretical linguistics from cognate disciplines, e.g., linguistics, anthropology. Linguistics students are also strongly advised to complete 1.0 FCE in the literature of their major language.
- Complete at least one course in Slavic languages from each of the three groups: West Slavic, East Slavic, and South Slavic by the end of their second year.

Courses

Not all courses are offered every year. Students should consult the departmental handbook for current course offerings.

Croatian and Serbian Literatures
SLA 1507H   Modern Croatian Bards in Performance
SLA 1517H   Modern Serbian Bards: the Orphic Tradition
SLA 1520Y   Bosnia in Literature and Culture: Between Croats and Serbs
SLA 1522Y   Eros, Trauma and the Dark Identity: Desexualizing the Modern Serbian Novel
SLA 1537H   Political Drama from Dubrovnik to Danube
SLA 1547H   South Slavic Folklore

Czech and Slovak Literature
SLA 1600Y   Introduction to Czech and Slovak Literatures
SLA 1601Y   Journeys and Home in Modern Czech Fiction
SLA 1602Y   Czech Style and Syntax
SLA 1603H   Lifting the Iron Curtain: Czech Culture of the Sixties in Context
SLA 1604Y   History of Czech Verbal Art from the Early Stages to Baroque
SLA 1605Y   Of Robots, Clowns and Poets: Modern Czech Drama and Theatre
SLA 1606H   Public Places and Private Spaces in Czech Short Story
SLA 1608H   On the Wave of the Avant-garde

COL 5039H   Of Laughter and Forgetting in Milan Kundera

Hungarian Literature
HUN 1440Y   The Modern Hungarian Novel
HUN 1450H   Hungarian Drama
HUN 1451H   Three Hungarian Film Directors

Polish Literature
SLA 1304H   Staging God, Man and History: Polish Drama
SLA 1305H   Polish Fiction or a Disrupted Funeral of the Novel
SLA 1306H   Polish Poetry: Shaping the National Canon
SLA 1308Y   Topics in Polish Literature
SLA 1312Y   Modernism and Post-Modernism in Polish Literature
SLA 1331H   Imagining "The Other" in Polish Literature and Culture

Russian Literature
SLA 1202H   Gulag Literature
SLA 1203H   The Self and Other in Russian Prose
SLA 1204H   Contemporary Russian Literature
SLA 1205H   Russian Literary Scandals
SLA 1207H   The Imaginary Jew
SLA 1210H   Studies in Medieval Russian Literature
SLA 1211Y   Studies in the Russian Drama: Eighteenth to Twentieth Century
SLA 1215H   Studies in Russian Literature and Criticism in the Eighteenth Century
SLA 1216H   From English to Russian Literature and Back
SLA 1220H   Nineteenth Century Russian Thinkers
SLA 1226H   Dostoevsky in Literary Theory and Criticism
SLA 1228H   Themes in Russian Realism
SLA 1231H   Twentieth Century Russian Prose I
SLA 1232H   Russian Symbolism
SLA 1233H   Studies in Modern Russian Poets
SLA 1234H   Dostoevsky
SLA 1235H   Pasternak
SLA 1236H   Pushkin
SLA 1237H   Twentieth Century Russian Prose II
SLA 1238H   Chekhov
SLA 1239H   Vladimir Nabokov's American Novels
SLA 1240H   Tolstoy
SLA 1411H   Experiments in Art in the Late Russian Empire—Early Soviet Union
SLA 1900H   Russian Nineteenth-Century Poetry (mandatory for MA students)

Slavic Linguistics
SLA 1040H   Methods of Teaching Slavic Languages
SLA 1101Y   History of the Russian Language
SLA 1102Y   Advanced Russian Language Skills
SLA 1103H   Comparative South Slavic Linguistics
SLA 1104H   Introduction to Old Church Slavonic
SLA 1105Y   Structure of Russian
SLA 1107H   Comparative West Slavic Linguistics
SLA 1108H   Slavic Dialectology
SLA 1109H   Studies in Old Church Slavonic

SLA 1110H   Comparative Historical Slavic Linguistics
SLA 1112H   Tense, Aspect and Mood in Slavic
SLA 1113H   Language Standardization and the Politics
                       of Identity in Southeastern Europe
SLA 1141H   History of the Ukrainian Language
SLA 1142H   Style and Structure of Ukrainian
SLA 1150H   Russian Since the Revolution
SLA 1161H   Areal Linguistics

Russian Language
SLA 1101Y   History of the Russian Language
SLA 1102Y   Advanced Russian Language Skills

Ukrainian Literature/Language
SLA 1141H   History of Ukrainian Language
SLA 1142H   Style and Structure of Ukrainian
SLA 1402Y   Studies in Ukrainian Modernism
SLA 1403Y   Studies in Contemporary Ukrainian
                       Literature
SLA 1404Y   Studies in Ukrainian Poets
SLA 1405Y   Experiments in Ukrainian Prose
SLA 1406Y   Studies in Ukrainian Literary Criticism
SLA 1407H   Aspects of Literary Translation of Ukrainian
SLA 1408H   Taras Shevchenko
SLA 1409H   Ukrainian Literature of the Seventeenth
                       and Eighteenth Centuries
SLA 1412Y   Literature of the Ukrainian Diaspora

General Slavic
SLA 1037H   Theatre and Cinema in Extremis: Staging
                       Twentieth Century Aesthetics and Politics
SLA 1038H   Performance in Theory and Practice
SLA 1039H   Kyiv-Kiev-Kijow: A City through Cultures
                       and Centuries
SLA 1040H   Methods of Teaching Slavic Languages
SLA 1207H   The Imaginary Jew
SLA 1310H   Theatre in the Twentieth Century
SLA 1421H   Women in East European Fiction
SLA 1521H   Post-Modernity and the Mythopoetic
                       Legacy of Mitteleuropa
SLA 2000Y   Reading and Research
SLA 2001H   One Term Reading and Research
SLA 2002Y   Reading and Research (for PhD students
                       only)
SLA 2020Y   Research Paper
COL 5012Y   Readings in Czech/Russian Literary Theory
COL 5037H   Magic Prague: Question of Literary
                       Cityscapes

Graduate Faculty

Full Members
Veronika Ambros - BA, MA, PhD
Christopher Barnes - BA, MA, PhD
Ralph Bogert - BA, MA, PhD
Taras Koznarsky - MA, PhD
Christina Kramer - BA, MA, PhD *(Chair)*
Leonid Livak
Donna Orwin - BA, MA, PhD
Joseph Schallert - BA, MA, MA, PhD
Maxim Tarnawsky - BA, MA, PhD
Tamara Trojanowska - BA, MA, PhD *(Coordinator of
  Graduate Studies)*
Borje Vahamaki - BA, MA, MA, PhLic, PhD, Docent

Members Emeriti
Charles Bedford - BA, MA, PhD
George Bisztray - PhD
Lubomir Dolezel - BA, MA, PhD, FRSC
Louis Iribarne - BA, MA, PhD
Kenneth Lantz - BA, MA, PhD
Ralph Lindheim - BA, MA
Nicolae Pavliuc - BA, MA, PhD
Constantin Ponomareff - BA, MA, PhD
Roger Thomson - BA, MA, DPhil

Associate Members
Julia Mikhailova
Thomas Allan Smith

Social Work SWK

Faculty Affiliation

Social Work

Degree Programs Offered

Social Work
MSW
Combined JD/MSW in Law and Social Work
Combined MHSc/MSW in Health Administration and Social Work
PhD

Diploma Programs Offered

Social Work - Advanced Diploma in Social Service Administration ***(pending approval)***

Collaborative Programs Offered

Social Work students can apply to the following collaborative programs. For complete details, see separate entries within the Collaborative Program section of this calendar.

1. Addiction Studies, see p. 406
    - Social Work, MSW, PhD
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
    - Social Work, MSW, JD/MSW, MHSc/MSW, PhD
3. Asia Pacific Studies, see p. 413
    - Social Work, MSW
4. Bioethics, see p. 416
    - Social Work, MSW, PhD
5. Community Development, see p. 428
    - Social Work, MSW
6. Ethnic and Pluralism Studies, see p. 445
    - Social Work, MSW, PhD
7. Health Care, Technology and Place, see p. 454
    - Social Work, PhD
8. Health Services and Policy Research, see p. 456
    - Social Work, MSW, PhD
9. Sexual Diversity Studies, see p. 469
    - Social Work, MSW, PhD
10. Women and Gender Studies, see p. 473
    - Social Work, MSW, JD/MSW, MHSc/MSW, PhD

Overview

As the oldest school of social work in Canada, the Factor-Inwentash Faculty of Social Work at the University of Toronto has been on the cutting edge of education, policy, research and practice in social work for more than 90 years. The Faculty offers a professional/academic program of study leading to a **Master of Social Work** (MSW), a post-master's **Advanced Diploma in Social Service Administration** and a **Doctor of Philosophy** (PhD) degree.

The **MSW** Program is distinguished by the integration of research and practice in both the classroom and its practicum education. The program offers five areas of specialization: 1) children and their families; 2) mental health and health; 3) diversity and social justice; 4) gerontology; and 5) social service administration. It is fully accredited by the Canadian Association of Social Work Education.

The **Advanced Diploma in Social Service Administration** program provides a rigorous, comprehensive grounding in the key values, skills, and knowledge required by administrators and leaders of social service organizations. The Diploma Program is pending final approval.

The **PhD** Program has a tradition of scholarly excellence based on the quality of the research knowledge, competence, and output of its faculty. Doctoral graduates are practice leaders and faculty members throughout the world.

Contact and Address

Web: www.socialwork.utoronto.ca
E-mail: admissions.fsw@utoronto.ca
Telephone: (416) 978-6314
Fax: (416) 978-7072

Factor-Inwentash Faculty of Social Work
246 Bloor Street West
University of Toronto
Toronto, Ontario M5S 1A1
Canada

Degree Programs

Master of Social Work

The Factor-Inwentash Faculty of Social Work offers two streams in the Master of Social Work Program:

1. Students with a four-year bachelor's degree from a recognized university will normally complete the program in two years of full-time study.
2. Students entering with a B.S.W. degree from a recognized university will be given advanced standing and will normally complete the program in one year of full-time study or two years of part-time study.

All students are expected to graduate with an advanced level of knowledge and professional competence in a chosen area of social work practice.

Minimum Admission Requirements

- Applicants with a four-year University of Toronto bachelor's degree with a minimum mid-B average in the final year of full-time study, or its equivalent from a recognized university are admitted to a two-year MSW program. Applicants who hold a BSW degree with mid-B average in the final year of full-time study, or its equivalent from a recognized university may be eligible for the M.S.W. Program with Advanced Standing.

- Students applying to the Social Service Administration specialization must have at least 5 years experience in social services.
- Course work should have included 3.0 full-course equivalents (FCE) in Social Science courses, including 0.5 FCE in research methodology. A mid-B is strongly recommended in the research methodology course.
- Experience and knowledge in social services and critical social issues, as well as suitability is considered.
- Proof of English Facility (see SGS General Regulations).
- Advanced Standing applicants must also choose an area of specialization.

Due to space limitations, applicants holding the minimum admission requirements are not guaranteed admission. The Faculty reserves the right to admit qualified applicants to the program. All admission decisions are final.

Program Requirements

MSW Two-Year Program

Within the **two-year full-time program**, except for the Gerontology Specialization (see below), students are required to:
- Complete 8.5 full-course equivalents (FCE) including 7.5 required FCE and 1.0 elective FCE
- **Thesis option**: (for students enrolled in Children and their Families, Diversity and Social Justice, and Mental Health and Health Specializations) complete 8.0 FCE plus thesis (1.0 FCE) and a 0.5 FCE research methods course (SWK 6307H or SWK 6308H). Students who have a minimum of two years of prior full-time social work experience are eligible to apply for substitution of two elective 0.5 FCE in place of the full-credit SWK4702Y. Workplace supervision must have occurred with a MSW supervisor. Requests for substitution must be reviewed and approved by the Faculty-Assessment Committee. The thesis option is available to a limited number of students, whose proposed research must be approved by the Associate Dean and a review panel. Students who choose the thesis option may require additional time to complete the program.
- Satisfy SGS residency and full-time student requirements. All MSW degrees must be completed within four years from the date of first registration in the program.

Within the two-year full-time program, **Gerontology Specialization**, students are required to:
- Complete 9.0 FCE, including 8.0 required FCE required and 1.0 elective FCE. All students enrolled in the Social Work and Gerontology specialization will automatically be enrolled in the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course.

- **Thesis option:** students enrolled in the Gerontology specialization complete 8.0 FCE, plus the thesis (1.0 FCE).

Courses

Year One
SWK 4102H   Social Policy and Social Welfare in the Canadian Context
SWK 4103H   Elements of Social Work Practice
SWK 4105H   Social Work Practice Laboratory
SWK 4107H   Foundations of Social Work: Knowledge, Theory and Values that Inform Practice
SWK 4510H   Research for Evidence-Based Social Work Practice (SWK 4510H is a prerequisite for all second year required courses.)
SWK 4602H   Social Work Practice with Groups
SWK 4605H   Social Work Practice with Individuals and Families
SWK 4654H   Social Work Practice in Organizations and Communities
SWK 4701H   Social Work Practicum I (SWK 4103H and SWK 4105H are prerequisites)

Year Two
Students choose one of the following five specializations:

Specialization: Children and their Families
SWK 4514H   Research for Practice with Children and their Families
SWK 4608H   Social Work Practice with Families
SWK 4620H   Social Work Practice with Children and Adolescents
SWK 4625H   Contemporary Issues in Working with Children and their Families
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE

Specialization: Diversity and Social Justice
SWK 4304H   Globalization and Trans-nationalization: Social Work Responses Locally and Globally
SWK 4306H   Process of Social Exclusion, Marginalization, and Resistance
SWK 4512H   Creating Knowledge to Inform Critical Practice
SWK 4606H   Diversity, Access, and Equity in Social Work Practice
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE

Specialization: Mental Health and Health
SWK 4412H   The Context of Mental Health and Health Practice
SWK 4511H   Practice-Based Research in Mental Health and Health
SWK 4702Y   Social Work Practicum II (full-credit)
Plus students can then elect to take one of three choices:

- SWK 4622H Social Work Practice in Health followed by SWK 4604H Social Work Practice in Mental Health
- SWK 4622H Social Work Practice in Health followed by SWK 4632H Advanced Social Work Practice in Health (Prerequisite: SWK 4622H)
- SWK 4604H Social Work Practice in Mental Health followed by SWK4631H Advanced Social Work Practice in Mental Health (Prerequisite: SWK 4604H)

Specialization: Social Service Administration
(commences September 2009 pending approval)
SWK 4425H   Leadership Skills in Social Service Organizations
SWK 4426H   Financial Management of Social Service Organizations
SWK 4427H   Human Resource Management in Social Service Organizations
SWK 4515H   Research and Quality Improvement in Human Service Organizations
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE

Specialization: Social Work in Gerontology
AGE 2000H   Principles of Aging
SWK 4513H   Knowledge Building in Social Work
SWK 4612Y   Social Work and Aging: Integrated Policy and Practice (full-credit)
SWK 4618H   Special Issues in Gerontological Social Work
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE

MSW Program with Advanced Standing
Within the **MSW program with advanced standing**, except for the Gerontology Specialization (see below), students normally will:
- Complete a total of 4.5 full-course equivalents (FCE), including 2.5 required FCE and 1.0 elective FCE.
- Participate in a practicum equivalent to 1.0 FCE.
- Complete program requirements as full-time students (three academic sessions) or part-time students (normally within six academic sessions). Part-time students are required to complete the same number of credits as full-time students, although the structure and sequencing of their individual programs of study may vary.

- **Thesis option:** Students enrolled in Children and their Families, Diversity and Social Justice, and Mental Health and Health specializations complete a total of 5.0 FCE, including 3.5 required FCE plus thesis (1.0 FCE) plus 0.5 FCE research methods course (SWK 6307H or SWK 6308H).
- Students who have a minimum of two years of prior full-time social work experience are eligible to apply for substitution of two elective 0.5 FCE in place of the 1.0 FCE SWK4702Y. Workplace supervision must have taken place with a MSW supervisor. Requests

for substitution must be reviewed and approved by the Faculty-Assessment Committee. The thesis option is available to a limited number of students, whose proposed research must be approved by the Associate Dean and a review panel. Students who choose the thesis option may require additional time to complete the program.

Within the **MSW program with advanced standing**, **Gerontology Specialization**, students normally will:
- Complete 5.0 FCE. All students enrolled in the Social Work and Gerontology specialization will automatically be enrolled in the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course.
- **Thesis option:** students enrolled in the Gerontology specialization complete 4.0 FCE, plus the thesis (1.0 FCE).

Courses
Students complete one of the following five specializations:

Specialization: Children and their Families
SWK 4510H   Research for Evidence-Based Social Work Practice (SWK 4510H is a prerequisite for all second year required courses)
SWK 4514H   Research for Practice with Children and their Families
SWK 4608H   Social Work Practice with Families
SWK 4620H   Social Work Practice with Children and Adolescents
SWK 4625H   Contemporary Issues in Working with Children and their Families
SWK 4702Y Social Work Practicum II (full-credit)
1.0 elective FCE

Specialization: Diversity and Social Justice
SWK 4304H   Globalization and Trans-nationalization: Social Work Responses Locally and Globally
SWK 4306H   Process of Social Exclusion, Marginalization, and Resistance
SWK 4510H   Research for Evidence-Based Social Work Practice (SWK 4510H is a prerequisite for all second year required courses)
SWK 4512H   Creating Knowledge to inform Critical Practice
SWK 4606H   Diversity, Access, and Equity in Social Work Practice
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE

Specialization: Mental Health and Health
SWK 4412H   The Context of Mental Health and Health Practice
SWK 4510H   Research for Evidence-Based Social Work Practice (SWK 4510H is a prerequisite for all second year required courses)

SWK 4511H   Practice-Based Research in Mental Health and Health
SWK 4702Y Social Work Practicum II (full-credit)
1.0 elective FCE
Plus students can then elect to take one of three choices:
- SWK 4622H Social Work Practice in Health and SWK 4604H Social Work Practice in Mental Health
- SWK 4622H Social Work Practice in Health followed by SWK 4632H Advanced Social Work Practice in Health (Prerequisite: SWK 4622H)
- SWK 4604H Social Work Practice in Mental Health followed by SWK4631H Advanced Social Work Practice in Mental Health (Prerequisite: SWK 4604H)

Specialization: Social Service Administration
(pending approval)
SWK 4425H   Leadership Skills in Social Service Organizations
SWK 4426H   Financial Management of Social Service Organizations
SWK 4427H   Human Resource Management in Social Service Organizations
SWK 4515H   Research and Quality Improvement in Human Service Organizations
SWK 4102H   Social Policy and Social Welfare in the Canadian Context
SWK 4510H   Research for Evidence-Based Social Work Practice
SWK 4702Y   Social Work Practicum II (full-credit)
0.5 elective FCE

Specialization: Social Work in Gerontology
AGE 2000H   Principles of Aging
SWK 4510H   Research for Evidence-Based Social Work Practice (SWK 4510H   is a prerequisite for all second year required courses)
SWK 4513H   Knowledge Building in Social Work
SWK 4612Y   Social Work and Aging: Integrated Policy and Practice (full-credit)
SWK 4618H   Special Issues in Gerontological Social Work
SWK 4702Y   Social Work Practicum II (full-credit)
1.0 elective FCE, of which 0.5 FCE must be from the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course listing.

Elective Courses
    Courses are offered in various areas of social work practice. The choice of electives in any given year is contingent on available faculty resources. Not every course is given in any one year. Please consult the Faculty Web site www.socialwork.utoronto.ca.

AGE 2000H Principles of Aging
JPX 1001H   Parenting: Multidisciplinary Perspectives
JFS 1460H   Community-Based Natural Resource Management
JPW 2118H   Philosophical Foundations of Women's Studies
JTH 3000H   Coordinating Seminar in Ethnic and Pluralism Studies

PAS 3700H   Multidisciplinary Aspects of Addiction Studies
SWK 4210H   Promoting Empowerment: Working at the Margins
SWK 4403H   Women and Social Policy in Canada
SWK 4417H   Adolescence: Social Work Challenges and the Role of Social Work
SWK 4418H   Introduction to Jewish Perspectives on Caring
SWK 4420H   Human Rights and Social Justice
SWK 4422H   Social Housing and Homelessness
SWK 4506H   Applied Quantitative Data Analysis
SWK 4603H   Advanced Social Work Practice with Groups (Prerequisite: SWK 4602H or equivalent)
SWK 4609H   Sexuality, Sexual Diversity and Social Work Practice
SWK 4610H   Advanced Social Work Practice with Couples
SWK 4613H   Social Work Practice with the Aged
SWK 4616H   Drug Dependencies: Interventive Approaches
SWK 4617H   Cross-Cultural Social Work Practice
SWK 4619H   Family Mediation: Theory and Practice
SWK 4621H   Integrative Child and Adolescent Therapy: Theory and Practice
SWK 4623H   Violence in Families: Multilevel Intervention in Interdisciplinary Practice
SWK 4624H   Feminist Social Work Practice
SWK 4630H   Intersecting Narratives: Self, Culture, Institutions
SWK 4658H   Social Work with Immigrants and Refugees
SWK 4662H   Social Policy Analysis
SWK 4664H   Administrative/Managerial Practice in Social Work
SWK 4667H   Information Technology in Professional Social Work Practice
SWK 4668H   Welfare of Children: Policy and Practice

Special Studies
    Special Studies courses are designed to provide seminars or tutorials under the direction of a faculty member. The focus is on a topic of particular interest to the student which is not included in available courses.

SWK 4801H   Special Studies I
SWK 4802H   Special Studies II
SWK 4803H   Special Studies III
SWK 4804H   Special Studies IV

Combined JD/MSW in Law and Social Work

Minimum Admission Requirements
- Applicants must satisfy the admission requirements of both the Juris Doctor and Master of Social Work programs independently.

Program Requirements
- Program requirements will normally be satisfied within four years. Advanced Standing for students with a BSW from a recognized university is possible.

Combined MHSc/MSW in Health Administration and Social Work

Minimum Admission Requirements
- Students must satisfy the admission requirements for both the Master of Health Science and Master of Social Work programs independently.

Program Requirements
- Program requirements will normally be satisfied within three years. Advanced Standing for students with a BSW from a recognized university is possible.

Doctor of Philosophy

Minimum Admission Requirements
- Master of Social Work degree or an equivalent master's degree with at least B+ standing from an accredited program in a recognized university;
- competency in basic statistical methods at an introductory level;
- educational and professional experience that will indicate a capacity to undertake research-oriented postgraduate work;
- evidence of facility in the English language (See SGS General Regulations).

Program Requirements

Full-time Option
- Satisfy program requirements within six years of initial registration, including completing at least 5.0 full-course equivalents (FCE) generally within two years of registration.
- Complete the following required research FCE (each is equivalent to 0.5 FCE): SWK 6301H, SWK 6302H, SWK 6307H, SWK 6308H. Students may be exempt from these research courses but will substitute alternate elective courses for each exempted course. SWK4506H (0.5 FCE) is a prerequisite for SWK6301H or an equivalent competency exam must be passed by all incoming students with a grade of a least B+.
- 2.5 graduate level elective FCE, including at least one 0.5 FCE from Social Work and at least 0.5 FCE

from another graduate unit and with the approval of the PhD Director.
- SWK 7000H Doctoral Thesis Seminar (0.5 FCE) is required during the fall session of the second year of the program.
- Following completion of course work, students are required to satisfactorily complete a comprehensive paper followed by a thesis proposal and thesis which constitutes a distinct contribution to knowledge in the field of social work and finally, an oral thesis defence.
- Students are expected to complete their course work, Comprehensive Paper, and have their thesis proposal approved by the end of August of the third year of the program. The research, writing, and oral examination of the thesis are typically completed by the end of the fifth year of the program.
- Students must have an adequate knowledge of a language other than English if an additional language is deemed essential for satisfactory completion of research for the thesis. The Faculty is responsible for ensuring that an acceptable certificate of language competence is deposited with the School of Graduate Studies.

Flexible-time Option
- The flexible-time PhD differs only in design and delivery. All requirements are the same as those for the full-time PhD students.
- The flexible-time option is offered to practicing professionals who can demonstrate their employment or other professional work is related to their intended field of study and research interests. Students who are considering the flexible-time PhD should ensure that they will have adequate time on campus to attend classes and to fulfil the academic requirements of a PhD program.

Courses

SWK4506H	Applied Quantitative Data Analysis
SWK 6005H	Theoretical Foundations of Social Work
SWK 6006H	Theory and Practice of Teaching Social Work
SWK 6101H	Critical Evaluation of Social Work Practice Theories
SWK 6106H	Family Mediation: Research and Practice
SWK 6203H	Comparative Social Welfare Systems
SWK 6205H	Social Planning in Social Welfare
SWK 6208H	Advanced Principles of Social Policy Analysis
SWK 6301H	Intermediate Statistics and Data Analysis (Prerequisite: SWK 4506H or pass a competency exam)
SWK 6302H	Epistemology and Social Work Research
SWK 6307H	Designing and Implementing Qualitative Social Work Research
SWK 6308H	Designing and Implementing Quantitative Social Work Research
SWK 6401H	Sociocultural Issues in Social Work
SWK 6406H	Housing Theory and Research Methods
SWK 7000H	Doctoral Thesis Seminar (Credit/No Credit)

These courses are designed to provide seminars or tutorials according to the particular interests of students enrolled:
SWK 6501H,Y Special Studies 1
SWK 6502H,Y Special Studies 2
SWK 6503H,Y Special Studies 3
SWK 6504H,Y Special Studies 4

Diploma Programs

Advanced Diploma in Social Service Administration *(pending approval)*

The goal of this program is to provide a rigorous, comprehensive grounding in the key values, skills and knowledge required by administrators, managers and leaders of social service organizations. The diploma program is designed for students who are working full-time.

Admission Requirements
- Applicants follow admission requirements stipulated by the School of Graduate Studies at the University and by the Factor-Inwentash Faculty of Social Work. Applicants must have a MSW or master's degree in a related social service field and have at least five years experience in social services.

Program Requirements
- 3.0 full-course equivalents (FCE) offered in modular format one full day per month.
- Diploma requirements can be completed in one year (3 academic sessions) or on a part-time basis normally within two years (6 academic sessions). All students must complete the Diploma Program within a maximum five-year period.

Courses
SWK 4425H   Leadership Skills in Social Service Organizations
SWK 4426H   Financial Management of Social Service Organizations
SWK 4427H   Human Resource Management in Social Service Organizations
SWK 4515H   Research and Quality Improvement in Human Service Organizations
1.0 elective FCE given in conjunction with the M.S.W. curriculum
or
0.5 elective FCE and a major paper addressing a funding, management, or structural challenge in a social service agency.

Graduate Faculty

Full Members
Ramona Alaggia - BA, MSW, PHD *(Associate Dean, Academic)*
Marion Bogo - BA, MSW, DASW, CSW
Adrienne Chambon - BA, MA, BSW, PhD *(Director, PhD Program)*
Anver Emon - BA, JD MA, LLM, PhD
Esme Fuller-Thomson - BA, BSW, MSW, PhD
Judith Globerman - BSW, MHSc, MSc, PhD, CSW
J David Hulchanski - BA, MSc(Pl), PhD, MCIP, Chow Yei Ching Social Work Chair in Housing
Ernie Lightman - BA, MA, PhD
Robert MacFadden - BA, MSW, PhD, CSW
Lynn McDonald - BA, MSW, PhD
Faye Mishna - MSW, PhD, CSW *(Associate Dean, Research)*
Sheila Neysmith - BSc, MSW, DSW
Cheryl Regehr - BA, MSW, PhD, Sandra Rotman Chair in Social Work *(Dean)*
Wes Shera - BA, MA, PhD
Susan Stern - BA, MSW, PhD
Nicolas Trocme - BA, MSW, PhD
Ka Tat Tsang - BSocSc, MSocSc, PhD

Members Emeriti
Donald Bellamy - MSW, DSW
Margot Breton - BA, MSW
Ralph Garber - BA, MSW, DSW
Usha George - BEd, BSc, MA, MA, PhD, Royal Bank Chair in Applied Social Work Research
Howard Irving - BS, MSW, PhD
Norma Lang - MSW, PhD
Elsa Marziali - BA, MSW, PhD, Schipper Chair in Gerontological Social Work
Donald Meeks - MSW, PhD
Sidney Olyan - MSW, PhD
Benjamin Schlesinger - MSW, PhD
Ben Shapiro - MSW, PhD
Francis Turner - DSW, CSW
Lilian Wells - BA, BSW, MSW, DASW, CSW

Associate Members
Uzo Anucha - PhD, MSW, BSW
Rachel Birnbaum - BA, BSW, MSW, PhD
Christine (Cindy) Blakely - BA,MSW
David Brennan - BA, MSW, PhD
Shari Brotman - BA, MS, PhD
Lea Caragata - BA, MA, PHD
James Cullen - BA, BSW, MSW, PhD
Margaret Denton - PhD, MA, BA (Hons)
Peter Donahue - BSC, BA, MSW, PHD
Barbara Fallon - PHD, MSW, BA
Sheila Faucher - BA, MSW, PhD
Les Fleischer - BA, MSW, DSW
Robert Flynn - BA,Bth, MA, PhD
B. Michael Frolic - BA, PHD
Tahany Gadalla - BSc, MSc, EdD
Nora Gold - BA, MSW, PhD

Deborah Goodman - BA, MSW, DSW
Marilyn Herie - BA, MSW, PHD
Paul Heung - BA, MA
Abel Ickowicz - FRCP, MD
Joel Jeffries - MA, MB, BCH, BAO, FRCPC, MRC PSY
John Langley - MD, LMCC
Vicki LeBlanc - PhD, MSc, BPs
Eunjung Lee - BSW, MSW, PhD
Deborah Levine
Becky Liddle - PHD, MED
Juliene Lipson - BS, MS, PHD
Andrea Litvack - BSW, MSW, CSW
Harriet MacMillan - MD, FRCP, MS
Sarah Maiter - BA, MSW, PHD
Susan McGrath - BA, MES, PHD
Ted Mcneill - BA, MSW, PHD
Nick Mule - PHD, MSW, BA
Barbara Muskat - BSW, MSW, PhD
Ted Myers - BA, MSc, MSW, PhD
Peter Newman - BA, MSW, PHD
David Nicholas - BSW, MSW, PhD
Debra Pepler - BA, BEd MSc, PhD
Svetlana Popova - MD, MPH, PhD
Roxanne Power - BA, BSW, MSW
Paula Ravitz - BA, MD
Susan Reid - BASc, MA, PhD
Kenn Richard - BSW, MSW
Izumi Sakamoto - BA, MA, MSW, MS, PhD
Aron Shlonsky - BA, MSW, MPH, PhD, Director, Bell
 Canada Child Welfare Centre
Kelsey Simons - BA, MSW, PhD
Christina Sinding - MA, PhD
Wayne Skinner - BA, MSW
Malcolm Stewart - BA, MSW, PhD
Kevin Stoddart - BA, MSW, PhD
Karen Swift - BA, MSW, PHD
Cynthia Wesley-Esquimaux - BA, MA, PhD
Charmaine Williams - BSc, BA, MSW, PhD

Sociology   SOC

Faculty Affiliation
Arts and Science

Degree Programs Offered
Sociology – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Addiction Studies, see p. 406
   - Sociology, MA, PhD
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Sociology, MA, PhD
3. Asia-Pacific Studies, see p. 413
   - Sociology, MA
4. Environmental Studies, see p. 443
   - Sociology, MA, PhD
5. Ethnic and Pluralism Studies, see p. 445
   - Sociology, MA, PhD
6. International Relations, see p. 458
   - Sociology, MA
7. Jewish Studies, see p. 460
   - Sociology, PhD
8. Knowledge Media Design, see p. 462
   - Sociology, MA, PhD
9. Women and Gender Studies, see p. 473
   - Sociology, MA, PhD

Overview
The **Master of Arts** program helps students develop their theoretical perspectives and research skills. It provides solid basic training in honing research skills for the public and private sectors. It also provides a strong foundation in sociological training for those who plan to pursue a doctoral degree in sociology. Students can choose to take the program on a part-time or full-time basis.

The **Doctor of Philosophy** program prepares students for careers in teaching and research. The program trains students to conduct theoretically informed and methodologically sophisticated state-of-the-art sociological research. Graduates will be able to conduct independent research and to communicate their research in a variety of contexts. Therefore, the program is designed to provide both a broad knowledge of the discipline and training in basic research. Students are expected to acquire autonomy in conducting research, preparing scholarly publications, and participating in professional conferences. These objectives are achieved through a combination of course work, participation in seminars, preparation of comprehensive examinations, paid work as research and teaching assistants, preparing papers for conference presentation, and supervised dissertation research

Contact and Address
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Department of Sociology
University of Toronto
725 Spadina Avenue
Toronto, Ontario M5S 2JH
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Four-year BA or its equivalent with 5.0 full-course equivalents (FCE) in Sociology, with an overall B+ average in each of the last two years of post-secondary education. Those with excellent grades but whose preparation is insufficient will be required to take additional courses.
- Applicants are also expected to have acquired basic research and statistical skills.
- Admission decisions are based on grades and indications of superior qualifications such as letters of recommendation and a sample of the applicant's work.
- In addition to the School of Graduate Studies' on-line application, applicants must submit:
   o Two letters of reference from instructors or research supervisors;
   o A paper, including summary, which the student feels represents his or her best work;
   o A one-page typed statement of interest indicating research interests and reasons for applying to study Sociology at the University of Toronto.
- Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English must demonstrate facility in the English language through the successful completion of the Test of English as a Foreign Language (TOEFL) with scores of at least:
   o Paper-based TOEFL exam: 580 with 5 on the Test of Written English
   o Computer-based TOEFL exam: 237 with 5 on the essay rating component
   o Internet-based TOEFL exam: 93/120 with 22/30 on the writing and speaking sections.

Program Requirements
- Students have the option of completing the master's degree in one of two ways:
   o 8 half-courses within 9 months (the preferred option for those proceeding to the PhD) or
   o 6 half-courses and a research paper within 12 months.

- All master's students must take: SOC 6001H *Classical Sociological Theory*, SOC 6302H *Statistics for Sociologists*, SOC 6712H *Qualitative Methods I*.
- The choice of courses in all programs must be approved by the Department. Students must maintain a B average to be recommended for the MA degree.
- The MA degree may be pursued on a full-time or part-time basis. Part-time students must complete the course requirements within five years from date of entry.

Doctor of Philosophy

Minimum Admission Requirements
- The normal requirement is completion of the MA or its equivalent, with at least an A- standing. All students must demonstrate that their MA, or equivalent, includes course work equivalent to Classical Social Theory, Social Statistics, and Qualitative Methods I. Some students may be required to take prescribed additional courses.
- The Department may recommend admission directly after completion of a four year BA degree. Direct entry of this kind will only be recommended for outstanding students who have provided a clear and detailed plan for thesis research.
- Admission decisions are based on grades and indications of superior qualifications such as letters of recommendation and a sample of the applicant's work.
- In addition to the School of Graduate's on-line application form, applicants must submit:
  - o Two letters of reference from instructors or research supervisors;
  - o A paper, including summary, which the student feels represents his or her best work;
- A one-page typed statement of interest indicating research interests and reasons for applying Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English must demonstrate facility in the English language through the successful completion of the Test of English as a Foreign Language (TOEFL) with scores of at least:
  - o Paper-based TOEFL exam: 580 with 5 on the Test of Written English
  - o Computer-based TOEFL exam: 237 with 5 on the essay rating component
  - o Internet-based TOEFL exam: 93/120 with 22/30 on the writing and speaking sections.
  - o to study Sociology at the University of Toronto.

Program Requirements
- Four full-course equivalents. These must include: SOC 6101H Contemporary Sociological Theory, SOC 6707H Intermediate Data Analysis, SOC 6711Y Research Practicum. If a student has already taken these courses at the graduate level, other courses will be substituted to maintain the four FCE total.

- An average of at least B+ is required in order to be eligible to continue in the following year of any program. Failure in any course (that is, less than a B-) will require a review of the student's total program by the Department.
- Two comprehensive examinations which must be completed by the end of the second year of residence.
- Preparation of an original thesis, under the supervision of a committee of the faculty staff, and its oral defense.
- Candidates must have an adequate knowledge of a language other than English if an additional language is deemed essential for satisfactory completion of research for the thesis.
- Students who enter the doctoral program directly from a four-year BA will be required to take the three half-courses that are required at the MA level in addition to the standard PhD requirements.
- Two years of residence.

Courses
For details on course offerings check with departmental Graduate Office.

Theory and Methods of Sociology—Core Courses
SOC 6001H   Sociological Theory I
SOC 6101H   Sociological Theory II
SOC 6201H   Sociological Theory III
SOC 6301H   Survey Methods
SOC 6302H   Statistics for Sociologists
SOC 6303H   Field Methods
SOC 6501H   Research Design and Hypothesis Testing in Sociology
SOC 6502H   The Sociology Curriculum
SOC 6707H   Intermediate Data Analysis
SOC 6708H   Advanced Data Analysis
SOC 6710H   The Logic of Social Inquiry
SOC 6711Y   Research Practicum
SOC 6712H   Qualitative Methods I
SOC 6713H   Qualitative Methods II
SOC 6714H   Historical Methods Using Census Data
SOC 6715H   Historical Sociology
SOC 6716H   Survey Methods II—Longitudinal Surveys

Areas of Specialization

Immigration and Ethnicity
SOC 6002H   Immigration I
SOC 6003H   Immigration II
SOC 6009H   Ethnicity I
SOC 6109H   Ethnicity II

Health and Mental Health
SOC 6022H   Sociology of Health
SOC 6023H   Sociology of Mental Health I
SOC 6122H   Sociology of Mental Health II

SOC 6123H   Sociology of Addiction
SOC 6126H   The Social Ecology of Health

Networks and Community
SOC 6008H   Network Analysis I
SOC 6108H   Network Analysis II
SOC 6214H   Sociology of Urbanization
SOC 6314H   Community
SOC 6414H   Urban Organization

Crime and Socio-Legal Studies
CRI 3140H   Special Topics in Criminology
SOC6006H   Deviance I
SOC6106H   Deviance II
SOC 6206H   The Sociology of Deviance and Control
SOC 6506H   Design and Analysis of Research on
                       Deviance and Control

Gender and Family
SOC 6017H   Sociology of Families I
SOC 6117H   Sociology of Families II
SOC 6019H   Gender Relations I
SOC 6119H   Gender Relations II

Stratification, Work, and Labour Markets
SOC 6012H   Sociology of Work I
SOC 6112H   Sociology of Work II
SOC 6013H   Social Inequality I
SOC 6113H   Social Inequality II
SOC 6312H   Social Aspects of Technology and Work

Political Sociology
SOC 6005H   Social Change and Development I
SOC 6105H   Social Change and Development II
SOC 6010H   Political Sociology I
SOC 6110H   Political Sociology II
SOC 6014H   Environmental Sociology I
SOC 6114H   Environmental Sociology II
SOC 6125H   Theories of Social Change

Other Courses
SOC 6016H   Social Demography I
SOC 6116H   Social Demography II
SOC 6018H   Sociology of Religion I
SOC 6118H   Sociology of Religion II
SOC 6021Y   Sociology and the Policy Process in
                       Canada
SOC 6124H   The Life Course in Modern Society
SOC 6514H   Social Ecology
SOC 6516H   Sociology of Culture

Special Reading Courses
SOC 6015H   A reading course or individual research in
                       an approved field I
SOC 6115H   A reading course or individual research in
                       an approved field II

MA Research Paper
SOC 6215Y   M. A. Research Paper

Graduate Faculty

Full Members
Robert Andersen - BA, MA, PhD
Zaheer Baber - PhD
Bernd Baldus - MA, DrScPol
Dean Behrens - HBA, MS, PhD
Marion Blute - BA, MA, PhD
Michal Bodemann - MA, PhD
Monica Boyd - BA, MA, PhD, FRSC, Canada Research
  Chair
David Brownfield - PhD
Joseph Bryant - BA, MA, PhD
Robert Brym - BA, MA, PhD
Livianna Calzavara - BA, MA, PhD
Margrit Eichler - MA, LLD, PhD
Bonnie Erickson - BA, MA, PhD
Patricia Erickson - BA, MA, PhD
Eric Fong - BA, MA, PhD
Bonnie Fox - AB, PhD
Harriet Friedmann - AB, MA, PhD
Rosemary Gartner - BA, MS, PhD
Ronald Gillis - BA, MA, PhD
Kelly Hannah-Moffat - BA, MA, PhD
John Hannigan - BA, MA, PhD
Ping-Chun Hsiung - BA, MA, MA, PhD
Charles Jones - BA, MA, PhD
John Kervin - BA, PhD
Candace Kruttschnitt - BA, MA, MPhil, PhD
William Magee - BA, MS, PhD
Victor Marshall - BA, MA, PhD
John Myles - BA, BT, MA, PhD, FRCS, Canada Research
  Chair
Roger O'Toole - BA, PGCE, MA, PhD
Jeffrey Reitz - BS, PhD, FRSC, Robert F Harney
  Professor of Ethnic Immigration and Pluralism Studies
Richard Roman - BA, MA, PhD
Janet Salaff - BA, MA, PhD
Aysan Sev'er - BA, MA, PhD
Eric Single - BA, PhD
Ann Marie Sorenson - BA, MA, PhD
Julian Tanner - BSc, PGCE, MA, PhD
Judith Taylor - BA, PhD
Lorne Tepperman - BA, MA, PhD
Sheldon Ungar - BA, MA, PhD
Jack Veugelers - BA, MA, PhD
Barry Wellman - BA, MA, PhD
Sandy Welsh - BA, MA, PhD *(Associate Chair,*
  Graduate Studies)
Blair Wheaton - BA, MA, PhD *(Chair)*

Members Emeriti
Raymond Breton - MA, PhD, FRSC(SM)
Douglas Campbell - BA, MA, PhD
John Hagan - Emeritus, BA, MA, PhD, FRSC
Edward Harvey - BA, MA, PhD
Nancy Howell - BA, PhD
Wsevolod Isajiw - BA, MA, PhD
Dennis Magill - BA, MA, PhD
William Michelson - AB, AM, PhD, FRSC

Edward Silva - BA, MA, PhD
John Simpson - BA, BD, MTh, PhD
Metta Spencer - MA, PhD
Irving Zeitlin - BA, MA, PhD

Associate Members
Sara Abraham - BA, MA, PhD
Shyon Baumann - BA, MA, PhD
Brent Berry - BA, PhD
Cynthia Cranford - MA, PhD
Ronit Dinovitzer
Adam Green - BA, MA, MSS, PhD
Joseph Hermer - BA, MA, DPhil
Josee Johnston - BA, MA, PHD
Anna Korteweg - BA, MA, PHD
Patricia Landolt - BA, MA, MA, PhD
Vanina Leschziner - BA, MA, PhD
Joel Lexchin - MD
Kathleen Liddle - BA, MA, PhD
Alexandra Marin - Asst Prof
Paula Maurutto - PhD
Ito Peng - BA, BSW, MA, PhD
Scott Schieman - BA, MA, PhD
Jack Wayne - BA, MA, PhD
Weiguo Zhang - BS, MA, PhD

Sociology and Equity Studies in Education   SES

Faculty Affiliation
Ontario Institute for Studies in Education

Degree Programs Offered
Sociology and Equity Studies in Education
 – MA, MEd, EdD, PhD

Collaborative Programs Offered
Degree programs that participate in:
1.   Aboriginal Health, see p. 404
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
2.   Comparative, International, and Development
     Education, see p. 430
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
3.   Environmental Studies, see p. 443
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
4.   Ethnic and Pluralism Studies, see p. 445
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
5.   Sexual Diversity Studies, see p. 469
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
6.   South Asian Studies, see p. 471
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD
7.   Women and Gender Studies, see p. 473
   • Sociology and Equity Studies in Education,
     MA, MEd, EdD, PhD

Overview
The Department of Sociology and Equity Studies in Education (SESE) offers a full range of programs leading to **Master of Arts**, **Master of Education**, **Doctor of Education**, and **Doctor of Philosophy** degrees. These programs offer students preparation in sociology in education with an emphasis on equity issues.

Sociology in education is the study of the social context of education. The department understands education as a broad, multi-faceted concept, that is, a social organization of knowledge, teaching, and learning which takes place both within and beyond schooling. "Equity" is the lens through which we approach these phenomena. We blend with this vision the principles of interdisciplinarity and community engagement, and in our programs we actively seek to bridge divisions between theory and practice.

The department offers opportunities to investigate and integrate several thematic areas. Students are encouraged to integrate their studies across a variety of areas. Included in our offerings are courses related to Aboriginal and Indigenous studies in education, critical race and anti-racism studies in education, culture, communication and critical education, disability studies in education, feminist studies and gender relations in education, les études francophones, learning, work and social change, and queer studies in education.

Contact and Address
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Department of Sociology and Equity Studies in Education
The Ontario Institute for Studies in Education of the
  University of Toronto
252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
•   The department welcomes applicants with diverse but relevant backgrounds.
•   Students are admitted under the general requirements outlined in the Minimum Admission, Program, and Degree Requirements section, OISE/UT Graduate Bulletin.
•   Admission to the MA requires an appropriate four-year University of Toronto degree in sociology or a related discipline or its equivalent from a recognized university, with standing equivalent to a University of Toronto B+ or better in the final year.
•   Applicants are required to submit the following. Incomplete applications may be subject to processing delays or rejection.
   o   a careful statement of intellectual interests and concerns relevant to sociology and equity studies in education as well as reasons for undertaking a program in the department, including a statement of preference for one or more of the departmental research areas;
   o   two letters of reference, preferably from university instructors with whom the applicant has studied or worked;
   o   at least one sample of written work in the social sciences.

Program Requirements
•   The MA is a research-based degree program which can be taken on a full-time or part-time basis.
•   Students normally take 3.0 full-course equivalents (FCE), at least 2.0 FCE (3/4 of a MA coursework assignment) as SESE courses. Students who are registered in a collaborative program have their home department course requirement reduced by 0.5 FCE only.

- Additional courses may be required of some students, and some students may be required to take specified courses in research methods and/or sociological theory.
- Students complete a thesis under which may lay the groundwork for doctoral research.

Master of Education

Minimum Admission Requirements
- The department welcomes applicants with diverse but relevant backgrounds.
- Students are admitted under the general requirements outlined in the Minimum Admission, Program, and Degree Requirements section, OISE/UT Graduate Bulletin.
- Admission to the MEd requires an appropriate four-year University of Toronto degree in sociology or a relevant discipline or its equivalent from a recognized university, with standing equivalent to a University of Toronto mid-B or better in the final year.
- Applicants must have the equivalent of 12 months' professional experience.
- Applicants are required to submit the following. Incomplete applications may be subject to processing delays or rejection.
  o a careful statement of intellectual interests and concerns relevant to sociology and equity studies in education as well as reasons for undertaking a program in the department, including a statement of preference for one or more of the departmental research areas;
  o two letters of reference, preferably from university instructors with whom the applicant has studied or worked;
  o at least one sample of written work in the social sciences.

Program Requirements
- Students choose to complete the MEd program by one of three options:
  o Option II - 4.0 full-course equivalents (FCE) plus a Major Research Paper (MRP)
  o Option III - 3.0 full-course equivalents (FCE) plus a thesis
  o Option IV - 5.0 full-course equivalents (FCE)
- At least half of the FCE in an MEd program must be SESE courses. Those students registered in a collaborative program associated with SESE will have their required home department courses reduced by 0.5 FCE only.
- The degree may be completed on a full-time or part-time basis.

Courses
Not all courses are offered every year. Please consult OISE/UT's Graduate Studies Course Schedule.

Master's Level
SES 1900H   Introduction à la sociologie de l'éducation
SES 1900H   Introduction to Sociology in Education
SES 1902H   Introductory Sociological Research Methods in Education
SES 1904H   Introduction to Sociological Theory in Education
SES 1905H   Qualitative Approaches to Sociological Research in Education
SES 1907H   L'éducation multilingue et multiculturelle: l'analyse sociologique
SES 1909H   Eco-Sociology
SES 1911H   Sociologie de l'éducation spécialisée
SES 1912H   Foucault and Research in Education and Culture: Discourse, Power and the Subject
SES 1913H   SESE Learning to Succeed in Graduate School (Non Credit)
SES 1915H   Education and Popular Culture
SES 1921Y   The Principles of Anti-Racism Education
SES 1922H   Sociology of Race and Ethnicity
SES 1923H   Racism, Violence, and the Law: Issues for Researchers and Educators
SES 1924H   Modernization, Development, and Education in African Contexts
SES 1925H   Indigenous Knowledge and Decolonization: Pedagogical Implications
SES 1925H   Savoir indigène et décolonization
SES 1926H   Race, Space and Citizenship: Research Methods
SES 1927H   Global Economic Restructuring—International Migration—Immigration Policies
SES 1950H   Student Deviance, Resistance, and Educational Transformation
SES 1951H   L'École et la communauté
SES 1951H   The School and the Community
SES 1954H   Marginality and the Politics of Resistance
SES 1956H   Social Relations of Cultural Production in Education
SES 1957H   Doing Disability in Theory and Everyday Life
SES 1958H   The Internet and Cyberspace: Issues of Culture, Identity, Access, and Control
SES 1959H   Theoretical Frameworks in Culture, Communications and Education
SES 1982H   Women, Diversity, and the Educational System
SES 1983H   Gender, Race and Historical Sociology
SES 1985H   Women's Learning, Women's Health Movements, and the Health Professions
SES 1989H   Black Feminist Thought
SES 1992H   Feminism and Poststructuralism in Education
SES 2910H   Changes in Families and Policy Consequences for Government and Education

SES 2915H   Managing Educational and Employment
            Diversity
SES 2940H   Rethinking Marxism and Education
SES 2941H   Social Inequities and Education
SES 2942H   Education and Work
SES 2970H   Indigenous Peoples and Medias:
            Theorizing, Decolonizing, Cultural
            Vitalization and Self-Determination
SES 2998H   Individual Reading and Research
            in Sociology and Equity Studies in
            Education: Master's Level
SES 2999H   Special Topics in Sociological Research in
            Education

Doctor of Education

The EdD degree program is distinct from the PhD in that students are encouraged to orient toward applied and theoretical dimensions of professional educational practice understood as knowledge, teaching and learning which takes place within or beyond schooling.

Minimum Admission Requirements

- The department welcomes applicants with diverse but relevant backgrounds.
- Students are admitted under the general requirements outlined in the Minimum Admission, Program, and Degree Requirements section, OISE/UT Graduate Bulletin.
- Admission to the EdD requires a University of Toronto MEd or MA in Education, or its equivalent from a recognized university, in the same field of specialization proposed at the doctoral level, completed with standing equivalent to a University of Toronto B+ or better in master's courses.
- Applicants must have the equivalent of 12 months' professional experience.
- Applicants are required to submit the following. Incomplete applications may be subject to processing delays or rejection.
  - a careful statement of intellectual interests and concerns relevant to sociology and equity studies in education as well as reasons for undertaking a program in the department, including a statement of preference for one or more of the departmental research areas;
  - two letters of reference, preferably from university instructors with whom the applicant has studied or worked;
  - at least one sample of written work in the social sciences.

Program Requirements

- The EdD degree may be pursued on a full-time or part-time basis with specific course requirements (stated in the offer of admission) reflecting the unique professional character of the degree.
- Most students will complete at least 4.0 full-course equivalents (FCE), of which 2.0 FCE must be SESE courses. Students who are registered in a collabora-

tive program have their home department course requirement reduced by 0.5 FCE only.
- EdD students may begin their studies on a part-time basis. However, they must register full-time for a minimum of two consecutive sessions, not including summer, of on-campus study and then maintain continuous registration full-time subsequently until all degree requirements, including the thesis, are completed.

Doctor of Philosophy

The PhD degree program is designed to provide opportunities for advanced study, original research, and theoretical analysis.

Minimum Admission Requirements

- The department welcomes applicants with diverse but relevant backgrounds.
- Students are admitted under the general requirements outlined in the Minimum Admission, Program, and Degree Requirements section, OISE/UT Graduate Bulletin.
- PhD students who are admitted without sufficient previous study in sociology or a cognate discipline may be required to take a longer program.
- Applicants are required to submit the following. Incomplete applications may be subject to processing delays or rejection.
  - a careful statement of intellectual interests and concerns relevant to sociology and equity studies in education as well as reasons for undertaking a program in the department, including a statement of preference for one or more of the departmental research areas;
  - two letters of reference, preferably from university instructors with whom the applicant has studied or worked;
  - at least one sample of written work in the social sciences.

Program Requirements

- PhD students have the option of undertaking the program on a full-time or flexible-time basis.
  - **Full-time** PhD students must maintain full-time status throughout their program of study and complete the requirements of their degree within six years. Students normally take 3.0 full-course equivalents (FCE), though additional courses may be required of some students, and some students may be required to take specified courses in research methods and/or sociological theory. At least 3/4 of a PhD course work assignment must be taken as SESE courses. Students who are registered in a collaborative program have their home department course requirement reduced by 0.5 FCE.
  - **Flexible-time** PhD students register full-time during the first four years and part-time during subsequent years of the program. The flexible-

time PhD degree is designed to accommodate demand by practicing professionals for a PhD degree that permits continued employment in areas related to their fields of research. Students must complete the requirements of their degree within eight years. Degree requirements for the flexible-time PhD programs are the same as for fulltime PhD studies: normally, 3.0 FCE of which at least 2.0 FCE must be taken in SESE with a 0.5 FCE reduction if the student is also registered in a collaborative program. Students would normally take at least one specialized research methods course.

- All PhD students must also successfully complete the non-credit course SES 1913H SESE Thesis Students' Seminar.
- With the prior approval of their faculty advisor and the Registrar's Office (Graduate Studies Registration Unit) students are permitted to take the equivalent of 1.0 FCE at another recognized graduate institution for credit in this Program. However, students must commence their program of study with OISE/UT courses.
- All PhD students are expected to complete a comprehensive requirement and a thesis.

Courses

Not all courses are offered every year. Please consult OISE/UT's Graduate Studies Course Schedule.

Doctoral Level

SES 3900H   Advanced Issues in Sociological Research Methods in Education
SES 3910H   Advanced Seminar on Race and Anti-Racism Research Methodology in Education
SES 3911H   Cultural Knowledges, Representation and Colonial Education
SES 3912H   Race and Knowledge Production: Research Methods
SES 3913H   En/Coding Domination: Theorizing Power Relations Based on Race, Gender, Class and Sexuality
SES 3914H   Anti-Colonial Thought and Pedagogical Challenges
SES 3921H   Language and Social Difference in Education: Comparative Perspectives
SES 3929H   Advanced Disability Studies: Transgressive Bodies/Transgressive Methods
SES 3930H   Methods to Avoid Sexist, Racist and Ableist Biases in Research
SES 3932H   Women and Higher Education
SES 3933H   Theorizing Transnationality: Feminist Perspectives
SES 3942H   Innovations in Education: A Comparative Analysis
SES 3943H   Sociology of State Formation and Genealogies of Government

SES 3949H   Advanced Studies in Learning and Work: Class Conflict, Labour and Learning in the Information Age
SES 3951H   Political Economy, Cultural Forms and the Learning Society
SES 3952H   Sexism, Racism, Colonialism: Pedagogical Implications
SES 3998H   Individual Reading and Research in Sociology and Equity Studies in Education: Doctoral Level
SES 3999H   Special Topics in Advanced Sociological Research in Education
JSA 5147H   Language, Nationalism and Post-Nationalism
JTE 1952H   Language, Culture, and Education
JTE 1952H   Langue, culture et éducation
JTE 2912H   Teacher's Work: Classrooms, Careers, Cultures, and Change

Graduate Faculty

Full Members
Sandra Acker - BA, MA, PhD
Kari Dehli - BA, MA, PhD *(Chair)*
George JS Dei - BA, MA, PhD
Margrit Eichler - MA, LLD, PhD *(Coordinator of Graduate Studies)*
Diane Farmer - BA, MA, PhD
Jane Gaskell - BA, EdD
Paul Grayson
Monica Heller - BA, MA, PhD
Judy Iseke-Barnes - PhD
Helen Lenskyj - BA, MA, PhD
David Livingstone - BA, PhD, CRC
Paul Olson - BA, MA
Jack Quarter - BA, MA, PhD
Sherene Razack - BA, MA, PhD
Warnie Richardson
Peter Sawchuk - BSc, BEd, MA, PhD
Roger Simon - BS, PhD
Tanya Titchkosky
Alissa Trotz - BA, MPhil, PhD
Rinaldo Walcott - BA, MA, PhD
Njoki Wane - BA, MA, PhD

Members Emeriti
Ruth Pierson - PhD
Dorothy Smith - PhD

Associate Members
Jacqui Alexander
Jazira Asanova - PhD
Martin Cannon
Bernardo Garcia-Dominguez - PhD
Deborah Harrison
David Hayes - PHD
Ping-Chun Hsiung - BA, MA, MA, PhD
Pablo Idahosa - PHD
Jennifer Jenson - PHD

Basil Johnston
Didi Khayatt - PHD
Alyson King
June Larkin - BA, MEd, PhD
Allan Lauzon - PHD
Bonita Lawrence - PHD
Erica Lawson - BA, MA, PhD
D'arcy Martin - BA, MA, EdD
Aparna Mishra Tarc - BA, Bed, Med, PhD
Ann Mullen - BA, MA, PhD
Sheryl Nestel - BA, MA, PhD
Roxana Ng - BA, MA, PhD
Nana Osei-Kofi
Kerry Preibisch
Machiste Washinabana Quintana
Elisabeth Richards - BA, MeD, EdD
Betty Jane Richmond - BA, MES, PhD
Wallace Seccombe
Donald Wiebe - PHD
Suzie Young - PHD
Jasmin Zine - BA, MA, PHD

Spanish   SPA

Faculty Affiliation
Arts and Science

Degree Programs Offered
Spanish – MA, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Editing Medieval Texts, see p. 437
   - Spanish, PhD
2. Women and Gender Studies, see p. 473
   - Spanish, MA, PhD

Overview
The Department of Spanish offers graduate programs leading to two degrees: Master of Arts and Doctor of Philosophy. MA and PhD students specialize in one of three fields:
- Spanish Peninsular Literature
- Latin American Literature
- Hispanic Linguistics.

Applicants are accepted under the general regulations of the School of Graduate Studies and must also satisfy the department's requirements stated below. In all cases, programs must be approved by the department.

The application process for the **Master of Arts** program is competitive; meeting the minimum standards for admission does not guarantee acceptance.

The admissions process for the **Doctor of Philosophy** program is competitive; it is based on a number of factors in addition to grades. The principal factors include the ability of the department to offer graduate work in the applicant's preferred areas of interest, the availability of appropriate supervisory resources, and the suitability of the applicant in relation to the academic profile and programs of the department. The department does not allow direct entry to the PhD program with a BA, nor does it allow MA students to transfer to the PhD program before the course work for the MA is completed.

Contact and Address
Web: www.spanport.utoronto.ca
E-mail: spanport@chass.utoronto.ca
        or Spanish.graduate@utoronto.ca
Telephone: (416) 813-4080 or 416-813-4082
Fax: (416) 813-4084

Department of Spanish
Victoria College
Room 208, 91 Charles Street West
University of Toronto
Toronto, Ontario M5S 1K7
Canada

Degree Programs

Master of Arts

Minimum Admission Requirements
- Four-year undergraduate degree or the equivalent from a recognized university in Spanish or a cognate discipline.
- Fluency in spoken and written Spanish with a general background in Hispanic literature and/or linguistics, normally demonstrated through undergraduate course work.
- Applicants apply online and should arrange for electronic submission of the following material:
  o a one-page statement of purpose, outlining the applicant's areas of interest
  o a sample of written work in Spanish (10-12 pages)
  o a TA application form (available from the department'sl Web site)
  o two letters of recommendation (one of the letters must comment on the applicant's fluency in Spanish)

Program Requirements
- 4.0 full-course equivalents (FCE) at the graduate level.
- MA students specialize in one of three fields:
  o Spanish Peninsular Literature
  o Latin American Literature
  o Hispanic Linguistics
  Specialization requires that each student complete course work in accordance with distribution requirements for each field, defined in terms of the various areas of the graduate curriculum. Specific requirements by field are available on the department's Web site.
- With departmental approval, courses may be taken in a cognate discipline (for example, Comparative Literature, French, History, Linguistics, Medieval Studies, Women's Studies).
- It is the department's expectation that full-time students will complete all program requirements in one academic year. The MA program is also available on a part-time basis. Applicants should be aware that part-time students are not eligible for funding.
- Students in the field Hispanic Linguistics must have completed an introductory course in linguistics (LIN 100Y or an equivalent course). Students who have not completed LIN 100Y as part of their undergraduate studies must take this course in the summer directly preceding their admission to the MA program.

Doctor of Philosophy

Minimum Admission Requirements
- Master's degree from a recognized university in an appropriate discipline with an average of A- or higher. Applicants apply online and should arrange for electronic submission of the following material:
  - a one-page statement of purpose, outlining the applicant's areas of interest
  - a sample of written work in Spanish (10-12 pages)
  - a TA application form (available from the department's Web site)
  - two letters of recommendation (one of the letters must comment on the applicant's fluency in Spanish)

Program Requirements
- PhD students specialize in one of three fields:
  - Spanish Peninsular Literature
  - Latin American Literature
  - Hispanic Linguistics
- **4.0 full-course equivalents** (FCE). It is expected that students will complete the required course work during Year 1. However, with the approval of the Graduate Coordinator, up to 1.0 FCEcourses may be taken in Year 2. Each field has distribution require- ments; details on the department's Web site.
- The **field examination** centres on two subfields of Hispanic literature or linguistics: the subfield of the student's proposed dissertation research and a sub- field relevant to the student's research and general preparation.
- A **dissertation proposal** must be submitted on the research questions and methodology of the student's proposed research. The proposal should be written in the language that the student intends to use in writ- ing the dissertation (Spanish or English) and must be defended in an oral examination.
- **Language requirements** must be fulfilled before registering for Year 4. Each student must demon- strate a reading knowledge of French and of a third non-English language relevant to his/her area of research. These language requirements may be sat- isfied by passing the appropriate reading knowledge examinations offered by the various departments of language and literature at the University of Toronto. Significant prior training in a language (such as an undergraduate Major or Minor) will also be accepted as demonstration of reading knowledge.
- Years 3 and 4 are devoted to researching and writ- ing the **doctoral dissertation**. The Supervisory Committee must normally approve the dissertation before the candidate can proceed to the Final Oral Examination.
- Students fulfil the **residence requirement** by being registered as full-time on-campus and must reside in sufficient geographical proximity to enable them to fulfil the requirements of the program in a timely fashion. They are also expected to participate fully in departmental activities. While writing the dissertation, candidates are expected to be in residence, with the exception of absences for research purposes and approved leaves.
- The program must be **completed within six years** of the student's initial enrolment.

Courses
Most graduate courses are offered in a regular rota- tion. As a result, approximately half of the courses that appear in this calendar entry will be available in a given academic session. A list of offered courses is posted on the department's Web site.

COL 5019H   Cervantes and Humanism
COL 5029H   Reading Cervantes
JRL 1100Y   Introduction to Romance Philology
JRL 1101H   Topics in Romance Laboratory Phonetics and Phonology I: Theory
JRL 1106H   Topics in Romance Laboratory Phonetics and Phonology II
LIN 1029H   Sound Patterns in Language
LIN 1031H   Morphological Patterns in Language
SPA 1053H   History of the Spanish Language
SPA 1080H   Descriptive Grammar of Spanish
SPA 1081H   The Structure of Spanish
SPA 1082H   Sociolinguistics of Spanish
SPA 1083H   Microvariation in Spanish
SPA 1084H   Experimental Approaches to Hispanic Linguistics
SPA 1088H   Spanish Syntax
SPA 1089H   Morphosyntax
SPA 1097H   Second-Language Teaching and Methodology
SPA 1101H   Topics in the Acquisition of Spanish
SPA 1103H   Topics in Spanish Phonology
SPA 1104H   Experimental Approaches to Sound Variation and Change
SPA 1150H,Y Directed Research in Hispanic Linguistics
SPA 2021H   The Politics of Print
SPA 2022H   Books and Borders
SPA 2031H   Writing that Conquers: Early Colonial Historiography
SPA 2032H   The Spiritual Conquest of the Americas: Empire and Ethnography
SPA 2033H   Representing Colonial Violence and Terror
SPA 2121H   Psychoanalysis and the Passions in Early Modern Literature
SPA 2187H   Comedy and the Comedia in Early Modern Spain
SPA 2189H   Lope and Calderón
SPA 2277H   The Modern Spanish Cuento (1860-1936)
SPA 2279H   Contemporary Hispanic Women's Writing II
SPA 2282H   The Contemporary Spanish Cuento (1936-Present)
SPA 2284H   Narrative and Political Transition in Contemporary Spain
SPA 2291H   The Urban Experience in Spain
SPA 2351H   Masters of Twentieth-Century Spanish Drama
SPA 2404H   The Latin American Novel

SPA 2405H Issues of Testimonio
SPA 2432H Text and Image in Latin American Culture
SPA 2802H The Politics of Errantry in the Hispanic
            Caribbean
SPA 2805H Representations of Women in Latin
            American Culture
SPA 2900H Issues in Literary Theory and Hispanic
            Texts
SPA 2905H Latin American Cultural Theories
SPA 2951H Modernism in Latin America
SPA 3000H,Y Directed Research in Hispanic Literatures

Graduate Faculty

Full Members
Josiah Blackmore - BA, MA, PhD
Laura Colantoni - MA, PhD
Marcel Danesi - BA, MA, PhD, FRSC
Robert Davidson - MA, PhD *(Coordinator of Graduate Studies)*
Eva-Lynn Jagoe - MA, PhD
Sanda Munjic - MA, PHD
Ana Teresa Perez-Leroux - BA, MA, PhD
Nestor Rodriguez - MA, PhD
Stephen Rupp - BA, MA, MPhil, PhD *(Chair)*
Rosa Sarabia - BA, MA, PhD
Ricardo Sternberg - BA, MA, PhD

Members Emeriti
James Burke - BA, MA, PhD
Keith Aa Ellis - BA, MA, PhD, DFil, FRSC
Robert Glickman - AM, PhD
Joseph Gulsoy - MA, PhD, FRSC
Pedro Leon - MA, PhD
Erminio Neglia - MA, PhD
Anthony Percival - BA, MA, PhD
Wendy Rolph - BA, MA, MPh
Raymond Skyrme - BA, MA, MLitt, PhD
Mario Valdes - BA, MA, PhD, FRSC, Miembro
 Correspondiente de la Academia Mexicana
Jill Webster - BA, MA, PhD, FRSC

Associate Members
Maria Cristina Cuervo - MA, PhD
Manuel Ramirez-Salazar - MA, PhD

Speech-Language Pathology   SLP

Faculty Affiliation
Medicine

Degree Programs Offered
Speech-Language Pathology – MHSc, MSc, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   - Speech-Language Pathology, MSc, PhD
2. Neuroscience, see p. 466
   - Speech-Language Pathology, MSc, PhD

Overview
Speech-language pathology is concerned with normal and disordered human communication and swallowing. The Department offers professional and research degree programs leading to careers in the discipline.

The **Master of Health Science** program in speech-language pathology is a professional graduate program that may be taken on a full-time or part-time basis. The primary aim of the program is to prepare practitioners for entry into the practice of speech-language pathology. Graduates are prepared to assume varied professional responsibilities including the assessment, treatment, and management of speech, voice, language, and swallowing disorders. Course work and clinical internships are integrated and sequenced. There is a strong research to practice focus and students complete a comprehensive portfolio requirement in their final year.

The **Master of Science** degree is a full-time program that prepares students to engage in the scientific study of normal and disordered speech, language and swallowing processes in children and adults. The MSc is a research-oriented program and does not prepare students for clinical practice. Although the primary objective of the MSc program is to prepare students for doctoral studies in speech and language sciences, successful completion of the program does not guarantee entrance into the PhD program.

The purpose of the **Doctor of Philosophy** program is to prepare students to contribute independently to the advancement of scientific knowledge in their area of specialization within the discipline of speech-language pathology.

Contact and Address
Web: www.slp.utoronto.ca
E-mail: speech.path@utoronto.ca
Telephone: (416) 978-2765
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Department of Speech-Language Pathology
Rehabilitation Sciences Building
Room 160, 500 University Avenue
University of Toronto
Toronto, Ontario M5G 1V7
Canada

Degree Programs

Master of Health Science

Minimum Admission Requirements
- Four-year University of Toronto bachelor's degree, with at least a mid-B standing in the final year, or its equivalent from another recognized university.
- Prerequisite courses in child development, linguistics, phonetics, statistics, and human physiology.
- Facility in oral and written English required for both the academic and applied aspects of the program. Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the English language through the successful completion of one of the English proficiency tests. To satisfy the requirement, the Department strongly prefers the Test of English as a Foreign Language (TOEFL) with the following minimum scores:
  - o Paper-based TOEFL: 600 with 5 on the Test of Written English (TWE) and 50 on the Test of Spoken English (TSE)
  - o Computer-based TOEFL: 250 with 5 on the essay rating component and 50 on the TSE.
  - o Internet-based TOEFL: 100/120 with 22/30 on the speaking section and 22/30 on the writing section.
  If an applicant finds it impossible to take the TOEFL, TWE, and TSE, the Department will accept one of the following:
  - o the Michigan English Language Assessment Battery (MELAB) with a minimum score of 85
  - o the International English Language Testing System (IELTS) with a minimum score of 8.0
  Applicants may be requested to attend a personal meeting with members of the Department of Speech-Language Pathology where their mastery of oral English for meeting clinical requirements will be assessed.
- See the departmental Web site for a full listing of admission requirements.

Program Requirements
- The professional MHSc program is divided into 5 academic and 4 clinical units. Each academic unit is made up of topic-related courses. Teaching within and across units emphasizes integrated learning experiences. Academic units are followed by full-time clinical placements, each lasting between 4 and 10 weeks for a total of 31 weeks of clinical experience

throughout the 2 year program. Students should anticipate receiving at least one placement outside of metropolitan Toronto. Students must accept placements offered to them and are responsible for all travel and accommodation costs.

• The MHSc program does not have a thesis requirement; however, prior to graduation, all MHSc students will be required to complete a portfolio that demonstrates proficiency in key areas of professional practice.

• Students enrolled in the full-time program must complete all requirements within two consecutive years.

• Part-time students must choose one of three options for program completion: four-year, five-year, or six-year. Each option includes a prescribed sequence of academic and clinical units that must be followed. Part-time students must complete clinical units on a full-time basis (five days per week).

Courses for the MHSc Program

Consult the departmental Web site for a listing of courses offered during each academic year.

The first year of the program for full-time students will consist of:

SLP 1500Y+ Internship (Credit/No Credit)
SLP 1502Y Anatomy and Embryology
SLP 1503Y Articulation and Related Disorders
SLP 1505Y Child Language I
SLP 1506H Child Language II
SLP 1507Hº Clinical Laboratory in Speech-Language Pathology
SLP 1514Y Applied Audiology
SLP 1516H Aural Rehabilitation
SLP 1520H Principles of Clinical Practice
SLP 1521H Augmentative Communication
SLP 1522Y Speech Physiology and Acoustics
SLP 1529H Fluency Disorders
SLP 1530H Voice Disorders
SLP 1532Hº Clinical Laboratory in Hearing Disorders: Aural Rehabilitation or Audiology Component

The second year of the program for full-time students will consist of:

SLP 1508Y Advanced Clinical Laboratory in Speech-Language Pathology
SLP 1525H Structurally Related Disorders
SLP 1527H+ Physical Analysis of Speech Disorders
SLP 1528H+ Research in Speech-Language Pathology
SLP 1533Y Aphasia
SLP 1534H Motor Speech Disorders
SLP 1535H+ Advanced Principles of Clinical Practice
SLP 1536H Swallowing Disorders
SLP 1538H Neurocognitive Communication Disorders
SLP 2500Y Advanced Internship

º Courses which may continue over a program. The course is graded when completed.
+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Master of Science

Minimum Admission Requirements

• Four-year degree, or its equivalent, in speech-language pathology or a related discipline.

• Prior to admission, an applicant must identify a faculty member who has agreed to serve as research supervisor. The research supervisor may want to examine a completed thesis and/or manuscripts and university transcripts.

• Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility in the English language through the successful completion of one of the English proficiency tests listed in this calendar. See General Regulations, English Language Facility.

Program Requirements

• Course requirements are determined by the student's supervisory committee. Normally, the student is required to complete satisfactorily a minimum of 2.0 full-course equivalents (FCE), consisting of at least 1.0 FCE in research design and methodology, and at least 1.0 FCE in the area of research interest.

• One-year residency period which typically is sufficient for completion of the course work.

• Participate in student and faculty research seminars.

• Engage in a research project, present the results in a written thesis, and complete a successful oral defence of the thesis.

• **Reclassification**. MSc students who demonstrate outstanding potential for advanced research in the discipline may be recommended by their supervisory committee for a reclassification examination which, when passed, allows them direct advancement to the PhD program. Examination normally is undertaken following the completion of at least one session and within 18 months of registration in the MSc program.

Doctor of Philosophy

Minimum Admission Requirements

• Normally, applicants are expected to have completed a MSc or MA degree in speech-language pathology, or a related discipline, with a minimum of a B+ average over the course of the program.

• Demonstrated advanced research qualifications in speech and language sciences.

• Prior to admission, an applicant must identify a faculty member who has agreed to serve as research supervisor. The research supervisor may want to examine a completed thesis and/or manuscripts and university transcripts.

• Applicants who were educated outside Canada, whose primary language is not English, and who graduated from a university where the language of instruction was not English, must demonstrate facility

in the English language through the successful completion of one of the English proficiency tests listed in this calendar. Students who graduated from a university outside North America are strongly encouraged to contact the Coordinator of Graduate Studies before applying. See General Regulations, English Language Facility.

- **Reclassification**. MSc students who demonstrate outstanding potential for advanced research in the discipline may be recommended by their supervisory committee for a reclassification examination which, when passed, allows them direct advancement to the PhD program. Examination normally is undertaken following the completion of at least one session and within 18 months of registration in the MSc program.

Program Requirements
- Course requirements are determined by the student's supervisory committee and consist of a minimum of 3.0 full-course equivalents (FCE).
- Students must demonstrate evidence of adequate knowledge in research design and statistics or must include suitable course work as determined by the supervisory committee.
- Participate in student and faculty research seminars in addition to their regular course requirements.
- The doctoral program consists of 2 phases, each taking approximately 18 to 24 months to complete. During the first phase of the program, the student completes all course requirements and initiates the development of a research thesis proposal, including the collection of preliminary experimental data, if appropriate. At the conclusion of this first phase, the student completes a departmental comprehensive examination that includes a full research proposal and a conceptual paper on a topic chosen by the student and the supervisory committee. The second phase of the program is devoted almost exclusively to the completion of the thesis research project. At the conclusion of this second phase, the student defends the research thesis at a final oral examination in accordance with the regulations of the School of Graduate Studies.
- The PhD program normally extends over three to four years. Students complete a residency requirement during the first two years of the program.

Courses for the MSc and PhD Programs
SLP 3001H Theoretical Foundations of Communication
            Sciences
SLP 3002H Research Methodologies in
            Communication Sciences
SLP 3003H° Research Seminar
SLP 3004H,Y Reading Seminar
SLP 4000H° Research Seminar
SLP 4001H Philosophical and Theoretical Foundations
            of Communication Sciences
SLP 4007H,Y Reading Seminar

° Courses which may continue over a program. The course is graded
  when completed.

Special Courses Offered to Students from Other Departments
SLP 2501H Special Topics in Communication Disorders
SLP 2502Y Specialized Study in Communication
            Disorders

Graduate Faculty

Full Members
Sharon Abel - BSc, MA, PhD
Tim Bressmann - MA, MSc, PhD
Luc De Nil - MSc, PhD *(Chair)*
Alice Eriks-Brophy - MSc, PhD
Luigi Girolametto - BA, MSc, PhD *(Coordinator of
  Graduate Studies)*
Martyn Hyde - BSc, PhD
Carla Johnson - BS, MS, MA, PhD
Rosemary Martino - MA, MSc, PhD
Julie Mendelson - BSc, PhD
Elizabeth Rochon - BA, MSc, PhD
Ronald Smyth - BA, MSc, PhD
Paula Ann Square - BSc, MA, PhD
Catriona Steele - BA, MHSC, PhD
Patricia Stewart - BSc, MSc, PhD
Pascal van Lieshout - PhD

Associate Members
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Lynn Ellwood - BSc, MHSc
Jonathan Irish – MD, MSc
Marlene Jacobson - BA, PhD
Aura Kagan - PhD
Robert Kroll - BSc, MSc, PhD
Carol Leonard - BA, MSc, PhD
Lisa McQueen
Pauline Parnes - BSc, DSPA
Sheila Roberts - MD
Susan Wagner - BSc, MSc
Elaine Weitzman - BA, MEd
Yana Yunusova - MS, PhD

Statistics   STA

Faculty Affiliation
Arts and Science

Degree Programs Offered
Statistics – MSc, PhD

Overview
Statistics is the study of random phenomena and as such encompasses a broad range of scientific, industrial, and social processes. The past several decades have witnessed a vast impact of statistical methods on virtually every branch of knowledge and empirical investigation.

The Department of Statistics offers opportunities for study and research in the fields of probability, applied probability, theoretical statistics, and applied statistics leading to the **Master of Science** and the **Doctor of Philosophy** degrees. The Department has substantial computing facilities available and operates a statistical consulting service for the University's research community. Programs of study may involve association with other departments such as Mathematics, Mechanical and Industrial Engineering, Computer Science, or Public Health Sciences. The Department maintains an active seminar series and strongly encourages participation by graduate students.

Students are accepted under the general regulations. Proof of English facility must also be shown for all applicants whose first language is not English and who studied at an institution where the language of instruction was other than English.

Interested applicants should refer to the detailed information available in the Graduate Information brochure and on the Department's web site.

Contact and Address
Web: www.utstat.utoronto.ca
E-mail: grad-info@utstat.utoronto.ca
Telephone: (416) 978-5136
Fax: (416) 978-5133

Department of Statistics
University of Toronto
Sidney Smith Hall
Room 6022, 100 St. George Street
Toronto, Ontario M5S 3G3
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Appropriate four-year bachelor's degree with a final year average of at least mid-B from the University of Toronto or its equivalent from another recognized university.
- Recommended background of courses as outlined in the Graduate Information brochure available on Department's Web site.

Program Requirements
All programs must be approved by the Associate Chair for Graduate Studies.

One Year Full-Time Program
Students within this option normally complete:
- 4.0 full course equivalents (FCE), one of which may be an approved supervised reading project OR
- 3.5 FCE comprising STA 3000Y plus five 0.5 FCE.

Two-Year Full-Time Program
Year 1
- Completion of prerequisite and other courses to prepare the student for the one-year MSc program.
Year 2
- 4.0 full-course equivalents (FCE), one of which may be an approved supervised reading project OR
- 3.5 FCE comprising STA 3000Y plus five 0.5 FCE.

Part-Time Program
Students must satisfy the program requirements outlined for the full-time MSc.

Doctor of Philosophy

Minimum Admission Requirements
- Appropriate University of Toronto master's degree or its equivalent, with an average of at least B+ or demonstrated comparable research competence
- The Department of Statistics considers exceptional applicants directly from undergraduate studies. These applicants must meet additional course requirements.

Program Requirements

PhD Program
- 3.0 full-course equivalents (FCE) including STA 2111H, STA 2211H, and STA 3000Y.
- Students are required to pass a comprehensive examination in theoretical statistics, probability and applied statistics prior to embarking on a thesis.
- Submission of a suitable thesis.
- One-year residence period.
- Further details are found in the Graduate Information brochure available on the Department's Web site.

Direct Entry Program
Students admitted to the direct entry program must normally:
- Complete STA 2111H, STA 2211H, STA 3000Y plus four other half-courses.
- Satisfy a two-year residency requirement.

Courses

The Department offers a selection of courses each year from the following list with the possibility of additions. The core courses will be offered each year. Consult the Graduate Information brochure for courses offered in the current academic year.

STA 1001H   Applied Regression Analysis
STA 1003H   Sample Survey Theory and its Application
STA 1004H   Introduction to Experimental Design
STA 1005H   Applied Multivariate Analysis
STA 1007H   Statistics for Life and Social Scientists
STA 1008H   Applications of Statistics
STA 2004H   Design of Experiments
STA 2006H   Applied Stochastic Processes
STA 2050H   Mathematical Methods for Statistics
STA 2100H   Mathematical Methods for Statistics
STA 2101H   Methods of Applied Statistics I
STA 2102H   Computational Techniques in Statistics
STA 2103H   An Introduction to Bayesian Inference
STA 2104H   Statistical Methods for Machine Learning and Data Mining
STA 2105H   Nonparametric Methods of Statistics
STA 2111H   Probability Theory I
STA 2112H   Mathematical Statistics I
STA 2162H   Statistical Inference I
STA 2201H   Methods of Applied Statistics II
STA 2202H   Time Series Analysis
STA 2209H   Lifetime Date Modelling and Analysis
STA 2211H   Probability Theory II
STA 2212H   Mathematical Statistics II
STA 2262H   Statistical Inference II
STA 2270H   Introduction to Wavelet Methods in Statistics
STA 2342H   Multivariate Analysis I
STA 2442H   Multivariate Analysis II
STA 2453H   Statistical Consulting
STA 2500H   Loss Models
STA 2501H   Mathematical Risk Theory
STA 2502H   Stochastic Models in Investments
STA 2503H   Applied Probability for Mathematical Finance
STA 2505H   Credibility Theory and Simulation Methods
STA 2542H   Linear Models
STA 3000Y   Advanced Theory of Statistics
STA 3003H   Advanced Sample Survey Theory and Practice
STA 3047H   Stochastic Processes
STA 3077H   Research Topics in Probability Theory
STA 3101H   Neural Networks and Related Statistical Methods
STA 3102H   Stat Theory-Quality Control
STA 3103H   Bayesian/Likelihood Asymptotics
STA 3431H   Monte Carlo Methods
STA 4000H   Supervised Reading Project I
STA 4001H   Supervised Reading Project II
STA 4210H   Smoothing, Semi- and Non-parametric Regression
STA 4246H   Research Topics in Mathematical Finance
STA 4247H   Research Topics in Stochastic Processes
STA 4272H   Research Topics in Statistics

STA 4273H   Research Topics in Bayesian Inference
STA 4274H   Research Topics in Statistical Computation
STA 4275H   Research Topics in Likelihood Inference
STA 4276H   Research Topics in Monte Carlo Methods
STA 4312H   Bayesian Linear Models
STA 4315H   Computational Methods in Statistical Genetics
STA 4352H   Research Topics in Multivariate Statistics
STA 4360H   Theory of Pivotal and Direct Inference
STA 4364H   Conditional Inference: Sample Space Analysis
STA 4406H   Statistical Inference for Stochastic Processes
STA 4412H   Topics in Theoretical Statistics

Graduate Faculty

Full Members
Omer Angel - PhD
David Brenner - BSc, MSc, PhD
Samuel Broverman - BSc, MSc, PhD, ASA
Lawrence Brunner - BA, PhD, MA, PhD
Paul Corey - BSc, MA, PhD
Virgil Radu Craiu - BS, MS, PhD
Michael Escobar - BS, PhD
Michael Evans - BSc, MSc, PhD
Andrey Feuerverger - BSc, PhD
Sebastian Jaimungal - BASc, MSc, PhD
Keith Knight - BSc, MS, PhD
Xiaodong Lin - BSc, MSc, MMath, PhD, ASA
 (Coordinator of Graduate Studies)
Wen-Yi Wendy Lou - PhD
Philip McDunnough - BSc, MSc, PhD
Radford Neal - BSc, MSc, PhD
Jeremy Quastel - BSc, MS, PhD
Nancy Reid - BMath, MSc, PhD, FRSC
Jeffrey Rosenthal - BSc, MA, PhD
James Stafford - BSc, MSc, PhD *(Chair)*
Lei Sun - BSc,PhD
Bálint Virág - BA, MA, PhD

Members Emeriti
David Andrews - BSc, MSc, PhD, Fellow ASA
Donald AS Fraser - BA, MA, MA, PhD, DMath, FRSC
Irwin Guttman - BSc, MA, PhD
Muni Srivastava - MSc, PhD

Associate Members
Andrei Badescu
Alison Gibbs - BMath, BEd, MSc, PhD
Alexander Kreinin - MSc, PhD
Gordon Willmot - BMath, MMath, PhD, FSA, FCIA
Fang Yao

Theoretical Astrophysics

Faculty Affiliation
Arts and Science

Degree Programs Offered
CITA does not offer an independent graduate degree program. Students interested in theoretical astrophysics are encouraged to enrol in the graduate programs offered by cognate departments such as Astronomy and Astrophysics, Chemistry, and Physics.

All CITA faculty hold cross-appointments in one or more of these departments; students seeking research supervision by CITA faculty are welcome to enquire. CITA research fellows and visitors are also encouraged to work with graduate students.

Overview
Established in 1984, the Canadian Institute for Theoretical Astrophysics (CITA) is a national institute specializing in theoretical astrophysics. CITA is supported by the University of Toronto, the Natural Sciences and Engineering Research Council (NSERC), and the Canadian Institute for Advanced Research (CIFAR).

CITA owns an extensive and powerful network of massively parallel computers and workstations, including a 200 node, 1600 core beowulf computing cluster.

The research activities at CITA span most of the areas of modern theoretical astrophysics, including accretion disks, active galactic nuclei, general relativity, cosmology and cosmological aspects of particle physics, the cosmic microwave background, gravitational lenses, dark matter, galaxy formation, galaxy structure and evolution, dynamics of stellar systems, physics and chemistry of the interstellar medium, star formation, stellar evolution, novae, supernovae, compact objects and gamma-ray bursts, nucleosynthesis, solar system formation and dynamics, and comets.

CITA has the support of over 50 faculty members from about 20 Canadian universities. CITA also maintains a rotating complement of more than 20 post-doctoral fellows and research associates, and hosts an active program of visitors from other universities. The theoretical interests of many CITA staff are complemented by observational research. CITA researchers have active observing programs at a wide variety of ground-based and satellite telescopes in many different wavelength bands.

Contact and Address
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Web: www.cita.utoronto.ca

Canadian Institute for Theoretical Astrophysics (CITA)
Institut Canadien d'Astrophysique Théorique (ICAT)
Room 1403, McLennan Physical Laboratories
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Graduate Faculty

Full Members
J Richard Bond - BSc, MS, PhD, FRS, FRSC, OC,
  Fellow CIAR, Fellow APS, University Professor
Lev Kofman - MSc, PhD, Fellow CIAR *(Acting Director)*
Peter Martin - BSc, MSc, PhD, FRSC
Norman Murray - BSc, PhD, Canada Research Chair
Ue-Li Pen - BSc, MSc, PhD
Christopher Thompson - BS, PhD

Theory and Policy Studies in Education   TPS

Faculty Affiliation
Ontario Institute for Studies in Education

Degree Programs Offered
Educational Administration – MA, MEd, EdD, PhD
Higher Education – MA, MEd, EdD, PhD
History and Philosophy of Education – MA, MEd, EdD, PhD

Collaborative Programs Offered
Degree programs that participate in:
1. Comparative, International and Development Education, see p. 430
    - Educational Administration, MA, MEd, EdD, PhD
    - Higher Education, MA, MEd, EdD, PhD
    - History and Philosophy of Education, MA, MEd, EdD, PhD
2. Women and Gender Studies, see p. 473
    - Educational Administration, MA, MEd, EdD, PhD
    - Higher Education, MA, MEd, EdD, PhD
    - History and Philosophy of Education, MA, MEd, EdD, PhD

Overview
The Department of Theory and Policy Studies in Education (TPS) consists of three graduate programs, one representing two discipline-based fields (History and Philosophy of Education) and two representing the application of cognate scholarship to domains of practice (Educational Administration and Higher Education). Each program offers courses of study leading to **Master of Arts**, **Master of Education**, **Doctor of Education**, and **Doctor of Philosophy** degrees. Applications must be made to one of the three specializations: Educational Administration, Higher Education, History and Philosophy of Education.

For information about application procedures and forms, contact the OISE/UT Registrar's Office at (416) 978-1654.
For general admission and program requirements, consult the OISE/UT Graduate Studies in Education Bulletin section titled "Minimum Admission, Program and Degree Requirements". For complete information on TPS degree programs, consult the section of the Bulletin dealing with the Department of Theory and Policy Studies in Education.

Master of Education Options. At OISE/UT there are four options for completing the MEd degree:
Option I: Course work and comprehensive option: 5.0 full-course equivalents (FCE) plus a comprehensive examination/requirement.
Option II: Research project option: 4.0 FCE plus a research project or major research paper. Higher Education also requires a comprehensive examination.
Option III: Thesis option: 3.0 FCE plus a thesis.
Option IV: Course work only option: 5.0 FCE.

Information about available options in each graduate program follow.

Members of the Department also participate in delivering the preservice teacher education program (BEd), particularly the social foundations courses and courses rooted in educational history, philosophy, administration, and policy.

Contact and Address

Web: www.oise.utoronto.ca/depts/tps/
E-mail: ccavaliere@oise.utoronto.ca or
         jgoodlet@oise.utoronto.ca
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Department of Theory and Policy Studies in Education
The Ontario Institute for Studies in Education of the
  University of Toronto (OISE/UT)
Sixth Floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Educational Administration

Master of Arts
The MA program in Educational Administration fosters the study of problems in the administration and leadership of educational programs. It will best serve students who have a commitment to scholarship and research as a means of deepening their understanding of administrative action in schools or in other educational and service institutions. While experience in teaching and administration is not an essential prerequisite for admission, such experience provides a desirable background. The MA is available through both full-time and part-time studies.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Four-year University of Toronto bachelor's degree or its equivalent, in a relevant discipline or professional program, completed with the equivalent of a University of Toronto B+ standing in the final year.

Program Requirements
- 4.0 full-course equivalents (FCE) plus a thesis. Additional courses may be required of some applicants.

Master of Education
The MEd program in Educational Administration is designed primarily for students who are interested in learning the nature and practice of leadership and policy,

especially with respect to social diversity and change. The MEd degree may be pursued either part-time or full-time.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- An appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university completed with standing equivalent to a University of Toronto mid-B or better in the final year, preferably with a concentration and focus in an area relevant to the type of educational administration the applicant wishes to enter.
- An interest in the study and practice of administration.
- Academic qualifications beyond the first degree.
- Two letters of reference. Whenever possible, one should be written by an educational administrator for whom the applicant has worked; the second by a professional colleague.

Program Requirements
- There are three options available to all students within the MEd program in Educational Administration.
- **Option II** comprises:
  - 1.5 required FCE: TPS 1003H Conducting Research in Educational Administration; TPS 1040H Educational Administration I: Introduction to Educational Administration: Policy, Leadership, and Change; TPS 1041H Educational Administration II: Social and Policy Contexts of Schooling. TPS 1040H and TPS 1041H should be taken first; course TPS 1003H should be taken towards the end of the program.
  - 2.5 other FCE, of which at least 1.0 FCE must be in Educational Administration; TPS 1004H Research Literacy in Educational Administration is strongly recommended and should be taken at the beginning of the program. Students may choose to focus on one of the four program strands: Policy, Leadership, Change, or Social Diversity.
  - A Major Research Paper (MRP) to be carried out under the guidance of a faculty member.
- **Option III** comprises:
  - 1.5 required FCE: TPS 1003H Conducting Research in Educational Administration; TPS 1040H Educational Administration I: Introduction to Educational Administration: Policy, Leadership, and Change; TPS 1041H Educational Administration II: Social and Policy Contexts of Schooling. TPS 1040H and TPS 1041H should be taken first; course TPS 1003H should be taken towards the end of the program.
  - 1.5 other FCE, of which at least one must be in Educational Administration; TPS 1004H Research Literacy in Educational Administration is strongly recommended and should be taken at the beginning of the program;

  - A comprehensive thesis to be developed under the guidance of a faculty member.
- **Option IV** comprises:
  - 2.0 required FCE: TPS 1004H Research Literacy in Educational Administration; TPS 1040H Educational Administration I: Introduction to Educational Administration: Policy, Leadership, and Change; TPS 1041H Educational Administration II: Social and Policy Contexts of Schooling; TPS 1050H Themes and Issues in Policy, Leadership, Change, and Diversity. TPS 1004H, TPS 1040H, and TPS 1041H should preferably be the first courses taken in the student's program of study. TPS 1050H should normally be taken as the final course in the student's program.
  - 3.0 other FCE, of which at least 1.0 FCE must be in Educational Administration. Students may choose to focus on one of the four research areas: policy, leadership, change, and social diversity.

Doctor of Education

The EdD program in Educational Administration is intended to develop highly competent leaders for administrative positions in school systems, colleges, universities, and other educational institutions. The program is specifically designed to help working professional educators develop the intellectual and research skills to refine their practice as leaders in school systems and in higher education.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Master's degree with specialization in Educational Administration or an equivalent degree with a B+ average. Additional course work may be required from those who do not have a background in administrative studies. A qualifying research paper (QRP) will be required.
- The applicant must be in a successful leadership position in education, or must have held a leadership position successfully, or must demonstrate potential for leadership.
- There are two EdD streams: the *regular* and the *cohort-based* streams.
  - **Regular EdD Stream**: regular stream students are accepted every year and can register on a full-time or part-time basis.
  - **Cohort-Based Stream:** Cohorts are accepted every three years. Students move through the program as a cohort or unit.

Program Requirements

Regular EdD Stream
- 4.0 core full-course equivalents (FCE) as follows:
  - TPS 3040H
  - TPS 3041H

- o Two of TPS 3042H, TPS 3043H and TPS 3044H or equivalent
- o 1.0 FCE at the 3000 level
- o 1.0 additional FCE
- Successful completion of a portfolio that emphasizes reflective practice
- A thesis proposal hearing
- A doctoral thesis

Cohort-Based Stream
- 4.0 core full-course equivalents (FCE) as follows:
  - o TPS 3040H
  - o TPS 3041H
  - o TPS 3025H
  - o TPS 3042H
  - o TPS 3047H
  - o TPS 3044H Internship/Practicum in Educational Administration
  - o 1.0 other FCE of which 0.5 FCE which must be at the 3000 level
- Successful completion of a portfolio that emphasizes reflective practice
- A thesis proposal hearing
- A doctoral thesis

Doctor of Philosophy

The PhD program in Educational Administration fosters the study of problems in the administration and leadership of educational programs. It best serves students who are committed to scholarship and research as a means for deepening their understanding of administrative action in schools or in other educational and service institutions. While experience in teaching and administration is not an essential prerequisite for admission, such experience provides a desirable background.

The PhD program may be taken on either a full-time or flexible-time basis. To be admitted on a flexible-time basis, applicants should be active professionals who demonstrate connections between their professional work and their proposed course program, and/or between their professional work and their proposed research.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- University of Toronto MA degree or its equivalent, with standing equivalent to a University of Toronto A-. Students who have completed an appropriate master's degree that did not include a thesis or research project are required to complete a Qualifying Research Paper to a standard satisfactory to the PhD Admissions Committee. Before undertaking a qualifying research project, students should first consult the Program Coordinator.

Program Requirements
- Minimum 3.0 new full-course equivalents (FCE), of which 2.0 FCE normally must be TPS 3040H, TPS 3042H, TPS 3043H, and one elective advanced level (3000) course in Educational Administration.

- Students who have already attained an acceptable level of competence in research methodology may be authorized to choose a course in a different area of specialization.
- PhD students are required to pass a comprehensive examination and a thesis proposal hearing.
- A thesis is required.

Courses

Not all courses are offered every year. Please consult OISE/UT's Graduate Studies Course Schedule which lists the courses the Department will offer this year as well as those offered by other departments that may be taken for credit in your program.

Some sections of existing courses are offered off campus and by computer conferencing in order to make them available to students in localities far from Toronto.

Educational Administration
TPS 1003H Conducting Research in Educational Administration
TPS 1004H Research Literacy in Educational Administration
TPS 1005H The Computer in Educational Administration
TPS 1012H Organizational Culture and Decision Making
TPS 1016H School Program Development and Implementation
TPS 1018H Political Skill in the Education Arena
TPS 1019H Diversity and the Ethics of Educational Administration
TPS 1020H Teachers and Educational Change
TPS 1024H Critical Conversations: Philosophy, Educational Administration, and Educational Policy Studies
TPS 1025H School Effectiveness and School Improvement
TPS 1026H Evaluation of Professional Personnel in Education
TPS 1027H The Search for Educational Quality and Excellence in a Global Economy
TPS 1028H Policy Delivery and Schools
TPS 1029H Special Applications of the Administrative Process
TPS 1030H The Legal Context of Education
TPS 1036H Planning in Educational Organizations
TPS 1040H Educational Administration I: Introduction to Educational Administration: Policy, Leadership and Change
TPS 1041H Educational Administration II: Social and Policy Context of Schooling
TPS 1042H Educational Leadership and Cultural Diversity
TPS 1045H Language Policy Across the Curriculum
TPS 1047H Managing Changes in Classroom Practice
TPS 1048H Educational Leadership and School Improvement
TPS 1050H Themes and Issues in Policy, Leadership, Change, and Diversity

TPS 1052H   Individual Reading and Research in Educational Administration: Master's Level
TPS 2006H   Educational Finance and Economics
             Students who have taken TPS 1017H, TPS 1841H are not eligible to take TPS 2006H)
TPS 3017H   Problems in the Finance and Economics of Education
TPS 3018H   Governing Education: A Seminar on Politics
TPS 3020H   Educational Change in the Post-Modern Age
TPS 3022H   The Investigation of School Culture: An Examination of the Daily Life of Schools
TPS 3024H   Field Studies in Educational Leadership
TPS 3025H   Personal and Professional Values of Educational Leadership
TPS 3028H   Project Development Studies
TPS 3029H   Special Topics in Educational Administration
TPS 3030H   Advanced Legal Issues in Education
TPS 3037H   Strategic Planning in Educational Organizations
TPS 3040H   Administrative Theory and Educational Problems I: People and Power in Organizations
TPS 3041H   Administrative Theory and Educational Problems II: Doctoral Seminar on Policy Issues in Education
TPS 3042H   Field Research in Educational Administration
TPS 3043H   Survey Research in Educational Administration
TPS 3044H   Internship/Practicum in Educational Administration
TPS 3045H   Educational Policy and Program Evaluation
TPS 3046H   Gender Issues in Educational Leadership
TPS 3047H   Research Seminar on Leadership and Educational Change
TPS 3052H   Individual Reading and Research in Educational Administration: Doctoral Level
TPS 3055H   Democratic Values, Student Engagement and Democratic Leadership
JCT 2000H   Proseminar in Educational Evaluation, Measurement and Policy Analysis
JCT 2001H   Using Classroom Assessment to Enhance Student Learning

Higher Education

Master of Arts

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Four-year University of Toronto bachelor's degree with a minimum mid-B standing in the final year, or its equivalent.

Program Requirements
- 4.0 full-course equivalents (FCE)
- General written comprehensive examination
- Thesis. The number of FCE may be reduced to 3.0 for students with prior undergraduate or graduate degrees that are relevant to the study of Higher Education. Additional courses may be required of some applicants. All students are required to complete TPS 1803Y Recurring Issues in Postsecondary Education, and a comprehensive examination.

Master of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.

Program Requirements
- Students in Higher Education pursue the MEd Option I degree program - 5.0 full-course equivalents (FCE) plus a comprehensive examination.
- All students are required to complete TPS 1803Y Recurring Issues in Postsecondary Education.
- **Health Professional Education.** Students in the health professional education specialization normally register in the MEd Option II program – 4.0 FCE plus a major research project/paper. This option, if pursued on a full-time basis, cannot be completed in less than 12 months. A comprehensive examination is required. Additional information on the health professional education specialization may be obtained from Professor Linda Muzzin.

Doctor of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Relevant and acceptable MEd or MA In individual cases, students with a highly relevant master's degree or other equivalent graduate degree may be admitted, but additional courses in Higher Education will be required.

Program Requirements
- Minimum of 4.0 full-course equivalents (FCE) including:
  - TPS 1803Y Recurring Issues in Postsecondary Education (1.0 FCE)
  - at least 1.0 other FCE in Higher Education
  - 0.5 FCE in research methodology approved by the faculty advisor
  - 0.5 FCE selected either in Higher Education or in another graduate program at OISE/UT, or, with the approval of the faculty advisor, in another graduate department at the University of Toronto

o Supervised applied research practicum (equivalent to 0.5 FCE)
o Collaborative pro-seminar (0.5 FCE)
• Written General Comprehensive Examination (if not completed previously);
• Doctoral Specialization Examination;
• Thesis reporting the results of original research on an applied topic in postsecondary education.

Doctor of Philosophy

Minimum Admission Requirements
• General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
• Relevant and acceptable MEd or MA In individual cases, students with a highly relevant master's degree or other equivalent graduate degree may be admitted, but additional courses in Higher Education will be required.

Program Requirements
• Minimum 3.0 full-course equivalents (FCE) including:
o TPS 1803Y Recurring Issues in Postsecondary Education (1.0 FCE)
o at least 1.0 other FCE in Higher Education
o 0.5 FCE in research methodology approved by the faculty advisor
o 0.5 FCE selected either in Higher Education or in another graduate program at OISE/UT, or, with the approval of the faculty advisor, in another graduate department at the University of Toronto
• Written General Comprehensive Examination (if not completed previously).
• Doctoral Specialization Examination;
• Thesis reporting the results of original research in postsecondary education.

Courses
Not all courses are offered every year. Please consult OISE/UT's Graduate Studies Course Schedule which lists the courses the Department will offer this year as well as those offered by other departments that may be taken for credit in your program.

Some sections of existing courses are offered off campus and by computer conferencing in order to make them available to students in localities far from Toronto.

Higher Education
TPS 1801H The History of Higher Education in Canada: An Overview
TPS 1802Y Theory in Higher Education
TPS 1803Y Recurring Issues in Postsecondary Education
TPS 1804H Issues in Medical/Health Professional Education
TPS 1805H The Community College
TPS 1806H Systems of Higher Education

TPS 1807H Strategic and Long-Range Planning for Postsecondary Systems
TPS 1808H Research in Health Professional Education
TPS 1809H Administration of Colleges and Universities
TPS 1810H Evaluation of Knowledge, Clinical Competence, and Professional Behaviour in the Health Professions
TPS 1811H Institutional Research and Planning
TPS 1812H Education and the Professions
TPS 1813H Issues in Cognitive and Educational Psychology: Implications for Health Professional Education
TPS 1814H Curriculum in Institutions of Higher Education
TPS 1815H Teaching in Institutions of Higher Education
TPS 1817H Nurturing Professional Education
TPS 1818H Educational Development: Examination of Strategies for Improving Teaching and Learning in Postsecondary Institutions
TPS 1819H Governance in Higher Education
TPS 1820H Special Topics in Higher Education: Master's Level
TPS 1821H Institutional Differentiation in Postsecondary Education
TPS 1822H The Idea of the University and the College
TPS 1824H The Planning of Facilities in Higher Education
TPS 1825H Comparative Education: Theory and Methodology
TPS 1826H Comparative Higher Education
TPS 1827H The Politics of Higher Education
TPS 1828H Evaluation in Higher Education
TPS 1832H East Asian Higher Education
TPS 1833H Academic Capitalism: Higher Education with a Corporate Agenda
TPS 1834H Qualitative Research in Higher Education
TPS 1837H Environmental Health, Transformative Higher Education and Policy Change: Education Toward Social and Ecosystem Healing
TPS 1838H Continuing Education
TPS 1839H Administration of Technology in Higher Education
TPS 1842H Higher Education and the Labour Market
TPS 1843H Higher Education and the Law
TPS 1852H Individual Reading and Research in Higher Education: Master's Level
TPS 2006H Educational Finance and Economics
(Students who have taken TPS 1017H, TPS 1841H are not eligible to take TPS 2006H)
TPS 3806H Case Studies in Comparative Higher Education
TPS 3810H International Academic Relations
TPS 3820H Special Topics in Higher Education: Doctoral Level
TPS 3852H Individual Reading and Research in Higher Education: Doctoral Level

History and Philosophy of Education

There are two separate fields in the History and Philosophy of Education:
1. History of Education
2. Philosophy of Education

Master of Arts

History of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Four-year University of Toronto bachelor's degree, or its equivalent, with a major in history

Program Requirements
- 3.0 full-course equivalents (FCE) plus a thesis.
- Completion of TPS 1419H Historiography and the History of Education and TPS 1440H An Introduction to Philosophy of Education is mandatory for students in this program.
- Normally, 1.5 FCE of the remaining 2.0 FCE must be selected from the History of Education course menu. (See the OISE/UT Graduate Studies in Education Bulletin for details.) In cases where a student has already taken a course deemed equivalent to TPS 1440H, another philosophy course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in history.

Philosophy of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- Four-year University of Toronto bachelor's degree, or its equivalent, with a major in philosophy.

Program Requirements
- 3.0 full-course equivalents (FCE) plus a thesis.
- Completion of TPS 1440H An Introduction to Philosophy of Education is mandatory (unless a course deemed equivalent has already been taken).
- In addition, one course in history is also mandatory, normally TPS 1419H Historiography and the History of Education. In cases where a student has already taken a course deemed equivalent to TPS 1419H, another history course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in philosophy.
- Normally, 1.5 FCE of the remaining 2.0 FCE must be selected from the Philosophy of Education course menu. (See the OISE/UT Graduate Studies in Education Bulletin for details.) Upon approval, courses from other departments, including the Graduate Department of Philosophy, may be substituted for Philosophy of Education courses.

- Applicants with undergraduate majors in related social science and humanities disciplines are normally required to take some additional courses.

Master of Education

History of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.

Program Requirements
- The MEd degree in the History and Philosophy of Education Program - History of Education field may be pursued under either Option II (4.0 full-course equivalents (FCE) plus a major research project/paper) or Option IV (5.0 FCE).
  - Students enrolled in **Option II** are expected to complete at least 2.0 FCE from the History of Education course menu.
  - Students enrolled in **Option IV** are expected to complete at least 2.5 FCE from the History of Education course menu. (See the OISE/UT Graduate Studies in Education Bulletin for a list of History of Education courses.)
- Completion of TPS 1460H History and Educational Research and TPS 1440H An Introduction to Philosophy of Education is mandatory in both options. In cases where a student has already taken a course deemed equivalent to TPS 1440H, another philosophy course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in history.

Philosophy of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.

Program Requirements
- The MEd degree in the History and Philosophy of Education Program - Philosophy of Education field may be pursued under either Option II (4.0 full-course equivalents (FCE) plus a major research project/paper) or Option IV (5.0 FCE).
  - Students enrolled in **Option II** are expected to complete at least 2.0 FCE from the Philosophy of Education course menu.
  - Students enrolled in **Option IV** are expected to complete at least 2.5 FCE from the Philosophy of Education course menu. (See the OISE/UT Graduate Studies in Education Bulletin for a list of Philosophy of Education courses.)
- Completion of TPS 1440H An Introduction to Philosophy of Education is mandatory in both options (unless a course deemed equivalent has already been taken).

- In addition, for both options one course in history is also mandatory, normally TPS 1419H Historiography and the History of Education. In cases where a student has already taken a course deemed equivalent to TPS 1419H, another history course may be substituted. In consultation with the faculty advisor, the substituted course should be chosen to complement the student's primary focus in philosophy.

Doctor of Education

History of Education

The EdD degree in the History and Philosophy of Education Program - History of Education field is designed for career educators who wish to engage in the in-depth study of a problem or topic related to professional practice.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.

Program Requirements
- Students who have completed a master's degree (MEd or MA) in the History and Philosophy of Education Program - History of Education field must complete 4.0 full-course equivalents (FCE), a year of full-time study on campus, and a thesis. Preferably, the year of full-time study should occur late in the degree program and should be devoted primarily to thesis research and writing.
- Students who have not completed a master's (MEd or MA) degree in the History and Philosophy of Education Program - History of Education field must complete TPS 1440H An Introduction to the Philosophy of Education as part of their 4.0 FCE. In cases where a student has already taken a course deemed equivalent to TPS 1440H, another philosophy course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in history.
- The core program includes two mandatory EdD seminars (TPS 3490H EdD Seminar in the History of Education I and TPS 3491H EdD Seminar in the History of Education II), normally taken during the year of full-time study. Course TPS 1419H Historiography and the History of Education is a requirement for students in this program. The remaining courses are selected by the student in consultation with the faculty advisor and may be taken before or after the year of required full-time study. Students are strongly encouraged, though not required, to take at least 1.0 FCE before the year of full-time study.
- All EdD students are required to take a comprehensive examination.

Philosophy of Education

The EdD degree program in the History and Philosophy of Education Program - Philosophy of Education field is designed for career educators who wish to engage in the in-depth study of a problem or topic related to professional practice.

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.

Program Requirements
- Applicants with specializations in their master's degree programs other than Philosophy of Education are required to take additional courses either as prerequisites to admission or as part of their program.
- Applicants without a master's thesis or equivalent must submit a Qualifying Research Paper, which must be approved by two faculty members prior to registration in the program.
- Students who have completed a master's degree (MEd or MA) in the History and Philosophy of Education Program - Philosophy of Education field must complete 4.0 full-course equivalents (FCE) (some or all of which may be taken part-time), a year of required full-time study on campus, and a thesis. Preferably, the year of full-time study should occur late in the degree program and should be devoted primarily to thesis research and writing.
- All EdD students are required to take a comprehensive examination.
- Core program includes two mandatory EdD seminars (TPS 3480H EdD Seminar in the Philosophy of Education I and TPS 3481H EdD Seminar in the Philosophy of Education II), normally taken during the year of required full-time study, and course TPS 1440H An Introduction to Philosophy of Education, unless it, or an equivalent, has been taken previously.
- Students who have not completed a master's (MEd or MA) degree in the History and Philosophy of Education Program - Philosophy of Education field must complete TPS1419H Historiography and the History of Education as part of their required 4.0 FCE. In cases where a student has already taken a course deemed equivalent to TPS 1419H, another history course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in philosophy.
- A minimum of 2.5 FCE should normally be taken from the Philosophy of Education course menu, selected in consultation with the faculty advisor. (See the OISE/UT Graduate Studies in Education Bulletin for a list of Philosophy of Education courses.) Courses from other departments, including the Graduate Department of Philosophy, may, upon approval, be substituted for Philosophy of Education courses. Students are strongly encouraged, though not required, to take at least 1.0 FCE before the year of required full-time study.

Doctor of Philosophy

History of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- University of Toronto MA degree in the History and Philosophy of Education Program - History of Education field, or its equivalent, including a thesis or equivalent major research paper.

Program Requirements
- 3.0 full-course equivalents (FCE) plus a thesis.
- If the master's degree did not include a thesis (or equivalent), a Qualifying Research Paper must be submitted and approved by two faculty members before registration in the degree program.
- Applicants who do not hold a University of Toronto MA degree in the History and Philosophy of Education Program - History of Education field or its equivalent will be required to establish equivalency with the OISE/UT master's program. Usually this entails completion of TPS 1419H Historiography and the History of Education and TPS 1440H An Introduction to the Philosophy of Education within the minimum 3.0 FCE requirement for the PhD In cases where a student has already taken a course deemed equivalent to TPS 1440H, another philosophy course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the student's primary focus in history.
- All PhD students are required to write a comprehensive examination.

Philosophy of Education

Minimum Admission Requirements
- General requirements listed in the OISE/UT Graduate Studies in Education Bulletin.
- University of Toronto master's degree in the History and Philosophy of Education Program - Philosophy of Education field or its equivalent (including a thesis or equivalent major research paper)

Program Requirements
- 3.0 full-course equivalents (FCE) plus a thesis.
- If the master's degree did not include a thesis (or equivalent), a Qualifying Research Paper must be submitted and approved by two faculty members before registration in the degree program.
- Applicants who do not hold a University of Toronto master's degree in the History and Philosophy of Education Program - Philosophy of Education field or its equivalent will be required to establish equivalency with the OISE/UT master's program. Usually this entails completion of TPS 1440H An Introduction to Philosophy of Education (unless a course deemed equivalent has already been taken previously)

and TPS 1419H Historiography and the History of Education within the minimum 3.0 FCE requirement for the PhD In cases where a student has already taken a course deemed equivalent to TPS 1419H, another history course may be substituted. In consultation with the faculty advisor, this course should be chosen to complement the students' primary focus in philosophy.
- All students must complete at least 2.0 FCE from the Philosophy of Education course menu, including TPS 1440H. (See the OISE/UT Graduate Studies in Education Bulletin for a list of Philosophy of Education courses.) Courses should be selected in consultation with the faculty advisor. Courses from other departments, including the Graduate Department of Philosophy, may, upon approval, be substituted for Philosophy of Education courses.
- All PhD students are required to write a comprehensive examination.

Courses

Not all courses are offered every year. Please consult OISE/UT's Graduate Studies Course Schedule which lists the courses the Department will offer this year as well as those offered by other departments that may be taken for credit in your program.

Some sections of existing courses are offered off campus and by computer conferencing in order to make them available to students in localities far from Toronto.

History of Education
TPS 1400H   The Origins of Modern Schooling I: Problems in Education Before the Industrial Revolution
TPS 1401H   The Origins of Modern Schooling II: Problems in Nineteenth- and Twentieth-Century Educational History, Focus on Canada and the U.S.A.
TPS 1402H   History of Modern European Education
TPS 1403H   History of Education in Canada
TPS 1404H   History of Rural Education in Canada
TPS 1405H   History of Education and Society: Selected Topics
TPS 1406H   Sexuality and the History of Education
TPS 1410H   Schooling in the Movies: Education as Reflected in Hollywood Films
TPS 1415H   The History of the Teaching Profession
TPS 1416H   Ontario Education
TPS 1419H   Historiography and the History of Education
TPS 1420H   European Popular Culture and the Social History of Education: I
TPS 1422H   Education and Family Life in the Modern World I
TPS 1423H   The History of the Family in Canada
TPS 1424H   Religion, Ideology, and Social Movements in the History of North American Education
TPS 1426H   The History of Gender and Education in Canada

TPS 1427H   History and Commemoration: Canada and Beyond, 1800s-1900s
TPS 1428H   Immigration and the History of Canadian Education
TPS 1429H   Ethnicity and the History of Canadian Education
TPS 1430H   Gendered Colonialisms, Imperialisms and Nationalisms in History
TPS 1452H   Individual Reading and Research in the History of Education: Master's Level
TPS 1454H   The Battle Over History Education in Canada
TPS 1460H   History and Educational Research
TPS 1461H   Special Topics in History of Education
TPS 3423H   Education and Family Life in the Modern World II
TPS 3428H   Minority Concerns and Education in Canadian History: Selected Topics
TPS 3452H   Individual Reading and Research in the History of Education: Doctoral Level
TPS 3461H   Special Topics in History of Education
TPS 3490H   EdD Seminar in the History of Education I
TPS 3491H   EdD Seminar in the History of Education II
TPS 3494H   Doctoral Practicum in the History of Education I
TPS 3495H   Doctoral Practicum in the History of Education II

Philosophy of Education
TPS 1432H   Knowledge, Mind, and Human Beings
TPS 1433H   Freedom and Authority in Education
TPS 1434H   Human Rights, Politics, and Education
TPS 1435H   Democracy and Education
TPS 1436H   Modernity and Postmodernity in Social Thought and Education
TPS 1438H   Democratic Approaches to Pedagogy
TPS 1439H   Gender, Ethics, and Education: Philosophical Issues
TPS 1440H   An Introduction to Philosophy of Education
TPS 1441H   Philosophical Dimensions of Moral Education
TPS 1442H   Cultural and Racial Difference in Education: Philosophical Perspectives
TPS 1443H   'Troubling' Knowledges in Education: the Politics of Claiming Truths
TPS 1444H   Human Rights and Education in an International Context
TPS 1446H   The Teacher as Philosopher
TPS 1447H   Technology in Education: Philosophical Issues
TPS 1448H   Popular Culture and the Social History of Education: II
TPS 1449H   The Theory of Law and the Teaching of Law in the Schools
TPS 1450H   Philosophy of Science and Science Education
TPS 1453H   Individual Reading and Research in the Philosophy of Education: Master's Level
TPS 1459H   Creativity and Education
TPS 1462H   Women, Literature, and Education
TPS 1465H   Special Topics in Philosophy of Education

TPS 1471H   Critical Issues in Education: Philosophical Perspectives
TPS 1482H   The Nature and Development of Religious Knowledge in Education
TPS 1484H   Philosophy of Literature and Literature Education
TPS 1485H   Literature and Values in Education
TPS 1487H   Critical Discourses of Musical Experience and Education
TPS 1488H   Feminist Theory, Musical Experience, and Music Education
TPS 3417H   Research Seminar in Feminist Criticism, Aesthetics, and Pedagogy
TPS 3436H   Aesthetics and Education
TPS 3441H   Research Seminar in Moral Education: Part I
TPS 3443H   Research Seminar in Moral Education: Part II
TPS 3447H   Theories of Modernity and Education I
TPS 3453H   Individual Reading and Research in the Philosophy of Education: Doctoral Level
TPS 3465H   Special Topics in Philosophy of Education
TPS 3480H   EdD Seminar in the Philosophy of Education I
TPS 3481H   EdD Seminar in the Philosophy of Education II
TPS 3484H   Doctoral Practicum in the Philosophy of Education I
TPS 3485H   Doctoral Practicum in the Philosophy of Education II

Graduate Faculty

Full Members
Sandra Acker - BA, MA, PhD
Stephen Anderson - PhD
Jorge Balan - PhD
Nina Bascia - BA, EdS, MA, PhD
Megan Boler - BA, PhD *(Associate Chair; Program Coordinator, Philosophy)*
Dwight Boyd - BA, MEd, EdD
Peter Dietsche - BSc, MA, PhD
Lorna Earl - PhD
Maureen Ford - BA, MA, PhD
Jane Gaskell - BA, EdD
Denis Hache - BA, BEd, MEd, MBA, PhD
Ruth Hayhoe - BA, MA, PhD
Angela Hildyard - BSc, MA, PhD
Brian Hodges - BA, MED, MD, PhD
Glen Jones - BA, BEd, MEd, PhD
Reva Joshee - BA, MA, PhD *(Chair)*
Brent Kilbourn - BS, MA, PhD
Daniel Lang - BA, MA, PhD
Kenneth Leithwood - BA, BPE, MPE, PhD
Benjamin Levin - BA, MEd, PhD
David Levine - BA, MA, PhD
Lorelei Lingard - BA, MA, PhD
Jamie-Lynn Magnusson - BA, MA, PhD *(Program Coordinator, Higher Education)*

Cecilia Louise Morgan - BA, MA, PhD (*Program Coordinator, History)*
Karen Mundy - BA, MA, PhD, Canada Research Chair
Linda Muzzin - BA, MA, MA, PhD
Roxana Ng - BA, MA, PhD
Christopher Olsen - BSc, MA, PhD
Susan Padro - BA, MS, PhD
Charles Pascal - BA, MA, PhD
John Portelli - BA, MA, PhD *(Associate Chair)*
Glenn Regehr - BA, PhD
James Ryan - BPE, BEd, MEd, PhD
Creso Sa
Ruth Sandwell - BA, MA, PhD
Souraya Sidani - BSN, TD, MS, PhD
Elizabeth Smyth - BA, BEd, MA, EdD
Suzanne Stiegelbauer - BS, AM, MA, PhD
Harold Troper - BA, MA, PhD
Cicely Watson - BA, PhD
Marvin Zuker - BA, LLB, MEd

Members Emeriti
Deanne Bogdan - BA, MA, PhD
John Davis - BA, BEd, MEd, PhD
John Eisenberg - BA, AM
Stephen Lawton - BA, MA, PhD
Dieter Misgeld - DPhil
Ruth Pierson - PhD
Alison Prentice - BA, MA, PhD
Michael Skolnik - BA, BPhil
Richard Townsend - BA, MCP, PhD

Associate Members
Mathieu Albert - BA, MSc, PhD
Derek Allison - BEd, MEd, PhD
Paul Amyotte - BEng, MSc, PhD
Patricia Armstrong - BA, MA, PhD
Paul Axelrod - BA, MA, PhD
Helen Batty - MD, CCFP, MEd, FCFP
Barbara Brenzel - EdD, EdM, BEd, BA
Joseph Burke - BA, MA, PhD
Berry Calder - EdD, MA, BSc
Anthony Chambers - EdD, MS, BS
Liang Chen - BA, MSc, MBA, PhD
Vanaja Dhruvarajan - BA, MA, PhD
Catherine Drea - BA, MA, EdD
Mario Osbert D'Souza
Adam Dubrowski - PhD
Lorayne Dunlop-Robertson
Marlene Epp - BA, MA, PhD
Joseph Flessa - BA, MA, PhD
Jason R Frank - BSc, MA
Bernardo Garcia-Dominguez - PhD
Jim Garrison
Roy Giroux - BA, BPE, MEd, PhD
Neil Gold - BA, LLB, LLM
Michelle Goldberg
Dorothy Goldin Rosenberg - MES, PhD
Robert Gordon - BA, MEd, MA, EdD, MPA
Carlos Gozalez Prado - BA, MA, PhD
Alexander Gregor - BA, MA, PhD

Catherine Hands – BA, MA, PhD
Michael Hatton - BA, MSEd, MBA, PhD
Robert Hilliard - BA, MD, MEd, EdD
Merle Jacobs - MA, PhD
Katharine Janzen - BSc, MEd, EdD
David Jopling - BA, PhD
Gabrielle Kane - BA, MB, MEd, EdD
N. Jane Knight - BA, MED, PhD, MPA
Clay Lafleur - BA, MA, PhD
Heather Lane - MSc, PhD
Vicki LeBlanc - PhD, MSc, BPs
Jun Li
Jing Lin - BA, MA, EdD
Martin Lockshin - BA, MA, PhD
Ann Lopez
Elizabeth MacDonald
Frederick MacDonald - BA, Bed, MA, PhD
Geraldine Macdonald - RN, BScN, MEd, EdD
Blair Mascall - BA, MA, PhD
Alexandra McGregor - PhD
Jodi McIlroy - BSc, MA, PhD
Brenda McMahon - BA, BEd, MEd, PhD
Sandra Mendlowitz - BSc, MEd, PhD
Samih Mikhail - BSc, MSc, EdD
Louise Nasmith - BA,MEd
Pak Tee Ng - BA, PGDE, MA, MBA, PhD
Woods Nicole
Joyce Nyhof-Young - BSc, MSc, PhD
Terry O'Banion - BA, MEd, PhD
Julia Pan - BA, MEd, PhD
Peeter Poldre - MD, EdD, FRCP(C)
Christiane Claire Poulin
Dennis Raphael - BSc, MSc, PhD
Scott Reeves - BSc, PGCE, MSc, PhD
Malcolm Richmon - BA, MA, PhD
Creso Sa
Michele Schmidt - BA, MEd, PhD
Wayne Seller - BA, MEd
Carla Shapiro - BA, PhD
Dennis Sharpe
Jeffrey Stickney
James Tully - BA, PhD
William Turkel - PhD SM MA BSc
Susan Winton
Cynthia Wright - BA, MA, PhD
Stacey Young - BA, MA, PhD
Lindy Zarestsky - BA, BEd, MEd, PhD
Jasmin Zine - BA, MA, PhD

Women and Gender Studies   WGS

Faculty Affiliation
Arts and Science

Degree Programs Offered
Women and Gender Studies - MA

Overview
     The Women and Gender Studies Institute (WGSI) offers a program leading to the **Master of Arts** degree in Women and Gender Studies. The Master's Program in Women and Gender Studies (MWGS) focuses on transnationality and gender. This perspective explores the global processes in which women's and men's lives, gender relations, gendered subjectivities and sexualities are situated; it illuminates colonial, postcolonial and transnational contexts. Central themes of the program include global capitalism, nation and state formation, empire, citizenship, diaspora and cultural flows, all of which are examined through the lenses of gender, race, class and sexuality. The program welcomes applications from international students.

Collaborative Programs Offered
     The WGSI's MA degree program participates in the following collaborative programs:
1. Addiction Studies, see p. 406
   • Women and Gender Studies, MA
2. Aging, Palliative and Supportive Care Across the Life Course, see p. 408
   • Women and Gender Studies, MA
3. Asia-Pacific Studies, see p. 413
   • Women and Gender Studies, MA
4. Bioethics, see p. 416
   • Women and Gender Studies, MA
5. Environment and Health, see p. 439
   • Women and Gender Studies, MA
6. Environmental Studies, see p. 443
   • Women and Gender Studies, MA
7. International Relations, see p. 458
   • Women and Gender Studies, MA
8. Sexual Diversity Studies, see p. 469
   • Women and Gender Studies, MA
9. South Asian Studies, see p. 471
   • Women and Gender Studies, MA
10. Women's Health, see p. 478
   • Women and Gender Studies, MA

Contact and Address
Web: www.utoronto.ca/wgsi
E-mail: grad.womenstudies@utoronto.ca
Telephone: 416-978-3668
Fax: 416-946-5561

Women and Gender Studies Institute
Room 2036, Wilson Hall, New College
University of Toronto
40 Willcocks Street
Toronto, Ontario M5S 1C6
Canada

Degree Programs
Master of Arts

Minimum Admission Requirements
- Four-year University of Toronto bachelor's degree, or its equivalent, in women's studies and gender studies or a related area at an approved university. Applicants must have obtained an average equivalent to a University of Toronto B+ or better in their final year of undergraduate study.
- Letter of intent outlining the academic goals the applicant wishes to pursue in the program, three letters of recommendation, transcripts from all post-secondary institutions, a curriculum vitae, and a writing sample.

Program Requirements
- The student's program of study must be approved by the institute. Total of 4.0 full-course equivalents (FCE) as follows:
   - 1.5 core full-course equivalents (FCE) in Women and Gender Studies (WGS 1000H, WGS 1001H, and WGS 1002H)
   - 0.5 elective FCE in Women and Gender Studies (either a special topics seminar [WGS 1003H or WGS1004H], a practicum [WGS1006H], or an independent research/reading course [WGS1007H])
   - 1.0 FCE Master's Research Paper (WGS 1005Y)
   - 1.0 FCE (1 year-long or two half-year courses) offered by other departments and chosen in consultation with your faculty advisor
- The MA degree program is a full-time, twelve-month program and is not offered on a part-time basis.

Courses
WGS 1000H Theories, Histories, Feminisms
WGS 1001H Feminism, Transnationalism and
     Postcolonialism
WGS 1002H Feminist Methodologies and
     Epistemologies
WGS 1003H Special Topics in Feminist Studies
WGS 1004H Special Topics in Feminist Theory
WGS 1005Y MA Research Paper
WGS 1006H Practicum
WGS 1007H Directed Research/Reading

Graduate Faculty

Full Members
Mary (Jacqui) - Alexander - BSW, MA, PhD
Kay Armatage - BA, MA, PhD
Bonnie McElhinny - BA, MA, PhD *(Director)*
Kathryn Morgan - BA, MA, MEd, PhD
Michelle Murphy - BA, PhD *(Coordinator of Graduate Studies)*
Mary Nyquist - BA, MA, PhD
Kerry Rittich - MusBac, LLB, SJD
Ashwini Tambe - BA, MS, PhD
Judith Taylor - BA, PhD
Alissa Trotz - BA, MPhil, PhD

Associate Members
June Larkin - BA, MEd, PhD

Aboriginal Health

Lead Faculty
Medicine

Degree Programs Offered
Adult Education and Counselling Psychology – MA, MEd, EdD, PhD
Anthropology – MA, MSc, PhD
Geography – MA, MSc, PhD
Medical Science – MSc, PhD
Nursing Science – MN, PhD
Nutritional Sciences – MHSc, MSc, PhD
Public Health Sciences – MHSc, PhD
Sociology and Equity Studies in Education – MA, MEd, EdD, PhD

Overview
The Collaborative Program in Aboriginal Health involves the graduate programs listed above. The program is offered in collaboration with the Faculty of Arts and Sciences' Aboriginal Studies Program. The main objective of the program is to provide graduate training in Aboriginal health research and practice while enhancing mutually beneficial relationships with Aboriginal communities and organizations.

Contact and Address
E-mail: kue.young@utoronto.ca
Telephone: (416) 978-0298
Fax: (416) 946-8055

Aboriginal Health Collaborative Program
c/o Department of Public Health Sciences
University of Toronto
Room 547, 155 College Street
Toronto, Ontario M5T 3M7
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Students who wish to enrol in a collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments.
- Applicants must submit to the Program Committee of the Collaborative Program in Aboriginal Health:
  - A personal statement, in the form of a letter no longer than three pages to describe relevant personal and/or professional experiences, a career plan, and motivation in seeking advanced training in Aboriginal health. The nature of any relationship with an Aboriginal community/organization that already exists or to be developed should also be described.
  - Photocopies of application materials submitted to their home unit including curriculum vitae, transcripts, and letters of reference.

Program Requirements
- All master's students in the program will take a core course (0.5 full-course equivalent (FCE)) listed below.
- In home graduate units where a thesis or major research paper is required, it must deal with an Aboriginal health topic. At least one member of the student's thesis committee should be a core faculty member of the Collaborative Program.
- In home graduate units that do not have a thesis requirement, students must undertake a practicum or equivalent in an Aboriginal health topic, supervised by a core faculty member of the Collaborative Program.
- Students must participate in the Research Seminar Series, held monthly, as well as participate in at least one National/Regional Workshop.
- Students must complete the requirements of the Collaborative Program in addition to those requirements for the degree program in their home graduate unit.

Doctoral Degrees

Minimum Admission Requirements
- Students who wish to enrol in a collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments.
- Applicants must submit to the Program Committee of the Collaborative Program in Aboriginal Health:
  - A personal statement, in the form of a letter no longer than three pages to describe relevant personal and/or professional experiences, a career plan, and motivation in seeking advanced training in Aboriginal health. The nature of any relationship with an Aboriginal community/organization that already exists or to be developed should also be described.
  - Photocopies of application materials submitted to their home unit including curriculum vitae, transcripts, and letters of reference.

Program Requirements
- The requirements are the same as for the master's program listed above.
- Students who have previously taken one of the core courses (0.5 FCE) during their master's program are required to take a different course during their doctoral program.
- Students participate in a new Research Seminar Series and at least one National/Regional Workshop.

Core Courses

AEC 1275H   Special Topics in Counselling Psychology
             (Master's): Integrating Traditional Healing
             into Counselling Psychology and Therapy
CHL 5421H   Aboriginal Health
NUR 1014H   Politics of Aboriginal Health

Program Committee

Eileen Antone - BA, BEd, MEd, EdD - Adult Education &
  Counselling Psychology
Suzanne Stewart - PhD - Adult Education & Counselling
  Psychology
Krystyna Sieciechowicz - BA, MA, PhD - Anthropology
Loraine Marrett - BMath, PhD - Medical Science
Anthony Hanley - MSc,PhD - Nutritional Sciences
Kue Young - BSc,MD,MSc,PhD,FRCPC,LMCC - Public
  Health Sciences *(Director)*
Martin Cannon - PhD - Sociology & Equity Studies in
  Education

Addiction Studies

Lead Faculty
Medicine

Degree Programs Offered
Adult Education and Counselling Psychology – MA, MEd, EdD, PhD
Anthropology – MA, MSc, PhD
Biomedical Engineering – MASc, PhD
Criminology – MA, PhD
Exercise Sciences – MSc, PhD
Information Studies – MISt, PhD
Medical Science – MSc, PhD
Nursing Science – MN, PhD
Pharmacology – MSc, PhD
Pharmaceutical Sciences – MSc, PhD
Psychology – MA, PhD
Public Health Sciences – MSc, PhD
Social Work – MSW, PhD
Sociology – MA, PhD
Women and Gender Studies – MA

Overview
The graduate programs listed above; in collaboration with the Centre for Addiction and Mental Health, the Canadian Centre on Substance Abuse, and the Ontario Tobacco Research Unit; participate in the Collaborative Program in Addiction Studies at the University of Toronto. The purpose of the program is to develop and integrate graduate training in the multidisciplinary field of addictions, an area that includes the use and abuse of alcohol, tobacco, and psychoactive substances, as well as gambling and other addictive behaviours. Master's programs requiring a thesis, practicum, or research paper, and Doctor of Philosophy programs are included. Upon fulfilment of the program requirements, transcripts issued by the School of Graduate Studies will denote completion of the Collaborative Program in Addiction Studies.

Contact and Address
Web: www.phs.utoronto.ca/c_copas.htm
E-mail: robert_mann@camh.net
Telephone: (416) 535-8501 ext. 4496

R.E. Mann, Director
Collaborative Program in Addiction Studies
Centre for Addiction and Mental Health
33 Russell Street, Room 2035
Toronto, Ontario M5S 2S1
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.

Program Requirements
- Students must meet all requirements of their home department in terms of course work and thesis work, or equivalent.
- Master's students in the collaborative program are required to take PAS 3700H Multidisciplinary Aspects of Addictions, plus 0.5 full-course equivalent (FCE) selected from the list of approved courses presented below or an approved directed reading course.
- The student's thesis must deal with a subject in the field of addictions. The thesis is supervised and evaluated in the same manner as others in the home department, but normally involves, as appropriate, supervisory and examining professors from other disciplines represented in the collaborative program. In collaborating departments that do not require a thesis, a practicum or major research paper will be accepted instead of a thesis, as long as the topic or focus is directly related to addictions. In collaborating departments that do not have a thesis or equivalent requirement, students must take a third 0.5 FCE from the list of approved electives.

Doctoral Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.

Program Requirements
- PhD students in the collaborative program are required to take PAS 3700H Multidisciplinary Aspects of Addictions, if they have not already done so, plus an additional 0.5 FCE (not taken previously) from the approved listing of courses presented below or an approved directed reading course.
- Students must meet all requirements of their home department in terms of course work and thesis work, or equivalent.
- The student's thesis must deal with a subject in the field of addictions. The thesis is supervised and evaluated in the same manner as others in the home department, but normally involves, as appropriate, supervisory and examining professors from other disciplines represented in the collaborative program. In collaborating departments that do not require a

thesis, a practicum or major research paper will be accepted instead of a thesis, as long as the topic or focus is directly related to addictions. In collaborating departments that do not have a thesis or equivalent requirement, students must take a third 0.5 FCE from the list of approved electives.

- Upon fulfilment of the program requirements, transcripts issued by the School of Graduate Studies will denote completion of the Collaborative Program in Addiction Studies.

Courses

The following courses in the Collaborative Program in Addiction Studies are offered by the participating departments for the current academic year.

PAS 3700H   Multidisciplinary Aspects of Addiction
PAS 3701H   Advanced Research Issues in Addictions
CHL 5119H   Social and Political Perspectives on Drugs
     and Addictions
CHL 5417H   Tobacco and Health: From Cells to Society
JPM 1005Y   Behavioural Pharmacology
MSC 1085H   Molecular Approaches to Mental Health
     and Addictions
PSY 2703H   The Psychology of Addictions
SOC 6123H   Sociology of Addiction
SWK 4616H   Drug Dependence: Treatment Approaches

Program Committee

Richard Frecker - BSc, MD, PhD, LMCC - Biomedical Engineering
N. Scot Wortley - BA, MA, PhD - Criminology
Wendy Duff - BA, MLS, PhD - Information Studies
Peter Carlen - MD, FRCP(C) - Medical Science
Carles Muntaner - MD, PhD - Nursing Science
Beth Sproule - BScPhm, PharmD - Pharmaceutical Sciences
John Cunningham - BSc, MA, PhD - Psychology
Robert Mann - BA, MASc, PhD - Public Health Sciences *(Director)*
Jurgen Rehm - PhD - Public Health Sciences
Marilyn Herie - BA, MSW, PHD - Social Work
Lorne Tepperman - BA, MA, PhD - Sociology
Patricia Erickson - BA, MA, PhD - Centre for Addiction & Mental Health
Roberta Ferrence - BA, MA, PhD - Ontario Tobacco Research Unit

Aging, Palliative and Supportive Care Across the Life Course

Lead Faculty
School of Graduate Studies

Degree Programs Offered
Adult Education and Counselling Psychology – MA, MEd, EdD PhD
Anthropology – MA, MSc, PhD
Dentistry – MSc, PhD
Exercise Sciences – MSc, PhD
Health Policy, Management and Evaluation – MHSc, MSc, PhD
Information Studies – MISt, PhD
Medical Science – MSc, PhD
Nursing Science – MN/MHSc, PhD
Pharmaceutical Sciences – MSc, PhD
Psychology – MA, PhD
Public Health Sciences – MHSc, MSc, PhD
Rehabilitation Science – MSc, PhD
Social Work – MSW, JD/MSW, MHSc/MSW, PhD
Sociology – MA, PhD
Speech-Language Pathology – MHSc, MSc, PhD
Women and Gender Studies – MA

Overview
The Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course prepares students for specialization in the field of aging and/or the field of palliative and supportive care, with an emphasis on viewing aging issues within the perspective of the life course. The Collaborative Program offers students two options of study:
1 aging and the life course
2 palliative and supportive care
Students must apply to and register in a home participating unit (i.e., one of the graduate programs listed above), and follow a course of study acceptable to both the graduate unit and the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course.

Upon successful completion of the requirements, students receive, in addition to the master's degree from the home graduate unit, the notation on their transcript: "Completed the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course".

Contact and Address
Web: www.aging.utoronto.ca
Telephone: (416) 978-0377
Fax: (416) 978-4771

Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course
Suite 106, 222 College Street
University of Toronto
Toronto, Ontario M5T 3J1
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants must apply to a participating graduate unit and comply with the admission procedures of that unit. Applicants may apply concurrently to their participating graduate unit and to the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course.
- Applicants must forward the following to the Program Committee of the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course:
  a. a copy of the School of Graduate Studies Application form submitted to the participating graduate unit
  b. copies of official undergraduate and graduate transcripts from all institutions previously or currently attended
  c. a resume or curriculum vitae
  d. a letter explaining how their program of study and specific research interests relate to either **option 1 in aging and the life course**, or **option 2 in palliative and supportive care** at the graduate level

Students may use copies of official documents (a. and b. above) for their application to the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course. These may be obtained from their home participating graduate unit.

Program Requirements
- In addition to meeting the program requirements of their home department, students will be required to complete two courses (one core and one elective) for either of the two options. It is expected that the student's thesis or practicum (whichever is included in their program of study) would be in one of the two study option areas.

Doctoral Degrees

Minimum Admission Requirements
- Applicants must apply to a participating graduate unit and comply with the admission procedures of that unit.
- Applicants may apply concurrently to their participating graduate unit and to the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course.
- Applicants must forward the following to the Program Committee of the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course:
  a. a copy of the School of Graduate Studies Application form submitted to the participating graduate unit

b. copies of official undergraduate and graduate transcripts from all institutions previously or currently attended

c. a resume or curriculum vitae

d. a letter explaining how their program of study and specific research interests relate to either option 1 in aging and the life course, or option 2 in palliative and supportive care at the graduate level

Students may use copies of official documents (a. and b. above) for their application to the Collaborative Program in Aging, Palliative and Supportive Care Across the Life Course. These may be obtained from their home participating graduate unit.

- Two letters of reference (with specific mention of background in either aging/life course or palliative and supportive care).

Program Requirements

- In addition to meeting the program requirements of their home department, students will be required to complete two courses (one core and one elective) for either of the two options. It is expected that the student's thesis or practicum (whichever is included in their program of study) would be in one of the two study option areas.

Courses

Core Courses for Option 1: Aging and the Life Course

Master's Level
AGE 2000H   Principles of Aging

Doctoral Level
AGE 3000H   Advanced Research Seminar in Aging and the Life Course (AGE 2000H is a prerequisite for entry into the doctoral level of the Collaborative Program)

Core Courses for Option 2: Palliative and Supportive Care

Master's Level
AGE 1000H   Multidisciplinary Research Concepts in Palliative and Supportive Care

Doctoral Level
AGE 1500H   Advanced Research Methodologies in Palliative and Supportive Care (AGE 1000H is a prerequisite for entry into the doctoral level of the Collaborative Program)

Elective Courses
AEC 1131H   Special Topics in Adult Education: Alternative Methods of Researching Aging, Illness and Health
AGE 2500H   Current Research Topics in Aging and the Life Course

DEN 1003Y   Preventive Dentistry
EXS 5501H   Physical Activity and Aging
NUR 1037H   Aging and Place: Social and Policy Transitions
NUR 1056H   Places, Programs, and People Who Provide Care
NUR 1058H   Aging, Gender, and Equity
REH 1520H   Physiological Factors Constraining Rehabilitation of the Elderly
REH 1620H   Methodological Issues in Research on Aging and Health
REH 1640H   Sociology of Disability
SLP 1533Y   Aphasias
SLP 1534Y   Motor Speech Disorders
SLP 2501H   Special Topics in Communication Disorders
SLP 2502Y   Specialized Study in Communication Disorders
SOC 6124H   The Life Course in Modern Society
SOC 6707H   Intermediate Data Analysis
SWK 4612H   Social Work and Aging: Integrated Policy and Practice
SWK 4613H   Social Work Practice with the Aged: Policy and Practice
SWK 4618H   Special Issues in Gerontological Social Work

Requests to approve other courses as equivalent to fulfil program requirements may be made to the Program Committee.

Students taking either option may choose the masters core course in the other option as an elective.

Additional Electives for Option 2 Only
RLG 2018H   Religion and Bioethics
RLG 2037H   Religion and Healing
PHL 2145H   How Bioethics Fits into Other Disciplines
PHL 2146Y Topics in Bioethics
HAD 5301H   Intro to Clinical Epidemiology and Health
HAD 5730H   Research Economics I: Economic Evaluation
HAD 5771H   Resource Allocation Ethics
LAW 582H   Privacy, Property, and the Human Body
LAW 338H   Public Health Law
MSC 1051H   Research Bioethics
MSC 1060H   Biostatistics for Health Sciences
MSC 1090H   Intro to Clinical Biostatistics
MSC 3003Y   Empirical Approaches in Bioethics
NUR 1021H   Nursing Ethics
NUR 1023H   Critical Issues in the Design of Controlled Trials of Behavioural Health Care Interventions
NUR 1024H   Foundations of Qualitative Inquiry
NUR 1025H   Doing Qualitative Research
NUR 1026H   Evaluating Interventions in Clinical Settings
NUR 1045H   Theories of Pain: Impact on the Individual, Family, and Society
NUR 1046H   Persistent Illness: Theoretical, Research, and Practice Implications
NUR 1050H   Coping With Illness
NUR 1051H   Assessment and Management of Common Responses to Illness

Program Committee

Whitney Berta - PhD - Health Policy, Management &
 Evaluation

Lynn McDonald - BA, MSW, PhD - Life Course & Aging,
 Social Work

Gerald Devins - PhD - Medical Science

Gary Rodin - BSc, MD, FRCP - Medical Science
 (Co-Chair)

Alison Chasteen - BA, MA, PhD - Psychology

Gillian Einstein - PhD - Psychology *(Co-Chair)*

Ancient and Medieval Philosophy

Lead Faculty
Arts and Science

Degree Programs Offered
Classics – PhD
Medieval Studies – PhD
Philosophy – PhD

Overview
The graduate units listed above participate in the Collaborative Program for Ancient and Medieval Philosophy. The three units contribute courses and provide facilities and supervision of doctoral research. The program operates only at the doctoral level. The program is administered by a Program Committee which is drawn from all three units and is chaired by the Director who is a member of the committee.

Students who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Successful completion of the program permits the designation "Completed Collaborative Program in Ancient and Medieval Philosophy" to appear on the student's transcript. Interested students should contact the director and the graduate coordinator of the unit in which they intend to register.

Contact and Address
Web: www.chass.utoronto.ca/~cpamp/
E-mail: cpamp@chass.utoronto.ca

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- All applicants must meet the admission criteria of the unit through which they wish to enrol.

Program Requirements
- Students must fulfil the normal requirements of the Ph.D. in their home unit.
- Students will normally concentrate in either ancient or medieval philosophy, though it is not necessary to indicate such specialization formally. Their program of study must also be approved by the Program Committee and must include the following elements.
  - A language competence examination at the appropriate level (in at least one of Greek, Classical or Medieval Latin, or Arabic, as relevant) consisting of unseen translation must be successfully completed before the major field or area examinations are first attempted.
  - Area or major field examinations must contain a paper involving translation from at least one of Greek, Classical or Medieval Latin, or Arabic (as appropriate to the area or field). This examination will be based on a substantial list of texts relevant to the field or area.
  - A reading knowledge of two modern languages other than English.
  - 1.0 full-course equivalent (FCE) in some area of philosophy other than the history of philosophy.

In most cases, some of these elements will be fulfilled by program requirements in the doctoral program of the home unit.

Program Committee
Brad Inwood - BA, MA, PhD, FRSC, Canada Research Chair - Classics **(Director)**
Lloyd Gerson - BA, MA, PhD - Philosophy
Peter King - PhD - Philosophy

Ancient Greek and Roman History

Lead Faculty
Arts and Science

Degree Programs Offered
Classics (University of Toronto) – PhD
History (York University) – PhD

Overview
The Department of Classics at the University of Toronto and the Graduate Program in History at York University participate in the Joint Collaborative Program in Ancient Greek and Roman History. The program in History provides a broad historical context and methodological framework; Classics provides integration with other fields of study within the ancient world and access to linguistic, cultural, and ancillary disciplines. The program operates only at the doctoral level.

Students are enrolled in one of the two units. The program is administered by a Program Committee of four faculty members, two from each unit, one of whom is the Director. The two units contribute courses and provide facilities and supervision for research. Successful completion of the program permits the designation "Completed Joint Collaborative Doctoral Program in Ancient Greek and Roman History" to appear on the student's transcript.

Interested students should contact the director of the joint collaborative program as well as the graduate coordinator of the unit in which they intend to register.

Contact and Address
Web: www.chass.utoronto.ca/classics/
E-mail: grad.classics@utoronto.ca
Telephone: (416) 978-5513
Fax: (416) 978-7174

Joint Collaborative Program in Ancient Greek and Roman History
Department of Classics
125 Queen's Park Crescent
University of Toronto
Toronto, Ontario M5S 2C7
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Applicants must meet the admissions criteria of the unit through which they wish to enrol. Interested students register in the joint collaborative program with the approval of the Program Committee upon admission to the PhD program in either unit.
- A strong background in ancient history will be expected of all interested applicants, as will a level of preparation in the ancient languages and languages of research that is appropriate for the institution in which they register.

Program Requirements
- Students take the required seminars CLA 3020H, CLA 3200Y, as well as 1.5 full-course equivalents (FCE) in Greek and Roman history offered by the collaborating units. They will take all other courses to fulfil the requirements of either the Graduate Program in Classics at the University of Toronto or the Graduate Program in History at York University.
- Students take all examinations and meet all language requirements of their home unit.
- The Program Committee approves the major and minor fields of all students in the joint collaborative program; the major field must always be in Greek and Roman history, whereas the minor field will normally be in a complementary area of ancient history but can, where appropriate, be selected from other areas of study covered by the participating units.
- Students must complete the requirements of the collaborative program in addition to those of their home unit.

Courses
CLA 3020H   Research Methods in Ancient History
              (Credit/No Credit)
CLA 3200Y   Work in Progress in Ancient History
              (Credit/No Credit)

Program Committee
Benjamin Akrigg - BA, PhD - University of Toronto
Christer Bruun - BA, MA, PhD - University of Toronto
 (Director)
Jonathan Edmondson – BA, MA, PhD - York University
Jeremy Trevett - BA, MA, DPhil - York University

Asia-Pacific Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology – MA, MSc
East Asian Studies – MA
Economics – MA
Geography – MA, MSc
History – MA
Management – MBA
Political Science – MA
Social Work – MSW
Sociology – MA
Women and Gender Studies – MA

Overview
The graduate programs listed above participate in the collaborative master's degree program in Asia-Pacific Studies at the University of Toronto. The collaborating units contribute courses and provide facilities and super-vision for master's level research. This program is admin-istered by a Program Committee chaired by a Program Director.

The collaborative master's degree program in Asia-Pacific Studies is designed to provide graduates with advanced training in a particular discipline and in the historical and social science studies of modern East and Southeast Asia. The major topics of emphasis are political economy, modern and contemporary social his-tory, international relations, gender, political and social change, economic development, and cultural studies. The program contributes to the development of an integrated and interdisciplinary research community in Asia-Pacific Studies at the University.

Applicants are expected to meet the admission and degree requirements of both a home unit and the pro-gram in Asia-Pacific Studies. The collaborative master's degree program requirements can be met concurrently with, or in addition to, home unit requirements. Students who successfully complete the requirements of the col-laborative program will receive the notation "Completed Collaborative Program in Asia-Pacific Studies" on their transcript in addition to the master's degree from the home unit.

Contact and Address
Web: www.utoronto.ca/asiapacific-ma
 E-mail: asiapacific.ma@utoronto.ca
Telephone: (416) 946-8832
Fax: (416) 946-8838

Collaborative Master's Program in Asia-Pacific Studies
The Munk Centre for International Studies
Room 228N, 1 Devonshire Place
University of Toronto
Toronto, Ontario M5S 3K7
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree pro-gram in one of the collaborating departments.
- To be considered for admission to the collaborative master's degree program in Asia-Pacific Studies, applicants should have taken the equivalent of 4.0 full-course equivalents (FCE) with substantial Asia coverage by the time of application, or should have had substantial working or living experience in East or Southeast Asia.
- Applicants use the online application process and must forward the following to the Director of the col-laborative master's degree program:
  - A hard copy Supplementary Application package (www.utoronto.ca/asiapacific-ma);
  - official undergraduate and graduate transcripts from all institutions attended previously and currently;
  - at least two letters of reference with specific men-tion of Asia-Pacific Studies background or Asia-Pacific experiences;
  - a statement of purpose;
  - a curriculum vitae.

Program Requirements
- ASI 1000Y
- A full-course equivalent (FCE) that may be in the form of one of the following:
  - a master's thesis
  - a major research paper in one of the FCEs re-lated to Asia-Pacific
  - a thesis-equivalent research paper in an in-dependent research 0.5 FCE. This option must be combined with an additional 0.5 FCE on Asia-Pacific listed on the Web site (www.utoronto.ca/asiapacific-ma).
- By the time of graduation from the master's degree program, every student is strongly expected to have a working knowledge of an East or Southeast Asian language as needed for his or her program of study.

Courses

ASI 1000Y   Issues in Asia-Pacific Studies
     Please consult the Asia-Pacific Studies Web site for courses offered by participating graduate units.

Program Committee

Hy Van Luong - BA, MA, PhD - Anthropology *(Director)*
Atsuko Sakaki - MA, PhD - East Asian Studies
Loren Brandt - BS, MS, PhD - Economics
Rachel Silvey - BA, MA, PhD - Geography
Nhung Tran - BA, MA, PhD - History
Joanne Oxley – BA, BSc, MBA, MA, PhD - Management
Jacques Bertrand - BA, MSc, MA, PhD - Political Science
Ka Tat Tsang - BSocSc, MSocSc, PhD - Social Work
Ping-Chun Hsiung - BA, MA, MA, PhD - Sociology
Bonnie McElhinny - BA, MA, PhD - Women & Gender
 Studies

Astrophysics

Lead Faculty
Arts and Science

Degree Programs Offered
Astronomy and Astrophysics – MSc
Physics – MSc

Overview
The graduate programs listed above participate in the Collaborative Master of Science Program in Astrophysics. This program fosters graduate education in Astrophysics, particularly in those areas of study that overlap traditional departmental boundaries.

Upon certification by the Director that all requirements of the collaborative program have been fulfilled, the participating home department will recommend the granting of the MSc degree, and the designation "Completed Collaborative Program in Astrophysics" will appear on the transcript.

Contact and Address
Web: www.astro.utoronto.ca/gradmsc.html
E-mail: collab.astrophys@utoronto.ca
Telephone: (416) 946-3044
Fax: (416) 971-2026

Collaborative Program in Astrophysics
c/o C. C. Dyer
Department of Astronomy and Astrophysics
Room AB209, 50 St. George Street
University of Toronto
Toronto, Ontario M5S 3H4
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments; this being either Astronomy and Astrophysics or Physics.
- Applicants must submit a supplementary brief application form to the collaborative program Director (available from either home department or the collaborative program office).

Program Requirements
- Students must meet all respective degree requirements of the School of Graduate Studies and the home department. This will normally require the equivalent of 5.0 full-courses equivalents as follows:
  - 1.5 or more FCE in Astronomy and Astrophysics
  - 1.5 or more FCE in Physics
  - 1.0 FCE from Astronomy and Astrophysics, Physics or a cognate department
  - a supervised research project in the field of astrophysics, equivalent to 1.0 FCE. The supervised research project and associated report will be completed under the regulations of AST 1500Y for students whose home department is Astronomy and Astrophysics and under the regulations of PHY 3400Y for students whose home department is Physics.
- Students must attend the seminar program of the Canadian Institute of Theoretical Astrophysics and prepare a report on a selection of these seminars for submission to the Director.
- Program requirements are normally completed within twelve months of entry to the program.

Program Committee
Charles Dyer - BSc, MSc, PhD - Astronomy & Astrophysics *(Director)*
John Sipe - BSc, MSc, PhD – Physics
Norman Murray - BSc, PhD, Canada Research Chair - Theoretical Astrophysics

Bioethics

Lead Faculty
Medicine

Degree Programs Offered
Health Policy, Management and Evaluation – MHSc,
 MSc, PhD
Law – LLM, SJD
Medical Science – MSc, PhD
Nursing Science – MN, PhD
Philosophy – MA, PhD
Public Health Sciences – MHSc, MSc, PhD
Rehabilitation Science -- MSc, PhD
Religion – MA, PhD
Social Work -- PhD

Overview
The graduate units listed above collaborate to offer master's and doctoral degree programs in Bioethics.

Students with an interest in bioethics register in one of the graduate units associated with the Collaborative Program in Bioethics (CPB). Upon successful completion, the student receives the master's or PhD degree in their departmental area as well as a notation on the transcript reading "Completed Collaborative Program in Bioethics".

Contact and Address
Web: www.utoronto.ca/jcb/education/grad_CPB.htm
E-mail: carmen.alfred@utoronto.ca
Telephone: (416) 978-0871
Fax: (416) 978-1911

Joint Centre for Bioethics (JCB)
88 College Street
University of Toronto
Toronto, Ontario M5G 1L4
Canada

Degree Programs

Master's Degrees

Admission Requirements
- Applicants to the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- Students interested in the master's programs apply simultaneously to both the collaborating graduate unit and the CPB. Applications for admission to the CPB are considered only after admission to the collaborating graduate unit. If a student applies to more than one unit, a copy of each file must be submitted to the Secretary, Collaborative Program in Bioethics.

- Visit the CPB's Web site for the application form and details about supporting documentation. The application must be accompanied by:
  o CPB's application form;
  o an up-to-date curriculum vitae;
  o up-to-date copies of all transcripts;
  o a one-page letter of intent;
  o two letters of reference.
- Where a thesis is required, a note from the proposed supervisor indicating willingness to supervise the student should be submitted. The Joint Centre for Bioethics' Web site lists faculty and bioethicists who are available for advice relating to research proposals.

Program Requirements
- A student will be expected to meet the requirements of the home graduate unit as well as those of the Collaborative Program.
- Courses taken to complete degree requirements must include the following, which may be counted towards the degree in the home unit:
  o PHL 2145H - a review of the philosophical foundations of bioethics
  o MSC 3001Y - issues and case studies in bioethics
  o 0.5 full-course equivalent (FCE), normally from the home unit; see suggested list below
- Master's programs require either a thesis or equivalent research project as determined by the home unit. The thesis will be supervised by a thesis committee comprising a supervisor and two other members. The thesis is evaluated according to the procedures and standards of the home graduate unit and must fall within the broad area of bioethics. Non-thesis projects require supervision; requirements for such projects will be determined by the home unit.

Doctoral Degrees

Admission Requirements
- Applicants to the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- Students interested in the doctoral programs apply simultaneously to both the collaborating graduate unit and the CPB. Applications for admission to the CPB are considered only after admission to the collaborating graduate unit. If a student applies to more than one unit, a copy of each file must be submitted to the Secretary, Collaborative Program in Bioethics.
- Visit the CPB's Web site for the application form and details about supporting documentation. The application must be accompanied by:
  o CPB's application form;
  o an up-to-date curriculum vitae;
  o up-to-date copies of all transcripts;

o   a one-page letter of intent;
o   two letters of reference.
- For the doctoral thesis, a note from the proposed supervisor indicating willingness to supervise the student should be submitted. The Joint Centre for Bioethics' Web site lists faculty and bioethicists who are available for advice relating to research proposals.

Program Requirements
- A student will be expected to meet the requirements of the home graduate unit as well as those of the Collaborative Program.
- Courses taken to complete degree requirements must include the following, which may be counted towards the degree in the home unit:
  o   PHL 2145H - a review of the philosophical foundations of bioethics
  o   MSC 3001Y - issues and case studies in bioethics
  o   0.5 full-course equivalent (FCE), normally from the home unit; see suggested list below
- All doctoral candidates must complete a thesis.

Courses
Please note that these courses are not offered every year. Consult each unit's Web site for details.

Health Policy, Management and Evaluation
HAD 5011H   Canada's Health Care System
HAD 5306H   Introduction to Health Care Research
              Methodology
HAD 5741H   Health Law
HAD 5768H   International Perspectives on Health
              Services Management
HAD 5771H   Resource Allocation Ethics

Law
Participation in LAW courses is at the discretion of the Faculty of Law upon presentation, to the Faculty of Law Records Office, of a signed permission form from the student's home department. Note that preference is given to JD students and that many law courses are full by the end of the Faculty of Law add/drop period.
LAW 267H   Medical Law
LAW 388H   Public Health Law
LAW 582H   Privacy, Property and the Human Body

Medical Science
MSC 1051H   Research Bioethics
MSC 3002Y   Foundations Seminar II
MSC 3003Y   Empirical Approaches in Bioethics
MSC 3004Y   Ethics Committees and Consultation

Nursing Science
NUR 1021H   Nursing Ethics

Philosophy
PHL 2131H   Ethics
PHL 2132H   Seminar in Ethics
PHL 2133H   Topics in Ethics
HPS 1105H   Philosophy of Medicine

Public Health Sciences
CHL 5111H   Qualitative Research Methods
CHL 5121H   Genomics, Bioethics and Public Policy
CHL 5401H   Epidemiology Methods I
CHL 5411H   International Health
CHL 5124H   Public Health Ethics

Religion
RLG 2007H   Ethics, Society, and Technology
RLG 2018H   Religion and Bioethics

Social Work
SWK 6101H Critical Evaluation of Social Work Practice Theories
SWK 6308H Designing and Implementing Quantitative Social Work Research

Program Committee
Douglas Kenneth Martin - BSc, PhD - Health Policy, Management & Evaluation
Trudo Lemmens - CandIur, LicIur, LLM - Law
Ross Edward Upshur - MA, MD, MSc, FRCP(C) - Medical Science
Elizabeth Peter-Hardtke - MscN, PhD - Nursing Science
Jennifer Hawkins - BA, MA, PhD - Philosophy
Abdallah Daar - DPhil, FRCP(Lond), FRCS, FRCS(C) - Public Health Sciences, Medical Science
Stephanie Nixon - BHSc(PT), BA, MSc, PhD - Rehabilitation Science
Barbara Secker - BA, MA, PhD – Rehabilitation Science *(Director)*
David Novak - AB, MHL, rabbinical diploma, PhD - Religion
Sheila Neysmith - BSc, MSW, DSW - Social Work

Biomedical Engineering

Lead Faculty
Applied Science and Engineering

Degree Programs
Biochemistry – MSc, PhD
Biomedical Engineering – MASc, PhD
Chemical Engineering and Applied Chemistry
 – MASc, PhD
Dentistry – MSc, PhD
Electrical and Computer Engineering – MASc, PhD
Laboratory Medicine and Pathobiology – MSc, PhD
Materials Science and Engineering – MASc, PhD
Mechanical and Industrial Engineering – MASc, PhD
Medical Science – MSc, PhD
Pharmaceutical Sciences – MSc, PhD
Physics – MSc, PhD
Physiology – MSc, PhD
Rehabilitation Science – MSc, PhD

Overview
The graduate programs listed above participate in the Collaborative Program in Biomedical Engineering at the University of Toronto. This program offers the opportunity for research in biomedical engineering leading to master's and doctoral degrees. The Collaborative Program is housed in the Institute of Biomaterials and Biomedical Engineering (IBBME).

Biomedical engineering is a multidisciplinary field that integrates engineering with biology and medicine. It uses methods, principles, and tools of engineering, physical sciences, and mathematics to solve problems in the medical and life sciences. Biomedical engineering consists of the application of the concepts and methods of engineering and physics to the study of living systems, to the enhancement and replacement of those systems, to the design and construction of systems to measure basic physiological parameters, to the development of instruments, materials, and techniques for biological and medical practice, and to the development of artificial organs. By its nature the field is interdisciplinary and involves close collaboration between many departments of the University and associated hospitals.

Upon successful completion, the student receives the master's or PhD degree in their departmental area as well as a notation on the transcript reading "Completed Collaborative Program in Biomedical Engineering".

Contact and Address
Web: www.ibbme.utoronto.ca
E-mail: admissions.ibbme@utoronto.ca
Telephone: (416) 978-4841
Fax: (416) 978-4317

Collaborative Program in Biomedical Engineering
University of Toronto
Room 407, Rosebrugh Building
164 College Street
Toronto, Ontario M5S 3G9
Canada

Master's Degrees

Admission Requirements
Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
Applicants must be graduates in dentistry, engineering, engineering science, medicine, or one of the physical or biological sciences and must be accepted in the Collaborative Program in Biomedical Engineering through one of the collaborating graduate departments (home departments) listed above.

Program Requirements
Students register in the School of Graduate Studies through their home department; they will meet all respective degree requirements as described by the School of Graduate Studies and the Program Committee.
As part of these requirements:
- Engineering and physical science students will be required to take a biological sciences course such as JPB 1022H (or an equivalent).
- Biological science students will be expected to take a physical sciences course such as JPB 1055H (or an equivalent).
- Students will be expected to take BME 1450H Bioengineering Science and pursue a thesis topic relevant to Biomedical Engineering.
- Students registered in a graduate degree program involving research are required to participate in two seminar courses: one of BME 1010H or BME 1011H Graduate Seminar series and JDE 1000H Ethics in Research.
- Students are required to have a supervisory committee approved by the Program Committee and consisting of a supervisor from IBBME, with a cross appointment in the home department, and other members from other collaborating departments as required.
- The program of study for each Master of Applied Science or Master of Science degree student registered in the Collaborative Program must meet the requirements of the collaborating department and will normally comprise at least 2.0 full-course equivalents (FCE) and a thesis in the biomedical field.
- The examination committee will be constituted according to procedures in the home graduate department and will include a member from that collaborating department.

Doctor of Philosophy
Admission Requirements
Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- Applicants must be graduates in dentistry, engineering, engineering science, medicine, or one of the physical or biological sciences and must be accepted in the Collaborative Program in Biomedical Engineering through one of the collaborating graduate departments (home departments) listed above.
- Before PhD students are accepted, the Program Committee must be satisfied with the applicant's ability to undertake advanced graduate studies.

Program Requirements
A qualifying examination may be required by the collaborating department.

Direct transfer from a bachelor's degree to a PhD program is possible subject to the requirements of the collaborating department. The program of study for each PhD student registered in the Collaborative Program in Biomedical Engineering must be approved by the collaborating department and the Program Committee; the program will normally comprise at least 2.0 full-course equivalents (FCE) and a thesis.

Each PhD student is normally required to have a supervisory committee consisting of at least three persons, including a supervisor who has an appropriate graduate appointment and who is also a member of the graduate faculty in the home department. When appropriate, an additional member of the supervisory committee may be from outside the University of Toronto, with approval from the School of Graduate Studies.

For doctoral degrees, the examination committee will be constituted according to procedures in the home graduate department and will include a member from that collaborating department.

Courses
Not all courses are offered every year. Students should contact the Institute office for details.

BME 1010H   Graduate Seminar
BME 1011H   Graduate Seminar
BME 1405H   Clinical Engineering Instrumentation I
BME 1430H   Mathematical Theory of Tracer Kinetics
BME 1436H   Clinical Engineering
BME 1439H   Clinical Engineering Instrumentation II
BME 1445H   Special Topics in Clinical Engineering
BME 1446H   Transduction of Physiological Events
BME 1450H   Bioengineering Science
BME 1452H   Signal Processing for Bioengineering
BME 1453H   Cell and Tissue Engineering
BME 1454H   Regenerative Medicine: Fundamentals and Applications
BME 1456H   Changing Health Care Technologies, People, and Places

BME 1457H   Biomedical Nanotechnology
BME 1458H   Pattern Discovery Methods for Biomedical Engineering
BME 1459H   Protein Engineering
BME 4444Y+ Practice in Clinical Engineering
CHE 1107H   Applied Mathematics
CHE 1138H   Mathematical Methods in Chemical Engineering
CHE 1141H   Advanced Chemical Reaction Engineering
CHE 1143H   Transport Phenomena
CHE 1145H   Advanced Chemical Analysis
CHE 1304H   Polymer Mechanics and Rheology
CHE 1310H   Chemical Properties of Polymers
DEN 1070H   Advances in Dental Materials Science
DEN 1081H   Bone Interfacing Implants
ECE 1228H   Electromagnetic Theory
ECE 1352H   Analog Circuit Design I
ECE 1502H   Information Theory
ECE 1511H   Signal Processing
ECE 1512H   Digital Image Processing and Applications
ECE 1514H   Spectral Analysis and Array Processing
ECE 1521H   Statistical Communication Theory
ECE 1647H   Nonlinear Control System Analysis
JCB 1349H   Molecular Assemblies: Structure/Function/Properties
JEB 1365H   Ultrasound: Theory and Applications in Biology and Medicine
JEB 1375H   Practical Optimization
JEB 1433H   Medical Imaging
JEB 1444H   Neural Engineering
JEB 1447H   Sensory Communications
JEB 1451H   Neural Bioelectricity
JNP 1017H+ Molecular and Biochemical Basis of Toxicology
JNP 1018H+ Current Topics in Molecular and Biochemical Toxicology
JNR 1444Y   Fundamentals of Neuroscience: Cellular and Molecular
JNS 1000Y   Fundamentals of Neuroscience: Systems and Behaviour
JNS 1001H   Neuroanatomy of Mind
JNS 1010H   Analytical Neuroscience
JPB 1022H   Human Physiology as Related to Biomedical Engineering
JPB 1055H   Bioengineering for Life Scientists
JTC 1135H   Applied Surface Chemistry
JTC 1331H   Biomaterials Science
MBP 1007H   Fundamentals in Molecular and Cell Biology I
MBP 1008H   Fundamentals in Molecular and Cell Biology II
MBP 1022H   Advanced Cell Biology for Physical Scientists
MIE 1001H   Dynamics II
MIE 1062H   Robot Kinematics and Dynamics
MIE 1101H   Thermodynamics II
MIE 1109H   Surface Phenomena
MIE 1201H   Fluid Mechanics III

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

MIE 1405H   Human Control of Telerobotic Systems
MIE 1729H   Machine Perception and Robot Sensors
MIE 1806H   Introduction to Digital Image Processing
     and Analysis
MMS 1026H Analytical Electron Microscopy
PHM 1108H Advanced Pharmacokinetics II
PHM 1109H Recent Developments in Dosage Form
     Design
PHM 1110H Chemical Basis of Drug Metabolism
PHM 1117H DNA-Drug Interactions
PSL 1432H   Theoretical Physiology
PSL 1052H   Fundamentals of Ion Channel Function
REH 1100H   Theory and Research in Rehabilitation
REH 1540H   Rehabilitation Technology

Program Committee

Christopher Yip - BASc, MSc, PhD, PEng, Canada
 Research Chair - Biochemistry
Alf Dolan - BSc, MSc - Biomedical Engineering
Milos Popovic - MSc, MASc, PhD - Biomedical
 Engineering
William Stanford - PhD, BA - Biomedical Engineering
 (Associate Director; Coordinator of Graduate
 Studies, Biomedical Engineering)
D Grant Allen - BASc, MASc, PhD, PEng - Chemical
 Engineering & Applied Chemistry
Paul Santerre - BSc, MScEng, PhD - Dentistry
Berj Bardakjian - BSc, BEd, MASc, PhD, PEng -
 Electrical & Computer Engineering
Harry Elsholtz - BSc, MSc, PhD - Laboratory Medicine &
 Pathobiology
Zhirui Wang - BEng, MSc, PhD - Materials Science &
 Engineering
Pierre Sullivan - BSME, MSME, PhD, PEng - Mechanical
 & Industrial Engineering
Mingyao Liu - MSc, MD - Medical Science
K Sandy Pang - BScPhm, PhD - Pharmaceutical
 Sciences
Theodore Shepherd - BSc, PhD - Physics
John MacDonald - BSc, PhD - Physiology

Biomedical Toxicology

Lead Faculty
Medicine

Degree Programs Offered
Ecology and Evolutionary Biology – MSc, PhD
Laboratory Medicine and Pathobiology – MSc, PhD
Medical Science – MSc, PhD
Nutritional Sciences – MSc, PhD
Pharmaceutical Science – MSc, PhD
Pharmacology and Toxicology – MSc, PhD

Overview
The Collaborative Program in Biomedical Toxicology provides graduate students with a unique opportunity to gain breadth and depth of knowledge in biomedical toxicology beyond their thesis research. This program aims to prepare participants for careers related to toxicology. It emphasizes the development of critical thinking and communication skills in addition to acquiring greater knowledge of basic principles and specific aspects of biomedical toxicology.

The graduate programs listed above participate in this collaborative program Students may pursue an MSc or PhD degree. Graduate units participating in the program contribute graduate courses, provide facilities, and provide supervision for graduate research.

Graduate students from departments other than the participating units listed, who are interested in pursuing a program in toxicology, should speak to the Director of the Collaborative Program in Biomedical Toxicology and the graduate advisor(s) in their home department to discuss the possibility. Detailed program information is available on the Web at http://www.pharmtox.utoronto.ca/programs/cpbt.htm and from the Department of Pharmacology and Toxicology.

Upon successful completion, the student receives, in addition to the MSc or PhD degree in their departmental area, a notation on the transcript reading "Completed MSc Collaborative Program in Biomedical Toxicology" or "Completed PhD Collaborative Program in Biomedical Toxicology".

Contact and Address
Web: www.pharmtox.utoronto.ca/programs/cpbt.htm
E-mail: pharmtox.dept@utoronto.ca
Telephone: (416) 978-5244
Fax: (416) 978-6395

Collaborative Program in Biomedical Toxicology
Department of Pharmacology
University of Toronto
Room 4207, Medical Sciences Building
1 King's College Circle
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Master of Science

Admission Requirements
- Applicants who wish to enrol in the collaborative program must first apply to and be accepted by one of the participating home departments under its regulations. Once students have been admitted to their home department, they should register in the Collaborative Program in Biomedical Toxicology by contacting the Program Director.

Program Requirements
- Complete JNP 1014Y Interdisciplinary Toxicology and JNP 1016H *Graduate Seminar in Toxicology*.
- Attend a minimum of six academic seminars related to toxicology during the master's program.
- Complete a research thesis or project as required by the home department. It is understood that the research topic will be in the area of biomedical toxicology.

Doctor of Philosophy

Admission Requirements
- Applicants who wish to enrol in the collaborative program must first apply to and be accepted by one of the participating home departments under its regulations. Once students have been admitted to their home department, they should register in the Collaborative Program in Biomedical Toxicology by contacting the Program Director.

Program Requirements
- Complete JNP 1014Y *Interdisciplinary Toxicology*; JNP 1016H *Graduate Seminar in Toxicology*, plus a 0.5 full-course equivalent (FCE) in the area of toxicology (approved by the Director of the collaborative program). The home department and the Director of the Collaborative Program in Biomedical Toxicology will decide whether these courses are in addition to home departmental requirements or substitutions for home departmental requirements.
- Attend a minimum of 12 academic seminars related to toxicology during the doctoral program.
- Complete a research thesis or project as required by the home department. It is understood that the research topic will be in the area of biomedical toxicology.

Courses
JNP 1014Y Interdisciplinary Toxicology
JNP 1016H Graduate Seminar in Toxicology

Program Committee

Donald Jackson - BSc, MSc, PhD - Ecology & Evolutionary Biology

Harry Elsholtz - BSc, MSc, PhD - Laboratory Medicine & Pathobiology

Mingyao Liu - MD, FRCP(C) - Medical Science

Wendy Ward - BASc, MSc, PhD - Nutritional Sciences

Peter John O'Brien - BSc, MSc, PhD - Pharmaceutical Sciences

Denis Grant - BSc, PhD - Pharmacology & Toxicology

David Riddick - BSc, PhD - Pharmacology & Toxicology

Cindy Woodland - BSc, MSc, PhD - Pharmacology & Toxicology *(Director)*

Biomolecular Structure

Lead Faculty
Medicine

Degree Programs Offered
Biochemistry – PhD
Chemistry – PhD
Medical Biophysics – PhD
Molecular Genetics – PhD

Overview
The graduate program in Biomolecular Structure is a collaborative program involving the graduate programs listed above. The program is open to PhD students wishing to train under the supervision of one of the participating investigators. The program will appeal to students from a wide variety of backgrounds with an interest in studying the structure and function of biomolecules.

Contact and Address
Web: biochemistry.utoronto.ca/BMS/
E-mail: james.rini@utoronto.ca
Telephone: (416) 978-0557
Fax: (416) 978-6885

J. M. Rini, Coordinator
Collaborative Program in Biomolecular Structure
Department of Molecular Genetics
Room 5360, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Applicants must first be admitted to one of the collaborating graduate units before applying to the collaborative program.

Program Requirements
- Complete JBB 2026H Protein Structure, Folding and Design and an additional 0.5 full-course equivalent (FCE) in a specialized topic.
- Participate in the Biomolecular Structure Program seminar series.

Courses
Not all courses will be offered every year. Departments should be consulted each year to confirm course offerings.

JBB 2026H   Protein Structure, Folding and Design
JBB 2025H   Protein Crystallography

Program Committee
Julie Forman-Kay - BSc, PhD - Biochemistry
G Andrew Woolley - BSc, PhD - Chemistry
David Rose - BA, PhD - Medical Biophysics
Lewis Kay - BSc, PhD, Canada Research Chair
 - Molecular Genetics
James Rini - BSc, PhD - Molecular Genetics
 (Coordinator)

Book History and Print Culture

Lead Faculty
Arts and Science

Degree Programs Offered
Art – MA, PhD
Comparative Literature – MA, PhD
English – MA, PhD
French Language and Literature – MA, PhD
History – MA, PhD
History and Philosophy of Science and Technology
        – MA, PhD
Information Studies – MISt, PhD
Italian Studies – MA, PhD
Medieval Studies – MA, PhD
Music – MA, PhD

Overview
Histoire du livre, History of the Book, Textual Studies, Print Culture, Sociology of the Text - all these names have been used to describe a growing international academic movement. The graduate programs listed above, in conjunction with Massey College, sponsor an interdisciplinary program in Book History and Print Culture (BHPC) in which the rich physical and human resources of the University of Toronto are brought to bear on multiple aspects of the creation, transmission, and reception of the written word.

Students register first for a master's or doctoral degree in their home units and then apply to the collaborative program. If they satisfy the requirements of both programs, they receive their degree with a notation on the transcript "Collaborative Program in Book History and Print Culture".

Contact and Address
Web: bookhistory.fis.utoronto.ca
E-mail: book.history@utoronto.ca
Telephone: (416) 946-3560
Fax: (416) 978-1759

Collaborative Program in Book History and Print Culture
Massey College
4 Devonshire Place
Toronto, Ontario M5S 2E1
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments (home unit). Applicants to the collaborative program write to the Director giving information about their backgrounds and relevant interests, identifying the degree and home unit for which they are applying, and outlining a proposed program of study preferably by April 1 for September admission. Applicants need not wait for a final decision from the home unit before applying to the collaborative program. (An academic transcript should be included in the application; a photocopy or print-out from a student Web service will do.) Advice is available from the Director and the Program Committee.
- Applications from the participating units have priority in admissions. If there is space in the program, students from other units may apply; they should consult the graduate coordinator in their home unit and the Director of the BHPC program. Since course requirements vary from unit to unit, it is essential that there be close consultation between the collaborative program and the home unit at the time of the application.

Program Requirements
- Students must fulfil the degree requirements of the unit in which they are enrolled. Their program of study must also be approved by the BHPC Program Committee. Normally, the BHPC requirements will be met within the program of the home unit.
- At least 2.0 full-course equivalents (FCE) in courses related to book history and print culture, including the seminar BKS 1000Y.
- Depending on the regulations of the home unit, a master's thesis in the area of book history and print culture may be counted as satisfying the requirement for a second course beyond BKS 1000Y.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments (home unit). Applicants to the collaborative program write to the Director giving information about their backgrounds and relevant interests, identifying the degree and home unit for which they are applying, and outlining a proposed program of study preferably by April 1 for September admission. Applicants need not wait for a final decision from the home unit before applying to the collaborative program. (An academic transcript

should be included in the application; a photocopy or print-out from a student Web service will do.) Advice is available from the Director and the Program Committee.

- Applications from the participating units have priority in admissions. If there is space in the program, students from other units may apply; they should consult the graduate coordinator in their home unit and the Director of the BHPC program. Since course requirements vary from unit to unit, it is essential that there be close consultation between the collaborative program and the home unit at the time of the application.
- An interview will normally form part of the admissions procedure for doctoral applicants.

Program Requirements
- All students must fulfil the degree requirements of the unit in which they are enrolled. Their program of study must also be approved by the BHPC Program Committee.
- BKS 2000H and BKS 2001H. If students have not already taken BKS 1000Y at the master's level, they will be required to take it as a prerequisite or corequisite to the foregoing two doctoral courses.
- The dissertation topic will be in the area of book history and print culture, and the advisory committee will include representation from outside the home unit.
- The program may be completed on a flexible-time basis only by FIS students registered for the FIS flexible-time PhD

Courses
BKS 1000Y   Book History and Print Culture
BKS 2000H   Advanced Seminar in Book History and
                       Print Culture
BKS 2001H   Practicum in Book History and Print Culture

For further details and for listings of appropriate courses in various graduate units, see Web site http://bookhistory.fis.utoronto.ca.

Program Committee
Heather Jackson - BA, MA, PhD - English
Anthony Glinoer - MA – PhD - French

Cardiovascular Sciences

Lead Faculty
Medicine

Degree Programs Offered
Biomedical Engineering – MASc, PhD
Dentistry – MSc, PhD
Exercise Sciences – MSc, PhD
Health Policy, Management and Evaluation – MSc, PhD
Laboratory Medicine and Pathobiology – MSc, PhD
Medical Biophysics – MSc, PhD
Medical Science – MSc, PhD
Nursing Science – MN, PhD
Pharmacology and Toxicology – MSc, PhD
Pharmaceutical Sciences – MSc, PhD
Physiology – MSc, PhD
Public Health Sciences – MSc, PhD
Rehabilitation Science – MSc, PhD

Overview
The graduate programs listed above, together with the clinical departments of Anesthesia, Medicine, and Surgery, participate in the graduate Cardiovascular Sciences Collaborative Program at the University of Toronto. Units participating in the program contribute graduate courses and provide facilities and supervision for graduate research. Applicants must first be accepted by one of the participating graduate units and then complete a separate application to register in the collaborative program.

Students follow a program of study acceptable to both the participating unit and the Cardiovascular Sciences Program. Upon successful completion of the requirements, students receive, in addition to the master's or doctoral degree in their home graduate unit, a separate certificate from the program, and the notation "Completed Collaborative Program in Cardiovascular Sciences" on their transcript.

Contact and Address
Web: www.cscp.utoronto.ca
E-mail: cv.program@utoronto.ca
Telephone: (416) 978-0746
Fax: (416) 946-5713

Cardiovascular Sciences Collaborative Program
Room 88, FitzGerald Building
150 College Street
University of Toronto
Toronto, Ontario M5S 3E2
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Normally an A- average in previous course work (publications and research work may be considered for mature students).
- Student has already been accepted into a home graduate unit that participates in the Cardiovascular Sciences Collaborative Program.
- Acceptance by a supervisor who is a faculty member of the Cardiovascular Sciences Collaborative Program.
- Research area falls within mandate of the Cardiovascular Sciences Collaborative Program.

Program Requirements
- Students must meet the requirements of their home graduate unit in terms of course work and thesis work.
- Write a thesis under the supervision of a faculty member of the Collaborative Program. The thesis topic will be in the area of cardiovascular sciences. An unbound copy of the accepted thesis in final form must be submitted to the Cardiovascular Sciences Collaborative Program.
- To qualify for the Cardiovascular Sciences specialization, students obtaining their master's degree must complete 0.5 full-course equivalent (FCE) in an approved cardiovascular course listed under approved "Courses of Instruction".
- Attend the annual Student Research Day and demonstrate excellence in cardiovascular related research.

Doctor of Philosophy

Minimum Admission Requirements
- Normally an A- average in previous course work (publications and research work may be considered for mature students).
- Student has already been accepted into a home graduate unit that participates in the Cardiovascular Sciences Collaborative Program.
- Acceptance by a supervisor who is a faculty member of the Cardiovascular Sciences Collaborative Program.
- Research area falls within mandate of the Cardiovascular Sciences Collaborative Program.

Program Requirements
- Students must meet the requirements of their home graduate unit in terms of course work and thesis work.
- Write a thesis under the supervision of a faculty member of the Collaborative Program. The thesis topic will be in the area of cardiovascular sciences.

An unbound copy of the accepted thesis in final form must be submitted to the Cardiovascular Sciences Collaborative Program.

- To qualify for the Cardiovascular Sciences specialization, students obtaining their doctoral degree must have 1.0 full-course equivalent (FCE) (1.0 FCE = two half-courses) chosen from among the following four courses: JCV 3060H, JCV 3061H, JCV 3062H, JCV 3063H.
- All students must attend the annual Student Research Day and demonstrate excellence in cardiovascular related research.

Courses

Cardiovascular sciences courses offered by the participating units are listed below. Not all courses are offered each year. For course details, consult the program's Web site, www.cscp.utoronto.ca.

EXS 5508H	Cardiovascular Disease and Exercise
JCV 1060H	Developmental Cardiovascular Physiology
JCV 3060H	Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction
JCV 3061H	Advanced Topics in Cardiovascular Sciences—Hormones
JCV 3062H	Advanced Topics in Cardiovascular Sciences—Heart Function
JCV 3063H	Advanced Topics in Cardiovascular Sciences—Vascular
JEB 1365H	Ultrasound: Theory and Applications in Biology and Medicine
JTC 1331H	Biomaterials Science
LMP 1015H	Vascular Pathobiology
LMP 1504H	Cell and Molecular Biology of Cardiovascular Diseases
PSL 1462H	Molecular Aspects of Cardiac Function

Program Committee

Howard Tenenbaum - DDS, DipPerio, PhD, FRCD(C) - Dentistry
Scott Thomas - BSc, MSc, PhD - Exercise Sciences
Margaret Rand - BSc, PhD - Laboratory Medicine & Pathobiology
Graham Wright - BASc, MASc, PhD - Medical Biophysics
Vivek Rao - BSc, PhD, MD, FRCSC - Medical Science
Carin Wittnich - MSc, DVM - Medical Science, Physiology *(Director)*
Judith Watt-Watson - BScN, MScN, PhD - Nursing Science
Xiao Yu Wu - BSc, MScEng, PhD - Pharmaceutical Sciences
John Parker - MD - Pharmacology
Scott Heximer, PhD - Canada Research Chair - Physiology
Dina Brooks, BSc(PT) - MSc, PhD - Rehabilitation Science
Student Representatives

Community Development

Lead Faculty
School of Graduate Studies

Degree Programs Offered
Adult Education and Community Development– MA, MEd
Counselling Psychology – MA, MEd
Geography (Community Planning) – MScPl
Public Health Sciences (Community Health) – MHSc
Social Work – MSW
Nursing – MN *(pending approval)*

Overview
The Collaborative Program provides students with a multidisciplinary graduate education in community development. Community development involves working with community members and groups to effect positive change in the social, economic, organizational, or physical structures of a community that improve both the welfare of community members and the community's ability to direct its future.

Students must apply to and register in a home participating unit (i.e., one of the graduate departments or faculties listed above), and follow a course of study acceptable to both that unit and the Collaborative Program in Community Development. Applications are considered for the master's degree programs listed above.

Contact and Address
Web: www.urbancentre.utoronto.ca/communitydevelopment.html
E-mail: urban.centre@utoronto.ca
Telephone: (416) 416 978-2072
Fax: (416) 416 978-7162

Sarah Wakefield,
Collaborative Program in Community Development
Centre for Urban and Community Studies
University of Toronto
Suite 400, 455 Spadina Avenue
Toronto, Ontario M5S 2G8
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Collaborative programs are administered under the auspices of the School of Graduate Studies.
- Applicants must be accepted for admission to a participating graduate unit and comply with the admission procedures of that unit before applying to the Collaborative Program in Community Development.
- Applicants must submit the following to the Program Committee of the Collaborative Program in Community Development:
  o a copy of the letter accepting you into one of the participating graduate units;
  o a resume or curriculum vitae;
  o a letter explaining how your program of study, your specific interests, and your career goals relate to community development (i.e. why you want to enrol in the Collaborative Program in Community Development). Maximum length: 500 words. Include reference to any relevant experience (volunteer, work, education, etc.).

Program Requirements
- Students must register in the master's degree program through one of the participating home graduate units. They must meet all respective degree requirements of the School of Graduate Studies and their participating home graduate unit.
- To fulfil the requirements of the Collaborative Program in Community Development, they must complete the following. Normally, the required courses listed below are taken as options within regular departmental or faculty degree requirements, not as additional courses.
  o core course UCS 1000H Community Development: Theory and Practice
  o an additional 1.0 full-course equivalent (FCE) in the subject area of the Collaborative Program, to be approved by the Collaborative Program director, of which at least 0.5 FCE must be external to the home graduate unit
  o participation in a non-credit coordinating seminar on community development
  o where required by the home degree program, either a thesis or the major research paper, as designated by the home degree program, must be on a topic related to community development. A member of the thesis committee or the reader of a major research paper must be a member of the faculty associated with the Collaborative Program.

Courses

Core Course

UCS 1000H   Community Development: Theory and Practice

      Students must take 1.0 FCE in the subject area of the Collaborative Program, to be approved by the Collaborative Program director. The following is a list of the currently approved courses; list is reviewed annually and posted on the program Web site.

Adult Education

AEC 1102H   Community Development: Innovative Models
AEC 1104H   Community Education and Organizing
AEC 1131H   Special Topics in Adult Education
AEC 3119H   Global Perspectives on Feminist Education, Community Development and Community Transformation
AEC 3131H   Special Topics in Adult Education
AEC 3182H   Citizenship Learning and Participatory Democracy

Counselling Psychology

AEC 1275H   Special Topics in Counselling Psychology
AEC 1289H   Community Mental Health
AEC 1409H   Creative Empowerment Work with the Disenfranchised: Healing and Collective Action
AEC 3211H   Counselling and Researching in Context: Critical Perspectives on Counselling and Health Promotion Research

Planning

JPG 1421H   Health in Urban Environments
PLA 1503H   Planning and Social Policy
JPG 1507H   Housing and Housing Policy
JPG 1508H   Planning with the Urban Poor in Developing Countries
JPG 1512H   Place, Politics and the Urban
JPG 1615H   Planning the Social Economy

Public Health Sciences

CHL 5801H   Health Promotion
CHL 7001H   Directed Reading in an Approved Field of Community Health

Social Work

SWK 4210H   Promoting Empowerment
SWK 4306H   Process of Social Exclusion, Marginalization, and Resistance
SWK 4422H   Social Housing and Homelessness
SWK 4568H   Social Work with Immigrants and Refugees

Program Committee

Jack Quarter - BA, MA, PhD - Adult Education & Counselling Psychology
Daniel Schugurensky - BEd, MEd, PhD - Adult Education & Counselling Psychology
Suzanne Stewart - BA, MA, PhD - Adult Education & Counselling Psychology
Sarah Wakefield - BA, MA, PhD - Geography *(Director)*
Blake Poland - BA, MA, PhD - Public Health Sciences
J David Hulchanski - BA, MSc(Pl), PhD, MCIP, Chow Yei Ching Social Work Chair in Housing - Social Work

Comparative, International and Development Education

Lead Faculty
Ontario Institute for Studies in Education

Degree Programs Offered
Adult Education – MA, MEd, EdD, PhD
Curriculum - MA, MEd, EdD, PhD
Educational Administration – MA, MEd, EdD, PhD
Higher Education – MA, MEd, EdD, PhD
History and Philosophy of Education – MA, MEd, EdD, PhD
Second Language Education – MA, MEd, EdD, PhD
Sociology in Education – MA, MEd, EdD, PhD

Overview
Comparative, International and Development Education (CIDE) is one of the world's largest, most diverse and dynamic graduate programs in the field of comparative education. Research interests span an exciting range of theoretical and practical issues, from the study of ethnicity and identity to the issues of globalization and global governance, from non-formal learning and citizenship education to concrete problems of educational reform, social equality, language education, conflict resolution and community development. We approach these issues from a range of theoretical and disciplinary frames: more traditional, sociological, historical, and philosophical approaches are taught alongside vibrant interpretations of feminist, critical, post-structuralist and cultural theories.

The CIDE program will interest Canadian students who wish to work and live in other cultures. It will also interest international students who wish to relate their studies at OISE/UT directly to their own societies and learning systems.

Students can take courses in such fields as political science, feminist studies, sociology, and geography. The CIDE program is linked with events and programs at the Munk Centre for International Studies at the University of Toronto.

Successful students receive a notation on their transcript identifying their specialization in Comparative, International and Development Education.

Contact and Address
Web: cide.oise.utoronto.ca
E-mail: cide@oise.utoronto.ca
Telephone: (416)   978-0892
Fax: (416) 926-4749

Comparative, International and Development Education Centre (CIDEC)
Ontario Institute for Studies in Education
University of Toronto
7th floor, 252 Bloor Street West
Toronto, Ontario M5S 1V6
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. Applicants should apply to the appropriate degree program in one (or more) of the collaborating departments that corresponds most closely to their general background and interests.
- Applicants to the CIDE Collaborative Program are normally expected to have had at least one year of international or cross-cultural experience.
- Prospective applicants should review the detailed information about the CIDE program available on the CIDE Web page at http://cide.oise.utoronto.ca. They are strongly advised to contact one of the core CIDE faculty members in their home department to discuss their research interests and goals.

Program Requirements
- Individual student programs of study must meet the requirements of both the home department and the Collaborative Program. Normally, a careful selection of courses will satisfy this requirement without any additional course load.
- Courses as follows:
  o 0.5 full-course equivalent (FCE) required introduction: CIE 1001H Introduction to Comparative, International and Development Education
  o 0.5 core FCE CIDE master's level course
  o 1.0 FCE (equivalent to two half-courses) other core CIDE or specialization master's-level courses
- Regular participation in and attendance at the CIDE Seminar Series.
- Preparation of a thesis, master's research paper, or comprehensive paper (depending upon the requirements of the home department) which relates to and demonstrates master's level understanding of the research/theory base of CIDE as certified by a participating faculty member in the home department.

Doctor of Philosophy

Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. Applicants should apply to the appropriate degree program in one (or more) of the collaborating departments that corresponds most closely to their general background and interests.

- Applicants to the CIDE Collaborative Program are normally expected to have had at least one year of international or cross-cultural experience.
- Prospective applicants should review the detailed information about the CIDE program available on the CIDE Web page at http://cide.oise.utoronto.ca. They are strongly advised to contact one of the core CIDE faculty members in their home department to discuss their research interests and goals.

Program Requirements
- Individual student programs of study must meet the requirements of both the home department and the Collaborative Program. Normally, a careful selection of courses will satisfy this requirement without any additional course load.
- Courses as follows:
  - 0.5 full-course equivalent (FCE) required introduction: CIE 1001H Introduction to Comparative, International and Development Education, if not already taken, or equivalent if transferring from another university.
  - 0.5 FCE core CIDE doctoral level course
  - 1.0 FCE (equivalent to two half-courses) other core CIDE or specialization doctoral-level courses
  - Regular participation in and contribution to the CIDE Seminar Series (at least one major presentation to the seminar group related to the student's thesis research/development work in addition to regular participation). Minimum attendance at 5 seminars required.
  - Development of a doctoral thesis that contributes to the research/theory base of CIDE as certified by a participating faculty member, who is also a member of the thesis committee, from the home department.

Courses
Not all courses are offered each year. Refer to cide.oise.utoronto.ca for current course offerings.

Comparative Education
CIE 1001H   Introduction to Comparative, International and Development Education
CIE1002 H   Practicum for Comparative, International and Development Education

Adult Education and Counselling Psychology
AEC 1102H   Community Development: Innovation Models
AEC 1114H   Comparative and International Perspectives in Adult Education
AEC 1145H   Participatory Research in the Community and the Workplace
AEC 1146H   Women, War and Learning
AEC 1180H   Aboriginal World Views: Implications for Education
AEC 1181H   Embodied Learning and Qi Gong

AEC 3103H   Teaching about Global and Social Issues
AEC 3104H   Political Economy of Adult Education in Global Perspectives
AEC 3119H   Global Perspectives on Feminist Education, Community Development, and Community Transformation
AEC 3126H   Transformative Education and the Global Community: Creativity and Social Change
AEC 3131H   Special Topics in Adult Education: Comparative and International Perspectives
AEC 3132H   Special Topics in Women in Development and Community Transformation
AEC 3138H   Social Theories and Adult Education
AEC 3140H   Post-Colonial Relations and Transformative Education
AEC 3179H   Work, Technology and the Knowledge Economy
AEC 3180H   Global Governance and Educational Change: the Politics of International Cooperation in Education

Curriculum, Teaching and Learning
CTL 1061H   Comparative Education: The Development of Third World Educational Systems
CTL 1033H   Multicultural Perspectives in Teacher Development: Reflective Practicum
CTL 1037H   Comparative and Cross-Cultural Perspectives
CTL 1060H   Education and Social Development
CTL 1312H   Democratic Citizenship Education
CTL 1318H   Teaching Conflict and Conflict Resolution
CTL 1863H   Controversial Issues in Development Education
CTL 1864H   Methodologies for Comparing Educational Systems
CTL 3008H   Critical Pedagogy, Language, and Cultural Diversity
CTL 3015H   Seminar in Second-Language Literacy Education
CTL 3018H   Language Planning and Policy (Politique et aménagement linguistique)
CTL 3024H   Second Language Teacher Education

Sociology and Equity Studies in Education
SES 1912H   Foucault and Research in Education and Culture: Discourse, Power and the Subject
SES 1922H   Sociology of Race and Ethnicity
SES 1924H   Modernization, Development, and Education in African Contexts
SES 1927H   Global Economic Restructuring—International Migration—Immigration Policies (Canada, U.S., Germany)
SES 1925H   Indigenous Knowledge and Decolonization: Pedagogical Implications
SES 1956H   Social Relations of Cultural Production in Education
SES 2999H   Special Topics in Sociological Research in Education(as designated by CIDE)

SES 3910H   Advanced Seminar on Race and Anti-Racism Research Methodology in Education
SES 3911H   Cultural Knowledges, Representation and Colonial Education
SES 3914H   Anti-Colonial Thought and Pedagogical Challenges
SES 3921H   Language and Social Difference in Education: Comparative Perspectives
SES 3933H   Theorizing Transnationality: Feminist Perspectives
SES 3942H   Innovations in Education: A Comparative Analysis
SES 3943H   Sociology of State Formation and Genealogies of Government
SES 3952H   Sexism, Racism, Colonialism: Pedagogical Implications

Theory and Policy Studies in Education
TPS 1016H   School Program Development and Implementation
TPS 1019H   Diversity and the Ethics of Educational Administration
TPS 1020H   Teachers and Educational Change
TPS 1027H   The Search for Educational Quality and Excellence in a Global Economy
TPS 1029H   Special Applications of the Administrative Process: Improving Student Outcomes on a System Wide Scale
TPS 1047H   Managing Changes in Classroom Practice
TPS 1400H   The Origins of Modern Schooling I: Problems in Education Before the Industrial Revolution
TPS 1415H   The History of the Teaching Profession
TPS 1420H   European Popular Culture and the Social History of Education I
TPS 1421H   The History of Women and Education
TPS 1422H   Education and Family Life in the Modern World I
TPS 1425H   Class Formation and Its Relation to the Schools
TPS 1430H   Gendered Colonialisms, Imperialisms and Nationalisms in History
TPS 1447H   Technology in Education: Philosophical Issues
TPS 1448H   Popular Culture and the Social History of Education II
TPS 1803Y   Recurring Issues in Postsecondary Education
TPS 1806H   Systems of Higher Education
TPS1807H   Strategic and Long-range Planning for Postsecondary Systems
TPS 1825H   Comparative Education: Theory and Methodology
TPS 1826H   Comparative Higher Education
TPS 1832H   East Asian Higher Education
TPS 2006H   Educational Finance and Economics
    (Students who have taken TPS 1017H, TPS 1841H are not eligible to take TPS 2006H)
TPS 3017H   Problems in the Finance and Economics of Education

TPS 3020H   Educational Change in the Post-Modern Age
TPS 3029H   Special Topics in Educational Administration: Advanced Topics for Educational Administration
TPS 3041H   Administrative Theory and Educational Problems II: Doctoral Seminar on Policy Issues in Education
TPS 3045H   Educational Policy and Program Evaluation
TPS 3423H   Education and Family Life in the Modern World II
TPS 3447H   Theories of Modernity and Education I
TPS 3806H   Case Studies in Comparative Higher Education
TPS 3810H   International Academic Relations

Geography
JPG 1509H   Feminism, Postcoloniality and Development

Political Science
JPE 2408Y   Political Economy of International Development

Program Committee
Shahrzad Mojab - MEd, PhD - Adult Education & Counselling Psychology
Karen Mundy - BA, MA, PhD, Canada Research Chair - Adult Education & Counselling Psychology *(Director)*
Daniel Schugurensky - BEd, MEd, PhD - Adult Education & Counselling Psychology
Alister Cumming - BA, MA, PhD - Curriculum, Teaching & Learning
Kathy Bickmore - BA, MA, PhD - Curriculum, Teaching & Learning
Mark Evans, PhD - Curriculum, Teaching & Learning, Associate Dean, Teacher Education
Joseph Farrell - BSc, PhD - Curriculum, Teaching & Learning
Grace Feuerverger - BA, MA, PhD - Curriculum, Teaching & Learning
Vandra Lea Masemann, PhD - Curriculum, Teaching & Learning
Sarfaroz. Niyozov - BA, MA, PhD - Curriculum, Teaching & Learning
George J. S.Dei - BA, MA, PhD - Sociology & Equity Studies in Education
Paul Olson, BA, MA - Sociology & Equity Studies in Education
Stephen Anderson, PhD - Theory & Policy Studies in Education
Ruth Hayhoe - BA, MA, PhD - Theory & Policy Studies in Education
Reva Joshee - BA, MA, PhD - Theory & Policy Studies in Education

Developmental Biology

Lead Faculty
Medicine

Degree Programs Offered
Biochemistry – PhD
Cell and Systems Biology – PhD
Immunology – PhD
Laboratory Medicine and Pathobiology – PhD
Medical Biophysics – PhD
Molecular Genetics – PhD
Physiology – PhD

Overview
The graduate programs listed above participate in the Collaborative Program in Developmental Biology. The objectives of the program are to:
1. promote and foster excellence in developmental biology research in Toronto.
2. provide a means for graduate students working on developmental biology projects to be exposed to a broad range of issues and approaches in modern developmental biology.
3. provide a single comprehensive advanced PhD-level graduate course to complement a number of introductory courses provided by different departments.
4. provide a forum for interaction between investigators in Developmental Biology in different departments via participation in student seminars, supervisory committees, journal clubs, retreats and seminars/symposia.
This is a PhD program only.
Upon successful completion of the PhD requirements of the host department and the program, students receive the notation "Completed Program in Developmental Biology" on their transcript.

Contact and Address
Web: www.utoronto.ca/devbiol/
E-mail: dev.bio@utoronto.ca
Telephone: (416) 586-8267
Fax: (416) 586-8857

Dr. Helen McNeill
Collaborative Program in Developmental Biology
Department of Molecular Genetics
University of Toronto
600 University Avenue, Room 884
Toronto, Ontario M5G 1X5
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Students who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. Students must be registered in the doctoral program of one of the host departments and must be undertaking research in developmental biology under the supervision of a member of the program.
- Prospective students should contact the coordinator for additional details on admission procedures and course requirements.

Program Requirements
- Complete any core courses required by the host department. In addition, they must complete the interdepartmental course JDB 1025H and the seminar course JDB 1026Y. These courses may be taken in place of some host department courses.
- Students are required to present on two separate occasions at the Annual Developmental Biology Retreat in the form of one oral presentation and one poster presentation.
- Complete a PhD thesis.

Courses
The following courses are offered by the program every year.

JDB 1025H   Developmental Biology
JDB 1026Y°   Student Seminars in Developmental
                      Biology

Program Committee
Ulrich Tepass - PhD, CIHR Investigator - Cell & Systems
  Biology
Juan Carlos Zuniga-Pflucker - PhD, Canada Research
  Chair in Developmental Immunology - Immunology
Julie Brill, PhD - Molecular Genetics
Helen McNeill - PhD - Molecular Genetics *(Director)*
Peter John Roy - PhD - Canada Research Chair in
  Molecular Neurobiology - Molecular Genetics
Mei Zhen - PhD, Canada Research Chair in Brain and
  Behaviour - Molecular Genetics
N. Forgione - Cell & Systems Biology *(Student
  Representative)*

° Courses which may continue over a program. The course is graded
   when completed.

Developmental Science

Lead Faculty
Ontario Institute for Studies in Education

Degree Programs Offered
Human Development and Applied Psychology
- **Developmental Psychology and Education Program** – MA, PhD

Psychology – MA, PhD

Overview

The University of Toronto has a very strong group of developmental researchers located in two separate departments: the Department of Psychology and the Department of Human Development and Applied Psychology at the Ontario Institute for Studies in Education. The Collaborative Program in Developmental Science brings these researchers and their students together to provide a comprehensive training program that covers the breadth of developmental science, moving the study of human development beyond its conventional disciplinary boundaries. Developmental and educational psychology, cognitive science, neuroscience, and treatment and prevention sciences are presented as a multidisciplinary foundation for understanding human development and disseminating the benefits of that understanding.

The Collaborative Program prepares students for research careers in basic and applied developmental science. Research into basic processes examines the psychological, computational, and biological mechanisms of cognitive and emotional development, social development, personality development, and developmental psychopathology. More applied research investigates the psychological and biological effects of prevention and intervention techniques in educational, community, and clinical practices. The program also serves to familiarize faculty and students in the program with each other's research across a broad span of topics and approaches, broadening the perspective and relevance of their work and leading to new collaborative research proposals.

Contact and Address
Web:
1 www.psych.utoronto.ca/~devsci/
2 hdap.oise.utoronto.ca/pages/admissions.html
E-mail:
1 grad@psych.utoronto.ca
2 gradstudy@oise.utoronto.ca
Telephone: (416) 923-6641 ext. 2422
Fax: (416) 926-4713

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- MA students must be accepted under the SGS general regulations by one of the participating departments and according to the specific criteria of the department. In addition, students must apply and be admitted to the Developmental Science Collaborative Program.
- Normally, a psychology background and a demonstrated interest in developmental psychology will be sufficient grounds for admission.
- Students who wish to be admitted to the program must apply to work with faculty members in the program who will act as their research supervisors and advisors.

Program Requirements
- Students must register in the home department and select a course of study that satisfies the requirements of their departmental program as well as the requirements of the Collaborative Program. The student's advisor will provide counselling and supervision appropriate to both sets of requirements.
- Master's students follow the requirements of the department in which they are registered, but must include:
  - 1.0 core full-course equivalent (FCE): JDS 1233H Cognitive Development and Applications and JDS 1249H Social-Emotional Development and Applications
  - attendance at a monthly colloquium series

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- PhD students must be accepted under the SGS general regulations by one of the participating departments and according to the specific criteria of the department. In addition, students must apply and be admitted to the Developmental Science Collaborative Program.
- Normally, a psychology background and a demonstrated interest in developmental psychology will be sufficient grounds for admission.
- Students who wish to be admitted to the program must apply to work with faculty members in the program who will act as their research supervisors and advisors.

Program Requirements

- Students must register in the home department and select a course of study that satisfies the requirements of their departmental program as well as the requirements of the Collaborative Program. The student's advisor will provide counselling and supervision appropriate to both sets of requirements.
- Doctoral students follow the requirements of the department in which they are registered, but must include:
  - o Core course JDS 3000H Advanced Methods in Developmental Science - two term papers required for this course should focus on research directions relevant to their dissertation topics
  - o JDS 1233H Cognitive Development and Applications and JDS 1249H Social-Emotional Development and Applications (unless already completed at the master's level)
  - o attendance at a monthly colloquium series

Program Committee

Jennifer Jenkins - BA, MA, PhD, CPsych - Human Development and Applied Psychology

Marc Lewis - BA, MA, PhD, CPsych - Human Development and Applied Psychology *(Director)*

Romin Tafarodi, BA, PhD - Psychology

Dynamics of Global Change

Lead Faculty
Arts and Science

Degree Programs Offered
Adult Education and Community Development – PhD
Anthropology – PhD
Economics – PhD
Educational Administration – PhD
Geography – PhD
Health Services Research – PhD
Law – SJD
Management – PhD
Political Science – PhD

Overview
    The Collaborative Program in the Dynamics of Global Change is a multidisciplinary program that explores the frontiers of global change across a wide range of issues and identifies the underlying dynamics of change. In a rapidly evolving, complex, and loosely structured global system that engages new actors, change occurs at multiple levels and can have amplifying effects in unexpected ways. This program explores these complex interconnections across disciplinary fields and issue areas. From their home departments, students may take up questions from their own disciplines but explore them through the theoretical and methodological lens of global change.

Contact and Address
Web: www.utoronto.ca/mcis/dgc
E-mail: munk.centre@utoronto.ca
Telephone: (416) 946-8900 (for general inquiries)

Munk Centre for International Studies
1 Devonshire Place
University of Toronto
Toronto, Ontario M5S 3K7
Canada

Degree Programs

Doctoral Degrees

Admission Requirements
- Each graduate student in the Program shall be enrolled in a participating degree program in the graduate unit where the research is conducted, which is known as the home graduate unit. The student shall meet the admission requirements of both the home graduate unit and the Collaborative Program.

Program Requirements
- Students must meet all respective degree requirements of the School of Graduate Studies, the participating graduate unit, and the Collaborative Program.

- Collaborative program course requirements:
  - 0.5 full-course equivalent (FCE) core course in the Dynamics of Global Change
  - 0.5 FCE comprising two intensive, modular courses in the Dynamics of Global Change
- Students will pursue a dissertation topic related to the dynamics of global change. Normally, the dissertation supervisor will be a core faculty member of the Program. At least one member of the dissertation committee should be drawn from a graduate unit different from and cognate to the student's home unit.
- Each student's course of study and overall progress will be reviewed annually by the Collaborative Program director, though ultimate responsibility for the student's progress will remain with the graduate chair of the home program.

Courses
DGC 1000H Core Issues in the Dynamics of Global Change
DGC 2000H Special Topics in the Dynamics of Global Change
DGC 2001H Special Topics in the Dynamics of Global Change
DGC 2002H Special Topics in the Dynamics of Global Change
DGC 2003H Special Topics in the Dynamics of Global Change

Program Committee
Karen Mundy - BA, MA, PhD, Canada Research Chair - Adult Education & Counselling Psychology
Janice Boddy - BA, MA, PhD, FRSC - Anthropology
Arthur Hosios - BEng, MA, MEng, PhD - Economics
Amrita Daniere - AB, MPP, PhD, MCIP - Geography
Louise Lemieux-Charles - BScN, MScN, PhD - Health Policy, Management & Evaluation
David Dyzenhaus - BA, LLB, DPhil, FRSC - Law
Peter Pauly - MA, PhD - Management
David Cameron - MSc, BA, PhD - Political Science
Reva Joshee - BA, MA, PhD - Theory & Policy Studies in Education

Editing Medieval Texts

Lead Faculty
Arts and Science

Degree Programs Offered
Classics – PhD
English – PhD
French Language and Literature – PhD
History – PhD
Italian Studies – PhD
Medieval Studies – PhD
Music – PhD
Philosophy – PhD
Religion – PhD
Spanish – PhD

Overview
The Collaborative Program in Editing Medieval Texts offers intensive training in the editing of Latin and vernacular manuscripts, including music. Training in all areas is based on a sound knowledge of Latin and on the principles of editing Latin manuscripts. Students in the Program complete a series of courses which deal with the techniques of reading, transcribing, and editing manuscripts, and then complete an editorial project, which can be a paper for a course in any of the collaborating departments, an independent publishable project, or the student's dissertation.

Contact and Address
Web: www.chass.utoronto.ca/medieval/
E-mail: medieval.studies@utoronto.ca
Telephone: (416) 978-4884
Fax: (416) 978-8294

Collaborative Program in Editing Medieval Texts
Centre for Medieval Studies
125 Queen's Park, 3rd Floor
Toronto, Ontario M5S 2C7
Canada

Degree Programs

Doctor of Philosophy

Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. The Collaborative Program is only available to students in the doctoral stream.
- Students may apply for admission to the Collaborative Program as soon as they have passed the Centre for Medieval Studies' Level One Latin examination. Students should take the Level One Latin examination no later than the September sitting of their first year (the examination may also be taken the previous April) in order to determine whether they will need to take MST 1000Y during the first year.
- Students must already be admitted to the doctoral stream of one of the collaborating graduate units listed above.

Program Requirements
- MST 1104H and MST 1105H.
- 1.0 full-course equivalent (FCE) chosen from MST 1107H, MST 1110H, MST 1101H.
- Any other approved 0.5 FCE in editing (including departmental courses) as listed below.
- Participation in the required seminar in editorial practices and resources: MST 1111H Sources and Materials for Editing Medieval Texts.
- An approved text edition undertaken as the dissertation, as a project for a course, or independently for a publishable article.

Courses

English
ENG 1093H   The Medieval Vernacular Book

Italian Studies
ITA 1165H   Introduction to Italian Philology
ITA 1170H   Textual Criticism and the Editing of Early Italian Texts

Medieval Studies
MST 1000Y   Introductory Medieval Latin
MST 1101H   Codicology
MST 1104H   Latin Palaeography I (PR)
MST 1105H   Latin Palaeography II (PR)
MST 1107H   Latin Textual Criticism (PR)
MST 1110H   Diplomatics and Diplomatic Editing (PR)
MST 1111H   Sources and Materials for Editing Medieval Texts (PR)
MST 1113H   Vernacular Text-Editing: A Collaborative Project
MST 1115H   English Palaeography (PR)
MST 1384H   The Exeter Book of Old English Verse (PR)
MST 1385H   Theory and Practice in Editing of Old English Texts I (PR)
MST 1392H   Editing and Appreciating Wulfstan's Prose (PR)
MST 3230H   The Common Law of Medieval Europe

Music
MUS 1063H   Musical Notation of the Middle Ages

Program Committee

John Magee - BA, MA, PhD - Classics
William Robins - BA, MPhil, PhD - English *(Director)*
Mark Meyerson - BA, MA, PhD - History
Michael Lettieri - BA, MA, PhD - Italian Studies
David Robert Townsend - BA, MA, PhD - Medieval
 Studies
Andrew Orchard - BA, MA, PhD - Medieval Studies
William Bowen - BA, BMus, MA, PhD - Music
Peter King - AB, PhD - Philosophy
Joseph Goering - BA, MAR, MA, MSL, PhD - Religion
Josiah Blackmore - BA, MA, PhD - Spanish

Environment and Health

Lead Faculty
Arts and Science

Degree Programs Offered
Geography – MA, MSc, PhD
Medical Science – MSc, PhD
Public Health Sciences – MHSc, MSc, PhD
Women and Gender Studies – MA

Overview
The graduate degree programs listed above partici-pate in the Environment and Health (EH) Collaborative Program. The EH program complements the collaborative program in Environmental Studies (ES) while adding a distinct focus to the interplay between the outdoor en-vironment and health status. The health implications of human impacts on the environment cover a very broad range of issues including air and water quality, contami-nated land, and shifts in the distribution of vector-borne diseases (related to changes in land-use, climate, and human migration). The EH program provides students in the health sciences with a broad environmental perspec-tive while at the same time exposes environmental stud-ies students to the health implications of environmental quality. This program may also be of interest to students who are concerned with sociological and policy ap-proaches to the field of environment and health.

Graduate students from home departments other than those listed on the Web site can also apply for a EH Collaborative Program degree once they have received notice of acceptance from the University of Toronto. Interested students should discuss this possibil-ity with the Graduate Student Advisor (416-978-3475 or pavel.pripa@utoronto.ca).

Contact and Address
Web: www.environment.utoronto.ca/Graduate/Programs/
 EnvironmentHealthCollaborativeProgram.aspx
E-mail: centre.environment@utoronto.ca
Telephone: (416) 978-3475
Fax: (416) 978-3884

Centre for Environment
Earth Sciences Centre
Room 1016V, 33 Willcocks Street
University of Toronto
Toronto, Ontario M5S 3E8
Canada

Degree Programs

Master's and PhD Degrees

Minimum Admission Requirements
- Students who wish to enrol in the EH Collaborative Program offered by the Centre for Environment must first apply to and be accepted into a master's or doc-toral program in a degree granting unit, also called a "home department." Information about applying to a home department can be found at the School of Graduate Studies Web site: www.sgs.utoronto.ca.
- Prospective students who are planning to enrol in the EH Collaborative Program are strongly encouraged to submit copies of the documents indicated on the Centre's Web site by the application deadline estab-lished by the home department. Please contact the home department to which you intend to apply in or-der to confirm its application deadline. The Centre for Environment also allows potential students to enrol in its EH Collaborative Program beyond the deadline set by their home department.
- Once a student has officially registered in one of the collaborating home departments, he or she may enrol in the EH Collaborative Program, provided the student is able to complete the program requirements within the time limits set for the completion of his or her degree program. Many students enrol in the EH Collaborative Program at the CFE Orientation Day, usually held in September during the first week of each academic year.

Program Requirements
- Students must complete requirements **in addition** to the degree requirements of their home depart-ments. Typically, students complete up to 1.0 full-course equivalent (FCE) and conduct research on an environmental topic. Specific degree require-ments are listed on the Centre's Web site under the Environment and Health Collaborative Program.
- Students who successfully complete the EH Collaborative Program receive a special notation on their transcript.

Courses

The Centre for Environment offers individual credit courses that are open to graduate students from all parts of the university, subject to enrolment limits. With the exception of the core course, not all courses are offered every year. Graduate students enrolled in the Environment and Health Collaborative Program are also allowed to take elective courses listed under Environmental Studies Collaborative Program toward completing their Environment and Health Collaborative Program requirements (these are listed under Environmental Studies Collaborative Program in this Calendar).

Core Course

ENV 4001H   Graduate Seminar in Environment and Health

Elective Courses

CHL 5416H   Environmental Epidemiology
CHL 5903H   Environmental Health
CHL 5916H   Environmental Health Policy
ENV 1410H   Analytical Environmental Chemistry
ENV 1703H   Water Resources Management
ENV 1704H   Environmental Risk Analysis and Management
ENV 3000H   Special Topics—Environmental and Health
ENV 4002H   Environment and Health of Vulnerable Populations
GGR 1504H   Health, Place and Difference
JGE 1212H   Fate of Contaminants in the Environment
JNC 2503H   Environmental Pathways
JNP 1014Y   Interdisciplinary Toxicology
JNP 1016H   Graduate Seminar in Toxicology
JPG 1421H   Health in Urban Environments
TPS 1837H   Environmental Health, Transformative Higher Education and Policy Changes

Program Committee

Hilary Cunningham, BA, MA, PhD - Anthropology, Environment
Ingrid Stefanovic, BA, MA, PhD - Environment *(Director)*
Clare Wiseman, BS, MSc, PhD - Environment
Amrita Daniere, AB, MPP, PhD, MCIP - Geography
Virginia Maclaren, BA, MRP, MSc, PhD, MCIP - Geography
Ori Rotstein, MSc, MD, FRCS - Medical Science
Donald Cole - BSc, MSc, MD – Public Health Sciences

Environmental Engineering

Lead Faculty
Applied Science and Engineering

Degree Programs Offered
Chemical Engineering and Applied Chemistry – MASc, MEng, PhD
Civil Engineering – MASc, MEng, PhD
Mechanical and Industrial Engineering – MASc, MEng, PhD
Material Science and Engineering – MASc, MEng, PhD

Overview
The Environmental Engineering Collaborative Program (EECP) is an interdisciplinary collaborative program designed for students interested in taking a concentration of courses and conducting research in environmental engineering. It is open to MASc, MEng, and PhD students in the collaborating graduate programs listed above in the Faculty of Applied Science and Engineering.

About 30 full-time faculty members in these departments carry out advanced research and teach postgraduate courses in a wide range of environmental engineering specialties.

The Collaborative Program is administered and co-ordinated by the Division of Environmental Engineering and Energy Systems in conjunction with the participating departments and the Centre for Environment.

Students who complete the EECP program requirements will obtain the following statement on their transcript: "Completed Collaborative Program in Environmental Engineering".

Contact and Address
Web: www.energy.engineering.utoronto.ca
E-mail: eep@ecf.utoronto.ca
Telephone: (416) 978-3532
Fax: (416) 946-7632

Environmental Engineering Collaborative Program
Division of Environmental Engineering and Energy Systems
Galbraith Building
Room 134, 35 St. George Street
University of Toronto
Toronto, Ontario M5S 1A4
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Students who wish to enrol in the Collaborative Program must first apply to and be accepted into a master's program in one of the collaborating departments. (See the departmental entries in this calendar for details on admission requirements and degree programs.) Students should generally apply to the department that most closely matches their undergraduate degree.
- Once a student has registered in one of the collaborating departments, he or she may apply to and enrol in the EECP; this should be done no later than the end of the first session of study.
- Application forms for the collaborative program are available from the Division or any of the collaborating departments.

Program Requirements
- Degree requirements include course work and generally a research thesis or project, with details varying among the collaborating departments (see the departmental entries in this calendar).
- Graduate courses and research are available in a wide range of environmental engineering specialties offered by the collaborating departments. Many additional courses relevant to environmental engineering are offered by the Centre for Environment. See the calendar entries for the collaborating departments and the Centre for Environment for lists of courses. More detailed information on faculty, areas of research, and courses is available on the Division's Web site and from the Division.
- The EECP requirements are:
  o Completion of a concentration of study in environmental engineering as demonstrated in course work and, where it is part of the degree requirement, a thesis or project. This is generally met through the student's home department degree requirements.
  o Completion of one non-engineering course with substantial interdisciplinary content and student interaction that is related to the environment but is outside the student's technical field. A list of approved courses is available on the Division's Web site.
  o Participation in EDE 3000H, the Environmental Engineering Research Seminar Series, for at least two sessions. This is mandatory for MASc students and recommended for MEng students.

Doctor of Philosophy

Minimum Admission Requirements

- Students who wish to enrol in the Collaborative Program must first apply to and be accepted into a doctoral program in one of the collaborating departments. (See the departmental entries in this calendar for details on admission requirements and degree programs.) Students should generally apply to the department that most closely matches their undergraduate degree.
- Once a student has registered in one of the collaborating departments, he or she may apply to and enrol in the EECP; this should be done no later than the end of the first session of study.
- Application forms for the collaborative program are available from the Division or any of the collaborating departments.

Program Requirements

- Degree requirements include course work and generally a research thesis or project, with details varying among the collaborating departments (see the departmental entries in this calendar).
- Graduate courses and research are available in a wide range of environmental engineering specialties offered by the collaborating departments. Many additional courses relevant to environmental engineering are offered by the Centre for Environment. See the calendar entries for the collaborating departments and the Centre for Environment for lists of courses. More detailed information on faculty, areas of research, and courses is available on the Division's Web site and from the Division.
- The EECP requirements are:
  - Completion of a concentration of study in environmental engineering as demonstrated in course work and, where it is part of the degree requirement, a thesis or project. This is generally met through the student's home department degree requirements.
  - Completion of one non-engineering course with substantial interdisciplinary content and student interaction that is related to the environment but is outside the student's technical field. A list of approved courses is available on the Division's Web site.
  - Participation in EDE 3000H, the Environmental Engineering Research Seminar Series, for at least two sessions.

Program Committee

Donald Kirk - BASc, MASc, PhD, PEng - Chemical Engineering & Applied Chemistry

Brent Sleep - BASc, MASc, PhD - Civil Engineering

Bryan Karney - BASc, MEng, PhD, PEng - Civil Engineering   *(Director)*

Torstein Utigard - BSc, MASc, PhD, PEng - Materials Science & Engineering

Pierre Sullivan - BSME, MSME, PhD - Mechanical & Industrial Engineering

Environmental Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Adult Education and Community Development – MA, MEd, EdD, PhD (pending)
Anthropology – MA, PhD
Chemical Engineering and Applied Chemistry – MASc, MEng, PhD
Chemistry – MSc, PhD
Ecology and Evolutionary Biology – MSc, PhD
Economics – MA
Forestry – MScF, MFC, PhD
Geography – MA, MSc, PhD
Geology – MA, PhD
Information Studies – MISt, PhD
Management – MBA, PhD
Philosophy – MA, PhD
Planning – MScPl
Political Science – MA, PhD
Religion – MA, PhD
Sociology – MA, PhD
Sociology and Equity Studies in Education – MA, MEd, EdD, PhD
Women and Gender Studies – MA

Overview
The graduate programs listed above participate in the Environmental Studies (ES) Collaborative Program which is offered through the Centre for Environment (CFE) at the University of Toronto. Graduate students admitted to a participating "home" department can apply to the Collaborative Program and pursue course work and research in environmental areas. The Centre currently has graduate students from across the disciplinary spectrum, including anthropology, social work, religious studies, law, management, geography, chemistry, biology, and geology.

The Centre offers a unique and comprehensive program of graduate study. By utilizing the University's extensive library holdings and faculty resources, it offers one of North America's most engaging and cross-disciplinary programs in the environment. One of the compelling strengths of the Centre's program is the interdisciplinary environment in which teaching and research is conducted. For example, in its core courses, professors from the humanities team teach with faculty from the social sciences, engineering, biology, and chemistry. Students are both able to specialize in an area of environmental research and gain exposure to a wide range of intellectual and methodological disciplines focused on environmental issues.

Graduate students from home departments other than those listed on the Web site can also apply for a collaborative degree once they have received notice of acceptance from the University of Toronto. Interested students should discuss this possibility with Pavel Pripa, the Graduate Student Advisor (416-978-3475 or pavel.pripa@utoronto.ca).

Contact and Address
Web: www.environment.utoronto.ca/Graduate/Programs/
 EnvironmentalStudiesCollaborativeProgram.aspx
E-mail: centre.environment@utoronto.ca
Telephone: (416) 978-3475
Fax: (416) 978-3884

Centre for Environment
Earth Sciences Centre
Room 1016V, 33 Willcocks Street
University of Toronto
Toronto, Ontario M5S 3E8
Canada

Degree Programs

Master's and PhD Degrees

Minimum Admission Requirements
- Students who wish to enrol in the Environmental Studies (ES) Collaborative Program offered by the Centre for Environment must first apply to and be accepted into a master's or doctoral program in a degree granting unit, also called a "home department." Information about applying to a home department can be found at the School of Graduate Studies Web site: www.sgs.utoronto.ca.
- Prospective students are strongly encouraged to submit copies of the documents indicated on the Centre's Web site by the application deadline established by the home department. Please contact the home department to which you intend to apply in order to confirm its application deadline. The Centre for Environment also allows potential students to enrol in its ES Collaborative Program beyond the deadline set by their home department.
- Once a student has officially registered in one of the collaborating home departments, he or she may enrol in the ES collaborative program, provided the student is able to complete the program requirements within the time limits set for the completion of his or her degree program. Many students enrol in the ES collaborative program at the CFE Orientation Day, usually held in September during the first week of each academic year.

Program Requirements
- Environmental Studies Collaborative Program students must complete requirements **in addition** to the degree requirements of their home departments. Typically, students complete up to 1.0 full-course equivalent (FCE) and conduct research on an environmental topic. The Centre also offers students the opportunity to complete an internship in fulfillment of the collaborative program. Specific degree requirements are listed on the Centre's Web site under the Environmental Studies Collaborative Program.

- Students who successfully complete the ES program receive a special notation on their transcript.

Courses

The Centre for Environment offers individual credit courses that are open to graduate students from all parts of the University, subject to enrolment limits. With the exception of the core course, not all courses are offered every year. Graduate students enrolled in the Environmental Studies Collaborative Program are also allowed to take elective courses listed under the Environment and Health Collaborative Program toward completing their Environmental Studies Collaborative Program requirements (these are listed under Environmental Health Collaborative Program in this Calendar).

Core Course
ENV 1001H   Environmental Decision Making

CFE Elective Courses
ENV 1002H   Environmental Policy
ENV 1004H   Urban Sustainability
ENV 1005H   Business and Environmental Politics
ENV 1008H   Worldviews and Ecology
ENV 1444H   Capitalist Nature
ENV 1701H   Environmental Law
ENV 1707H   Environmental Finance and Sustainable
             Investing
ENV 1410H   Analytical Environmental Chemistry
ENV 2000H,Y Topics in Environmental Studies
ENV 2002H   Special Topics—Environmental Studies
ENV 4444Y+ Internship
ENV 5555Y+ Research Paper

Other Elective Courses

Adult Education and Counselling Psychology
AEC 1104H   Community Education and Organizing
AEC 1131H   Special Topics in Adult Education
             (Master's): Environmental Adult Education
AEC 1160H   Introduction to Transformative Learning
             Studies
AEC 1178H   Practitioner/Ecological Identity and
             Reflexive Inquiry
AEC 3176H   Sense of Place in Professional and Natural
             Contexts

Chemical Engineering and Applied Chemistry
JNC 2503H   Environmental Pathways

Forestry and Social Work
JFS 1460H   Community Based Natural Resource
             Management

Geography
JGE 1413H   Environmental Impact Assessment
JGE 1420H   Urban Waste Management
JGE 1609H   Cities, Industry and Environment
GGR 1214H   Global Ecology and Biogeochemical
             Cycles

Geography and Planning
JPG 1404H   Issues in Global Warming
JPG 1406H   Energy Supply and Use
JPG 1414H   Cities as Ecosystems
JPG 1419H   Aboriginal/Canadian Relations in
             Environment and Resource Management

History
HIS 1111H   Topics in North American Environmental
             History

Mechanical and Industrial Engineering
JEI 1901H   Technology, Society, and the Environment I
JEI 1902H   Technology, Society, and the Environment II

Political Science
JPV 1201H   Politics, Bureaucracy, and the Environment

Philosophy
JVP 2147H Environmental Philosophy

Sociology and Equity Studies in Education
SES 1909H Eco-Sociology

Program Committee
Ingrid Stefanovic, BA, MA, PhD - Environment *(Director)*
Hilary Cunningham, BA, MA, PhD - Anthropology, Environment
Marilyn Laiken, BA, MA, PhD - Adult Education & Counselling Psychology
Janice Boddy, BA, MA, PhD - Anthropology
Douglas Reeve, BSc, MASc, PhD, PEng - Chemical Engineering & Applied Chemistry
Scott Mabury, BSc, PhD - Chemistry
James Thomson, AB, MS, PhD - Ecology and Evolutionary Biology
Arthur Hosios, BEng, MA, MEng, PhD - Economics
C. Tattersall Smith, BA, MS, PhD - Forestry
Amrita Daniere, AB, MPP, PhD, MCIP - Geography
Alexander Cruden, BSc, PhD - Geology
Jens-Erik Mai, BA, MLIS, PhD - Information Studies
Roger Martin, AB, MBA - Management
Richard DiFrancesco, BA, MA, PhD - Planning
David Cameron, MSc, BA, PhD - Political Science
John Kloppenborg, BA, MA, PhD - Religion
Blair Wheaton, BA, MA, PhD - Sociology
Sandra Acker, BA, MA, PhD - Sociology and Equity Studies in Education

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered

Ethnic and Pluralism Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology - MA, MSc, PhD
European, Russian and Eurasian Studies - MA, PhD
Geography - MA, PhD
History - MA, PhD
Industrial Relations and Human Resources - MIRHR, PhD
Nursing Science - MN, PhD
Political Science - MA, PhD
Religion - MA, PhD
Social Work - MSW, PhD
Sociology - MA, PhD
Sociology and Equity Studies in Education - MA, PhD

Overview
The graduate programs listed above participate in the Ethnic and Pluralism Studies Collaborative Program at the University of Toronto. Participating graduate units in the program contribute courses and provide facilities and supervision for graduate research.

Upon successful completion of the requirements, students receive the notation "Completed Collaborative Program in Ethnic and Pluralism Studies" on their transcripts, in addition to the master's or doctoral degree in their departmental area.

Contact and Address
Web: www.utoronto.ca/ethnicstudies
E-mail: ethnic.studies@utoronto.ca
Telephone: (416) 978-4783
Fax: (416) 978-3963

Collaborative Program in Ethnic and Pluralism Studies
Department of Sociology
University of Toronto
725 Spadina Avenue
Toronto, Ontario M5S 2J4
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating graduate units.
- Applicants to the Master of Arts, Master of Industrial Relations and Human Resources, Master of Nursing, Master of Science, Master of Social Work are accepted by the participating graduate unit under the general regulations.

Program Requirements
- Students must follow a program of studies acceptable to both the participating graduate unit and the Ethnic and Pluralism Studies Program.
- Collaborative program requirements may be met concurrent with, or in addition to, departmental requirements. Students should consult specific departmental listings for information.
- 1.0 full-course equivalent (FCE) in ethnicity, of which at least 0.5 FCE will be in a discipline other than the one in which the student is enrolled. Normally, these courses are taken as options within regular departmental or faculty degree requirements, not as additional courses.
- A coordinating 0.5 FCE seminar in ethnicity. The seminar is the place to discuss, compare, and bring together the various approaches to the study of ethnicity. As well, students will be expected to present and discuss their projects.
- When a practicum is required, it will focus on ethnicity.
- It is understood that the major paper or thesis as required by the graduate unit will be in an ethnic studies area.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating graduate units.
- Applicants to the Doctor of Philosophy degree program are accepted under the general regulations.

Program Requirements
- Students must follow a program of studies acceptable to both the participating graduate unit and the Ethnic and Pluralism Studies Program.
- Collaborative program requirements may be met concurrent with, or in addition to, departmental requirements. Students should consult specific departmental listings for information.
- 2.0 full-course equivalents (FCE) in ethnicity, including master's-level courses, of which at least 1.0 will be in disciplines other than the one in which the student is enrolled. Normally, these courses are taken as options within regular departmental or faculty degree requirements, not as additional courses.
- A coordinating 0.5 FCE seminar in ethnicity. The seminar is the place to discuss, compare, and bring together the various approaches to the study of ethnicity. As well, students will be expected to present and discuss their projects. Students who have taken this course for the master's degree need not repeat it.

- When the student's graduate unit requires more than one comprehensive examination, one of the examinations will be in ethnicity.
- When there are no comprehensive examinations, but an examination on the thesis proposal is required, the examination will focus on ethnicity, and in all cases the thesis will be on subject matter dealing with ethnicity.
- The PhD thesis will focus on ethnicity. The supervisor of the thesis committee will be a specialist in the area of ethnicity.

Courses

1. Courses eligible for credit toward meeting program requirements in Ethnic and Pluralism Studies are listed below.
2. Students should check with the professor responsible for each course since a prerequisite may be required.
3. Not all courses are offered each year. Please consult the Program office or the appropriate graduate unit for course availability.
4. Students wishing to use courses other than those listed below for credit toward meeting program requirements must submit a formal request in writing.

Coordinating Seminar
JTH 3000H   Ethnic Relations Theory, Research, and Policy

Anthropology
ANT 6003H   Critical Issues in Ethnography I
ANT 6004H   Critical Issues in Ethnography II
ANT 6034H   Advanced Research Seminar IV (Ethnicity)
ANT 6040H   Approaches to Field Work I
ANT 6041H   Approaches to Field Work II
ANT 6050H   Reading Course in Specific Area and Theory I

Economics
ECO 2800H   Labour Economics I (Prerequisite: an undergraduate course in statistics and a graduate course in applied statistics.)

Geography
PLA 1503H   Planning and Social Policy
JPG 1505H   The Multicultural City: Diversity, Policy, and Planning
JPG 1506H   State/Space/Difference: Understanding the New Social Geography
GGR 1712H   Historical Geography of Ethnic Groups in Canada

History
HIS 1102H   Spiritual Invasion: Natives of the Americas Confront Christianity
HIS 1120H   Topics in Aboriginal/Non-Aboriginal Relations in Canada
HIS 1164H   Irish Migration to Canada: Sources and Methods

HIS 1166H   Immigrants, Minorities, and the Racialized Other: Canada in a Comparative Context (Prerequisite: any previous course in the history of Canada.
HIS 1274H   The Nazis, Occupied Europe, and the Jews
HIS 1287H   Polish Jews Since the Partitions of Poland (joint graduate/undergraduate)
HIS 1297H   Problems of National Survival in Eastern Europe Since 1848
HIS 1528H   Crossing Boundaries: Race, Ethnicity, Class, and Gender in America, 1880-1930
HIS 1545H   Race, Segregation and Protest: South Africa and the United States

Industrial Relations and Human Resources
IRE 3630H   Diversity and Inclusiveness in the Workplace

Law
Participation in LAW courses is at the discretion of the Faculty of Law upon presentation, to the Faculty of Law Records Office, of a signed permission form from the student's home department. Note that preference is given to JD students and that many law courses are full by the end of the Faculty of Law add/drop period.

LAW 410H   Discrimination Law: Equality in the Private Sector
LAW 456H   Canadian Migration Law

Nursing Science
NUR 1013H   Transcultural Health Care Issues
NUR 1014H   Politics of Aboriginal Health
NUR 1068H   Youth and Mental Health Promotion

Political Science
POL 2001Y   Problems of Political Community
POL 2026H   Topics in Political Thought I: Nationalism and Political Philosophy
POL 2038Y   Problems of Pluralism and Equality
POL 2127H   Canadian Theories of Multiculturalism
POL 2321H   Topics in Comparative Politics I: Citizenship and Immigration in Europe and North America
POL 2324H   Ethnonationalism and State-Building: The Communist and Post-Communist Experience
POL 2413Y   Politics, Culture, and Identity in Southeast Asia

Religion
RLG 2037H   Religion and Healing
RLG 3931H   Topics in North American Religions

Social Work
SWK 4210H   Promoting Empowerment: Working at the Margins
SWK 4304H   Globalization and Trans-nationalization: Social Work Responses Locally and Globally

SWK 4617H   Cross-Cultural Social Work Practice
SWK 4658H   Social Work with Immigrants and Refugees
SWK 4801H   Special Studies I
SWK 4802H   Special Studies II

Sociology
SOC 6002H   Immigration I: Contemporary International
                     Migration
SOC 6003H   Immigration II: Sociology of Immigration,
                     Ethnicity and Employment
SOC 6009H   Ethnicity I
SOC 6016H   Social Demography I
SOC 6109H   Ethnicity II
SOC 6116H   Social Demography II

Sociology and Equity Studies in Education
SES 1921Y   The Principles of Anti-Racism Education
SES 1926H   Race, Space and Citizenship: Research
                     Methods
SES 3933H   Theorizing Transnationality: Feminist
                     Perspectives
JSA 5147H   Language, Nationalism and
                     Post-Nationalism
JTE 1952H   Language, Culture, and Education

Theory and Policy Studies in Education
TPS 1428H   Immigration and the History of Canadian
                     Education
TPS 1429H   Ethnicity and the History of Canadian
                     Education
TPS 3428H   Minority Concerns and Education in
                     Canadian History: Selected Topics

Program Committee
Michael Levin - BA, MA, PhD - Anthropology
Michael Baker - BCom, MA, PhD, Royal Bank Chair in
  Public and Economic Policy - Economics
Minelle Mahtani - BA, PhD - Geography
Franca Iacovetta - BA, MA, PhD - History
Nan Weiner - BSB, MA, PhD - Industrial Relations &
  Human Resources
Audrey Macklin - BA, LLB, LLM - Law
Nazilla Khanlou - RN, BScN, MSc, PhD - Nursing
  Science
Jeffrey Kopstein - PhD, MA, BA - Political Science
Donald Forbes - BA, MA, PhD - Political Science
Amira Mittermaier - MA, PhD - Religion
Jeffrey Reitz - BS, PhD, FRSC, Robert F. Harney
  Professor of Ethnic, Immigration & Pluralism Studies
  - Sociology *(Director)*
Eric Fong - BA, MA, PhD - Sociology
Sherene Razack - BA, MA, PhD - Sociology and Equity
  Studies in Education
Izumi Sakamoto - BA, MA, MSW, MS, PhD - Social Work

Genome Biology and Bioinformatics

Lead Faculty
Medicine

Degree Programs Offered
Biochemistry – PhD
Cell and Systems Biology – PhD
Chemical Engineering and Applied Chemistry – PhD
Computer Science – PhD
Ecology and Evolutionary Biology – PhD
Biomaterials and Biomedical Engineering – PhD
Laboratory Medicine and Pathobiology – PhD
Medical Biophysics – PhD
Medical Science – PhD
Molecular Genetics – PhD

Overview
The recent elucidation of the genomes of many organisms has led to the appreciation that our knowledge of the function of the proteome and other "omes" of any given organism is far from complete. A wide range of computational, theoretical, biochemical, structural, cell biological and genetic approaches need to cooperate to establish the connections between sequence, structure and function. The Collaborative Program in Genome Biology and Bioinformatics addresses this need for co-operation with a coherent course of study that educates and trains doctoral graduate students across these diverse disciplines. The program serves as a model for a content-driven, trans-departmental unit that responds to the University's need to adapt to cutting-edge scientific developments.

The graduate programs listed above participate in the Collaborative Program in Genome Biology and Bioinformatics. Upon successful completion of the Ph.D. requirements of the host department and the program, students receive the notation "Completed Program in Genome Biology and Bioinformatics " on their transcript.

Contact and Address
Web: www.biochemistry.utoronto.ca/cgb/
E-mail: rob.reedijk@utoronto.ca
Telephone: (416) 978-0774

Mr. Rob Reedijk
Administrative Coordinator
Collaborative Program in Genome Biology and
 Bioinformatics
Department of Biochemistry
Room 5207, Medical Sciences Building
University of Toronto
Toronto, Ontario M5S 1A8
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Since this is a PhD program, students must be registered in the doctoral program of one of the host departments and must be undertaking research with a significant genome biology and/or bioinformatics component under the supervision of a member of the program.

Program Requirements
- Complete a PhD thesis and any core courses as required by the student's host department.
- Complete the interdepartmental courses or alternates (one of JBB 2026H/JBZ 1472H/JTB 2010H/JZB 1521H; and one of BME 1458H/CSC 2417H/CSC 2418H/CSC 2515H/JTB 2020H). These courses may be taken in place of some host department courses after a student obtains written permission from the host department.
- Participate in the seminar series and participate in collaborative traineeships in which an aggregate time of at least four months is spent in a collaborating laboratory, thematically working on an aspect of the thesis project but with a complementary method. The goal of the collaborative traineeship is ideally a joint publication between the two member labs.

Courses
Students should take one genome biology/"omics" course (Group I) and one computational biology/bioinformatics course (Group II) from the following:

Group I
JBB 2026H   Protein Structure, Folding and Design
JBZ 1472H   Computational Genomics and
                  Bioinformatics
JTB 2010H   Proteomics and Functional Genomics
JZB 1521H   Molecular Evolution

Group II
BME 1458H   Pattern Discovery Methods for Biomedical
                  Engineering
CSC 2417H   Algorithms for Genome Sequence Analysis
CSC 2418H   Computational Structural Biology
CSC 2515H   Machine Learning
JTB 2020H   Applied Bioinformatics

Program Committee

Boris Steipe - MD, PhD/Biochemistry
Christopher Yip - BASc, MSc, PhD, PEng, Canada
  Research Chair/Biomaterials & Biomedical Engineering,
Radhakrishnan Mahadevan - BTech, PhD, Chemical
  Engineering & Applied Chemistry
Nicholas Provart - BSc, MSc, PhD/Cell & Systems
  Biology *(Director)*
Michael (Mikhail) Brudno - BA, MSc, PhD/Computer
  Science
Belinda Chang - BA, PhD, Canada Research Chair/
  Ecology & Evolutionary Biology
Jeremy Squire - BSc, MSc, PhD, JC Boileau Grant
  Chair in Oncologic Pathology/Laboratory Medicine &
  Pathobiology
Elizabeth Tillier - PhD/Medical Biophysics
York Po-Chee Pei - MD, MSc, FRCP(C)/Medical Science
Andrew Emili - BSc, MSc, PhD/Molecular Genetics

Geology and Physics

Lead Faculty
Arts and Science

Degree Programs Offered
Geology – MSc, PhD
Physics – MSc, PhD

Overview
The graduate programs listed above participate in the Collaborative MSc and PhD Programs in Geology and Physics. These programs foster graduate education in those areas of study that overlap traditional departmental boundaries.

Students who successfully complete the requirements of the collaborative program will receive the notation "Completed Collaborative Program in Geology and Physics" on their transcript.

Contact and Address
E-mail: bailey@geology.utoronto.ca
Telephone: (416) 978-3231
Fax: (416) 978-7606

Collaborative Program in Geology and Physics
c/o R. C. Bailey
McLennan Physical Laboratories
Room 501, 60 St. George Street
University of Toronto
Toronto, Ontario M5S 1A7
Canada

Degree Programs

Master of Science

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both a graduate degree program in one of the collaborating departments, this being either Geology or Physics, and to the collaborative program. Note that MSc students enrolled in Option I in Physics or in the course-only option in Geology are not eligible to enrol in the collaborative program.
- Applicants must submit a supplementary brief application form, available from either home department or the collaborative program office, to the collaborative program Director.
- Normal deadlines for application to the School of Graduate Studies apply. Students who have already been admitted to one of the two home departments may apply to the collaborative program until October 1.

Program Requirements
- Students must meet all respective degree requirements of the School of Graduate Studies, the home department, and the collaborative program.
- The MSc research, thesis, and thesis defence requirements are the same as those of the home department.
- The lecture course requirements are the Geology graduate seminar course in addition to the course requirements of the home department of which at least 1.0 full-course equivalent (FCE) must be taken in the non-home department.
- The supervised research project and associated report or thesis will be completed under the regulations of the home department.
- Students are expected to attend the regular seminar series of both the Geology Department and the Geophysics Lab in the Physics Department and to participate in the graduate student seminar programs of both the Geology Department and the Geophysics Lab.
- Program requirements are normally completed within 12 months of entry to the program.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments, this being either Geology or Physics.
- Applicants must submit a supplementary brief application form, available from either home department or the collaborative program office, to the collaborative program Director.
- Normal deadlines for application to the School of Graduate Studies apply. Students who have already been admitted to one of the two home departments may apply to the collaborative program until October 1.

Program Requirements
- Students must meet all respective degree requirements of the School of Graduate Studies, the home department, and the collaborative program.
- The PhD research, thesis, and thesis defence requirements are the same as those of the home department.
- The lecture course requirement is 0.5 full-course equivalent (FCE) above the requirement of the home department, and must include the Geology graduate seminar course, and at least 1.0 (FCE) in the non-home department.
- The student's research supervisor will normally be a faculty member in the student's home department, unless an explicit exception is approved by both departments.

Program Committee

Richard Bailey - BSc, PhD - Geology and Physics
 (Director)
Russell Pysklywec - BSc, PhD - Geology
Theodore Shepherd - BSc., PhD - Physics

Global Health

Lead Faculty
Medicine

Degree Programs Offered
Anthropology – PhD
Health Administration – PhD
Law – SJD
Nursing Science – PhD
Pharmaceutical Science – PhD
Political Science - PhD
Public Health Sciences – PhD

Overview
    The graduate programs listed above partici-
pate in the Collaborative Doctoral Program in Global
Health. This program offers doctoral students the op-
portunity to develop cooperative and interdisciplinary
graduate education and research in global health. We
view global health as an integrative construct that fo-
cuses on the inter-relationships between local, regional,
national, and international factors influencing health
and effective interventions and policies that will address
these factors. This collaborative program enhances the
student experience by offering a broad base of faculty
expertise and an opportunity to share research ideas
and results from multiple disciplinary perspectives. The
Collaborative Doctoral Program in Global Health signals
the University's commitment to improving the well-being
of people in Canada and around the world through higher
education and advanced research in global health.
    Student research is supervised by a member of the
graduate faculty in the home unit. Normally students in
the collaborative program are supervised by a member
of the collaborative program's core faculty, or have a core
faculty member serve on the supervisory committee. The
home unit shall recommend the granting of the degree.
With the approval of the Collaborative Program Director,
upon completion of the program requirements, the desig-
nation "Completed the Collaborative Graduate Program
in Global Health" shall be shown on the transcript.

Contact and Address
Web: www.phs.utoronto.ca
E-mail: chl.grad@utoronto.ca or
Director at ae.birn@utoronto.ca
Telephone: 416.978.2058
Fax: 416.978.1883 for general inquiries

Collaborative Doctoral Program in Global Health
c/o Department of Public Health Sciences
6th floor Health Sciences Building
155 College Street
University of Toronto
Toronto, Ontario M5T 3M7
Canada

Degree Programs

Doctor of Philosophy

Admission Requirements
- Applicants must meet the admission requirements of both the home graduate program in which they are registered as well as the collaborative program.
- Applicants must be admitted to a doctoral program in one of the home departments before they may apply to the Collaborative Doctoral Program in Global Health.

Program Requirements
- Meet all the degree requirements of the School of Graduate Studies, the home graduate unit, and the Collaborative Doctoral Program in Global Health.
- Successfully complete:
  - NUR1083H *Comparative Politics of Health and Health Policy in a Globalizing World*
  - one elective (outside of the home department) selected from the list below
  - participation in 0.5 full-course equivalent (FCE) global health research seminar series for the equivalent of two academic years
  - a thesis on an issue related to global health, to be approved by both the home unit and the collaborative program committee

Courses
    Not all courses are offered every year. Please refer
to the participating graduate units' Web sites for a current
list of course offerings.

Core Course
NUR1083H   Comparative Politics of Health Policy in a
              Globalizing World
              (Where possible, this required core course may be
              taken as an elective within regular departmental
              degree requirements, not as an additional course.)

Elective Courses

Anthropology
ANT 6003H Critical Issues in Ethnography I
ANT 6004H Critical Issues in Ethnography II
ANT 6023H Governmentality, Development and the
              Improvement of the World
ANT 6032H Social Movements: Interrogating Power
              and Protest in a Global Context
ANT 6040H Approaches to Fieldwork I
ANT 7001H Medical Anthropology I
ANT 7002H Medical Anthropology II

Bioethics
CHL 5121H Genomics, Bioethics and Public Policy
MSC 3003Y Empirical Approaches to Bioethics
MSC 3010Y International Research Ethics
PHL 2146Y Topics in Bioethics

JHM 1000H   Issues Analysis in Interdisciplinary
               International Health Research

Health Policy, Management and Evaluation
HAD 5768H   International Perspectives on Health
               Services Management
HAD 5770H   Program Planning and Evaluation
HAD 5771H   Resource Allocation Ethics
HAD 5774H   Comparative Health Care Systems

Law
    Participation in LAW courses is at the discretion of
the Faculty of Law upon presentation, to the Faculty of
Law Records Office, of a signed permission form from
the student's home department. Note that preference is
given to JD students and that many law courses are full
by the end of the Faculty of Law add/drop period.
LAW 294H   The Law and Praxis of International Human
               Rights
LAW 301H   Women's Rights in International Law
LAW 386H   Reproductive and Sexual Health Law
LAW 388H   Public Health Law
LAW 576H   Can there be Universal Human Rights

Nursing
NUR 1024H   Foundations of Qualitative Inquiry
NUR 1025H   Doing Qualitative Research: Design and
               Data Collection
NUR 1082H   Knowledge Production in Nursing and
               Health
NUR 1083H   Comparative Politics of Health Policy in a
               Globalizing World (required course)

Pharmacy
PHM 1124H   The Power and Politics of Global
               Pharmaceutical Policy
PHM 1125H   Complementary/Alternative Medicine:
               Health System and Policy Issues

Political Science
JPD 2232H   International Governance
JPE 2408Y   Political Economy of International
               Development
JPF 2430Y   Cities
POL 2205H   Topics in International Politics I
POL 2207H   Topics in International Politics III
POL 2212Y   Canada and the Third World
POL 2217Y   Politics of the International System
POL 2226H   Ethics and International Relations
POL 2318H   Comparative Public Policy: Selected areas
POL 2409Y   Politics and Planning in third world Cities

Public Health Sciences
CHL 5115H   Qualitative Analysis and Interpretation
CHL 5117H   A Global Perspective on the Health of
               Women and Children
CHL 5118H   International Health, Human Rights and
               Peace-Building
CHL 5411H   International Health
CHL 5419H   Empirical Perspectives on Social
               Organization and Health

CHL 5420H   Global Health Research
CHL 5421H   Aboriginal Health
CHL 5702H   History of International Health
CHL 5903H   Environmental Health
CHL 7001H   History of International Health

Program Committee
Daniel Sellen - BA, MA, PhD, CRC - Anthropology
Holly Wardlow - BA, MPH,PhD - Anthropology
Andrew Howard - MD, MSc, FRCS(C) - Health Policy,
  Management & Evaluation
Lorne Sossin - BA, MA, LLB, PhD, LLM, JSD - Law
Denise Gastaldo - BScN, MA, PhD - Nursing Science
Carles Muntaner - MD, PhD - Nursing Science
Jillian Cohen-Kohler - BA, MA, PhD - Pharmaceutical
  Sciences
J. Orbinski - MA, MSc, MD – Public Health Sciences
Joseph Wong - BA, MA, PhD, Canada Research Chair
 - Political Science
Anne-Emanuelle Birn - BA, MA, DSc - Public Health
  Sciences
Donald C. Cole - MSc,MD - Public Health Sciences

Health Care, Technology and Place

Lead Faculty
Medicine

Degree Programs Offered
Biomedical Engineering – PhD
English – PhD
Health Policy, Management and Evaluation – PhD
Medical Science – PhD
Nursing Science – PhD
Pharmaceutical Sciences – PhD
Public Health Sciences – PhD
Rehabilitation Science – PhD
Social Work – PhD

Overview
The graduate programs listed above participate in the HCTP Collaborative Program. The objectives of the Health Care, Technology and Place (HCTP) Collaborative Program are to:
1. prepare doctoral students to understand, explain, and improve health outcomes associated with geographically-dispersed and technologically-mediated health care;
2. bridge knowledge gaps among doctoral students working in the life sciences, physical sciences, social sciences, and humanities who are concerned with the interconnectedness of bodies, technologies, places, and modes of work in contemporary health care; and
3. provide mentorship in transdisciplinary scholarship, including leadership skills, collaboration, grant writing, and knowledge exchange. Ultimately the goal is to facilitate research conducted by scientifically-informed humanists and philosophically-informed physical and social scientists.

Collaborative programs are administered under the auspices of the School of Graduate Studies. Students who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Applicants may apply concurrently to the participating home graduate unit and to the Health Care, Technology and Place Collaborative Program. Students follow a course of study acceptable to both the home unit and the HCTP Collaborative Program.

Contact and Address
Web: www.hctp.utoronto.ca
E-mail: hctp.program@utoronto.ca
Telephone: (416) 978-2067
Fax: (416) 946-5960

Collaborative Program in Health Care, Technology and Place
155 College Street, Suite 425
University of Toronto
Toronto, Ontario M5T 3M6
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Applicants must apply to a participating graduate unit and comply with the admission procedures of that unit.
- Applicants must forward the following to the Program Committee of the HCTP Collaborative Program:
  o a copy of the School of Graduate Studies application form submitted to the participating graduate unit;
  o copies of official undergraduate and graduate transcripts from all institutions previously or currently attended, which should reflect a minimum 3.5 GPA (A-);
  o a resume or curriculum vitae;
  o a research plan (maximum 800 words) summarizing research goals and past research experience, the relevance of the HCTP Program to this plan, and justification for the identified HCTP project mentor;
  o two confidential letters of recommendation from scholars familiar with the applicant's research background and aptitude for the interdisciplinary study;
  o a confidential letter from an HCTP mentor providing: formal agreement to participate on the applicant's dissertation committee; and commentary written for reviewers outside the discipline, evaluating the applicant's level of achievement relative to peers in the same discipline, the objectives and methods of the proposed program of research, and the relative merit of such research within the applicant's home discipline.

Program Requirements
- At least 0.5 HCTP full-course equivalent (FCE);
- Participate actively in the seminar series during their involvement with HCTP;
- Participate in at least one Annual Interdisciplinary Research Workshop.
- Complete a dissertation under the supervision of a core faculty member in the student's home department. The dissertation must address the theme of "health care, technology, and place".
- It is the objective of this collaborative program to enrich the PhD experience without unduly extending the duration of students' graduate education. Every student enrolled in the collaborative doctoral program must complete the requirements of the collaborative

program and the requirements of the doctoral program in their home graduate unit. It will be up to each participating home department to determine whether HCTP courses are completed in addition to the department's customary course requirements or as a part of those requirements.

Core Courses

JNH 5001H Health Care Settings, Sites and Human Well-Being

JNH 5002H The Body, Health Care, Technology and Place

BME 1456H Changing Health Care Technologies, People and Places

NUR 1031H Technology and Place in Contemporary Health Care Work

Program Committee

Geoffrey Fernie - BSc, PhD, PEng, CCE - Biomedical Engineering

Elizabeth Harvey - BA, MA, PhD - English

Peter C Coyte - BA, MA, PhD - Health Policy, Management & Evaluation *(Director)*

Ori Rotstein - MSc, MD, FRCS(C) - Medical Science

Ellen Hodnett -,RN, PhD,FCAHS - Nursing Science

Linda MacKeigan - BScPhm, PhD - Pharmaceutical Sciences

Blake Poland -, BA, MA, PhD - Public Health Sciences

Denise Reid - BSc(OT), MEd, PhD - Rehabilitation Science

Adrienne Chambon - BA, MA, BSW, PhD - Social Work

Health Services and Policy Research

Lead Faculty
Medicine

Degree Programs Offered
Health Policy, Management and Evaluation – MSc, PhD
Medical Science – MSc, PhD
Nursing Science – PhD
Pharmaceutical Science – MSc, PhD
Public Health Sciences – MSc, PhD
Rehabilitation Sciences – MSc, PhD
Social Work – MSW, PhD

Overview
The Collaborative Program in Health Services and Policy Research is part of the Ontario Training Centre in Health Services and Policy Research (OTC). The OTC is a consortium of six Ontario Universities seeking to improve graduate education for students who are interested in becoming health services and policy researchers. The consortium includes Lakehead, Laurentian, McMaster, and York Universities as well as the Universities of Ottawa and Toronto. Participating graduate programs at the University of Toronto are listed above.

Graduates of the Collaborative Program demonstrate knowledge of Canada's health care system, health services and policy research tools, and theories of population health, knowledge production and knowledge transfer. Students complete relevant courses required by the Collaborative Program as well as by the home unit. Students must complete a dissertation under the supervision of a core faculty member of the Collaborative Program in the student's home department that addresses the theme of health services and policy research.

Contact and Address
Web: www.hpme.utoronto.ca/English/Collaborative-Programs.html
E-mail: rhonda.cockerill@utoronto.ca
Telephone: (416) 978-7721
Fax: (416) 978-7350

Collaborative Graduate Program in Health Services and Policy Research
c/o Professor R.W. Cockerill
Department of Health Policy, Management and Evaluation
Faculty of Medicine
University of Toronto
Suite 428, Fourth Floor
155 College Street
Toronto, Ontario M5T 3M6
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Students who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- Master's students are accepted under the School of Graduate Studies general regulations and the specific criteria of the participating unit.
- An overall B+ average in the last two years of an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university.
- An interest in health services and policy research outlined in an autobiographical letter including the student's reasons for becoming a health services or policy researcher.

Program Requirements
- Students follow a program of study acceptable to both the participating unit and the Collaborative Program.
- Students must complete the requirements of the Collaborative Program (completion of a practicum and participation in one Summer Institute) in addition to those requirements for the masters degree program specified by their home graduate unit.
- Students are required to write a thesis under the supervision of a core faculty member of the Collaborative Program. The thesis must address the theme of health services and policy research.
- In addition to the requirements for the degree program specified by the home graduate unit, students must complete a practicum and participate in one Summer Institute hosted by the OTC.

Doctor of Philosophy

Minimum Admission Requirements
- Students who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments.
- Doctoral students are accepted under the School of Graduate Studies general regulations and the specific criteria of the participating unit.
- Applicants are required to:
  - demonstrate academic excellence in completed courses (B+ average in graduate courses), scholarships and academic awards received;
  - demonstrate aptitude for health services and policy research (letter of recommendation from a previous professor or thesis supervisor commenting on the student's academic abilities and likelihood for success as a health services researcher);

o   outline career plans (in an autobiographical let-
ter including their reasons for becoming a health
services researcher and their career plans); and
o   propose a plan of study in the Collaborative
Program.
- Students who complete the Collaborative Program at
the master's level are not eligible to participate at the
PhD level.

Program Requirements
- Students follow a program of study acceptable to
both the participating unit and the Collaborative
Program.
- Students must complete the requirements of the
Collaborative Program (completion of a practicum
and participation in one Summer Institute) in addition
to those requirements for the doctoral degree pro-
gram specified by their home graduate unit.
- Students are required to complete a dissertation
under the supervision of a core faculty member of
the Collaborative Program. The dissertation must
address the theme of health services and policy
research.
- In addition to the requirements for the degree pro-
gram specified by the home graduate unit, students
must complete a practicum and participate in one
Summer Institute hosted by the OTC.

Courses
1. Courses offered by the University of Toronto depart-
ments involved in the OTC are listed in the separate
calendar entries of Health Policy, Management
and Evaluation; Medical Science, Nursing Science;
Pharmaceutical Sciences; Public Health Sciences;
Rehabilitation Science; and Social Work.
2. Research and Policy Practicum - by working with a
health services and policy research team, the student
develops practical skills in completing a research
and/or policy project and effectively communicating
the results of that research to stakeholders.
HSR 1000H   Research and/or Policy Practicum
3. Summer Institute - a five-day workshop held at one
of the participating universities. All students must
participate and are graded on a Credit/No Credit
(CR/NCR) basis.
HSR 1002H   HSR Summer Institute

Program Committee
Rhonda Cockerill - BA, MA, PhD/Health Policy,
Management & Evaluation *(Director)*
Peter C Coyte - BA, MA, PhD/Health Policy, Management
& Evaluation
Arlene Bierman - BA, MS, MD/Medical Sciences
Diane Doran - RN, BA, MHSc, PhD/Nursing Science
Paula Goering - RN, BSN, MSN, PhD/Nursing Science
Linda-Lee O'Brien-Pallas - BScN, MScN, PhD, National
Research Chair in Nursing Human Resources/Nursing
Science
Heather Boon - BScPhm, PhD/Pharmaceutical Sciences
Bart Harvey - BA, MD, MSc, FRCP(C), FACPM, PhD/
Public Health Sciences
Susan Jaglal - BSc, MSc, PhD/Rehabilitation Science
Charmaine Williams - BSc, BA, MSW, PhD/Social Work

International Relations

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology – MA
Economics – MA
Geography – MA
Health Policy, Management and Evaluation – MSc
History – MA
Political Science – MA
Sociology – MA
Religion – MA
Women and Gender Studies – MA

Overview
The Collaborative **Master of Arts/Master of Science in International Relations** program engages students with a strong interest in interdisciplinary studies who intend to pursue careers in business, government, international organizations, non-governmental organizations, or academia. The program combines the approaches and perspectives of a variety of disciplines to make sense of a rapidly changing world, and offers students the flexibility to pursue their own particular interests.

The graduate programs listed above, in conjunction with the Faculty of Law and the Centre for International Studies (CIS), offer the collaborative program. Students who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a degree program in one of the collaborating departments. Following successful completion of the program requirements, students receive the master's degree in their home department, with a transcript notation indicating completion of the Collaborative Program in International Relations.

The **Combined Juris Doctor/Master of Arts, Law and Political Science** (Specialization in International Relations) program allows political science students with a strong interest in both law and international relations the opportunity to pursue a coherent program of study. Students complete the two degrees in three years of academic study rather than the four years required to complete the two degrees separately. Graduates receive both a JD and a Master of Arts in Political Science (Collaborative program in International Relations).

Contact and Address
Web: ir.mcis.utoronto.ca
E-mail: cis.mair@utoronto.ca
Telephone: (416) 946-8917
Fax: (416) 946-8915

Collaborative MA in International Relations
Munk Centre for International Studies
Room 255S, 1 Devonshire Place
Toronto, Ontario M5S 3K7
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Admission is subject to the approval of the graduate department concerned and the collaborative program.
- A cumulative average of A- is normally required for admission.
- Applicants will normally be expected to have completed and passed an introductory course in microeconomics and macroeconomics at the undergraduate level.

Program Requirements
- Students complete a total of 2.5 full-course equivalents (FCE) as follows: 1.5 required core FCE (in international economics, history and philosophy of international relations, and public international law) and 1.0 elective FCE (in international relations).
- Additional degree requirements vary from department to department. Details of additional requirements are available from the Centre for International Studies, from the departmental graduate or MA supervisors, or from the collaborative program's Web site listed above.
- Students must demonstrate competence in a second language.

Combined Juris Doctor/Master of Arts, Law and Political Science (Specialization in International Relations)

Minimum Admission Requirements
- Admission decisions to the combined program are made at three separate locations: Faculty of Law, Department of Political Science, and the Collaborative MA in International Relations.
- Applicants must apply for admission to all three graduate programs independently, and students must meet the full admission requirements of all three departments before gaining admission to the combined program.

Program Requirements
- Year 1 consists of the first year law curriculum.
- Years 2 and 3 consists of the compulsory requirements of the upper years of the JD and the course requirements for the combined program.

Program Committee

Gilles Duranton, BSc, MA, MSc, PhD/Economics
Wesley Wark, BA, MA, PhD/History
Karen Knop, BSc, LLB, LLM, SJD/Law *(Combined Program Director)*
Steven Bernstein, BA, MA, PhD/Political Science
Stephen Clarkson, BA, MA, D de Rech/Political Science
Ronald Deibert, BA, MA, PhD/Political Science *(Director)*
John Kirton, BA, MA, PhD/Political Science
Louis Pauly, BA, MA, MSc, MA, PhD, Canada Research Chair/Political Science
David Welch, BA, AM, PhD, Ignatieff Chair/Political Science
Harriet Friedmann, AB, MA, PhD/Sociology

Jewish Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology – PhD
English – PhD
Art (History of Art) – PhD
German Language and Literature – PhD
History – PhD
Near and Middle Eastern Civilizations – PhD
Philosophy – PhD
Political Science – PhD
Religion – PhD
Slavic Languages and Literatures – PhD
Sociology – PhD

Overview
The Collaborative Program in Jewish Studies offers both broad and intensive exposure to the constituent fields within Jewish Studies. Because of Jewish civilization's vast chronological and geographical range, as well as its constant interaction and cross-fertilization with other cultures, graduate work within Jewish Studies demands intensive exposure to a wide variety of languages, textual traditions, and scholarly disciplines.

The collaborative program involves the graduate doctoral programs listed above. Upon successful completion, students received, in addition to the doctoral degree in their home department, the notation "Completed Collaborative Program in Jewish Studies."

Contact and Address
Web: www.utoronto.ca/jewish
E-mail: jewish.studies@utoronto.ca
Telephone: (416) 978-8118
Fax: (416) 946-7719

Collaborative Program in Jewish Studies
University College
Room 316, 15 King's College Circle
Toronto, Ontario M5S 3H7
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Students may apply to the collaborative program as soon as they have been admitted to the doctoral program in one of its constituent departments.
- In addition to the admission requirements of the home department, sufficient linguistic knowledge, textual training, and familiarity with relevant scholarship in order to carry out graduate work in Jewish Studies within the chosen field are required.

Program Requirements
- 1.0 full-course equivalent (FCE) as follows: 0.5 FCE within and 0.5 FCE outside of the student's home department. Valid courses include regular offerings and occasional offerings by visiting professors of Jewish Studies.
- JSP 1000H Jewish Studies Seminar: core course in research topics and methods in Jewish Studies.
- A doctoral dissertation that deals substantively with topics in Jewish Studies.

Courses
Courses marked with # are taught by Program faculty and incorporate themes within and outside of Jewish Studies. Not all courses are offered every year.

Core Course
JSP 1000H   Jewish Studies Seminar

Anthropology
ANT 5146H# Colonial and Post-Colonial Discourses

Comparative Literature/Germanic Languages and Literatures
JGC 1750H# Modernity and its Discontents

English
ENG 1027H# Construction of the Other in Medieval Literature (Jews and Muslims)
ENG 5023H   Elegy, the Elegiac and the Judaic in Twentieth-Century Anglo-American Poetry
ENG 5573H# Performance and Identity in America
ENG 5578H   Parvenus and Passing in Modern American Literature

#Courses are taught by Program faculty and incorporate themes within and outside of Jewish Studies. Major research and writing assignments for such courses must focus on topics in Jewish Studies.

Germanic Languages and Literatures
GER 1530H   Heine and Critical Theory

History
HIS 1267H   Nationalism
HIS 1274H   The Nazis, Occupied Europe, and the Jews
HIS 1276H   The Third Reich and the Holocaust
HIS 1277H   Topics in Jewish History
HIS 1279H   World War II in East Central Europe
HIS 1287H   Polish Jews Since the Partitions of Poland

Medieval Studies
MST 3210H   Medieval Spain
MST 3225H# Jews and Christians in Medieval and
            Renaissance Europe

Near and Middle Eastern Civilizations
NMC 1100Y# Introduction to Aramaic
NMC 1101Y# Early Syriac Texts
NMC 1102Y   Palestinian Aramaic Texts
NMC 1104Y# Aramaic Epigraphy
NMC 1105Y# Syriac Historical Texts
NMC 1106Y# Syriac Exegetical Texts
NMC 1111Y# Babylonian Aramaic
NMC 1300Y   Intensive Prerequisite Hebrew
NMC 1304Y   Biblical Narrative
NMC 1306H   Scribes, Manuscripts, and Translations of
            the Hebrew Bible
NMC 1308H# Prophecy in Ancient Israel
NMC 1309H# Wisdom in Ancient Israel
NMC 1311Y   Post Biblical Hebrew: Mishnah and
            Midrashim
NMC 1312H   Midrash Before the Rabbis: The Beginnings
            of Biblical Interpretation
NMC 1313H   Mishna and Tosefta
NMC 1316H   Modern Hebrew Poetry
NMC 1317H   Modern Hebrew Prose
NMC 1318Y   Midreshei Halakha
NMC 1324Y   Hebrew Legal Codes
NMC 1326Y   Topics in Midrashic Literature
NMC 1608Y   Life Cycle and Personal Status in Judaism:
            Reproductive Technology and Jewish Law
NMC 1609Y# Gender-related Topics in Law and Religion

Philosophy
Various courses, depending upon their content in a given
            year. Consult the Collaborative Program Director.
PHL 2084H#   Seminar in Nineteenth-Century Continental
             Philosophy
PHL 2089H#   Seminar in Twentieth-Century Continental
             Philosophy
PHL 2090H   Hermeneutics

Political Science
POL 2021Y#   Topics in Comparative Jewish and Non-
             Jewish Political Thought

Religion
RLG 2012Y   Natural Law in Judaism and Christianity
RLG 2018H#   Religion and Bioethics
RLG 3103H   Problems in Israelite Religion
RLG 3611H   Topics in Rabbinic Midrash
RLG 3641H   Interpretations of Jewish Tradition
RLG 3621H   Modern Jewish Thought
RLG 3622H   Maimonides and his Modern Interpreters
RLG 3623H   The Thought of Leo Strauss: Philosophy,
             Theology and Politics
RLG 3624Y#   The Jurisprudence of Maimonides
RLG 3634H#   Worship and Scripture at Qumran
RLG 3641H   Interpretations of Jewish Tradition
RLG 3645Y   The Jewish Legal Tradition
RLG 3647H   Early Rabbinic Judaism
RLG 3661H#   Judaism and Philosophy
RLG 3692H#   Themes in Jewish Studies II
RLG 3655H   Readings in Jewish Literature

Slavic Languages and Literatures
SLA 1207H   The Imaginary Jew

Program Committee
Ivan Kalmar, BA, MA, PhD/Anthropology
Adam Cohen, BA, MA, PhD/Art
Andreas Most, BA, MA, PhD/English
Willi Goetschel, LicPhil, PhD/German
Derek Penslar, BA, MA, PhD/History H. Najman, BA,
 MA, PhD/Near & Middle Eastern Civilizations
Robert Gibbs, BA, MA, PhD/Philosophy
Jeffrey Kopstein, BA, MA, PhD/Political Science
David Novak, AB, MHL, rabbinical diploma, PhD/Religion
Leonid Livak/Slavic
Michal Bodemann, MA, PhD/Sociology

#Courses are taught by Program faculty and incorporate themes
  within and outside of Jewish Studies. Major research and writing
  assignments for such courses must focus on topics in Jewish Studies.

Knowledge Media Design

Lead Faculty
School of Graduate Studies

Degree Programs Offered
Architecture – MArch
Computer Science – MSc, PhD
Curriculum, Teaching and Learning – MA, MEd, PhD
Information Studies – MISt, J.D/MISt, PhD
Landscape Architecture – MLA
Mechanical and Industrial Engineering – MASc,
 MEng, PhD
Medical Science – MSc, PhD
Sociology – MA, PhD
Urban Design – MUD
Visual Studies – MVS

Overview
The Collaborative Program in Knowledge Media Design (KMD) was launched in 2002 as the teaching arm of the Knowledge Media Design Institute (KMDI). The Collaborative Program provides a specialization for graduate students from a variety of academic backgrounds to engage in the design, prototyping, evaluation, and use of knowledge media. In keeping with KMDI's human-centred approach, students explore the design and use of new media in the context of real world practices of individuals and communities. Access to an intensely collaborative and cross-disciplinary faculty encourages students to take a broader view of technological and social change and to be constructively critical of technological utopian and dystopian visions alike. The goal is for students to take into account heritage and history, to understand the realities of today, and to design for tomorrow.

Students have access to a community of scholars and the network of relationships that the Institute coordinates. They gain first-hand experience of a living network of innovation, an environment in which the resources are people and knowledge and the social capital and value that are generated through collaboration.

The Collaborative Program is open to master's and PhD students in the collaborating graduate programs listed above.

Contact and Address
Web: kmdi.utoronto.ca/graduate
E-mail: program@kmdi.utoronto.ca
Telephone: (416) 946-8515
Fax: (416) 978-5634

Collaborative Program in Knowledge Media Design
Knowledge Media Design Institute
Bahen Building, University of Toronto
7th Floor, 40 St. George Street
Toronto, Ontario M5S 2E4
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Students wishing to apply to the Collaborative Program must be enrolled, or anticipate being enrolled, in a collaborating degree program in one of the collaborating graduate programs. Applying to the Collaborative Program is a separate procedure. Consult the KMDI Web site for application guidelines. Admission will be subject to the approval of the graduate department concerned and the Program Committee of the Collaborative Program.

Program Requirements
- Students must meet all the requirements of their home department.
- Master's students must successfully complete KMD 1001H, KMD 1002H, and 1.0 full-course equivalent (FCE). Of the 1.0 FCE, at least 0.5 FCE must be from the KMD 2001-2004 series or, in exceptional circumstances, a designated cognate course. The remaining 0.5 FCE may be from a list of recognized department courses.
- Master's students are encouraged, but not obligated, to complete a thesis/research project component in their home department, the topic of which should be relevant to the field of knowledge media design.
- Collaborative program courses may count towards the home department degree requirements or may be in addition to the degree requirements, depending on the participating department's individual program regulations.

Doctor of Philosophy

Minimum Admission Requirements
- Students wishing to apply to the Collaborative Program must be enrolled, or anticipate being enrolled, in a collaborating degree program in one of the collaborating graduate programs. Applying to the Collaborative Program is a separate procedure. Consult the KMDI Web site for application guidelines. Admission will be subject to the approval of the graduate department concerned and the Program Committee of the Collaborative Program.

Program Requirements
- Doctoral students are required to take KMD 1001H and KMD 1002H if not already taken in the master's program, 0.5 full-course equivalent (FCE) from the KMD 2001-2004 series, or, in exceptional circumstances, a designated cognate course
- The dissertation topic must be in the field of knowledge media design. The thesis advisor and at least one other committee member must be from participating units.

- The home graduate unit and the student's supervising committee will determine further requirements. The collaborating units cooperate in jointly developing a program that is individually tailored to meet the needs of each student.

Courses

For courses offered in a particular year, check the Collaborative Program Web site: kmdi.utoronto.ca/graduate

Knowledge Media Design

Required
KMD 1001H Core Seminar in Knowledge Media Design I—Fundamental Concepts
KMD 1002H Core Seminar in Knowledge Media Design II—Contexts and Practices

Electives
KMD 2001H Human-centred Design
KMD 2002H Technologies for Knowledge Media
KMD 2003H Knowledge Media and Learning
KMD 2004H Knowledge Media, Culture and Society

Participating Department Electives
Existing courses from the participating departments that satisfy KMD requirements are listed below. These courses may not be offered every year. Courses that are mandatory for a student's degree from the home department cannot normally be counted. Some of the elective courses may require a significant amount of background knowledge and experience. Enrolment in such courses may require the permission of the instructor.

ARC 1033H Architecture, Media and Communications
C&T 1004H Communications: History/Theory/Technology
C&T 1005H Understanding McLuhan
C&T 1009H New Media and Policy
CSC 2105H Software Engineering
CSC 2106H Requirements Engineering
CSC 2501H Computational Linguistics
CSC 2502H Knowledge Representation and Reasoning
CSC 2504H Computer Graphics
CSC 2507H Conceptual Modelling
CSC 2509H Data Management Systems
CSC 2511H Natural Language Computing
CSC 2514H Human-Computer Interaction
CSC 2518H Spoken Language Processing
CSC 2524H Topics in Interactive Computing
CSC 2527H The Business of Software
CSC 2536H Computer Supported Cooperative Work
CSC 2537H Hypermedia
CTL 1602H Introduction to Computers in Education
CTL 1603H Introduction to Knowledge Building
CTL 1608H Constructive Learning and Design of Online Environments
CTL 1923H Technology Supported in Situ Learning
FAH 1478H Art and Animation

FIS 1210H Information and its Social Contexts
FIS 1230H Management of Information Organizations
FIS 1340H Introduction to Information Systems
FIS 1341H Analyzing Information Systems
FIS 1342H Designing Information Systems
FIS 1343H Introduction to Database Management and Design
FIS 2149H Administrative Decision-Making in Information Organizations
FIS 2150H Advanced Management of Information Organizations
FIS 2165H Social Issues in Information and Communication Technologies
FIS 2169H User-Centred Information Systems Development
FIS 2179H Interacting with Information Systems
FIS 2183H Knowledge Management and Systems
JAC 1001H Media, Mind and Society I
MIE 1402H Experimental Methods in Human Factors Research
MIE 1403H Analytical Methods in Human Factors Research
MIE 1407H Engineering Psychology and Human Performance
MIE 1502H Information Technology and Systems: Management Strategies
MIE 1504H Management of Technological Change
MSL 2325H Museums and New Media Practice
SOC 6008H Network Analysis I
SOC 6108H Network Analysis II
SOC 6303H Field Methods
SOC 6312H Social Aspects of Technology and Work
SOC 6501H Research Design and Hypothesis Testing in Sociology
VIS 1010H Contemporary Art Since 1960
VIS 1020H Contemporary Art: Theory and Criticism
VIS 2002H MVS Contemporary Art Issues

Program Committee

John Danahy - BLA, CUrbDes, MScUrb&DesPl - Architecture, Landscape, & Design
Gerald Penn - BSc, MSc, PhD - Computer Science
James Slotta - MA, PhD - Curriculum Teaching & Learning (**Program Director)**
Nadia Caidi - BA, MA, MLS, PhD - Information Studies
Andrew Clement - BSc, MSc, PhD - Information Studies
Mark Chignell - BSc, MSc, PhD - Mechanical & Industrial Engineering
Barbara Soren - BPHE, BEd, MSc(T), PhD - Museum Studies *(Graduate Administrator)*
Zaheer Baber - BSc, MA, MPHil, PhD - Sociology
Lisa Steele - RCA, honourary PhD OCAD - Visual Studies History of Art

Management and Economics

Lead Faculty
Arts and Science

Degree Programs Offered
Economics – PhD
Management – PhD

Overview
The Rotman School of Management and the Department of Economics offer a limited enrolment collaborative program in Management and Economics. The student will undertake a program of study that includes: developing a basic understanding in one of the core areas of management (accounting, economics, finance, marketing, operations management, organizational behaviour); developing an in-depth understanding of economics and econometrics (PhD-level work); and carrying out PhD-level work in one of the areas of management. At present, only finance is available in the collaborative program.

Contact and Address
Web: www.economics.utoronto.ca
E-mail: ecograd@chass.utoronto.ca
Telephone: (416) 978-7169
Fax: (416) 978-6713

Department of Economics
Room 4072, Sidney Smith Hall
University of Toronto
Toronto, Ontario M5S 3G3
Canada

Degree Programs

Doctor of Philosophy

Minimum Admission Requirements
- Admission to the program is by permission of the graduate coordinators in both Economics and Management. Prospective applicants should apply to the Department of Economics, and must meet the admission requirements of the Department of Economics.
- Admission requirements (at a minimum) are the same as for the PhD program in Economics. Students should have a strong undergraduate and MA-level background in economic theory, as well as mathematics.
- Preference is given to students with undergraduate or other previous course work in commerce or business, especially finance and accounting.

Program Requirements
- The PhD is a full-time program. Applicants must be registered as full-time students for a minimum period of three years.
- The PhD is a research degree which requires:
  o demonstration of competence in core economics, in finance, and a second special field in economics;
  o fulfilment of a breadth/distribution requirement in management and finance;
  o a thesis based on original research.
- To fulfil the program requirements outlined below, students will complete all of their comprehensive exams in two years, and their required course work in 2.5 years.
  o **Year 1** - Students must take the Math-Stat Review (ECO 1011H), the PhD microeconomic theory sequence (ECO 2020H and ECO 2030H), the PhD econometrics sequence (ECO 2400H and ECO 2401H), and the first two courses of the Rotman Finance sequence (MGT 3030H and MGT 3031H). They must also complete (or be exempt from) Financial Accounting (MGT 1221H or MGT 1222H), and Business Finance by the end of Year 1. Students can satisfy the Business Finance requirement by taking ECO 2503H. Students must pass the microeconomic theory comprehensive exam by the end of Year 1.
  o **Year 2** - Students complete the PhD sequence in macroeconomics (ECO 2021H and ECO 2031H), and satisfy their main field requirement by completing the PhD Finance sequence (MGT 3032H, MGT 3033H, and MGT 3034H). Students must pass the comprehensive exam in macro, as well as the Rotman Finance comprehensive exam. Students satisfy the distributional requirement in economics by taking two courses from a list approved by the Department of Economics. This comprises the minor field; note that the Financial Economics field is excluded from this list. Students should also attend the Finance seminar on a regular basis, beginning in Year 2.
  o **Year 3** - Students complete their management distributional requirement by taking two courses in a stream approved by the Rotman School of Management, drawn from the second-year MBA courses (i.e., MGT 2300 series). Students must participate in the Graduate Research Seminar (ECO 4060Y), and present a "second year" paper proposal by February of Year 3. The completed "second year" paper must be presented in the Finance Seminar by the Fall of Year 4.
  o **Years 4 and 5** - Students complete their dissertation.

Courses

See the separate entries in this calendar for the Economics and Management PhD programs.

Program Committee

Adonis Yatchew - BA, MA, PhD - Economics
Peter Pauly - MA, PhD - Management

Neuroscience

Lead Faculty
Medicine

Degree Programs Offered
Biochemistry – MSc, PhD
Biomedical Engineering – MSc, PhD
Cell and Systems Biology – MSc, PhD
Dentistry – MSc, PhD
Human Development and Applied Psychology – MA, PhD
Laboratory Medicine and Pathobiology – MSc, PhD
Medical Biophysics – MSc, PhD
Medical Science – MSc, PhD
Molecular Genetics – MSc, PhD
Pharmacology and Toxicology – MSc, PhD
Pharmaceutical Sciences – MSc, PhD
Physiology – MSc, PhD
Psychology – MA, PhD
Rehabilitation Science – MSc, PhD
Speech-Language Pathology – MSc, PhD

Overview
The graduate programs listed above participate in the Collaborative Program in Neuroscience. Participating graduate units contribute courses and provide facilities and supervision for graduate research. Students must follow a program of studies acceptable to both the participating unit and the Neuroscience Program. Upon successful completion of the requirements, students receive, in addition to the master's or PhD degree in their discipline, the notation "Completed Collaborative Program in Neuroscience" on their transcripts as well as a certificate.

Students interested in joining the program should contact the Program in Neuroscience office to obtain an application form. Students should register within one month of initial registration in the participating unit. The Neuroscience Web site provides summaries of research fields of all the faculty in the Collaborative Program and their graduate unit affiliations and addresses, as well as additional information on neuroscience courses.

Students in the program receive the Program in Neuroscience newsletter and a monthly calendar listing neuroscience lectures held on campus. The program runs a Distinguished Lecturer series of talks by eminent neuroscientists and an annual poster day which students are required to attend. The students in the program also organize various social events during the year.

Contact and Address
Web: www.utoronto.ca/neurosci
E-mail: p.neuroscience@utoronto.ca
Telephone: (416) 978-4894
Fax: (416) 978-1878

Collaborative Program in Neuroscience
Tanz Neuroscience Building
University of Toronto
Room 102, 6 Queen's Park Crescent
Toronto, Ontario M5S 3H2
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating units.

Program Requirements
- The thesis topic must be in the neuroscience area.
- The student's supervisor must be a member of the Program in Neuroscience (PIN).
- The student must have an adequate background in general neuroscience.
- The student must complete at least 0.5 full-course equivalent (FCE) for the master's degree chosen from the list of courses approved by the Program in Neuroscience which is listed below.
- The student must attend the Annual PIN Poster Day and present his/her work at least once.
- The student must attend at least 75% of the lectures in the PIN Distinguished Lecturers Series.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating units.

Program Requirements
- The thesis topic must be in the neuroscience area.
- The student's supervisor must be a member of the Program in Neuroscience (PIN).
- The student must have an adequate background in general neuroscience.
- The student must complete at least 1.0 full-course equivalent (FCE) for the PhD degree chosen from the list of courses approved by the Program in Neuroscience which is listed below.
- The student must attend the Annual PIN Poster Day and present his/her work at least once.
- The student must attend at least 75% of the lectures in the PIN Distinguished Lecturers Series.
- After completing the MSc or MA, students who wish to continue on to a PhD degree in Neuroscience

must register again and fulfil all the program require-ments (e.g., students must again present a poster in the doctoral program).

Courses

Neuroscience courses offered by the participating units are listed below. Not all courses are offered each year.

DEN 1060H   Oral Physiology: Sensory and Neuromuscular Function
HDP 3286H   Developmental Neurobiology
JNR 1444Y   Fundamentals of Neuroscience: Cellular and Molecular
JNS 1000Y   Fundamentals of Neuroscience: Systems and Behaviour
JPM 1005Y   Behavioural Pharmacology
JPY 1007Y   Neuropharmacology of Neurotransmitter Receptors
JYG 1555H   Topics in Cellular and Molecular Neurobiology
LMP 1003Y   Seminar on Diseases of the Central Nervous System
MSC 1006H   Advanced Neuroanatomy
MSC 1085H   Molecular Approaches to Mental Health and Addictions
MSC 6000H   Special Topics in Anatomy (Requires prior permission of the Neuroscience Program Director)
PCL 1012H   Cognitive Neuropharmacology
PSL 1024H   Advanced Topics: Endocrinology and Neuroendocrinology
PSL 1026H   Advanced Topics: Experimental Cell Physiology
PSL 1047H   Advanced Topics: Somatosensory and Pain Neuroscience
PSL 1053H   Advanced Topics: Critical Assessment of Ion Channel Function
PSL 1068H   Advanced Topics: Molecular Basis of Behaviour
PSY 5101H   Mechanisms of Behaviour
PSY 5103H   Learning and Plasticity
PSY 5104H   Neuropsychology
PSY 5110H   Advanced Topics in Behavioural Neuroscience I
PSY 5111H   Advanced Topics in Behavioural Neuroscience II
PSY 5112H   Advanced Topics in Behavioural Neuroscience III
PSY 5121H   Advanced Topics in Animal Behaviour and Motivation II
PSY 5130H   Advanced Topics in Neuropsychology I
PSY 5131H   Advanced Topics in Neuropsychology II
PSY 5132H   Advanced Topics in Neuropsychology III
PSY 5201H   Audition
PSY 5202H   Vision
PSY 5203H   Higher Cognition
PSY 5204H   Attention
PSY 5205H   Memory
PSY 5210H   Advanced Topics in Perception I
PSY 5211H   Advanced Topics in Perception II

PSY 5212H   Advanced Topics in Perception III
PSY 5220H   Advanced Topics in Cognition I
PSY 5221H   Advanced Topics in Cognition II
PSY 5222H   Advanced Topics in Cognition III
REH 1510H   Disordered Restorative Motor Control

Other Courses

Courses not specifically in neuroscience which do not fulfil the program requirements as neuroscience courses but might be useful for neuroscience students.

JBL 1507H   Biochemistry of Inherited Disease
JDB 1025Y   Developmental Biology
JNP 1017H+ The Molecular and Biochemical Basis of Toxicology
JNP 1018H+ Current Topics in Molecular and Biochemical Toxicology
PHM 1122H   Fundamentals of Drug Discovery
PSL 1054H   Physiological Instrumentation and Electronics
PSL 1472H   Sleep Physiology and Chronobiology
PSY 5102H   Motivational Processes
SLP 1522Y   Speech Physiology and Acoustics
SLP 1533Y   Aphasia
SLP 1534Y   Motor Speech Disorders
SLP 3001H   Theoretical Foundations of Communication Sciences

Program Committee

William Trimble, BSc, PhD, Canada Research Chair - Biochemistry
Molly Shoichet, BSc, MSc, PhD, Canada Research Chair - Biomedical Engineering
Barry Sessle, BDS, BSc, MSD, PhD, FRSC, Canada Research Chair - Dentistry
Marc Lewis, BA, MA, PhD, CPsych - Human Development & Applied Psychology
Sukriti Nag, MBBS, MD, MSc, PhD, FRCP(C) - Laboratory Medicine & Pathobiology
Peter Carlen, MD, FRCP(C) - Medical Science
John Roder, BA, PhD, Canada Research Chair - Molecular & Medical Genetics
James Wells, BScPhm, MSc, PhD - Pharmaceutical Sciences
Willets Burnham, BA, PhD - Pharmacology
Jonathan Dostrovsky, BSc, MSc, PhD - Physiology
Zhengping Jia, PhD - Physiology
John Yeomans, BA, PhD - Psychology
William McIlroy, BSc, MSc, PhD - Rehabilitation Science
Luc De Nil, MSc, PhD - Speech-Language Pathology
John Peever, BSc, MSc, PhD - Cell & System Biology

+Extended course. For academic reasons, course work is extended into session following academic session in which course is offered.

Optics

Lead Faculty
Arts and Science

Degree Programs Offered
Chemistry – MSc
Electrical and Computer Engineering – MASc
Materials Science and Engineering – MASc
Physics – MSc

Overview
The graduate programs listed above participate in the Collaborative Master's Program in Optics. The program focuses on the study of optics, photonics, and the interaction of light and matter. Optics is a truly multidisciplinary field, crossing the boundaries between pure and applied science. The Collaborative Program allows students to explore these multidisciplinary aspects.

Students who wish to participate in the Collaborative Program must be admitted to both a master's program in one of the collaborating graduate departments mentioned above and the Collaborative Program. Submit an application form, available from the Collaborative Program Office (the Institute for Optical Sciences); normal deadlines for application to the School of Graduate Studies apply. Students who have already been admitted to a master's program in a home department may apply to the Collaborative Program within the first month of their program.

Upon certification by the Director that all requirements of the Collaborative Program have been fulfilled, the home department recommends the granting of the MSc or MASc degree; the designation "Completed Collaborative Program in Optics" will appear on the transcript.

Contact and Address
Web: www.optics.utoronto.ca
E-mail: eistrate@optics.utoronto.ca
Telephone: (416) 978-1804
Fax: (416) 978-3936

Institute for Optical Sciences
Suite 331, 60 St. George Street
Toronto, Ontario M5S 1A7
Canada

Degree Programs

Master's Degrees

Admission Requirements
- Admission to a MSc or MASc degree program in one of the four collaborating units.
- Commitment to make optics or photonics the main focus of study in that program, as stated in the application form for the Collaborative Program.

Program Requirements
- Meet all respective degree requirements of the School of Graduate Studies and the home department.
- Successful completion of the Collaborative Program core course IOS1500H.
- If a thesis is required by the home graduate unit, its topic must fall in the broad area of optics. A member of the collaborative program's faculty must be part of the examination committee.

Courses
IOS 1500H   Selected Topics in Optics

See also full course listings in the Departments of Electrical and Computer Engineering; Physics; Chemistry; and Materials Science and Engineering.

Program Committee
R J Dwayne Miller - BSc, PhD, FRSC, Canada Research Chair - Chemistry, Physics *(Program Director)*
Gilbert Walker - BA, PhD - Chemistry
Amr Helmy - BSc, MSc, PhD - Electrical & Computer Engineering
Zheng-Hong Lu - BSc, MSc, PhD - Materials Science & Engineering
John Sipe - BSc, MSc, PhD - Physics

Sexual Diversity Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology – MA, MSc, PhD
Classics – MA, PhD
Criminology – MA, JD/MA, PhD
Drama – MA, PhD
East Asian Studies – MA, PhD
English – MA, PhD
Exercise Sciences – MSc, PhD
History – MA, PhD
History of Art – MA, PhD
Information Studies – MISt, PhD
Law – LLM, MSL, SJD
Linguistics – MA, PhD
Medieval Studies – MA, PhD
Museum Studies – MMSt
Philosophy – MA, PhD
Political Science – MA, PhD
Psychology – MA, PhD
Public Policy – MPP
Religion – MA, PhD
Sociology – MA, PhD
Sociology and Equity Studies in Education – MA,
 MEd, EdD, PhD
Visual Studies – MVS
Women and Gender Studies – MA

Overview
The Collaborative Program in Sexual Diversity Studies, offered by the Mark S. Bonham Centre for Sexual Diversity Studies, is a rigorously interdisciplinary program recognizing sexual diversity studies as an interdisciplinary field of inquiry. While it has emerged as an autonomous scholarly area, many of those who work within it engage questions of gender, ethnicity, race, Aboriginal status, (dis)ability, and class, to highlight the importance of exploring their interaction with sexual differences.

The graduate degree programs listed above participate in the Collaborative Program. From their home departments, students may take up questions from their own disciplinary or programmatic perspective, but explore it through the theoretical and methodological lens of sexuality studies.

Contact and Address
Web: www.utoronto.ca/sexualdiversity
E-mail: sexual.diversity@utoronto.ca
Telephone: (416) 978-6276 (for general inquiries)
Fax: (416) 971-2027

Director
Sexual Diversity Studies Collaborative Program
Mark S. Bonham Centre for Sexual Diversity Studies
Room 251, University College
15 King's College Circle,
University of Toronto
Toronto, Ontario M5S 3H7
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Each graduate student in the Program shall be enrolled in a participating degree program in the graduate unit where the research is conducted, which is known as the home graduate unit. The student shall meet the admission requirements of both the home graduate unit and the Collaborative Program.

Program Requirements
- The student shall meet the admission requirements of both the home graduate unit and the Collaborative Program as follows:
  - 0.5 full-course equivalent (FCE) core course in Sexual Diversity Studies (SDS 1000H)
  - 0.5 FCE in other courses with substantial treatment of sexual diversity
  - thesis or major research paper (if applicable) must be on a sexual diversity studies topic
- Courses may be counted toward the 0.5 FCE beyond the core course if a significant portion of the course addresses questions related to sexuality, or if most of the session work completed in association with it explores such questions.
- All course selection for the additional 0.5 FCE must be approved by the director of the Collaborative Program.

Doctoral Degrees

Minimum Admission Requirements
- Each graduate student in the Program shall be enrolled in a participating degree program in the graduate unit where the research is conducted, which is known as the home graduate unit. The student shall meet the admission requirements of both the home graduate unit and the Collaborative Program.

Program Requirements
- Students must meet all respective degree requirements of the School of Graduate Studies and the participating graduate unit; and meet the requirements of the Collaborative Program as follows:
  - 0.5 FCE core course in Sexual Diversity Studies (SDS 1000H)

- o 0.5 FCE in other courses with substantial treat-
  ment of sexual diversity
- o thesis or major research paper (if applicable)
  must be on a sexual diversity studies topic.
- Doctoral students in the program who have com-
  pleted the Collaborative Program at the master's level
  will not be required to repeat SDS 1000H. All course
  selection for the additional 0.5 FCE must be ap-
  proved by the director of the Collaborative Program.
- The doctoral thesis committee should include at
  least one faculty member associated with SDS. In
  most cases, the supervisor would be associated with
  SDS, though in some cases, the student's particular
  analytical perspective will suggest another faculty
  member in her or his discipline.
- The student's course of study and overall progress
  will be reviewed annually by the Collaborative
  Program director, though ultimate responsibility for
  the student's progress will remain with the graduate
  chair of the home program.

Courses

SDS 1000H   Theoretical and Methodological Issues in
               Sexual Diversity Studies
SDS 1999H   Special Topics in Sexual Diversity Studies

Program Executive Committee

The full Graduate Committee includes one representa-
tive of each partner program. That Committee has ap-
proved the creation of a Graduate Program Executive
Committee, composed as follows:

David Rayside - BA, AM, PhD - Political Science
Stephen Johnson - BA, MA, PhD - Drama
Mariana Valverde - BA, MA, PhD, FRSC - Criminology
Marjut Ruti - BA, MA, PhD - English
Brenda Cossman - BA, LLB, LLM - Law
Rinaldo Walcott - BA, MA, PhD - Sociology & Equity
 Studies in Education
Ashwini Tambe - BA, MS, PhD - Women & Gender
 Studies, History
Two graduate students (committee members for other
 than admission decisions)

South Asian Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Anthropology – MA, PhD
English – MA, PhD
Geography – MA, PhD
History – MA, PhD
Music – MA, PhD
Political Science – PhD
Religion – MA, PhD
Social Work – MSW, PhD
Sociology and Equity Studies in Education – MA, MEd, EdD, PhD
Women and Gender Studies – MA

Overview
The interdisciplinary Collaborative Master's and Doctoral Program in South Asian Studies is designed for students who wish to acquire a nuanced understanding of South Asia as a secondary area of specialization while pursuing graduate studies in another discipline. The focus of this program is necessarily broad in that it provides students with an understanding of ancient and modern history, social change, economic development, contemporary politics, religious traditions, literary culture, and a spectrum of related topics.

The Centre for South Asian Studies, which administers the Collaborative Program, provides a nucleus for the participation of South Asian Studies scholars from across the University. Students will benefit from the physical presence of the Centre and its regular activities of research fora, conferences, and visiting lecturer and scholar programs. In addition, the University's library collection in South Asian studies is the largest in Canada.

Master's and doctoral students wishing to be admitted to the Collaborative Program must apply to one of the participating graduate programs.

Students who successfully complete the requirements of the Collaborative Program will receive the notation "Completed Collaborative Program in South Asian Studies" on their transcript, in addition to the master's or doctoral degree from their graduate unit.

Contact and Address
Web: www.sgs.utoronto.ca/sas/
E-mail: southasian.grad@utoronto.ca
Telephone: 416-946-8996
Fax: 416-946-8838

Collaborative Program in South Asian Studies
Centre for South Asian Studies
Munk Centre for International Studies
University of Toronto
Room 228N, 1 Devonshire Place
Toronto, Ontario M5S 3K7
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. Applicants must meet the admission requirements of the graduate unit in which they intend to enrol. Admission will be subject to the approval of the graduate unit concerned and the Program Committee of the Collaborative Program.

Program Requirements
- A mandatory half-year core course entitled Issues in South Asian Studies taught by the core faculty. The core course will be the same for both master's and doctoral students. Master's students who proceed to the doctoral program will not be required to take the core course again. With the permission of the home graduate unit, the core course can be taken in lieu of one of the courses required by the home unit.
- Attendance at the visiting lecture series organized by the Centre for South Asian Studies during the academic year in which the student takes the core course.
- A written thesis; it is expected that the dissertation will include a significant South Asian component.
- For master's students writing a research paper, the home unit will determine whether a South Asian component is required in the research paper.
- For master's students writing a thesis and master's students writing a research paper, language requirements will be assessed on a case-by-case basis.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the Collaborative Program must apply to and be admitted to both the Collaborative Program and a graduate degree program in one of the collaborating departments. Applicants must meet the admission requirements of the graduate unit in which they intend to enrol. Admission will be subject to the approval of the graduate unit concerned and the Program Committee of the Collaborative Program.

Program Requirements
- A mandatory half-year core course entitled Issues in South Asian Studies taught by the core faculty (unless already taken in the master's program). With the permission of the home graduate unit, the core course can be taken in lieu of one of the courses required by the home unit.
- Attendance at the visiting lecture series organized by the Centre for South Asian Studies for a total of two years, including the academic year in which the student takes the core course.
- The dissertation to include a significant South Asian component.
- A research presentation to the Program Committee on a South Asian topic in Year 3 or Year 4 of the program.
- Language requirement, depending on the student's area of specialization.

Core Course
SAS 2004H S Issues in South Asian Studies

Program Committee
Prakruti Dave - BA, MA, PhD - Anthropology
Heather Miller - BA, MSc, MA, PhD - Anthropology
Chelvanayakam Kanaganayakam - BA, PhD - English
Kanishka Goonewardena - BSc, MPl, PhD - Geography
Katharine Rankin - BA, MRP, PhD - Geography
Ritu Birla - BA, MA, MPhil, PhD - History
Malavika Kasturi - BA, MPhil, MA, PhD - History
Ashwini Tambe - BA, MA, PhD - History, Women and
 Gender Studies
Arthur Rubinoff - BA, MA, PhD - Political Science
Arti Dhand - BA, MA, PhD - Religion
C. T. McIntire - BA, MA, MDiv, PhD - Religion
Ajay Rao - BA, MA, PhD - Religion
Zaheer Baber - BA, MA, PhD - Sociology

Women and Gender Studies

Lead Faculty
Arts and Science

Degree Programs Offered
Adult Education and Community Development – MA, MEd, EdD, PhD
Anthropology – MA, MSc, PhD
Classics – MA, PhD
Clinical Epidemiology and Health Care Research – MSc
Comparative Literature – MA, PhD
Counselling Psychology – MA, MEd, EdD, PhD
Criminology – MA, PhD
Curriculum Studies and Teacher Development – MA, MEd, EdD, PhD
Drama – MA, PhD
Educational Administration – MA, MEd, EdD, PhD
English – MA, PhD
Exercise Sciences – MSc, PhD
French Language and Literature – MA, PhD
Geography – MA, PhD
Germanic Literature, Culture and Theory – MA, PhD
Health Administration – MHSc, MSc, PhD
Higher Education - MA, MEd, EdD, PhD
History – MA, PhD
History and Philosophy of Education - MA, MEd, EdD, PhD
Information Studies – MISt, PhD
Law – LLM, SJD
Medieval Studies – MA, PhD
Near and Middle Eastern Civilizations – MA, PhD
Nursing Sciences – MN, PhD
Philosophy – MA, PhD
Political Science – MA, PhD
Public Health Sciences – MHSc, MSc, PhD
Religion – MA, PhD
Second Language Education - MA, MEd, PhD
Social Work – MSW, PhD
Sociology – MA, PhD
Sociology and Equity Studies – MA, MEd, EdD, PhD
Spanish – MA, PhD

Overview
The Graduate Collaborative Program in Women and Gender Studies (CWGS) provides a formal educational context for the pursuit of interdisciplinary research in women and gender studies and advanced feminist scholarship. The program, offered at the master's and doctoral levels, provides a central coordinating structure to facilitate and disseminate research in women and gender studies through student and faculty research seminars, colloquia, circulation of work in progress, study groups, conferences, and publications. The CWGS contributes to the development of an integrated research community in women and gender studies at the University of Toronto.

The graduate programs listed above participate in the Collaborative Program in Women and Gender Studies at the University of Toronto. The collaborating units contribute courses and provide facilities and supervision for graduate research. The program is administered by the Women and Gender Studies Institute (WGSI). The CWGS brings together 33 graduate programs providing more than 100 courses and involving over 100 graduate faculty members.

Students who successfully complete the requirements of the collaborative program will receive the notation "Completed Collaborative Program in Women and Gender Studies" on their transcript, in addition to the master's or doctoral degree from their home graduate unit.

Contact and Address
Web: www.utoronto.ca/wgsi
E-mail: grad.womenstudies@utoronto.ca
Telephone: (416) 978-3668
Fax: (416) 946-5561

Graduate Collaborative Program in Women and Gender Studies
Women and Gender Studies Institute
Room 2036, Wilson Hall, New College
University of Toronto
Toronto, Ontario M5S 1C6
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Students must fulfil all the degree requirements in the home department.
- Normally, applicants to the master's program (thesis and non-thesis) should have at least 1.0 full-course equivalent (FCE), and preferably more, in women's studies, feminist studies and/or gender studies. This 1.0 FCE may be in women's studies/gender studies or it may be a course on gender and women in another discipline. In exceptional cases, extensive work or activist experience which also requires academic knowledge of research on women and/or gender will also be considered.
- Two-page statement of research intent explaining how your program of study and specific research interests relate to women and gender studies at the master's level.
- Two letters of reference outlining your background in women and gender studies.

Program Requirements
- Programs of study should be planned in consultation with the CWGS Graduate Coordinator as well as the Coordinator of Graduate Studies in the student's home graduate unit.
- Courses should be selected from the established cross-listed courses approved by the Graduate Coordinator of the collaborative program.

Non-Thesis Master's
- JPW 2118H Philosophical Foundations of Women's Studies or equivalent.
- 1.0 full-course equivalent (FCE) selected from the cross-listed courses in CWGS.

Thesis Master's
- JPW 2118H Philosophical Foundations of Women's Studies or equivalent.
- 0.5 full-course equivalent (FCE) selected from the cross-listed courses in CWGS.
- The thesis, or major paper, dealing with a subject in the field of women and gender studies.
- Theses will be supervised and evaluated in the same manner as those in the home graduate unit. Normally, at least one graduate faculty member cross-listed with CWGS will be a member of the thesis or supervisory committee of students in the program.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants who wish to enrol in the collaborative program must apply to and be admitted to both the collaborative program and a graduate degree program in one of the collaborating departments. Students must fulfil all the degree requirements in the home department.
- Familiarity with the approaches and methodologies associated with scholarship in women and gender studies, **or** extensive familiarity with women and gender studies scholarship in a single discipline or a cognate set of disciplines.
- Normally, applicants to the PhD program should have at least 1.0 full-course equivalent (FCE), and preferably more, in women's studies, feminist studies and/or gender studies. This 1.0 FCE may be in women's studies/gender studies or it may be a course on gender and women in another discipline. In exceptional cases, extensive work or activist experience which also requires academic knowledge of research on women and/or gender will also be considered.
- Two-page statement of research intent explaining how your program of study and specific research interests relate to women and gender studies at the doctoral level.
- Two letters of reference outlining your background in women and gender studies.

Program Requirements
- Programs of study should be planned in consultation with the CWGS Graduate Coordinator as well as the Coordinator of Graduate Studies in the student's home graduate unit.
- Courses should be selected from the established cross-listed courses approved by the Graduate Coordinator of the collaborative program.
- Doctoral thesis dealing with a subject in the field of women and gender studies. Theses will be supervised and evaluated in the same manner as those in the home graduate unit. Normally, at least one graduate faculty member cross-listed with CWGS will be a member of the thesis or supervisory committee of students in the program.
- JPW 2118H Philosophical Foundations of Women's Studies or equivalent (if not already completed).
- WGS 3000H Advanced Research Seminar in Women's Studies.
- 0.5 full-course equivalent (FCE) not taken previously from the list of cross-listed courses in CWGS.

Courses

Required Courses
JPW 2118H   Philosophical Foundations of Women's
            Studies
WGS 3000H Advanced Research Seminar in Women's
            Studies

Cross-listed Courses
Courses in women and gender studies offered by the participating units are listed below. Not all courses are offered each year. Courses not included in this list may be petitioned for credit. Information and timetables are available from the individual graduate units.

Adult Education and Counselling Psychology
AEC 1104H   Community Education and Organizing
AEC 1113H   Gender and Hierarchy at Work
AEC 1143H   Introduction to Feminist Perspectives on
            Society and Education
AEC 1146H   Women, War and Learning
AEC 1156H   Power and Difference in the Workplace
AEC 1207H   Counselling Topics in Sexual Orientation
            and Gender Identity Diversity
AEC 1253H   Feminist Issues in Counselling Psychology
            and Psychotherapy
AEC 1408H   Working with Survivors of Trauma
AEC 3119H   Global Perspectives on Feminist Education,
            Community Development, and Community
            Transformation
AEC 3132H   Special Topics in Women in Development
            and Community Transformation
AEC 3181H   Feminist Standpoints: Critical and Post-
            Structural Approaches

Anthropology
Student must complete "Individual Reading and
        Research Course Form" before enrolling (available
        from department).
ANT 5146H   Colonial and Postcolonial Discourses
ANT 6026H   Anthropology of Identity and Subject
                Formation
ANT 6050H   Reading Course in Specific Area and
                Theory I
ANT 6051H   Reading Course in Specific Area and
                Theory II
ANT 6052Y   Reading Course in Specific Area and
                Theory III
ANT 7001H   Medical Anthropology I
ANT 7002H   Medical Anthropology II
JAL 1155H   Language and Gender

Classics
CLA 5000H   Early Greek Epic
CLA 5023H   Topics in the Study of Roman Literature
                and Culture
CLA 5024H   Topics in the Study of Roman Society

Comparative Literature
COL 5021H   The Body in Medieval Literature
COL 5025Y   Feminism and Postmodernism: Theory and
                Practice
COL 5032H   Feminist Approaches to Medieval Literature
COL 5050Y   Social Constructions and Artistic Images
                of Women in Modern Chinese Literature,
                Drama, and the Movies
COL 5068H   Traditions and Innovations of Epic Theatre
                from an Intercultural and Feminist
                Perspective

Criminology
CRI 1020H   Law and Society: Theoretical Perspectives
CRI 1050H   Theories of Crime and Social Order

Curriculum, Teaching and Learning
CTL 1012H   Curriculum for Girls and Young Women:
                Historical and Contemporary Issues
CTL 1309H   Les stéréotypes sexuels dans les pro-
                grammes scolaires
CTL 1313H   Gender Equity in the Classroom

Drama
DRA 1002H   History of the Theatre II: Modernity and
                Modernism in North American Theatre
DRA 3120H   "Something More than a Woman": The Way
                of the Actress
DRA 1051H   Postcolonial Drama
DRA 1055H   Performance Research: Sexual
                Performance (Studies S/M)
DRA 3211H   The Performing Body
DRA 4057H   Women Script History

English
ENG 1027H   Constructions of the Other in Medieval
                Literature

ENG2430H   Early Modern Women's Writing: Voices,
                Texts, and Spaces
ENG 4220H   Austen and Scott
ENG4605H   George Eliot, Emotion, and the New
                Psychology
ENG 6524H   Postcolonial Literature and the World on
                Paper
ENG 6803H   Intertextuality in Feminist Cinema: The
                Counter-Cinematic Impulse

Exercise Sciences
EXS 5507H   Desire and Bodies in Place
EXS 5511H   Hormonal Aspects of Women's Health and
                Exercise: A Focus on Reproductive and
                Bone Health Issues
EXS 5519H   Theories of the Body and Transcendence

French Language and Literature
FRE 2035H   Autour de l'intime en France: les écrits
                contemporains des femmes
FRE 2036H   Configurations du genre sexuel dans la
                prose contemporaine des femmes
FRE 2078H   Alterite: formes et significations

Geography
GGR 1504H   Health, Place and Difference
GGR 1801H   Social Identities and Space
JPG 1505H   The Multicultural City: Diversity, Policy and
                Planning
JPG 1506H   State/Space/Difference: Understanding the
                New Social Geography of the State
JPG 1509H   Feminism, Postcoloniality and Development
JPG 1805H   Transnationalism, Diaspora and Gender
JPG 1810H   Globalization and Postmodernism
JPG 1815H   Political Economy, the Body, and Health

Germanic Languages and Literatures
GER 1772H   The Politics of the Non-Fiction Film

Health Policy, Management and Evaluation
JNH 5001H   Health Care Settings, Site and Human Well
                Being

History
HIS 1004H   History and Biopolitics
HIS 1016H   Readings in the History of Gender and
                Sexuality
HIS 1026H   Modernity and Its Others:
                History and Postcolonial (joint
                graduate/undergraduate)
HIS 1101H   Race and Gender in the Northern Colonies
                of North America
HIS 1112H   Canada in Comparative Contexts, Gender,
                Labour, Migration
HIS 1230H   The Sexes in the Western World
HIS 1245H   Gender, Men, and Women in Europe
                1500-1900
HIS 1533H   Gender and International Relations (joint
                graduate/undergraduate)
HIS 1555H   Gender and Slavery in the Atlantic World,
                Seventeenth to Nineteenth Century

HIS 1663H   Gender in East and Southeast Asia
HIS 1665H   Gender and History in Colonial South Asia
HIS 1667H   Transnational Gender Histories

Information Studies
FIS 1330H   Archives Concepts and Issues
FIS 2010H   Reading Course
FIS 2011H   Reading Course
FIS 2125H   Information and Culture in a Global Context
FIS 2165H   Social Issues in Information and
                    Communication Technologies
FIS 2174H   History of Records and Records-Keeping

Law
Participation in LAW courses is at the discretion of the
          Faculty of Law upon presentation, to the Faculty of
          Law Records Office, of a signed permission form
          from the student's home department. Note that
          preference is given to JD students and that many
          law courses are full by the end of the Faculty of
          Law add/drop period).

LAW 294H   The Law and Praxis of International Human
                    Rights
LAW 301H   Women's Rights in International Law
LAW 334H   Feminist Theory: Challenges to Legal and
                    Political Thought
LAW 386H   Reproductive and Sexual Health Law

Medieval Studies
MST 3101H   Current Theory and Medieval Texts: An
                    Introduction
MST 3102H   Topics in Current Theory and Medieval
                    Texts (Courses with prerequisites)

Near and Middle Eastern Civilizations
NMC 1608H   Life Cycle and Personal Status in Judaism
NMC 1609H   Gender-Related Topics in Law and Religion
NMC 2035Y   Women and Writing in Twentieth-Century
                    Iran

Nursing Science
JNH 5002H   The Body, Health Care, Technology and
                    Place
NUR 1021H   Nursing Ethics
NUR 1039H   Women's Health Across the Lifespan
NUR 1040H   Issues in Women's Health Care
NUR 1058H   Aging, Gender and Equity

Philosophy
PHL 2140H   Feminist Philosophy

Political Science
JPJ 2049H   International Women's Rights Law
POL 2024Y   Feminist Theory: Challenges to Legal and
                    Political Thought
POL 2032H   Judgement in Law and Politics
POL 2037H   Law, Religion and Public Discourse
POL 2038H   Pluralism, Justice and Equality

POL 2235H   Development, International Relations,
                    Globalization: Through the Lens of a
                    Gender
POL 2316H   Women and Politics
POL 2423H   Colonialism/Post-Colonialism

Public Health Sciences
CHL 5109H   Gender and Health
CHL 5117H   A Global Perspective on the Health of
                    Women and Children

Religion
RLG 2021H   Historiography of Religions
RLG 2025H   Critical Social Theory and Feminist
                    Religious Thought
RLG 2026H   Modernity, Postmodernity, and the Future
                    of Religion

Social Work
SWK 4304H Globalization and Trans-nationalization:
                    Social Work Responses Locally and
                    Globally
SWK 4306H Process of Social Exclusion,
                    Marginalization, and Resistance
SWK 4403H Women and Social Policy in Canada
SWK 4420H   Human Rights and Social Justice
SWK 4606H Diversity, Access, and Equity in Social
                    Work Practice
SWK 4609H Sexuality, Sexual Diversity and Social Work
                    Practice
SWK 4618H Special Issues in Gerontological Social
                    Work
SWK 4623H Violence in Families: Multilevel Intervention
                    in Interdisciplinary Practice
SWK 4624H Feminist Social Work Practice

Sociology
SOC 6017H Sociology of Families I
SOC 6117H Sociology of Families II
SOC 6019H Gender Relations I
SOC 6119H Gender Relations II

Sociology and Equity Studies in Education
SES 1912H   Foucault and Research in Education:
                    Discourse, Power and the Subject
SES 1921Y   The Principles of Anti-Racism Education
SES 1922H   Sociology of Race and Ethnicity
SES 1923H   Racism, Violence, and the Law: Issues for
                    Researchers and Educators
SES 1926H   Race, Space and Citizenship: Issues for
                    Educators
SES 1954H   Marginality and the Politics of Resistance
SES 1956H   Social Relations of Cultural Production in
                    Education
SES 1957H   Doing Disability in Theory and Everyday
                    Life
SES 1982H   Women, Diversity, and the Educational
                    System
SES 1983H   Gender, Race and Historical Sociology
SES 1985H   Women's Learning, Women's Health
                    Movements, and the Health Professions

SES 1989H   Black Feminist Thought
SES 1992H   Feminism and Poststructuralism in Education
SES 2910H   Changes in Families and Policy Consequences for Government and Education
SES 2999H   Special Topics in Sociological Research in Education
SES 3910H   Advanced Seminar on Race and Anti-Racism Research Methodology in Education
SES 3913H   En/Coding Domination: Theorizing Power Relations Based on Race, Gender, Class and Sexuality
SES 3930H   Methods to Avoid Sexist, Racist and Ableist Biases in Research
SES 3932H   Women and Higher Education
SES 3933H   Theorizing Transnationality: Feminist Perspectives
SES 3952H   Sexism, Racism, Colonialism: Pedagogical Implications
SES 3999H   Special Topics in Advanced Sociological Research in Education

Spanish
SPA 2278H   Contemporary Hispanic Women's Writing I
SPA 2279H   Contemporary Hispanic Women's Writing II
SPA 2805H   Representations of Women in Latin American Culture

Theory and Policy Studies in Education
TPS 1406H   Sexuality and the History of Education
TPS 1426H   The History of Gender and Education in Canada
TPS 1430H   Gendered Colonialisms, Imperialisms and Nationalisms in History
TPS 1439H   Gender, Ethics, and Education: Philosophical Issues
TPS 1442H   Cultural and Racial Difference in Education: Philosophical Perspectives
TPS 1462H   Women, Literature, and Education
TPS 1488H   Feminist Theory, Musical Experience, and Music Education
TPS 3046H   Gender Issues in Educational Leadership
TPS 3417H   Research Seminar in Feminist Criticism, Aesthetics, and Pedagogy

Program Committee
Karen Mirchandani - BA, MA, PhD - Adult Education & Counselling Psychology
Bonnie McElhinny - BA, MA, PhD - Anthropology *(Director)*
Holly Wardlow - BA, MPh, PhD - Anthropology
Alison Keith - BA, PhD - Classics
Julie LeBlanc - MA, PhD - Comparative Literature
Rosemary Gartner - BA, MS, PhD - Criminology
Tara Goldstein - BA, PhD - Curriculum, Teaching & Learning
Kay Armatage - BA, MA, PhD - Drama
Nancy Copeland - BA, MA, PhD - Drama

Elizabeth Harvey - BA, MA, PhD - English
Mary Nyquist - BA, MA, PhD – English
Margaret MacNeill – BPHE, MA, PhD – Exercise Sciences
Barbara Havercroft - BA, MA, PhD - French
Katharine Rankin - BA, MRP, PhD- Geography
Angelica Fenner - BA, MA, PhD - German
R. W. Cockerill, BA, MA, PhD/Health Policy, Management & Evaluation
Janet Noel - BA, MA, PhD - History
Michelle Murphy - BA, PhD – History *(Coordinator of Graduate Studies)*
Kerry Rittich - MusBac, LLB, SJD- LAW
Rebecca Cook, AB, MA, MPA, JD, LLM, JSD - Law
Suzanne Akbari, - BA, MA, MPhil, PhD – Medieval Studies
Tirzah Meacham - BA, MA, PhD - Near & Middle Eastern Civilizations
Janet Angus - RN, BScN, MScN, PhD - Nursing Science
Amy Mullin - BA,PhD - Philosophy
Kathryn Morgan - BA, MA, MEd, PhD - Philosophy
Sylvia Bashevkin - BA, MA, PhD - Political Science
Anne-Emanuelle Birn - BA, MA, DSc - Public Health Sciences
Pamela Klassen - BA, MA, MPhil, PhD - Religion
S. M. Neysmith, BSc, MSW, DSW/Social Work
Judith Taylor - BA, PhD - Sociology
Sandy Welsh - BA, MA, PhD - Sociology
Margrit Eichler - MA, LLD, PhD - Sociology & Equity Studies in Education
Alissa Trotz - BA, MPhil, PhD - Sociology & Equity Studies in Education
Rosa Sarabia - BA, MA, PhD - Spanish
Roxana Ng - BA, MA, PhD - BA, MA, PhD/Theory & Policy Studies in Education

Women's Health

Lead Faculty
Medicine

Degree Programs Offered
Anthropology – MA, MSc, PhD
Dentistry – MSc, PhD
English – MA, PhD
Exercise Sciences – MSc, PhD
Health Policy, Management and Evaluation – MSc, PhD
Immunology – MSc, PhD
Information Studies – MISt, PhD
Medical Science – MSc, PhD
Nursing Sciences – MN, PhD
Nutritional Science – MSc, PhD
Occupational Science and Occupational Therapy – MScOT
Pharmacology and Toxicology – MSc, PhD
Psychology – MA, PhD
Public Health Sciences – MHSc, PhD
Religion – MA, PhD
Women and Gender Studies – MA

Overview
The graduate programs listed above, together with the support of The Centre for Girls' and Women's Health and Physical Education; Women and Gender Studies Institute; and the International Programme on Reproductive and Sexual Health Law participate in the Collaborative Graduate Program in Women's Health. The program's objectives are two-fold:
1. to provide interdisciplinary training in women's health research and practice for graduate students at the University of Toronto;
2. to facilitate mutually beneficial relationships between researchers and practitioners of women's health across the University and its 10 affiliated teaching hospitals.
Students must be registered with the School of Graduate Studies through one of the participating graduate units in order to apply to the Collaborative Graduate Program in Women's Health. Applicants must comply with the admission procedures of that unit.

Contact and Address
Web: www.womensresearch.ca/graduate/
E-mail: CPWH@womensresearch.ca
Telephone: (416) 351-3732 ext. 2331
Fax: (416) 351-3746

Women's Health Collaborative Program
c/o Women's College Research Institute
7th floor, 790 Bay Street
Toronto, Ontario M5G 1N8
Canada

Dr. Gillian Einstein, Director
Department of Psychology
100 St. George Street
University of Toronto
Toronto, ON M5S 3G3
Canada

Degree Programs

Master's Degrees

Minimum Admission Requirements
- Applicants must submit the following to the Program Committee of the Collaborative Graduate Program in Women's Health:
  - A personal statement, a letter no longer than two pages describing relevant personal and/or professional experiences, a career plan, and motivation in seeking advanced training in women's health.
  - Photocopies of application materials submitted to their home unit including curriculum vitae, transcripts, and letters of reference.

Program Requirements
- Complete the core course (CHL 5109H Gender and Health).
- Participate in the Research Seminar Series (held monthly) and in the Women's College Research Institute Graduate Student Research Day.
- In instances where home graduate units require a thesis, it is desirable, but not required, that this work be relevant to women's health.
- Complete the program requirements of the Collaborative Program as well as those of the home graduate unit.

Doctor of Philosophy

Minimum Admission Requirements
- Applicants must submit the following to the Program Committee of the Collaborative Graduate Program in Women's Health:
  - A personal statement, a letter no longer than two pages describing relevant personal and/or professional experiences, a career plan, and motivation in seeking advanced training in women's health.
  - Photocopies of application materials submitted to their home unit including curriculum vitae, transcripts, and letters of reference.

Program Requirements
- Complete the core course (CHL 5109H Gender and Health). Doctoral students who have satisfactorily completed the core course during their master's

program are not required to repeat the course during their doctoral program.

- Participate in the Research Seminar Series (held monthly), and the Women's College Research Institute Graduate Student Research Day.
- A student devises a research plan that builds inter-disciplinary research skills in women's health. The plan is developed with guidance from the student's primary mentor (graduate supervisor from their home unit) and the co-mentor (a core faculty member of the collaborative program); both mentors must sign this plan.
- Dissertation on a topic relevant to women's health.

Core Course
CHL 5109H   Gender and Health

Program Committee
Janice Boddy - BA, MA, PhD, FRSC - Anthropology
  (pending approval)
Ze'ev Seltzer - DMD, Canada Research Chair - Dentistry
Elisabeth Ruth Harvey - BA, MPhil, PhD - English
Margaret MacNeill - BPHE, MA, PhD - Exercise Sciences
Eleanor Fish - BSc, MPhil, PhD - Immunology
Donna Stewart - MD, DPsych, FRCP - Medical Science
Arlene Bierman - BA, MD, MS - Nursing Science
Wendy Ward - BASc, MSc, PhD - Nutritional Sciences
Helene Polatajko-Howell - BOT, MEd, PhD, OT(C) -
  Occupational Science & Occupational Therapy
Alison Fleming - BS, PhD - Psychology
Janet Polivy - BS, MA, PhD - Psychology
Gillian Einstein - PhD - Public Health Science *(Director)*
Rhonda Love - BA, MA, PhD - Public Health Sciences
Pamela Klassen - BA, MA, MPhil, PhD - Religion
Kathryn Morgan - BA, MA, MEd, PhD - Women & Gender
  Studies

Advanced Design and Manufacturing

Faculty Affiliation
Applied Science and Engineering

Degree Programs Offered
Advanced Design and Manufacturing - MEngDM

Overview
The Advanced Design and Manufacturing Institute (ADMI) is a joint program in design and manufacturing offered at the master's level. It is offered through the joint efforts of five Ontario universities: University of Toronto, McMaster University, Queen's University, the University of Waterloo, and the University of Western Ontario. The joint nature of the program ensures that the very best expertise available at each of the participating schools is integrated into the program's course offerings.

Within the University of Toronto, the degree designation is **Master of Engineering in Design and Manufacturing**. The joint program, fully described on www.admicanada.com, is structured to address the engineering design, manufacturing, and management expertise and knowledge base required by young graduate professionals actively engaged within industry, government, and business.

Due to the part-time modular nature of the program, it is available only to Canadian citizens and permanent residents of Canada. The program allows individuals to participate in graduate studies over four-day weekend periods that can be effectively incorporated into a regular working schedule. The ADMI courses are offered at various locations within southern Ontario, typically Toronto, Waterloo, Mississauga, Hamilton, and London. Courses are offered throughout the year and do not conform to the regular university semester structures.

Contact and Address

For information regarding ADMI admission at the University of Toronto, contact by mail:
Graduate Studies Office
Department of Mechanical and Industrial Engineering
5 Kings College Road
University of Toronto
Toronto, Ontario M5S 3G8
Canada

E-mail: admi@mie.utoronto.ca
Telephone: (416) 978-8823
Fax: (416) 978-3453

For information regarding ADMI admission at the University of Toronto, visit in person:
Graduate Studies Office
Department of Mechanical and Industrial Engineering
Rosebrugh Building
Room 214, 164 College Street

For information on the program's long term goals as well as details of other universities participating in ADMI, contact:
Mr. David Heaslip
Executive Director
Advanced Design and Manufacturing Institute
The Promontory II, Sheridan Science and Technology Park
Suite 250, 2655 North Sheridan Way
Mississauga, Ontario L5K 2P8
Canada

Web: www.admicanada.com
E-mail: info@admicanada.com
Telephone: (905) 855-9787
Fax: (905) 855-2199

Degree Programs

Master of Engineering in Design and Manufacturing

Minimum Admission Requirements
- Students entering the program at the University of Toronto are required to register in the Department of Mechanical and Industrial Engineering.
- Four-year bachelor's degree in engineering. Individuals with undergraduate and or graduate degrees in the related fields of computer science, physics, etc. are also invited to apply.
- Applicants will normally have three years of post-baccalaureate experience in industry or its equivalent.

Program Requirements
- 10 ADMI course offerings. Details at www.admicanada.com.
- Two of the required 10 courses may be replaced by an approved industry project, with University supervision.
- Whether or not a project is undertaken, program participants are required to complete a minimum of five courses from the Technology and Process Stream and a minimum of two from the Business and Management Stream.
- Participants must complete a minimum of two ADMI courses per calendar year to maintain program registration status.

Courses
A list of course offerings, along with course descriptions and a current schedule, is available on the ADMI Web site, www.admicanada.com.

Program Committee

The committee of the Advanced Design and Manufacturing Institute (ADMI) comprises eight members: six from the participating member universities plus two members from industry. The Executive Director of ADMI, D. Heaslip, chairs the Program Committee.

University of Toronto Program Committee Representative:

Pierre Sullivan - BSME, MSME, PhD, PEng - Mechanical & Industrial Engineering

Biotechnology   BTC

Faculty Affiliation
Arts and Science, Management

Degree Programs Offered
Biotechnology - MBiotech

Overview
 The **Master of Biotechnology** (MBiotech) program is an interdisciplinary course-based professional degree involving collaboration between the Departments of Cell and Systems Biology, Chemistry, and the Rotman School of Management.

 Students in the MBiotech program come from wide and varied backgrounds with the common goal of pursuing a career in the biotechnology, financial, and pharmaceutical industries. The program is designed to meet the evolving needs of students and this global industry sector. Faculty is drawn from the Departments of Cell and Systems Biology, Chemistry, and Management. Guest lecturers from other faculties within the University of Toronto provide students with a truly interdisciplinary educational experience. Additional instruction from leaders of the biotechnology and pharmaceutical industries and from governmental agencies round out the broadly-based learning environment.

Contact and Address
Web: www.mbiotech.ca
E-mail: mbiotech@utoronto.ca
Telephone: (905) 569-4737
Fax: (905) 569-4738

Master of Biotechnology Program
Room 2071, South Building
University of Toronto at Mississauga
3   359 Mississauga Road North
Mississauga, Ontario L5L 1C6
Canada

Degree Programs

Master of Biotechnology

Minimum Admission Requirements
- Four-year bachelor's degree or its equivalent in any area of biological sciences, chemistry, engineering, or related field.
- Acceptable GRE scores and/or marks of A- or better in the last two years of study.

Program Requirements
- The program is a full-time, course-based master's degree which is *launched during the month of May each year.*
- Students are required to complete 8 graduate full-course equivalents (FCE) over a 24-month period:
  - 5.0 to 6.0 FCE science credits (includes credits for Seminar and Placement)
  - 2.0 FCE business credits
  - up to 1.0 FCE elective credit
- An ongoing seminar series led by university, industry, and government specialists link all the participants with the academic, practical, and applied aspects of the program.

Courses

Required
 A general description of each required course is posted on the Web site, www.mbiotech.ca.

BTC 1600H Seminar in Bioscience/Biotechnology I
BTC 1610H Seminar in Bioscience/Biotechnology II
BTC 1700H Molecular Biology Laboratory
BTC 1710H Protein Chemistry Laboratory
BTC 1800H Biotechnology in Medicine
BTC 1810H Biotechnology and Corporations
BTC 1820H Biotechnology in Agriculture and Natural Products
BTC 1900Y° Work Term I
BTC 1910Y° Work Term II
BTC 1920Y Work Term III
BTC 2000H Organizational Skills
BTC 2010H Fundamentals of Managerial Concepts
BTC 2020H Science, Technology, Organizations and Society
BTC 2030Y Management of Technological Innovation

Elective
BTC1830H Medical and Scientific Challenges in Marketing Therapeutics
BTC 2100Y Topics in Biotechnology
BTC 2110H Topics in Biotechnology
BTC 2120H Topics in Biotechnology
Other graduate courses approved by the Program Directors.

° Courses which may continue over a program. The course is graded when completed.

Program Committee

Ulrich Krull - BSc, MSc, PhD, AstraZeneca Professor of Biotechnology - Chemistry
Angela Lange - BSc, PhD - Cell & Systems Biology
Scott Prosser - BSc, MSc, PhD - Chemistry *(Director)*
Leigh Revers - MA, DPhil - Cell & Systems Biology *(Assistant Director)*
Mihkel Tombak - BASc, MBA, AM, PhD - Management
J. Timothy Westwood - BSc, MSc, PhD - Cell & Systems Biology

Additional faculty are selected from the Departments of Cell and Systems Biology, Chemistry, the Rotman School of Management, related departments, as well as from experts from industry and government.

Financial Economics

Faculty Affiliation
Arts and Science, Management

Degree Programs Offered
Financial Economics – Master of Financial Economics

Overview
The Master of Financial Economics Program is a small enrolment joint program of the Department of Economics and the Rotman School of Management. Graduates of the program receive a professional degree called the **Master of Financial Economics** (MFE). The 16-month program is designed to equip talented students with the tools and skills required for successful careers in the financial sector. Its objectives are to provide students with a broad understanding of financial theory and the economic framework upon which that theory is based, both in the classroom and through actual experience working for firms in the financial sector.

Contact and Address
Web: www.economics.utoronto.ca/mfe
E-mail: fineco@chass.utoronto.ca
Telephone: (416) 978-8623
Fax: (416) 978-6713

Joint Master of Financial Economics Program
150 St,George Street
Department of Economics
University of Toronto
Toronto, Ontario M5S 3G7
Canada

Degree Programs

Master of Financial Economics

Minimum Admission Requirements
- Applicants must have completed or must be in the final year of a four-year or honours degree program, or equivalent, with a B+ standing in the final year of that program.
- Strong preparation in economics, including full-year courses in both intermediate-level micro and macro theory, and full-year university-level courses in each of calculus and statistics. Previous training in finance is useful but not required. Achievement of these minimum requirements does not guarantee acceptance into the program. Preference is given to students who have completed, with high standing, advanced-level courses in any or all of economics, mathematics, and econometrics.

Program Requirements
- 6.0 full-course equivalents (FCE) or 12 half-courses, a 4-month summer internship, and an intensive mathematics, statistics, and accounting review.
- The core program consists of 2.0 FCE from the Department of Economics and 1.5 FCE from the Rotman School. The core courses drawn from the Department of Economics are the same as the core courses required for the MA degree in Economics plus ECO 2503H *Financial Economics I*. The core courses from the Rotman School (MGT 2306H *Options and Futures Markets*, MGT 2300H *Corporate Financing*, MGT 2302H *Security Analysis and Portfolio Management*) are drawn from the second-year MBA level courses and provide students with training in key areas of finance.
- In addition to the core courses, students are free to choose 2.5 FCE in electives from either the Department of Economics or the Rotman School, subject to the condition that at least 3.5 out of the 6.0 FCE must be taken from the Department of Economics. Students may choose from a long list of elective courses offered at the graduate level in Economics or the second-year MBA level (or higher) from the Rotman School, subject to availability.

Program Committee
Varouj Aivazian - BS, MA, PhD - Economics **(Director)**
Michelle Alexopoulos - BSc, MA, PhD - Economics
Gordon Anderson - BA, MSc, PhD - Economics
Jack Carr - BCom, MA, PhD - Economics
Maria Luisa Fuster - BA, MA, PhD - Economics
Chuan Goh - BSc, MA, PhD - Economics
Gregory Jump - BA, PhD - Economics
John Maheu - BA, MA, PhD - Economics
Ekaterina Malinova - BSc, MA, PhD - Economics
Angelo Melino - BA, PhD - Economics
Jordi Mondria - BA, MA, PhD - Economics
Andreas Park - MSc,MPh,Phd - Economics
James Pesando - BA, MA, PhD - Economics
Adonis Yatchew - BA, MA, PhD - Economics
Xiaodong Zhu - BSc, MSc, PhD - Economics
Laurence Booth - BSc, MA, MBA, DBA - Management
Paul Halpern - BCom, MBA, PhD - Management
John Hull - BA, MA, MA, PhD - Management
Eric Kirzner, MBA - Management
Thomas McCurdy - BA, MA, PhD - Management
Alan White - BEng, MBA, PhD - Management

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